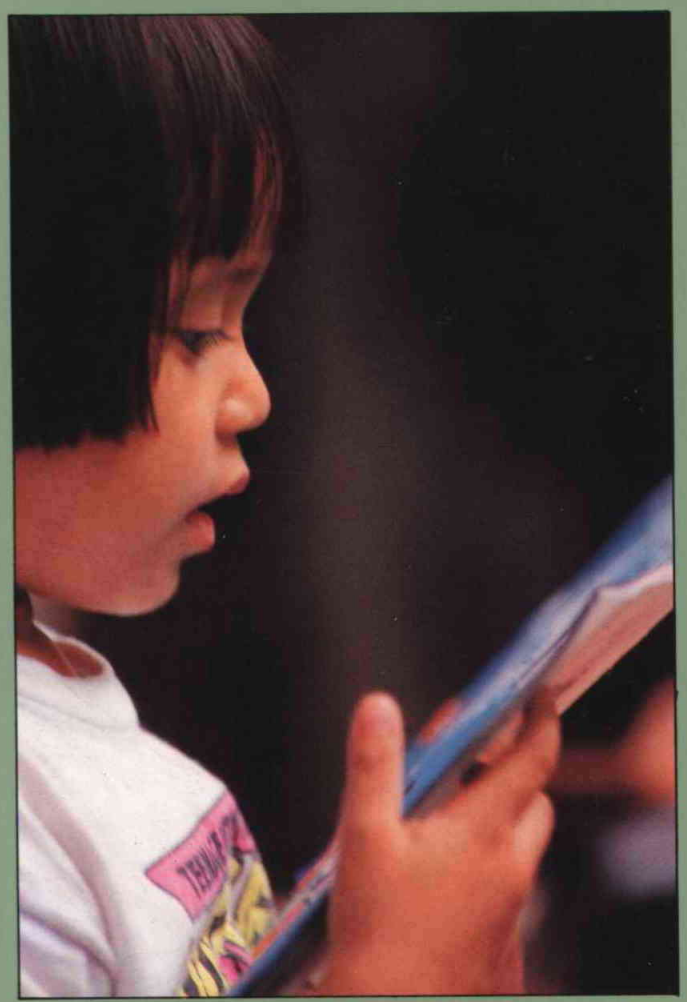
The 1991 Year-End Conference



Educational Options for the Future of Thailand

Volume I

December 14-15, 1991
Ambassador City Jomtien, Chon Buri

The 1991 Year-End Conference

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SESSION 1 Education and Development of the Thai Economy: Reversing the Imbalance

SESSION 2 Education and Social and Cultural Values: The Changing Role of Teachers

SESSION 3 Educational Management: Public and Private Sector Roles in the Provision of Education

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   A review carried out for UNDP as part of its preparation for the Fifth Country Programme of Assistance for Thailand on human resource development.

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The Chai Pattana Foundation - The Thailand Development Research Institute Foundation
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by

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สรุปสำหรับผู้บริหาร

การศึกษากับการพัฒนาเศรษฐกิจ : ประเด็นและทางเลือกเพื่อนโยบายและการปฏิรูป

รายงานฉบับนี้ได้ทบทวนปัญหาด้านการศึกษาและการพัฒนาทรัพยากรมนุษย์ที่ส่งผลกระทบต่อการพัฒนาเศรษฐกิจของประเทศไทยในปัจจุบันและคาดว่าจะมีอยู่ต่อไปในอนาคต

มีหลายอย่างที่ชี้ให้เห็นว่าระบบการศึกษาและการพัฒนาทรัพยากรมนุษย์ยังขาดความสัมพันธ์ที่พอเพียงกับความต้องการจากตลาดแรงงานและการประกอบอาชีพ ปัญหาที่สั่งสมนี้อาจจะทำให้เกิดความเสียหายต่อการพัฒนาของไทยต่อความเสมอภาค และต่อโครงสร้างทางสังคมในอนาคต

รายงานฉบับนี้ได้ทบทวนปัญหาด้านต่าง ๆ ของการศึกษาในระบบ (formal education) การศึกษานอกระบบและการฝึกอบรมคนงาน และได้ชี้ให้เห็นถึงประเด็นที่สำคัญด้านต่าง ๆ ที่ควรจะพิจารณาปรับปรุงเป็นพิเศษในส่วนต่าง ๆ ของระบบการศึกษา ประเด็นหลัก ๆ คือ (1) การเข้าถึงการศึกษาในระดับอนุบาล (pre-primary school) (2) คุณภาพที่แตกต่างกันในระดับประถมศึกษา (3) การเข้าเรียนต่ำและคุณภาพที่แตกต่างกันมากในระดับมัธยมศึกษา (4) การปรับตัวเข้าสู่ตลาดแรงงานของผู้ที่ออกมาจากระบบการศึกษา (5) การฝึกอบรมและการยกระดับคนงาน ที่อยู่ในกำลังแรงงานอยู่แล้ว และ (6) การขาดความยืดหยุ่นและการตอบสนองของการศึกษาในระดับอุดมศึกษา (higher education)

ในจุดต่าง ๆ ได้มีการเสนอทางเลือกเชิงนโยบายและโครงการนำร่องต่าง ๆ ดังมีรายละเอียดในบางประเด็นดังนี้

<u>ในระดับอนุบาล</u>

(1) โครงการนำร่องที่ให้คูปองการศึกษา (voucher) ให้แก่ครัวเรือนผู้มีรายได้ต่ำ ซึ่งจะทำให้เด็ก ๆ สามารถที่จะเลือกเรียนในโรงเรียนอนุบาลทั้งของรัฐบาลและของเอกชนได้อย่างกว้างขวาง การวิจัยในอดีตได้เสนอแนะว่าเด็ก ๆ ของครัวเรือนที่ยากจนในชนบทน่าจะได้รับประโยชน์อย่างมากจากการศึกษาในระดับอนุบาลในหลายด้านคือ ความสัมฤทธิ์ผลในวิชาคณิตศาสตร์และภาษาไทยที่เพิ่มขึ้นอย่างมีนัยสำคัญเมื่อเข้าเรียนในระดับประถมศึกษา และการลดความเสี่ยงในการเรียนซ้ำชั้นในระดับประถมศึกษา

ในระดับประถมศึกษา

(1) ควรจะได้ทดลองจัดทำรูปแบบการสอนที่เน้นความเชี่ยวชาญเฉพาะด้าน (specialization) ให้ครูในโรงเรียนประถมศึกษา โดยเฉพาะในระดับประถมปีที่ 5 และ ประถมปีที่ 6 โดยจัดหาสิ่งจูงใจต่าง ๆ จัดหลักสูตรฝึกอบรมเพิ่มเติม และอาจจะรวมถึงวิธีปฏิบัติในการบริหารโรงเรียนเพื่อกระตุ้นให้เกิดความชำนาญการเฉพาะด้านดังกล่าว

(2) จัดให้มีการทดลองโครงการรวมกลุ่มโรงเรียนเข้าด้วยกัน (School Consolidation) ในพื้นที่มีจำนวนเด็กน้อย โดยยังให้ความสำคัญต่อความสะดวกที่เด็กจะเดินทางมาเรียน ในขณะเดียวกับเสริมสร้างโอกาสที่จะขยายคุณภาพให้สูงขึ้น โดยอาศัยความชำนาญการเฉพาะด้านของครูและนำการลงทุนในส่วนที่ประหยัดได้เอาไปจัดหาอุปกรณ์การเรียนการสอนที่ดีขึ้น

ในระดับมัธยมศึกษา

(1) ควรมุ่งเน้นในเรื่องของการปรับปรุงคุณภาพของครูอย่างจริงจัง เรื่องนี้เป็นสิ่งที่จำเป็นเนื่องจากครูที่เคยสอนในระดับประถมศึกษามาก่อนจะถูกเรียกตัวให้สอนในระดับมัธยมศึกษาเพิ่มขึ้น การศึกษาในอดีตชี้ให้เห็นว่าคุณสมบัติ การศึกษาและประสบการณ์ของครูสามารถอธิบายความแปรปรวนของคะแนนทดสอบมาตรฐานได้ร้อยละ 11 ถึงร้อยละ 29 อย่างไรก็ตามการปรับปรุงคุณภาพนั้นไม่เพียงแต่การปรับปรุงคุณภาพของครูเท่านั้น แต่ยังรวมไปถึงการปรับเปลี่ยนทัศนคติของครูให้เอาใจใส่อย่างจริงใจต่อนักเรียน รวมถึงผู้ปกครองและชุมชนในท้องถิ่นอีกด้วย

(2) การปรับปรุงและเปลี่ยนแปลงหลักสูตรของโรงเรียนมัธยมศึกษาในชนบท หลักสูตรนั้นควรจะใช้เนื้อหาและตัวอย่างที่นักเรียนคุ้นเคยถ้าเป็นไปได้ควรนำมาจากสิ่งที่อยู่รอบ ๆ ตัวในท้องถิ่นนั้น ๆ แต่แกนหลักของหลักสูตรยังจะต้องเน้นการอ่านออกเขียนได้ คณิตศาสตร์และการคิดเป็นและคิดอย่างมีเหตุมีผลอยู่ ถ้าจะมีหลักสูตรทางวิชาชีพ หลักสูตรนั้นจะต้องเสริมการเพิ่มพูนความเฉลียวฉลาดความคิดและความเข้าใจ เพราะมีหลักฐานที่เด่นชัดว่า ความเฉลียวฉลาด..ความสามารถในการที่จะเรียนรู้และรับการฝึกฝน..เป็นสิ่งที่นายจ้างเสาะหา และยังเป็นสิ่งที่จะช่วยเพิ่มผลิตภาพและรายได้อีกด้วย

(3) ควรจะยกเลิกเพดานค่าเล่าเรียนที่เป็นอุปสรรคสำคัญในการขยายหรือเริ่มโรงเรียนของเอกชนในเขตเมือง การยกเลิกเพดานนี้ จะทำให้มีโรงเรียนเอกชนที่มีคุณภาพสูง (และค่าเล่าเรียนสูง) เกิดขึ้นมากในเมืองต่าง ๆ ซึ่งจะช่วยประหยัดเงินงบประมาณของรัฐได้เป็นอย่างมาก

โรงเรียนเอกชนที่มีคุณภาพต่ำกว่า (และค่าเล่าเรียนต่ำ) ก็จะยังมีอยู่ควบคู่ไปกับโรงเรียนชั้นดี ซึ่งโรงเรียนเอกชนก็เปรียบเสมือนสินค้าทั้งหลายที่ผลิตโดยเอกชนภายใต้สภาพการแข่งขัน คือจะมีทั้งที่มีราคาถูกและราคาแพงและมีคุณภาพแตกต่างกันออกไป ซึ่งจะเป็นการเพิ่มทางเลือกให้กับผู้ปกครองบางคนที่ไม่สามารถส่งบุตรหลานเข้าเรียนในโรงเรียนรัฐบาลดี ๆ ได้ ในขณะเดียวกันเราต้องเข้าใจว่าสิ่งที่เอกชนจัดหาให้นั้นไม่สามารถจะแก้ปัญหาความไม่เท่าเทียมกันได้ ดังนั้นระบบโรงเรียนของรัฐควรจะได้ปรับทิศทางให้สามารถแก้ปัญหาเหล่านี้ได้ โรงเรียนของรัฐบาลควรมีคุณภาพค่อนข้างดี และเปิด-กว้างอย่างแท้จริงให้กับนักเรียนทุกคนที่มีความสามารถ (talent) พอ ภาครัฐควรจะได้ให้ความสนใจเป็นพิเศษกับกลุ่มเป้าหมายในชนบท และปล่อยให้เอกชนได้แสดงบทบาทของเขาไปในเขตเมืองต่าง ๆ โดยหันเหทรัพยากรของรัฐเพื่อนำไปขยายโอกาสในการศึกษาในชนบท และเพื่อลดความ-แตกต่างในด้านคุณภาพของโรงเรียนรัฐบาลโดยทั่วไป

(4) สำหรับการขยายโอกาสในการศึกษาในระยะยาว มีข้อเสนอแนะให้เริ่มทดลองนำเอาระบบคูปองการศึกษา (vocher schemes) มาใช้ในระยะเวลาอันใกล้นี้ โดยเน้นกับกลุ่มเป้าหมายของกลุ่มผู้ที่ค่อนข้างจะยากจนในชนบท (เช่น อาจจะทดลองใช้ในบางจังหวัด หรือ กลุ่มอำเภอ หรือหมู่บ้านที่ตกอยู่ในกลุ่มที่ "ยากจน") สิ่งจำเป็นที่ต้องคำนึงถึงก็คือ คูปองการศึกษานี้จะต้องมีความยืดหยุ่นในการนำเอาคูปองการศึกษาไปใช้ โดยเด็กที่ได้รับคูปองนี้สามารถนำไปใช้ได้กับทั้งโรงเรียนรัฐบาลและโรงเรียนเอกชน และไม่ถูกจำกัดให้ไปใช้กับบางโรงเรียน ในบางจังหวัดหรือบางพื้นที่ นอกจากนั้นถ้าเด็ก ๆ ที่ได้รับคูปองไปแล้วบางคนมีความจำเป็นต้องเลื่อนกำหนดเวลาในการเรียนต่อด้วยเหตุผลใด ๆ ก็ตาม คูปองที่ได้รับไปนี้ควรจะสามารถนำไปใช้กับการศึกษานอกระบบในตอนหลังได้เช่นกัน

<u>การปรับตัวเข้าสู่ตลาดแรงงาน การฝึกอบรมและการยกระดับคนงาน</u>

(1) การยกระดับความรู้พื้นฐานและเพิ่มทักษะในการทำงานให้กับแรงงานที่อยู่ในกำลังแรงงานอยู่แล้วน่าจะหยิบยกขึ้นมาเป็นนโยบายสำคัญในระดับชาติอันหนึ่ง โดยเฉพาะกลุ่มคนงานที่มีการศึกษาที่ค่อนข้างต่ำ จะต้องจัดหาทรัพยากรมาให้เพียงพอ ทรัพยากรที่ได้ใช้จ่ายอยู่กับการศึกษานอกโรงเรียนในปัจจุบันและโครงการฝึกอบรมต่าง ๆ ควรจะเพิ่มขึ้นกว่าปัจจุบันอีกมาก สำหรับการศึกษานอกโรงเรียนที่เน้นการยกระดับพื้นฐานสามัญ (เช่น การสอบเทียบระดับประถมศึกษาหรือจากประถมศึกษา

เป็นมัธยมศึกษา) ควรจะยังคงอยู่ในความรับผิดชอบของกระทรวงศึกษาธิการ สำหรับโครงการฝึกอบรมอื่น ๆ มีความจำเป็นอย่างยิ่งที่จะต้องมีการจัดตั้ง "กลไกการประสานงานฝึกอบรมระดับชาติ" ปัจจุบันมีหน่วยงานของรัฐบาลมากมายที่เกี่ยวข้องกับ "การฝึกอบรม" ในรูปแบบใดรูปแบบหนึ่งแก่กลุ่มบุคคลเป้าหมายต่าง ๆ ซึ่งบ่อยครั้งเป็นการซ้ำซ้อน ดังนั้นจึงมีความจำเป็นที่จะต้องกำหนดทิศทางให้ชัดเจนว่าจะมีกลยุทธที่เหมาะสมในอนาคตอย่างไร

(2) ร่วมมือกับภาคอุตสาหกรรมและกลุ่มนายจ้างอื่น ๆ เพื่อหาแนวทางเสริมการปรับตัวเข้าสู่ตลาดแรงงานของผู้จบการศึกษาในระดับต่าง ๆ แนวนโยบายดังที่อยู่ใน (ร่าง) กฎหมายส่งเสริมการฝึกอบรม... น่าจะมีประโยชน์ เพราะจะทำให้นายจ้างมีความยืดหยุ่นในการรับคนงานฝึกหัด และจะช่วยเอื้ออำนวยให้มีการฝึกอบรมอย่างมีระบบเกิดขึ้น และมีระบบการให้ประกาศนียบัตร (Certification System) และยังเป็นการพัฒนาให้เกิดโครงการฝึกอบรมที่เป็นทางการที่มีขอบข่ายกว้างขวางอีกด้วย กฎหมายนี้จะช่วยให้ความเชื่อมโยงระหว่างโรงเรียนกับโรงงานมีความเข้มแข็งขึ้น ทำให้เป็นการง่ายขึ้นที่สถาบันการศึกษาต่าง ๆ จะมีสัญญาการฝึกอบรมอย่างมีระบบกับนายจ้าง ถ้าจะดำเนินตามระบบนี้ก็จำเป็นต้องมีการติดตามอย่างใกล้ชิดในระยะเริ่มแรกเพื่อจะได้อุดช่องโหว่และปัญหาต่าง ๆ ที่อาจจะเกิดขึ้น และแก้ไขได้ทันเหตุการณ์ ถ้าทุกฝ่ายเล็งเห็นประโยชน์จากระบบ อาทิเช่น ผู้ฝึกงานที่จะมีอนาคตในวิชาชีพดีขึ้น นายจ้างมีคนงานที่มีคุณภาพมากขึ้นให้เลือก และโรงเรียนมีการปรับปรุงหลักสูตรที่ดีและสามารถดึงดูดนักเรียนให้มาเรียนได้มากขึ้น ความห่างไกลที่มีอยู่เกี่ยวกับระบบนี้ก็จะน่าจะน้อยลงไปเรื่อย ๆ

(3) ควรใช้ระบบทางเลือกของการศึกษาทางไกล (โดยเฉพาะผ่านทางโทรทัศน์) ในการเสริมความรู้ในการงานให้มากขึ้น ซึ่งรวมไปถึงกลุ่มเป้าหมายที่เป็นชาวนาและผู้ที่อยู่ในธุรกิจส่วนตัวอื่น ๆ ด้วย

(4) เริ่มทดลองใช้วิธีการให้แรงจูงใจในการฝึกอบรมระหว่างปฏิบัติงานบางวิธี (O-J-T) โดยอาจจะเริ่มจากอุตสาหกรรมบางประเภทในระยะแรก โดยเฉพาะอย่างยิ่งการฝึกอบรมระหว่างปฏิบัติงานที่เพิ่มความเชี่ยวชาญในอุตสาหกรรมเฉพาะด้าน ภาครัฐบาลสามารถจะมีบทบาทในการกระตุ้นและมีบทบาทในการประสานงานให้ภาคเอกชนดำเนินโครงการฝึกอบรมที่จะมีประโยชน์ต่อกลุ่มของนายจ้างในอุตสาหกรรมประเภทเดียวกัน รูปแบบของสถาบันฝึกอบรมอุตสาหกรรมเฉพาะด้านก็เป็นรูปแบบหนึ่งที่

เหมาะสม แต่ภาครัฐไม่น่าจะจัดตั้งขึ้นเอง นอกเสียจากว่าจะมีความได้เปรียบที่เห็นได้ชัดเจน หรือสามารถที่จะให้สถาบันดังกล่าวเลี้ยงตนเองได้จากการเรียกเก็บค่าฝึกจากผู้เข้าฝึกงาน หรือเรียกเก็บเงินอุดหนุนจากอุตสาหกรรมกลุ่มเป้าหมายได้

<u>การศึกษาในระดับอุดมศึกษา</u>

(1) มุ่งให้มหาวิทยาลัยของรัฐต่าง ๆ สามารถเลี้ยงตนเองได้มากขึ้นไปพร้อม ๆ กับการจัดหาทุน โครงการเงินกู้ให้กับนักศึกษา หรือโครงการให้ทุนแบบผูกพัน ซึ่งจะทำให้วัตถุประสงค์ในการเพิ่มประสิทธิภาพของระบบและความเสมอภาคในระบบไม่ขัดแย้งกัน เนื่องจากค่าเล่าเรียนที่สูงขึ้นจะทำให้สถานศึกษาส่วนหนึ่งสามารถเพิ่มจำนวนนักศึกษาได้และส่วนหนึ่งของจำนวนนิสิตที่เพิ่มขึ้นก็จะสามารถกันไว้ให้กับผู้ด้อยโอกาสได้

(2) ให้ความเป็นอิสระกับมหาวิทยาลัย (Privatization) บางแห่งในสังกัดของทบวงมหาวิทยาลัย โครงการที่เลี้ยงตัวเองได้ (เช่น โครงการปริญญาโททางธุรกิจของ จุฬาลงกรณ์มหาวิทยาลัยและมหาวิทยาลัยธรรมศาสตร์) ที่มีมาตรฐานสูง มีการจ่ายชดเชยให้กับคณาจารย์ค่อนข้างสูง และมีการเก็บค่าเล่าเรียนสูงเป็นตัวอย่างที่ชี้ให้เห็นประโยชน์ที่น่าจะเกิดขึ้นจากการให้มหาวิทยาลัยของรัฐมีอิสระมากขึ้น ซึ่งขณะนี้ทางทบวงมหาวิทยาลัยก็กำลังดำเนินการอยู่แล้ว แต่โอกาสที่จะได้รับความสำเร็จคงแตกต่างกันไปในแต่ละมหาวิทยาลัย ซึ่งประเด็นในเรื่องการบริหารและการเงินในหลาย ๆเรื่องคงจำเป็นต้องพิจารณากันต่อไป

(3) ให้ความเป็นอิสระแก่มหาวิทยาลัยเอกชนโดยการกำจัดกฎระเบียบต่าง ๆ ของทบวงมหาวิทยาลัยให้เหลือน้อยที่สุด โดยการทดแทนกฎเกณฑ์เหล่านั้นด้วยกลไกที่มีความอิสระและคล่องตัว การเปลี่ยนแปลงทัศนคติของข้าราชการที่มีต่อภาคเอกชนก็เป็นเรื่องที่จำเป็น

(4) อำนวยความสะดวกให้มีการก่อตั้งมหาวิทยาลัยนานาชาติ หรือสาขาของมหาวิทยาลัยนานาชาติชั้นดี (ดังเช่นที่เกิดขึ้นมาแล้วในประเทศญี่ปุ่น) พร้อม ๆ กับมาตรฐานที่สูง มีคณาจารย์ในระดับนานาชาติและโปรแกรมระดับปริญญาโทและเอก เพื่อเพิ่มสมรรถนะการศึกษาและช่วยกระตุ้นให้เกิดการปฏิรูปมหาวิทยาลัยของไทยเอง

(5) สนับสนุนโปรแกรมการศึกษาเป้าหมายในระดับสูง ให้การสนับสนุนทุนปริญญาเอกต่อเนื่องเพื่อให้คณาจารย์ที่จะได้รับการฝึกอบรมในสาขาที่ขาดแคลน ถ้าเป็นไปได้ควรจะให้มีการเรียนในระดับนี้ในประเทศไทย ซึ่งจะทำให้การเรียนการสอนของการศึกษาระดับนี้ในประเทศไทยเข้มแข็งขึ้น ส่วนสาขาที่ไทยยังไม่พร้อมก็ส่งไปศึกษาต่อในต่างประเทศ

(6) สนับสนุนการศึกษาวิจัยในมหาวิทยาลัยเพื่อกระตุ้นคุณภาพ และเสริมรากฐานในการวิจัยและพัฒนา (R & D)

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Issues and Options for Policy and Reform

This paper reviews education and human resource development problems affecting Thai development and likely to affect it in the future.

The evidence is that the fit between the labor market and the education and human resource development system is weak and not improving. Accumulating problems could harm Thai development, equity, and social structure in the future.

The paper reviews problems in formal education, and worker training and identifies -- from existing studies and available data -- the following important points for intervention: access to pre-primary education; quality variations in primary education; low enrollment and high quality variations in secondary education; the transition from school to work for students entering the job market with primary or post-primary education; training and upgrading of workers already in the labor force; and lack of flexibility and responsiveness of higher education.

For each point of intervention, the paper recommends possible policy options and pilot projects. Some of these are:

At the Pre-Primary Level:

(1) Pilot project to provide vouchers for low income households to enable children to attend a wide variety of private and public pre-primary schools. Past research suggest that children of poor and rural households are likely to benefit substantially from pre-primary education, in terms of significant increases in primary school achievement in mathematics and the Thai language, and reduced risk of repetition of grades in primary school.

At the Primary Level:

(1) Experimentation with models of primary school teacher specialization at fifth and sixth grade levels and perhaps below, including various incentives, retraining schemes and school management practices to encourage such specialization.

(2) Experimentation with school consolidations schemes that would retain the incentives of proximity for enrollment and continuation, while creating the opportunities for quality enhancement through teacher specialization, and investment of savings in better provision of instructional materials.

At the Secondary Level:

1) Intensive efforts to improve teacher quality. This is particularly necessary as teachers who previously taught only at the primary level are more and more being called upon to teach at the lower secondary level. Past research showed that teacher

performance, education and experience explained 11 to 29 percent of the variance in standardized test scores. However, improvement in quality involves not only improved formal teacher qualifications, but also attitudes, and sincere interest in the students, their parents, and the local communities.

2) Improve and change the rural secondary school curriculum. The curriculum can and should make use of content and examples familiar to students, possibly drawing from the local environs. But the core function must still be greater literacy, numeracy, and reasoning ability. If there is to be a "practical curriculum" it must be one that enhances cognitive and thinking skills. There is strong evidence that cognitive skills -- the ability to learn and be trained -- are what employers seek, and are the skills which enhance productivity and income.

3) Remove completely the tuition ceiling barrier to entry of new private secondary schools in cities. The premise of this suggestion is that there would be a significant increase in the supply of high quality (and high price) urban places at relatively low cost to the public budget. Lower quality (and lower price) private schools will exist along side the better schools, as private schooling, like other commodities produced by the private sector under competition, would presumably come in a variety of qualities and prices, thus providing a range of alternatives to those who cannot get into the best public schools. At the same time, because private provision will not be able to serve the equity objective, the public system should be geared more toward serving this objective. Public schools should be of a fairly good quality, and have true open access for all talented children. The public sector should in particularly focus on the rural target group. And by freeing the private sector to have a much bigger role in the cities, public resources can be diverted to expand educational opportunities in rural areas, and reduce quality variations in public schools generally.

4) For long-term expansion of educational opportunities, it is suggested that experiments with voucher schemes (educational coupons) be initiated in the near future. These will be targeted to the relatively poor rural target group (possibly by targeting certain provinces, or certain designated "poor" districts or villages). It is essential, however, that there should be flexibility in the utilization of the vouchers. Thus, children receiving vouchers should be able to use them in both public and private schools, and need not be restricted to go to certain "designated" schools in particular provinces or location. Also, if children receiving vouchers find it necessary to postpone their schooling continuation for various reasons, then the vouchers should also be useable for non-formal education at a later time as well. The aim is to encourage a variety of secondary school options, and create market incentives for quality improvement, enrollment and retention in secondary schools. Vouchers experiments could initially be funded by international donors to test the idea and, if the tests are successful, to help show policy makers that it may be worth offering vouchers on a much larger scale.

For The Transition from school to Work, and Worker Training and Up-Grading:

1) Make skill and knowledge upgrading of those already in the labor force a national priority over the medium-term, with particular emphasis on those with low education.

Sufficient resources must be devoted to the task. Resources currently spent on non-formal education and various training programs should be substantially increased. For non-formal education to upgrade formal academic qualifications (eg., to achieve primary school equivalency, or from primary to secondary school equivalency), the responsibility should remain with the Ministry of Education. For other training programs, however, there is a clear need for a national training co-ordination mechanism. Currently, numerous government agencies are involved in some form of "training" for various target groups. These often overlap, and clearer directions need to be established concerning priority areas, and appropriate strategies for the future.

2) Experiment and begin to develop with industry and other employers more extensive and systematic models for the transition from school to work. Thailand may be "missing its middle," with adequate number of people in university (thought not enough in some fields), and not enough highly qualified workers. This transition will be especially important as the secondary education problems take time to solve, and will only affect the average quality of the labor pool after a long lag. Implementation of something like the (draft) "Occupational Training Act" would be a useful first step. This will allow employers more flexibility in taking in trainees, and will facilitate the establishment of a more formal training and certification system, and also the development of formal apprenticeship programs on a large scale. It will also help strengthen links between schools and factories, making it easier for educational institutions to have formal training agreements with employers. Clearly, the system needs to be monitored carefully in the early stages so that loop holes and problems can be identified and rectified. If all parties benefit from the system -- trainees, through better career prospects; employers, through more availability of qualified workers; and schools, through an improved curriculum and better attraction for students -- then possible abuses of the system will not generally occur.

3) More use of distance learning options (particularly television) for occupational upgrading; including for farmers and other types of own-account operations.

4) Begin experiment with some on-the-job training incentive schemes. This could start by targeting particular industries initially, especially those where the on-the-job training skills acquired are fairly industry-specific. For such industries, the public sector can also play a catalytic and co-ordinating role to initiate private sector training programs which would serve groups of employers in the same industry, so that narrowness of training and under-investment in training for fear of labor mobility are reduced, and economies of scale, scope and specialization are realized. Industrial training institutes would be the type of model, but the public sector should refrain from operating such an institute, unless there are clear comparative advantages for doing so, or where cost recovery, through charges from trainees or targeted taxes from the industry, is feasible.

For Higher Education:

(1) More cost recovery in the public universities, together with a package of scholarships, student loan schemes, or a tied scholarship scheme. This will ensure that equity and efficiency objectives would not conflict, since higher fees allow expansion of places which could be earmarked for the disadvantaged.

2) Privatization of some of the MUA universities. The "self-financed programs" (like the MBA programs at Chulalongkorn and Thammasat) with high standards, high faculty compensation and high fees are examples of what privatization of the MUA universities might bring. This is something in process, but the prospects for success vary across universities, and many management and financial issues have to be sorted out.

3) Privatization of the private universities by removing most MUA regulations, which constrain innovation and expansion into fields important for future Thai development, replacing these regulations with an independent accrediting mechanism. Changes in attitudes concerning the private sector on the part of government bureaucrats are also necessary.

4) Facilitate the establishment of international universities, or branch campuses of first-rate international universities (as has happened in Japan), with high standards, international faculty and graduate programs to add capacity and to induce reform in Thai universities.

5) Support a highly targeted and sustained program of Ph.D. fellowships for faculty training in critical fields -- where possible for graduate training in Thailand -- thus strengthening graduate training in Thailand, and where this is not yet possible, then for training abroad.

6) Support a program of competitive awards to stimulate research and increase compensation of faculty.

EDUCATION AND ECONOMIC DEVELOPMENT: ISSUES AND OPTIONS FOR POLICY AND REFORM

1. INTRODUCTION

In this paper, we review education and human resource development problems affecting Thai economic development and likely to affect it in the future.

The paper begins with an overview of changing patterns of labor demand, the fit of education and human resource development with the economy and the labor market, and current and future consequences for income distribution and social structure.

The next section of the paper presents an overview of the formal education system including its structure, financing, enrollment, enrollment ratios, and transition ratios. The paper then looks in more detail at the following problems:

- Access to pre-primary education,
- Quality variations in primary education,
- Low enrollment and high quality variations in secondary education,
- The transition from school to work for students entering the job market with primary or post-primary (but not university) education,
- Training and upgrading of workers already in the labor force,
- Lack of flexibility and responsiveness of higher education.

For each issue we summarize the current situation and past analyses, including; quality, enrollment, costs, prices, degree of subsidy, equity consequences, and the roles played by public and private providers. We then identify points of intervention to deal with the problems, suggest possible policy options.

It should be clear that while we try to cover key issues at each level of education, our coverage is certainly not claimed to be comprehensive. Thus, for example, the critical

role of teachers, detailed curriculum content, or the impact of education on social development, are not much touched upon. Some of these are covered in other papers in the conference. Also, some topics here, which are analyses in more detailed in other papers in the conference, are only covered briefly.

2. OVERVIEW: STRUCTURAL CHANGES IN THE ECONOMY; LABOR DEMAND PATTERNS, HUMAN RESOURCE DEVELOPMENT, EQUITY AND SOCIAL STRUCTURE CONSEQUENCES

There is evidence that the fit between the labor market and the education and human resource development system is weak and not improving.[1] Rapid growth and structural transformation of the economy is led by the private sector, particularly export industry. Demand is for trainable, adaptable workers, technicians, engineers and managers. Skill shortages are evident. The education system is largely public, highly regulated, offering limited choice, strongly affected by the structure of higher education, and responds primarily to social demand.

2.1 Changing labor demand and employment patterns

Structural change of the Thai economy is rapid and extensive.[2] Manufactured exports, including textiles and garments, sporting goods, toys, integrated circuits, rubber products, jewelry and furniture have grown at a rate of about 30 percent per year since 1986. These exports have been made possible by a combination of an abundant supply of low wage and trainable workers, entrepreneurial skill, and appropriate macroeconomic policies. The Thai economy is one of the fastest growing in the world.

But there are both immediate and longer terms threats to the international competitiveness of semi-skilled, labor intensive exports, and export led growth. Shortages

1. Myers and Sussangkarn (1989).
2. For a good overview, see: Akrasanee, Dapice and Flatters (1991).

of highly skilled personnel (engineers, scientists, and specialized technicians) are already evident.

There is also a clear pattern of industrial and formal service sector preference in the hiring of better educated workers -- particularly lower secondary graduates and above. The share of those with elementary education in the employment composition of medium to large scale industries and services has declined substantially in the last decade. Workers with low educational levels are more and more being pushed into low paying and less prosperous segments of the economy.[3]

The demand for better educated workers will continue to be high, with forecasted structural changes in employment.[4] In export industry and in other jobs which pay well (public sector and the private formal sector), there will be a need and a preference for better educated workers. Different and more advanced skills will be needed in all segments of the labor market. At the higher end, skills will have to keep pace with the rapidly changing technology and product sophistication. Although skill shortages are already evident and serious, particularly of engineers, manpower forecasts suggest that there may be growing shortages of bachelors-level graduates and post-graduates in all scientific and technical fields over the next decade.[5] Further, the labor market for those with middle levels of education, who, increasingly, are the basic workforce of modern industries and services, is expected to get tighter over the coming decade. This will generate wage pressures, and adversely affect Thailand's international competitiveness.[6]

Workers with just elementary education will end up mostly in agriculture, and in

3. Sussangkarn (1988a) and Sussangkarn (1991a).
4. Sussangkarn (1988b) and Myers and Sussangkarn (1989).
5. TDRI (1988), TDRI/NESDB (1989), and Likskul and Khantigaroon (1992).
6. See Sussangkarn (1989), and Sussangkarn (1991c).

the informal sector of the private labor market. Yet, the pattern in agriculture is also changing rapidly. There is a growing shift from the major crops to higher value-added agricultural commodities, such as fruits and vegetables and aquaculture. Agricultural technology has progressed to the point where Thailand is able to achieve quality in high value-added fruits and vegetables, such as grapes, cantaloupe, asparagus, tomatoes etc., and in aquaculture such as shrimp farming. For the longer term, Thai agriculture must continue to diversify and upgrade to guard against income declines such as occurred between 1981 and 1985/6 for the agricultural population.

However, as agriculture moves to higher value-added products, production processes become more complex, with more reliance on technology and information. For example, intensive Black Tiger shrimp production can yield up to 1,000 kg. per rai per year, compared to 40 to 70 kg. for traditional methods and 90 to 200 kg. for semi-intensive methods. But the technology of the intensive method is complex, demanding, unforgiving of error or inattention to monitoring requirements and information. For agricultural production of this nature, an elementary education may no longer be sufficient. As Jamison and Lau (1982) have shown, in more technologically intensive agriculture as opposed to traditional agriculture, there can be productivity gains from having more than just the required compulsory education.[7] Thus, there is both a need to upgrade the skills of the mass of those in agriculture with just elementary education, and to increase secondary enrollments in order that current and future farmers are able fully to promote and participate in the structural change of agriculture. Education is not only the most effective investment to increase agricultural productivity but also to reduce deforestation and other environmental problems.[8]

Yet even with the current labor market demand, secondary enrollments in Thailand remain low -- the lowest in ASEAN, many vocational school graduates do not have the skills employers seek, worker training and up-grading in industry may be suboptimal, and the university system cannot graduate sufficient number of the skilled

7. Jamison and Lau (1982).
8. Panayotou and Parasuk (1990), Tongpan et al. (1990), and Phantumvanit and Panayotou (1990).

people in the fields the private sector demands.

2.2 Equity and other Social Consequences

As workers with low education levels are more and more being pushed into low paying and less prosperous segments of the economy, it becomes more difficult to attain the goals of better income distribution and poverty alleviation.[9]

Income inequality in Thailand has been widening over the last decade,[10] and the close link between education and income inequality has been established.

The proportion of the work force with primary education and below was estimated at 83 percent in 1990. Sussangkarn (1988)[11] found that the first entry into the labor market for those with primary education is predominantly as unpaid family workers, working on the parents' farm, or household enterprise.[12] As these individuals get older, some become employees in the private and public sector, but the majority remain in the family enterprise (farm and non-farm), either as heads of that enterprise (thereby changing status to own-account workers), or as unpaid family workers in the enterprise. Since the income of own-account workers is on average much lower than other workers in the economy, the gap in incomes between those with primary education and the better-educated groups has been widening.

Agriculture has been, and still is, the main employer of those with primary education. Unfortunately, this is the sector which has by far the lowest value added per

9. Chutikul-Khoman (1989), Sussangkarn (1991b). See also Sussangkarn, Patamasiriwat, Ashakul, and Chimkul (1988).
10. Hutaserani and Jitsuchon (1988).
11. Sussangkarn (1991a).
12. Sussangkarn (1988a).

head. The large differential between the share of employment in agriculture and the share of agriculture in GDP indicates a high degree of income inequality between agriculture and non-agriculture. Income gaps between agricultural households and non-agricultural households have been widening since the mid 1970s. Thus, the income gap between those with primary education and those with more education has also been widening.

Data from the Socioeconomic Surveys (1981 and 1985/6) show that the major source of deterioration in income distribution is the widening income gap between poorly-educated and highly-educated households. The higher the level of education of the head of household, the faster has been the increase in per capita household income between those years. For households headed by those with primary education, nominal per capita income increased by 6.5 percent, compared with an increase of 12.4 per cent for all other households.

It is clear that the relative position of those with primary education is rapidly deteriorating vis-a-vis the better-educated groups. Thus differential participation in the educational system is an important cause of income inequality and of its perpetuation from poor parents to their children over time. In all of these trends there is the danger of the "emergence of an (economically) disenfranchised social underclass."[13]

Table 1 shows the gross enrollment ratio for children from different socioeconomic backgrounds -- professional and business, laborers, and farmers -- at the secondary level and the tertiary, and starkly indicates the vastly different educational opportunities.[14] For children from professional and business households, almost all of them of secondary school

13. The World Bank (1990).

14. Based on Tables 3.12 and 3.13 in The World Bank (1990), an assumption of 27 percent gross enrollment ration at the secondary level, and 10 percent at the tertiary level, and assumptions that the distribution of students from households of various occupations are the same as the occupational distribution. Generally, laborers and farmers will have a larger average family size, so the gross enrollment ratios for these groups will be lower than shown in the table.

age are at school, and nearly 60 percent of tertiary school age are studying. For laborers' children, only about a quarter are studying at the secondary level, and only 8.2 percent of tertiary school age are studying. For children of farmers, the situation is dismal. For those of secondary school age, only 14.5 percent are studying, while for those of tertiary school age, just over one and a half percent is studying.

TABLE 1
Gross Enrollment Ratios for Children from Households of Different Occupations: Secondary and Tertiary Levels (1985)

(Percent)

	Secondary Ratio	Tertiary Ratio	Population Distribution
Professional and Business	95.8	57.7	12.8
Laborers	24.2	7.1	21.3
Farmers	14.5	1.7	65.9

Source: See Note 14.

3. STRUCTURE OF EDUCATION: AN OVERVIEW

This section summarizes the overall structure of formal education, the proportions of enrollment at each level in public and private institutions, public expenditures on education, and enrollment and transition ratios at critical points in the structure.

3.1 Structure

The global structure of the education system is highly complex and fragmented (See Figure 1). At least four government agencies are responsible for the administration of the formal education system; the Office of the Prime Minister (including the National

Figure 1

Schematic Representation of the Education Sector

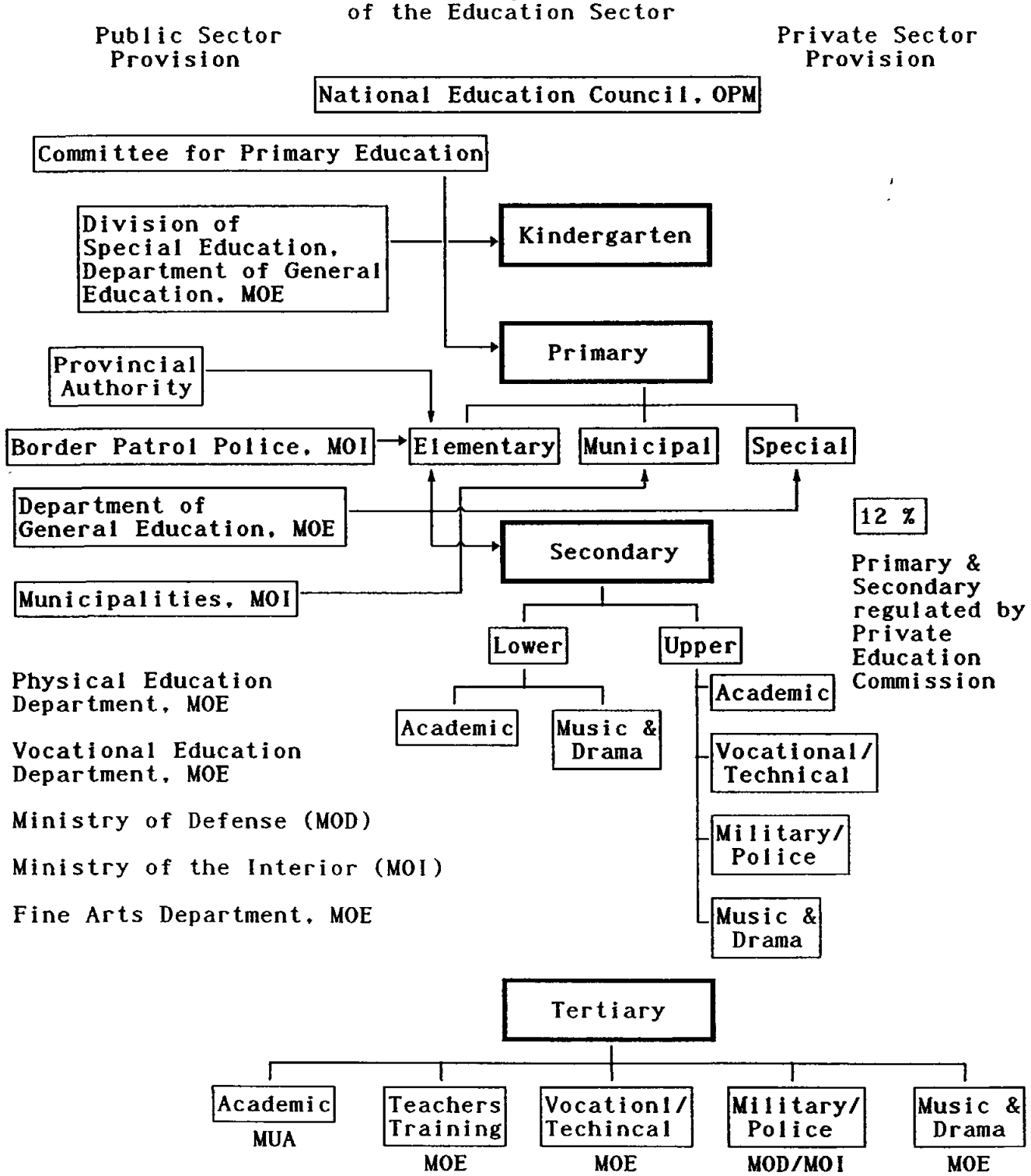
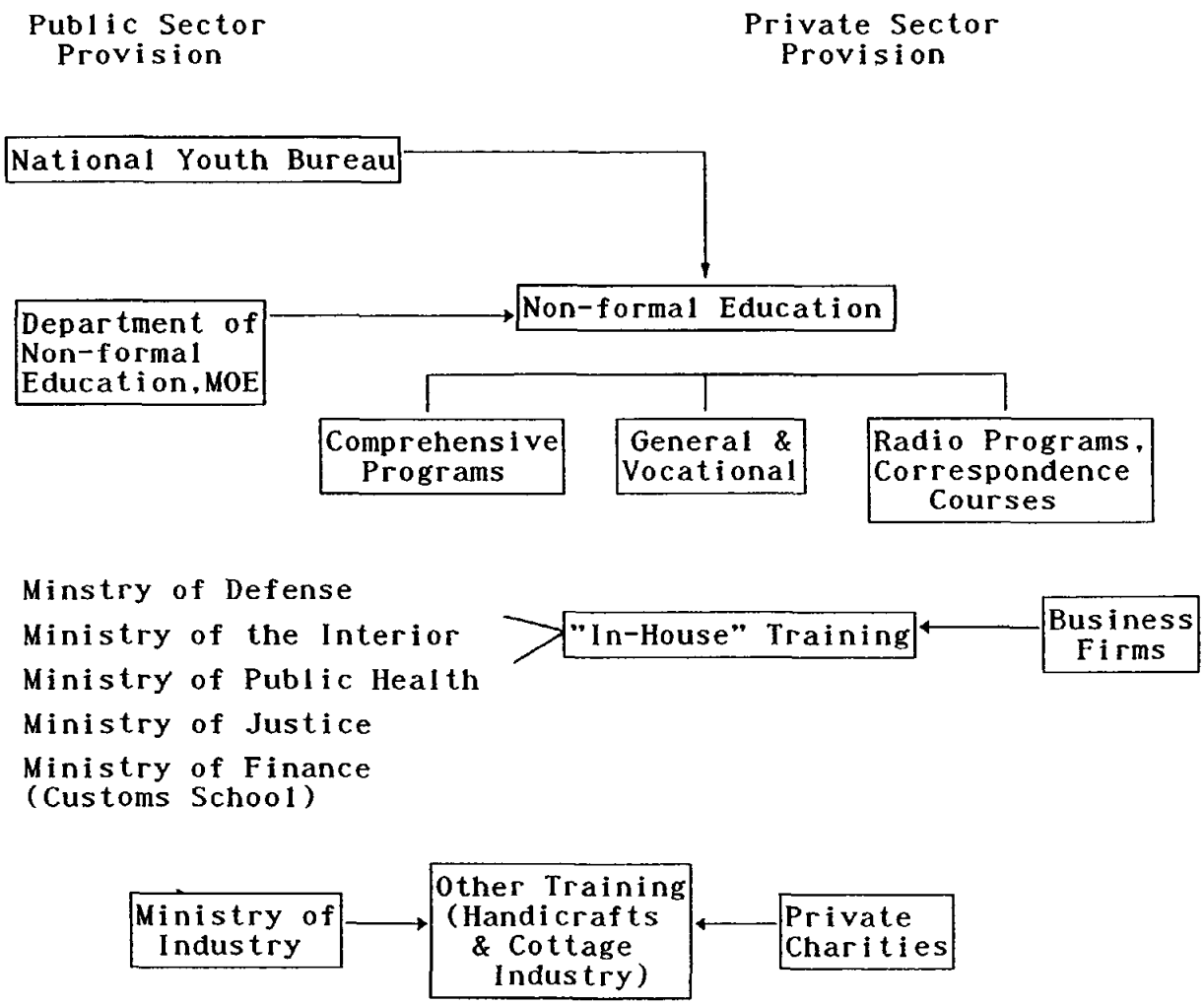


Figure 1 (continued):

Schematic Representation
of the Education Sector



Source: NSO (1980), documents of various Ministries

Taken from Sirilaksana Chutikul-Khoman: "Overview of the Education Sector in Thailand: Its Problems and Policy Dilemmas," HRS Program, TDRI, February 1988

Economic and Social Development Board, and the National Education Commission), the Ministry of Education, the Ministry of Interior, and the Ministry of University Affairs. In addition, the layers of government administrative control extend all the way down to the district levels.

The fragmented and highly bureaucratic nature of the education system leads to too little coordination between different levels of education, and too much uniformity in curriculum for the diverse needs of different parts of the country, and offers limited choices to households and students. In part, this is because the system is strongly influenced by selectivity and structure of higher education as will be discussed in the sections 6 and 8 below.

The system is not particularly flexible or responsive. As the structure of the economy changes, the importance given to different levels and types of education and to different fields of study needs to change with, if not anticipate the changes in the economy. But because of the fragmentation and the bureaucratic concern of each organization for its own domain, there are long lags and inadequate overall response. Plans to reallocate expenditures, reducing expenditures for some part and increasing expenditures for others rarely come from within the system.

3.2 Public Provision

Table 2 shows that pre-university education is provided mainly by the government. In 1989, the proportion of total enrollment in public institutions ranged from 57 percent of secondary vocational enrollment to 90 percent of primary enrollment. The public shares of enrollment at the primary level and the secondary vocational level have stayed nearly constant since 1978. The public share of preschool enrollment has increased steeply in response to a public policy decision to expand opportunities at this level. And the public share of academic secondary education has increased also as a result of public policy -- both the building and staffing of public rural and municipal secondary schools and the many rules and regulations which the government imposes on private providers at this level.

TABLE 2
Percentage Share of Enrollment in Public Schools

	Pre-primary	Primary	Secondary	Sec. Vocational
1978	43.4	91.0	77.7	59.0
1980	43.6	91.4	80.8	54.5
1985	59.4	90.0	88.2	56.9
1986	72.6	90.0	89.2	59.1
1987	75.7	90.8	89.6	58.7
1988	78.3	90.5	88.3	58.3
1989	73.9	90.5	89.7	57.0

Source: NEC

TABLE 3
Percentage Shares of Full-time-equivalent (FTE) University Enrollment

	Closed Univ.	Open Univ.	Gov't. Share	Private Univ.
1983	33.4	53.9	87.3	12.7
1984	36.1	48.5	84.7	15.3
1985	36.3	48.0	84.3	15.7
1986	36.8	45.9	82.7	17.3
1987	37.8	42.5	80.3	19.7
1988	38.1	42.4	80.5	19.5
1989	39.1	36.4	75.6	24.4

Source: Calculated from MUA data

The public sector is also the principal provider of university education, but here the story is a bit more complex because of part-time enrollments in Ramkhamhaeng and Sukhothaithammathirat (STOU) open universities, and the difficulty of estimating full-time-equivalents (FTEs). If FTEs are equal to 25 percent of the nominal enrollment in these two universities,[15] then the public and private shares at the university level are as shown in table 3.

Between 1983 and 1989, there has been a doubling of the FTE enrollment share of the private universities to over 20 percent of the total, a slow but steady increase in the FTE share of the public closed universities to nearly 40 percent of the total and a decline in the FTE share of the open universities.

Most interesting, perhaps, is that total FTE enrollments in all universities barely increased at all between 1983 and 1989. There were 304,750 FTEs in 1983 and 314,957 in 1989, an increase of only 10,200 full-time-equivalent students over the seven years. We will come back to this issue in later sections of the paper.

3.3 Public Expenditures

Public spending on the education sector since 1982 is shown in table 4. Overall expenditures have been a fairly steady percentage of the rapidly growing GDP and a slightly declining proportion of the government budget, declining from 20 percent of the government budget in 1982 to 18 percent in 1990.

More than half of public expenditures goes to primary education. The budget shares of secondary and higher education have grown, while the shares of vocational schools and "other" activities have dropped. The "other" activities include non-formal and adult education, which along with vocational schools, are to prepare people for work and/or retrain those already in the labor force.

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15. Sussangkarn (1991a) and The World Bank (1990) make similar corrections to estimate FTE enrollments in the open universities.

TABLE 4
Public Expenditures on Education Percentage of GDP and Percentage Distributions

	% GDP	primary	secondary	higher	voc.	other
1982	20.1	54	17	12	10	8
1986	18.7	57	19	11	9	4
1987	18.1	58	19	12	7	4
1988	18.0	57	19	13	7	4
1989	16.6	57	17	14	7	5
1990	18.0	56	20	14	6	5

Sources: Bureau of the Budget and the Office of the National Education Commission.

TABLE 5
Gross Enrollment Ratios

	Pre-primary	Primary	Secondary		
			Lower	Upper	Combined
1982	10.9	98.9	32.0	26.6	29.3
1986	25.9	95.1	34.3	24.4	29.4
1987	30.3	94.7	32.8	24.1	28.5
1988	36.1	92.7		-	30.0
1989	33.6	92.2		-	30.4

Source: World Bank (1990), Table 2.3.

3.4 Overview of Enrollment Trends and Transition Ratios

Gross enrollment ratios -- calculated by dividing enrollment at each level by the total population of school age for that level -- are shown in table 5.

Except at the pre-primary level, the gross enrollment ratios have remained remarkably stable even as the economy has experienced rapid growth. Enrollment at the primary level is slightly below 100 percent because of drop-outs, but the "decline" shown in the table is due to fewer over-age students, repeaters and re-entrants in the data. In fact, the number of students entering the sixth grade and presumably completing primary school has been increasing.[16]

Above the primary level, the picture is different. Gross enrollment ratios at the secondary level are quite low at about 30 percent -- lagging behind many Asian countries, even some countries such as Sri Lanka with less than half Thailand's current per capita income.

Calculation of gross enrollment ratios in higher education requires the same kinds of adjustments as calculation of public and private shares. Students in the two open universities are not only part-time, but are of a much broader age range than students in the closed and private universities. Enrollment in STOU, in particular, is made up mostly of adults already in the labor force. If no corrections are made, the gross enrollment ratio in higher education in 1989 was over 20 percent -- unusually high for a country at Thailand's level of per capita income.

Both the World Bank (1990) and Sussangkarn (1991a) make adjustments for the part-time enrollments and older-age students in the open universities. Their estimates of the adjusted gross enrollment ratio in higher education in 1989 range from 8 to 10.5 percent.[17]

16. Sussangkarn, Ashakul and Myers (1986).
17. The World Bank (1990), p. 18; and Sussangkarn (1991a), p. 8.

A transition ratio is the percentage of completer of one level who goes on to the next grade or to the next level of education. Transition ratios in 1987 and 1988, and projected transition ratios to the year 2000, based on the Seventh Plan's targets, are shown in table 6. The most critical transition is from completed primary to lower secondary.

To illustrate the overall flow of students through the system, and to illustrate labor market and other implications of this critical transition ratio, we have constructed a simulated cohort by assuming that the 1987 transition ratios have been constant for (up to) twelve years in the past. If the ratios had been constant, then, of 100 students entering primary school:

- 76 completed primary school (the sixth grade)
- 31 entered lower secondary school
- 28 completed lower secondary
- 13 entered upper secondary and 8 entered vocational school
- 11 completed upper secondary and 6 completed vocational school
- 3 entered the closed and private universities, 5 entered Ramkhamhaeng, and 3 entered upper vocational institutes.

Completion of any level of education, except the highest levels, has two potential benefits. The first is the benefit which individuals receive in the labor market and in other activities throughout their lives because they completed that level of education. The second is the "option" benefit, the option to go on to the next level. It is clear in the simulated cohort that, except for the transition from primary to lower secondary school, the option to go to some kind of further education is exercised by the vast majority of graduates of levels above primary school -- for example, by 75 percent of lower secondary graduates who go on to upper secondary or vocational schools, and by 73 percent of upper secondary graduates who go on to closed, private or open universities.

The most serious problems in formal education, and among the most serious consequences for the labor market and for Thai development, are at the primary level and in the transition from completed primary to lower secondary.

TABLE 6
Transitions Ratios: Actual (1987 & 1988) and Projected

	1987	1988	1989	1990	1991	1992	1993
P1/POP6	1.0700	1.0500	1.0200	1.0100	1.0000	1.0000	1.0000
P2/P1	0.8905	0.8900	0.9378	0.9500	0.9700	0.9850	0.9850
P3/P2	0.9763	0.9815	0.9813	0.9900	0.9975	0.9980	0.9985
P4/P3	0.9807	0.9736	0.9800	0.9840	0.9900	0.9950	0.9980
P5/P4	0.9832	0.9673	0.9725	0.9840	0.9985	0.9985	0.9985
P6/P5	0.9720	0.9634	0.9700	0.9750	0.9800	0.9900	0.9970
ENDP6/P6	0.9300	0.9400	0.9500	0.9550	0.9600	0.9650	0.9700
M1/ENDP6	0.4098	0.4290	0.4619	0.4800	0.5000	0.5400	0.5900
M2/M1	0.9470	0.9521	0.9546	0.9600	0.9650	0.9700	0.9750
M3/M2	0.9546	0.9586	0.9594	0.9650	0.9700	0.9750	0.9800
ENDM3/M3	0.9900	0.9900	0.9910	0.9920	0.9930	0.9940	0.9950
M4/ENDM3	0.4660	0.4520	0.4527	0.4400	0.4400	0.4300	0.4200
M5/M4	0.9023	0.8974	0.9000	0.9100	0.9200	0.9300	0.9400
M6/M5	0.9314	0.9301	0.9231	0.9300	0.9400	0.9500	0.9600
ENDM6/M6	0.9942	0.9950	0.9955	0.9960	0.9965	0.9975	0.9980
C1/ENDM3	0.2908	0.3141	0.3396	0.3500	0.3500	0.3500	0.3500
C2/C1	0.8514	0.8435	0.8378	0.8500	0.8600	0.8800	0.8900
C3/C2	0.9638	0.9745	0.9507	0.9550	0.9600	0.9700	0.9750
ENDC3/C3	0.8449	0.8511	0.8517	0.8600	0.8700	0.8900	0.9100
A1/ENDM6	0.3067	0.3586	0.4103	0.4204	0.4932	0.5319	0.5533
A2/A1	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
A3/A2	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
A4/A3	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
ENDA4/A4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
R1/(ENDM6-A1)	0.6296	0.6296	0.6296	0.6296	0.6296	0.6296	0.6296
R2/R1	0.6147	0.6147	0.6147	0.6147	0.6147	0.6147	0.6147
R3/R2	0.6147	0.6147	0.6147	0.6147	0.6147	0.6147	0.6147
R4/R3	0.6147	0.6147	0.6147	0.6147	0.6147	0.6147	0.6147
ENDR4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
V1/ENDC3	0.6063	0.6063	0.6063	0.6063	0.6063	0.6063	0.6063
V2/V1	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
ENDV2/V2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Note: P = Primary, M = Secondary, C = Vocational, A = Closed University,
R = Open University, and V = Higher Vocational.

TABLE 6 (Continued)
Transitions Ratios: Actual (1987 & 1988) and Projected

	1994	1995	1996	1997	1998	1999	2000
P1/POP6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
P2/P1	0.9850	0.9850	0.9850	0.9850	0.9850	0.9850	0.9850
P3/P2	0.9985	0.9985	0.9985	0.9985	0.9985	0.9985	0.9985
P4/P3	0.9985	0.9985	0.9985	0.9985	0.9985	0.9985	0.9985
P5/P4	0.9985	0.9985	0.9985	0.9985	0.9985	0.9985	0.9985
P6/P5	0.9980	0.9985	0.9985	0.9985	0.9985	0.9985	0.9985
ENDP6/P6	0.9750	0.9800	0.9850	0.9850	0.9850	0.9850	0.9850
M1/ENDP6	0.6400	0.6900	0.7300	0.7500	0.7700	0.7900	0.8000
M2/M1	0.9800	0.9850	0.9900	0.9900	0.9900	0.9900	0.9900
M3/M2	0.9850	0.9900	0.9950	0.9950	0.9950	0.9950	0.9950
ENDM3/M3	0.9960	0.9970	0.9980	0.9980	0.9980	0.9980	0.9980
M4/ENDM3	0.4100	0.4000	0.4000	0.4200	0.4400	0.4600	0.4800
M5/M4	0.9500	0.9600	0.9700	0.9700	0.9700	0.9700	0.9700
M6/M5	0.9700	0.9800	0.9900	0.9900	0.9900	0.9900	0.9900
ENDM6/M6	0.9985	0.9990	0.9995	0.9995	0.9995	0.9995	0.9995
C1/ENDM3	0.3500	0.3500	0.3500	0.3500	0.3500	0.3500	0.3500
C2/C1	0.9000	0.9100	0.9200	0.9200	0.9200	0.9200	0.9200
C3/C2	0.9800	0.9850	0.9900	0.9900	0.9900	0.9900	0.9900
ENDC3/C3	0.9200	0.9300	0.9400	0.9400	0.9400	0.9400	0.9400
A1/ENDM6	0.5438	0.5266	0.5269	0.5200	0.5200	0.5200	0.5200
A2/A1	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
A3/A2	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
A4/A3	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
ENDA4/A4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
R1/(ENDM6-A1)	0.6296	0.6296	0.6296	0.6296	0.6296	0.6296	0.6296
R2/R1	0.6147	0.6147	0.6147	0.6147	0.6147	0.6147	0.6147
R3/R2	0.6147	0.6147	0.6147	0.6147	0.6147	0.6147	0.6147
R4/R3	0.6147	0.6147	0.6147	0.6147	0.6147	0.6147	0.6147
ENDR4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
V1/ENDC3	0.6063	0.6063	0.6063	0.6063	0.6063	0.6063	0.6063
V2/V1	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
ENDV2/V2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Note: P = Primary, M = Secondary, C = Vocational, A = Closed University, R = Open University, and V = Higher Vocational.

Source: See Sussangkarn (1991a), Table 3.4

TABLE 7
Transition Ratios: Primary to Lower Secondary

	Thailand	Bangkok
1981/82	39	-
1982/83	39	-
1983/84	39	-
1984/85	38	-
1985/86	37	93
1986/87	41	95
1987/88	43	95
1988/89	47	98

Sources: TDRI, 1986 Year-End Paper, and NEC data

In the simulated cohort, only 76 of 100 students entering primary school complete the sixth grade. Drop outs are highest -- 11 of 100 students -- between the first and second grades. Because of the drop outs, and the low transition ratio of primary graduates to upper secondary (41 percent in 1987), a total of 69 of 100 entering primary students have left the formal school system for the labor market by the end of primary school, and of these, only 52 have completed primary school. In contrast, the numbers entering the labor market after having completed lower secondary and upper secondary schools are small. The labor market and worker training implications of this pattern are analyzed in later sections of the paper.

Has the transition ratio from primary to upper secondary responded at all to growing employer demand for secondary educated workers?

As shown in table 7, for most of the 1980s the transition ratio was stagnant and even declined. The absolute number of students going on to upper secondary increased because of higher enrollments and completion rates in primary schools. For example between 1981 and 1985, even with the stagnant and declining ratios, the absolute numbers going on to lower secondary increased by 10 percent.[18]

Between 1986 and 1989, there has been an increase in the ratio, perhaps in response to labor market signals. Some of the increase is explained by an increase in the Bangkok ratio from 93 to 98 but some of the change has occurred outside Bangkok, though mainly in municipal areas. Overall, even with the increase, the ratio remains low. The roots of the problem are found, in part, in differential access to pre-school education and in quality variations and differential retention at the primary level. These issues are taken up in the sections which follow.

4. PRE-PRIMARY EDUCATION

4.1 Introduction

Tables 1 and 4 above show that pre-primary enrollments have grown rapidly in the last decade. The gross enrollment ratio in pre-primary programs increased from 10.9 to 33.6 percent between 1982 and 1989; and the private share decreased from more than 50 percent of enrollment in 1980 to 26 percent in 1989.

Two-year kindergartens are offered mainly by the private sector. There is a small number of public two-year programs but these are located in university demonstration schools and provincial cities. Rural and municipal one-year pre-primary programs are offered by the Office of the National Primary Education Commission (ONPEC). In 1985,

18. Sussangkarn, Ashakul and Myers (1986), Chapter 6.

about a quarter of the enrollment in pre-primary education was of rural children.[19] Pre-primary education is still mainly an urban activity.

4.2 Research in Other Countries

Much research on pre-primary education in other counties suggests that children of poor and rural households are likely to benefit most from pre-primary education.[20] Children from households with advantageous socioeconomic backgrounds are less likely to obtain large gains, because they already benefit from educated parents and supportive intellectual environments. The research in other counties indicates that pre-primary education for children from households without these characteristics has a significant impact on subsequent success in primary school and compensates for the absence of such household characteristics.

Pre-primary programs facilitate labor force participation of mothers who are single parents or not living in extended families. Because unit costs may also be low, the potential returns in terms of retention, continuation rates and academic performance in primary education and beyond can be very high. What are the research results in Thailand?

4.3 Research Results in Thailand

A study conducted by Office of the National Education Commission (NEC) and Michigan State University under the auspices of the Basic Research and Implementation in

19. Estimated by The World Bank (1990), and calculated from data in Raudenbush, Kidchanapanish and Kang (1990).
20. See, for example: The World Bank (1980), Grantham-McGregor (1983), Ortiz (1983), Berrueta-Clement, Schuenhart and Weikart (1983), Pozner (1983), and Halpern and Myers (1985).

Developing Education Systems (BRIDGES) Project found that one year of pre-primary schooling is associated with significant increases in primary school achievement in mathematics and the Thai language, and reduced risk of repetition of grades in primary school.[21] Third graders in primary schools who attended pre-primary programs scored higher in mathematics and the Thai language than children of similar socioeconomic backgrounds, sex, and age, who did not attend pre-primary programs. Not surprisingly, the most academically intensive schools -- the two-year programs -- produce the greatest cognitive gains, and they enroll mainly urban children and children from high socioeconomic households. However, the second year of these programs was found to produce lower returns than the first year -- less than half of the gains in subsequent academic achievement, and no further reduction in the risk of repetition of primary grades -- perhaps because for students from high socioeconomic backgrounds, the risk of primary grade repetition after one year of pre-primary education may already have dropped to zero.

In a restudy of a 1982 national sample of third graders which controlled for both student and school characteristics, those who had attended pre-primary programs still did significantly better in mathematics compared to those who had not attended. Urban preschoolers did best. Most importantly, the study found that rural children from high socioeconomic background benefited more from pre-primary programs than those from lower socioeconomic backgrounds -- exactly the opposite of findings in some other countries -- suggesting that the latter group of rural children did not have access to high quality pre-primary programs. This explanation was supported by simulations showing that equalization of access and quality of pre-primary programs would reduce the rural/urban gap by 23 percent in mathematics and by 34 percent in Thai language.

Two analyses of the effect of pre-primary education on secondary school grade point averages and scores on standardized tests showed no significant effect of pre-primary schooling,[22] suggesting that the effects do not persist for the students who had attended the

21. These and other findings related to the primary school performance of students with and without pre-primary education are summarized from: Raudenbush, Kidchanapanish, and Kang (1990).
22. Sussangkarn, Ashakul and Myers (1986), Chapter 6, and Jiratatprasot (1988).

pre-primary programs.

4.4 Possible Interventions and Pilot Schemes

The potential returns to pre-primary education for less advantaged children need more rigorously to be assessed. This is not just an equity issue; large numbers of highly talented children from below average income households could be helped to succeed in school and develop their talents and sense of personal efficacy to the eventual benefit of the nation as a whole.

A number of pilot projects are suggested. In ascending order of cost, three options would be:

1. To monitor closely the currently small number of low income students graduating from existing high quality public or private pre-primary schools, assessing their subsequent school success relative to pre-school cost.
2. To provide vouchers for low income households to enable children to attend a wide variety of private and public pre-primary schools; their subsequent success relative to cost would be monitored longitudinally as above, and
3. To support the establishment of a variety of experimental public sector pre-primary schools for low income students, and to analyze costs and outcomes longitudinally as above. This would include training and employment of some primary school teachers (see Section 5 below) in rural pre-primary programs.

For all three options, an important issue in the pilot projects would be to assess the long run demand behavior of parents relative to younger children and of neighbors due to demonstration effects -- including willingness and ability to pay some or all of recurrent costs of the most cost-effective models.

5. PRIMARY EDUCATION

5.1 Introduction

Attainment of near universal primary education in Thailand has been an important and impressive achievement. The key issue at this level now is the large variation in quality of primary schools, which in turn affects retention, continuation rates, success in secondary schools, and trainability of primary school leavers who enter the labor force.

5.2 Variations in Quality

A rough indication of regional differences in the quality of primary schools is given by comparing average scores of sixth graders in 1985 to 1988 in mathematics and the Thai language tests in Bangkok and selected educational regions. (A score of 51 or better is a passing score.)

	Thai	Math
Bangkok	66.2	54.1
Region 2 Yala Pattani Narathiwat Satun	51.6	36.5
Region 11 Nakhon Ratchasima Surin Si Sa Ket Buri Ram Chaiyaphum	57.7	41.3

Source: Calculated from World Bank (1990), tables 3.2 and A3.1.

Quality differences among individual schools are, of course, much greater than these regional differences for two reasons. First, the regional comparisons are of the

averages of students in all schools within each region, when what really matters both within and across regions is the spread between students in the best schools and the worst. Second, the average results compared are for sixth graders. This produces a downward bias in the Bangkok average (because in Bangkok almost all students complete the sixth grade), and an upward bias in the Region 2 average (because only 56 of 100 students entering the first grade complete the sixth.)[23] Students in Region 2 and to a lesser extent Region 11 are handicapped by having to study in the Central Thai language, but the average test score comparisons shown in the table are of students in those region who have presumably survived that difficulty.

Earlier studies of samples of primary schools show greater variations (and few passing scores) among individual primary schools.[24] Differences are greatest between large urban schools (public and private) and small rural schools, all of which are public.

5.3 Costs to Households

Public primary education is available "free" throughout the Kingdom -- that is, free of tuition. But there are other direct costs to households. For a sample of sixth graders in 1987 in three types of primary schools, the average annual direct costs per student per year were as in table 8.

While the direct costs, particularly in rural areas, seem modest (and are modest in comparison to the direct costs of secondary education which are reported in Section 6 below), for a rural family with two children in a primary school, the total direct costs would exceed average annual health expenditures (in 1985-1986) of the entire family (NSO, Socioeconomic Survey, 1985-1986). There may also be opportunity costs in terms of contributions to household economic activities in the upper grades for rural families.

23. The World Bank (1990), p. 36.
24. See National Education Commission (1982).

These were estimated to be on the order of 500 baht per sixth grader per school-year in 1987.[25] Overall, these direct and indirect costs may contribute to drop-outs from rural primary schools.

The private expenditures for instructional materials shown in table 8 are particularly important. The data in the table were gathered in a sample of 301 primary schools. In 1987, parents of students in the public schools were the overwhelming source of expenditures for instructional materials -- textbooks, work books, paper, etc. -- spending three times as much as government on these materials. Overall, in this sample, parents accounted for one third of total recurrent and capital costs of primary education.[26]

TABLE 8
Average Household Direct Costs of Primary Education
(Per Sixth Grader per Year in 1987, 1987 baht)

	ONPEC Schools	Municipal Public Schools	Private Schools
1. Textbooks, workbooks and writing supplies	257	411	625
2. Uniforms, school bag, shoes, sportswear, fees for sports and other school activities, and transportation	343	784	1,013
3. Tuition	0	0	1,417
Total Direct Costs	600	1,195	3,055

Source: Tsang and Toaklam (1990), Table 5, p. 30.

25. Tsang and Taoklam (1990).
26. Wheeler, Raudenbush, Bhumirat, and Tsang (1990).

TABLE 9
Unit Costs of Primary School (Current Baht)

	All Public Schools/a/	All Public Schools	ONPEC Schools (Recurrent Unit Costs 1987 Baht)	Bangkok Schools	Private Schools
1985	3,550	3,265	-	-	-
1986	3,570	-			
1987	3,770	3,505	5,477	12,387	4,634
1988	4,030	-	-	-	-
1989	4,230	-	-	-	-

Source: /a/ World Bank (1990), p. 19; all other estimates from: Tsang and Taoklam (1990), tables 6 and 7.

5.4 Unit Cost Estimates and Variations

Estimates of the unit costs of primary education (recurrent and capital costs combined) from various sources and for types of schools are shown in table 9.

The estimates of unit costs by types of school in the last three columns of the table are higher because they include parental direct and indirect costs. The estimated averages for all public schools do not. The estimates of unit costs in Bangkok are biased upward by much higher land costs which have no obvious relationship to student performance.

Overall, the estimated average unit costs for public primary schools are high: "expressed in units of per capita GNP, (these primary unit costs) exceed the average for Asian countries by an astonishing 80 percent."[27] Among the reasons are the fertility decline which has slowed enrollment growth, and the size distribution of primary schools. One third of primary schools in Thailand enroll less than 125 students; in the upper Central

27. The World Bank (1990), p. 19.

provinces and in the North 15 to 20 percent schools enroll less than 65 students.[28] A consequence of both factors has been a steady decline in student teacher ratios from 35 in 1970 to 20 in 1987. Variations in class size in this range are not associated with student performance as measured by test scores in math and Thai language.[29]

Variations in unit costs by types of school are large, and variations from one school to another are even larger. For example, average unit costs in a national sample of primary schools in 1979 were 2,050 Baht, but the standard deviation was 4,380 Baht; and variations in the BRIDGES sample in 1988 are at least as large.[30] Leaving aside the variation attributable to high land costs in Bangkok, the main source of the variation in primary school unit costs is variation in parental expenditures and contributions, particularly between poor rural households on the one hand and better-off households with high educational aspirations for their children on the other.

5.5 Determinants of Primary School Quality

In the BRIDGES sample, an average of 95 percent of public school recurrent expenditures were for personnel. The private schools spent only 80 percent on personnel; they pay teachers less and have larger class sizes.

Class size is not associated with quality as measured by test scores. On the basis of this finding (and the changing age composition of the population) the World Bank predicts a "surplus" of primary school teachers in 1995 of 15,800 if the student-teacher ratio was to

28. Ibid. p. 26.
29. The coefficient of the class size variable in a regression equation of test scare variations was not significant at the .05 level See: Ibid. pp. 24-26.
30. National Education Commission (1982), p. 33, and Tsang and Taoklam (1990).

increase to 25 and a surplus of 65,000 if the ratio was 30.[31] (The average private school ratio in the BRIDGES sample is 25.) However, TDRI research indicates that the lower the student/teacher ratios at the primary and secondary levels in a community, the more likely children are to continue in school. Given the size distribution of primary schools, the student-teacher ratio may be acting as a proxy for the close proximity of a primary school. Close proximity may indeed enhance enrollment and continuation but at the same time have little or no effect on quality.

Quality is enhanced by the availability of instructional materials -- particularly textbooks and workbooks.[32] The public schools depend overwhelmingly on private parental expenditures for these inputs. The private schools use less of their recurrent budgets for personnel, and are thus able to supply instructional materials from their own budgets and to mobilize parental contributions as well.

Schools have differential access to private resources depending on their locations -- rural, municipal, large city or Bangkok -- and the socioeconomic status of their students. And these parental expenditures on education are directly related to school quality.

Differential access to resources and differences in the socioeconomic composition of enrollment -- which are measures of parental and community commitment to the schools -- are also associated with variations in teachers' sense of efficacy, the perceived quality of instruction, expectations of students and student achievement.[33]

A final and important finding of the BRIDGES project is that teacher specialization is strongly and positively associated with higher student achievement in every subject area in which specialization occurs. In one third of the ONPEC schools studied, and in many of the larger municipal and urban schools, teachers in the fifth and sixth

31. The World Bank (1990), p. 30.
32. Wheeler, et. al. (1990).
33. Ibid.

grades divide up teaching assignments, some specializing in math, some in Thai language, etc. This kind of specialization is organized at the school level at teacher and/or principal initiative and thus has many variations but also requires no teacher re-classifications or changes in pay. Where there is such specialization, math and Thai language scores are significantly higher. Indeed, "the positive effects of specialization were found even after controlling for a host of student background and school-level variables, including student social class, nutrition, distance from school, pre-primary experience, prior grade point average, school social class, school size, region of the country or and school resources."[34]

5.6 Interventions and Pilot Tests

The research results suggest some interventions that are needed and some cost-effective measures for improving primary school quality which could be tested and monitored. Quality improvement would reinforce trends toward completion of primary school which still lags in some provinces, improve the trainability of primary school leavers, and improve quality and continuation at the secondary level.

Overall, there is a clear role for the government in compensatory spending to bring the quality of all primary schools to the level of the better schools. The current pattern is one of increasing quality variations because of the differential access of schools to private resources. Quality variations reflect per-student expenditure which in turn reflect, in part, differing parental expenditures for school, particularly teaching materials. The case for continued subsidy of primary education -- and even of some of the ancillary costs to poorer households -- is strong. And the highest returns would be to schools and households which lack the critical inputs. Thus, there is no conflict in this case between efficiency and equity in the use of public resources.

Will the public sector have the resources substantially to increase per student expenditures to reduce quality variations over the relatively long time it takes to improve school quality? Reduced enrollment pressure at the primary level because of the fertility

34. Ibid., p. 17.

decline will help. School consolidations to more efficient sizes and increased student-teacher ratios could help as well.

The research suggests that provision of text books and work books and highly targeted subsidies of some of the direct costs of poorer households, particularly of transportation costs if school consolidations occur, would be the most effective use of public resources.

Some pilot tests would help to facilitate and encourage such a reallocation, including:

1. A fund to publish and provide text books and work books with longitudinal monitoring of and costs and benefits.
2. Experimentation with models of primary school teacher specialization at the fifth and sixth grade levels, and perhaps below, including various incentives, retraining schemes and school management practices to encourage such specialization. This could also be carried out in private schools through cooperation with the association of private schools.
3. Experimentation with school consolidations schemes that could retain the incentives of proximity for enrollment and continuation, while creating the opportunities for quality enhancement through teacher specialization, and investment of savings in better provision of instructional materials.
4. Experimentation -- if there is indeed a coming "surplus" of primary school teachers -- in the retraining of these teachers for expanded high quality pre-school programs, for specialized teaching at the primary level or for the needed expansion of lower secondary school.

6. PROBLEMS AND OPTIONS IN SECONDARY EDUCATION

6.1 Introduction

There are four important characteristics of secondary education: low enrollment ratios, large quality variations, declining private provision, and a bi-modal pattern of demand. This section summarizes these characteristics, reviews recent research results on

causes and consequences of each, and suggests policy options.

6.2 Low Enrollment Ratios

The gross secondary enrollment ratio (secondary school enrollment divided by the population of secondary school age) in 1990 was about 30 percent. Currently, almost half of all children finishing primary education drop out of the school system. The Seventh Plan has set a target to increase the ratio of those finishing primary education who go on to secondary education to 73 percent by 1996. If this target is met, then the gross secondary enrollment ratio is projected to increase to 48.4 percent in 1996. For the lower secondary and upper secondary levels, the gross enrollment ratios are expected to increase from 36.3 percent and 22.0 percent in 1990, to 64.2 percent and 32.5 percent in 1996 respectively.[35] The recent increase in the transition ratio from primary to lower secondary education (See table 7, Section 3, above) gives some early support to these projections, but the remaining constraints are many and the gap to be closed is still very large.

The current secondary enrollment ratios are below the Sixth Plan targets, the lowest in ASEAN, less than half of what they were in Korea when GNP per capita in Korea was at Thailand's current level and less than half of what they are now in Sri Lanka which has about a third of Thailand's current per capita income. While increases in these ratios according to the Seventh Plan target will improve the situation considerably, there are long lags before the improvement will have significant impact on the average quality of the Thai labor force. This is because improvement in the education system only affects the new entrants into the labor force, and there are still a very high proportion of those with low education in the current Thai labor force.

6.3 Quality Variations and Expenditure Variations

Quality variations -- measured by differences in scores on standardized tests -- are large, particularly between municipal and non-municipal secondary schools and between

35. See Sussangkarn (1991c).

the elite Bangkok schools and all others. Average scores of twelfth graders tested by NEC in 1982-83 were 60 percent out of 100 percent in Thai language, and 45 percent out of 100 percent in science and math. Students in Bangkok schools did much better.[36] National testing of 12th graders in 1984 showed the majority of students failing math and science; 50 percent failing social science, and 40 percent failing Thai language.[37] Average ninth grade scores in a sample of 152 schools tested by NEC were below passing levels (50 percent out of 100 percent) in all subjects except social science, and below 35 percent out of 100 percent in math; scores in rural schools were as low as 5 percent out of 100 percent.[38]

These differences reflect and reinforce demand patterns, extra parental contributions, and thus expenditures per student. Average unit costs (recurrent and capital) of secondary schools are shown in table 10.

TABLE 10
Average Unit Costs of Secondary Schools
(Current Baht per student)

1985	4,500
1986	4,600
1987	4,890
1988	5,320
1989	5.670

Sources: Bureau of the Budget and NEC

36. Jiratatprasot (1988).
37. Office of Educational Assessment and Testing Services, 1984.
38. Jiratatprasot, op. cit.

As at the primary level, there are large variations in expenditures among schools, even within Bangkok -- to say nothing of differences between Bangkok schools and schools in small towns in the provinces. A study in 1985 found variations in recurrent costs in a sample of lower secondary schools in Bangkok of between 2,000 to 5,695 Baht per student per year in public schools, and 2,769 to 9,949 Baht per student per year in private schools.[39]

Expenditure variations are correlated with school and teacher characteristics which, together with the socioeconomic backgrounds of the students, explain variations in student performance.[40]

6.4 Private Provision

Private schools are enrolling a diminishing proportion of academic secondary students, down from 22 percent in 1978 to 10 percent in 1989. In 1985, private schools enrolled 13 percent of lower secondary students and 9 percent of upper secondary students -- down from 15 percent and 12 percent respectively in 1982. Private enrollments in Bangkok are higher, 28 percent of lower secondary students and 14 percent of upper secondary students in 1985, but have also decreased. Academic enrollments in private secondary schools in Thailand can be compared to an Asian average of 26 percent, and to enrollments in Korea of more than 50 percent.

Although private schools receive a number of subsidies, new private schools face various barriers to entry. Most important has been official tuition ceilings (a low ceiling for schools receiving Ministry of Education (MOE) subsidies, and a somewhat higher but still low ceiling for schools not receiving subsidies). The tuition ceiling for non-subsidized schools remained constant in the 1980s until 1987 when it was increased by 18 percent. In

39. Parapob (1985) cited in Sussangkarn, et al, "Human Resources Management," TDRI, 1986, Chapter 6.
40. For an OLS analysis of the determinants of variations in grade point averages see Sussangkarn, Ashakul and Myers (1986), for an OLS analysis of the determinants of variations in standardized test scores see: Jiratatprasot (1988).

real terms, the ceilings went down for most of the decade.

Yet between 1979 and 1984, the number of private secondary schools accepting MOE subsidies at the lower of the two tuition ceilings decreased from over 2,200 schools, representing more than 90 per cent of all private schools, to 1,700 schools accounting for about 60 per cent of all private schools.[41] Schools unable to subsist with the low ceilings or to command extra payments including "tea money" went out of business.

Indeed, the trend away from accepting subsidies probably reflected the increasing importance of non-fee contributions, the greater willingness on the part of parents and students to pay higher aggregate fees than the MOE official ceiling allowed. There is anecdotal evidence that informal money prices, or rents, received by existing private secondary schools and some elite public schools in Bangkok increased during the 1980s, suggesting increased demand for quality places and supply constraints in cities. Additional evidence is that most new private school established in the 1980s were kindergarten and vocational schools, whose fee ceilings are much higher than for academic primary and secondary schools.[42]

The tuition ceiling on unsubsidized private academic secondary schools was removed in 1990. What this has meant in practice is not that schools are free to set fees as they see fit. They must still submit proposed fees for approval by the Office of the Private Education Commission of the MOE.

Private schools could play a larger role in meeting urban demand (as they do in other Asian countries), freeing public resources for areas of greater need. Private schools also serve as laboratories for educational experimentation and may induce changes in the public schools. They may also offer higher quality for a given level of expenditure and -- all other things equal -- promote greater academic achievement (more "value added") than public schools. To the extent that public and private schools enroll students of similar

41. Chutikul-Khoman (1988a).
42. Ibid.

characteristics, there may also be the potential for quality-enhancing competition.

Evidence on the quality of private secondary schools compared to public schools is mixed, given that most private schools serve a different category of students than the public schools. The elite public and private schools both serve the elite. They ration places by entrance exams, and receive parental donations of various kinds, which along with social connections, may also affect admission decisions.

Most of the rest of the private schools appear to serve an intermediate group -- students not able to get into the best public schools but from families willing and able to pay for a private alternative. This behavior is seen in a LOGIT analysis of enrollments in a sample of public and private secondary schools in 1982-83.[43]

A study in 1986 found that students in private schools come from slightly more advantaged backgrounds than their public school counterparts in lower secondary schools throughout the country: 48 percent of public school students had fathers in blue-collar, semi-skilled occupations, and 23 percent had fathers in white-collar, clerical occupations; the corresponding percentages for private school students were 24 and 42 per cent respectively. Moreover, a greater proportion of private school students had mothers with at least secondary school education (25 per cent versus 15 per cent). These observations are reinforced by the slightly higher aspirations and expectations that students in private schools had regarding further education: 28 per cent expected to obtain university degrees while only 21 per cent of the students in the public schools had this expectation. Students in private schools also benefited more from parental inputs than their public school counterparts: more out-of-school tutoring, parental encouragement, and home use of calculators.[44]

In terms of the input measures, private schools on average have teachers with less

43. For a LOGIT analysis of secondary school enrollment see Sussangkarn, Ashakul and Myers (1986), Chapter 6.

44. Wattanawaha (1986).

experience and lower educational qualifications than teachers in the public schools. According to an NEC survey in 1983, teachers in private schools receive lower benefits, and face less attractive career prospects than teachers in the public schools. Whether measured in terms of the ratio of teachers receiving permission to continue their education, being supplied with housing, or receiving rent subsidies, public-school teachers were invariably in a more advantageous position. As a consequence, many new graduates regard teaching in private schools as temporary employment, and the turnover rate of teachers in the private schools has been found to be relatively high.[45]

On the other hand, there is an important study which found that "value added" by private schools may be higher than value added by public schools after controlling for student characteristics and other school characteristics -- that is, that, all other things equal, the private schools do better in enhancing academic achievement than public schools.[46] Although there is some question whether student characteristics were in fact adequately controlled for in the study, the study's findings are similar to many studies comparing private and public schools in other countries. This conclusion is also supported by a new study presented as part of this conference. Behrman et al. (1991) found that, if the differential characteristics of those who have been to private and public schools are controlled for, those who finished private school do better in terms of labor market outcomes.

6.5 Demand Patterns and Explanations

Demand for secondary education is bi-modal, with low effective demand and no enrollment by more than half of all children in rural areas at one extreme, and intense competition, tutoring, parental pressure and large informal payments to prestigious secondary schools in cities at the other. The pattern in urban areas is affected by demand for higher education, particularly by the limited places and the selectivity of the closed universities.

45. Poapongsakorn (1981).
46. Jimenez, E., et. al. (1988).

The transition ratio from primary to lower secondary school is nearly 100 percent in Bangkok; it is over 80 percent in the five provinces in the BMR, while in 27 other provinces the ratio is 30 percent or below.

The are two general explanations for low secondary enrollments in rural areas and among poorer households. Both explanations are related and combine demand and supply side factors. These explanations are: (1) poverty, high private costs of sending a child to secondary school and low quality primary schools, (2) parents' perceptions of the benefits of lower secondary school -- the "rate of return" and the option value to go on to upper secondary and higher education. The evidence in support of each of these explanation is presented in the sections which follow.

6.5.1 Poverty, High Private Costs, and Low Quality Primary Schools

The connection between low secondary enrollment and poverty is strong at the provincial level. Roughly half of the variation in provincial transition ratios from primary to secondary school is "explained" by variations in average provincial income per capita; primary school quality (measured by achievement on standardized tests) has a modest impact on secondary enrollment -- an impact independent of provincial per capita income.[47] A cross country analysis found that secondary enrollment ratios are generally low in economies in which the share of employment in agriculture is high and value added per worker in agriculture is low compared to other sectors of the economy.[48]

The direct costs to households of a child's attending lower secondary school are high. Table 11 shows average private direct costs in 1987.

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47. See the OLS estimates in The World Bank (1990), pp. 38-39. The same relationship between secondary enrollment, provincial poverty and the quality of primary schools was found in the 1970s. See: Chantavanich (1979). See also: Nitungkorn and Vutisart (1980). This study finds a positive relationship between provincial education budgets and the provincial rate of continuation to the lower secondary level.
48. Sussangkarn (1988b).

TABLE 11
Annual Average Private Direct Costs in 1987
Lower Secondary School (1987 Baht)

	Public Schools	Private Schools
Fees	621	1,813
Instructional materials, books, etc.	428	520
Uniforms	520	583
Transportation	852	1,656
Other direct costs	149	138
Total	2,570	4,710

Source: NSO: Children and Youth Survey, 1987

These direct costs are high and impose a disproportionate burden on the poor relative to their incomes. The average private direct costs of lower secondary education in 1987 were four times the average private direct costs of primary education in ONPEC primary schools in the same year. Opportunity costs in rural areas -- particularly where the rural fertility decline has been most pronounced such as the North -- are also much higher at the secondary level. In 1987, 38 percent of youths age 12 to 14 years old who were not in school had paid employment, another 38 percent were working as unpaid family workers (mainly in agriculture) and 18 percent were working in the home.[49]

The 1987 Children and Youth Survey asked youths not in lower secondary why they did not enroll: 69 percent said they lacked financial support to attend and 10 percent said they had to work instead; only 11 percent reported no interest in further study as the reason for not enrolling. High private direct costs have been cited as the main reason for

49. National Statistical Office," Children and Youth Survey," Bangkok: NSO, 1987. See also Tan and Naiyavitit (1984).

lack of enrollment in lower secondary schools in similar surveys for a least the past fifteen years.[50]

If the child fails to get admitted to a "good" public school, which normally selects students by means of a competitive entrance examination, the cost of going to a private school in 1987 was about eight times the direct costs of ONPEC public primary schools.

Upper secondary school direct costs are to households between 6,000 and 10,000 baht per student per year. For rural households the costs would be at the upper end of the range, because of transportation -- or perhaps municipal boarding costs to attend the nearest available upper secondary school in a large town or city. Rural opportunity costs would be higher as well.

The private direct costs of upper secondary schools in Bangkok, and even of some lower secondary schools to which "tea money" is paid, are higher than the private direct costs of some of the closed universities.[51] But middle and upper income households in Bangkok pay these costs -- even at some sacrifice -- because the odds of admission to the closed universities and access to the subsidies these universities provide are high.

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50. National Statistical Office, "Children and Youth Survey," Bangkok: NSO, 1987, 1983 and 1977. See also: Tan and Naiyavitit (1984). The authors found from their analysis of the Children and Youth Surveys of 1975 and 1977, that family background was an important determinant of a child's probability of school attendance. They found large differences in these probabilities by age groups between the so-called "worst-off" and "best-off" groups. The former were defined as children whose fathers had both the lowest income and the lowest education, who had many brothers and sisters, and who lived in the rural Northeastern region; the latter were children whose fathers registered high on both indicators, namely income of at least 100,000 baht and a post-secondary education, who had one sibling and who lived in Bangkok. For the worst-off group, the probability of continuing on to secondary school was found to be only 14 per cent, while the corresponding probability for the best-off group was as high as 97 per cent.

51. Calculated from: Parapob, op. cit. 1985; and, National Education Commission (1989). See also Sussangkarn, Ashakul and Myers (1986), and Nitungkorn (1987).

6.5.2 Parent Perceptions, Parent Characteristics, Rates of Return and the Option Value

Low rural enrollment reflects the past pattern of Thai development and perceptions of rural parents. Jamison and Lau (1982) found that returns to more than primary education for traditional farmers are low; returns to education in the urban informal sector are also low, while returns to secondary and higher education in the urban formal sector are high.[52]

Thus, low enrollment of rural children may reflect an accurate assessment by their parents of current (though not of dynamic) market realities. There are also well recognized limitations on employment opportunities imposed by societal stratification and entrenched networks of information and contacts. Thus, if the prospect of gaining employment in the formal sector is believed to be low, many poor rural families may opt for no schooling beyond the primary level, because of the high cost and low perceived returns. Members of farm households and laborer households have lower expected returns to schooling and consequently drop out at a younger age.

In contrast, urban children are closer to the dynamically changing labor markets, and benefit from having better educated parents able to assess and anticipate opportunities, and who have high educational aspirations for their children. Many empirical studies have found a significant relationship between a student's academic achievement and the socioeconomic status and educational attainment of the parents.[53] This suggests that, in addition to providing access to the better-quality schools, well-to-do and well educated urban parents in high-status occupations may also provide other non-school inputs that stimulate their children's academic attainment. Consequently, children from advantaged backgrounds, measured in terms of parental educational attainment and occupation, were found more likely to perform better on school work, and on entrance

52. TDRI (1989a).
53. Sussangkarn et al. (1991), and Behrman and Sussangkarn (1989). And see also Nitungkorn and Vutisart (1980), Koosiriwichien (1983), and Prasert (1973).

examinations for admission to higher levels.

This overall pattern is confirmed by analyses of the 1981-82 and 85-86 Socioeconomic Survey (SES) data, which indicate that factors which increased the likelihood of enrollment in post compulsory schooling were high levels of parents education, income, and wealth, low student teacher ratios, and urban residence; factors which reduced the likelihood of enrollment were large family size, and own-account economic activity.[54]

Rural parents may also feel that because of the sequential nature of the curriculum, only completion of upper secondary and access at least to the open universities would make lower secondary education worthwhile. If this is the view, there would be no incentive to send a child to lower secondary school, if the total financial burden of completing the curriculum up to the highest level is prohibitive. The disincentives are greater if the odds of succeeding at higher levels are low because the local lower secondary schools are of poor quality. And the disincentives are still greater if there is anecdotal evidence that some open university graduates have trouble finding jobs.

As table 1 had shown, the odds are stacked against rural households. The odds of a rural child making it all the way to university are about one in one hundred. In 1983, 76 percent of those passing the examination for entrance to the closed universities had graduated from upper secondary schools in Bangkok.[55] Private rates of return to upper secondary education are estimated to range from 7.5 percent, when the probability of going on to university is zero, to 19.4 percent when the probability of going on to university is 1.0.[56] And in the mid 1980s open university graduates did experience employment problems -- many villagers have such stories to tell. But since 1988, the open unemployment rate of all university graduates has fallen to less than three percent, and

54. Sussangkarn et al. (1991) and Phananiramai and Mason (1988), Appendix C.
55. Chutikul-Khoman (1989).
56. The World Bank (1990), p. 56.

there are now many job vacancies at that level.

The very low odds and high private costs of reaching the higher education level may be quite accurately assessed by rural households, who -- in any case -- have much higher discount rates than middle and upper income urban families. But there is growing evidence that rural parents may under-estimate the returns to completion of lower secondary education in the changing labor market their children will enter.

The estimated private rate of return in 1986 to completion of lower secondary education was 16.6 percent, higher than private returns to primary education and upper secondary education.[57] And during the period 1986 to 1990 the largest number of job vacancies in the private formal sector was consistently for secondary school leavers.[58]

These results are supported by other studies. Schultz estimated earning functions for wage earners and found high returns to each year of secondary school. Private returns to secondary education were higher than private returns to primary education, even controlling for gains from migration, and selectivity bias of wage employment.[59]

Analysis of the 1985-86 SES data also indicates that increased educational attainment of household members is associated with higher incomes in own-account agriculture; increased educational attainment of the household head is associated with higher income from own-account non-agricultural activities. Finally, the income gap between households in which the household head had some secondary education and households in which the head had only primary schooling increased for both agricultural

57. Ibid. p. 48.
58. Ibid. p. 52. The job vacancy announcements did not specify the level of secondary attainment required.
59. Schultz (1988).

and non-agricultural own-account households between 1981-1982 and 1985-1986.[60]

Demand for secondary education may thus lag even rural market opportunities, perhaps due to information problems but more likely due to high private costs.

A final constraint on demand is the poor quality of local lower secondary schools. Variations in test scores indicate that rural secondary schools are of relatively low quality. Parents may accurately assess the probability of learning much of value via such schools to be low. Indeed, rural children are often sent to larger, higher quality secondary schools in cities, by-passing the local secondary schools. Of the students interviewed by NEC, 18 percent were living away from home in the sample of schools in Bangkok, and 31 percent in schools in the municipal sample.[61]

6.6 The Possible Consequences

Less than half of Thai youth go beyond primary school. The productivity of more than half the future labor force is at risk. The current situation, including quality variations at both the secondary and primary levels may negatively affect labor trainability and the transition of the labor force from agriculture to industry and services. The current secondary education system, with its high private costs for poor households, and informal market costs to higher income urban households, seems to offer neither the benefits of a market system in terms of supply nor of a merit system in terms of quality or equity.

High secondary academic enrollment ratios are associated with and, in fact, preceded rapid industrialization in the Asian NICs. Not only are enrollment ratios far higher in these countries, their secondary schools are consistently of high quality; unlike Thailand, variations in quality among secondary schools in the NICs are low.[62]

60. Hutaserani and Jitsuchon (1988).
61. Sussangkarn, Ashakul and Myers (1986), Chapter 6.
62. Myers (1991).

What this observed relationship means is still uncertain. Some studies show that secondary schools particularly high quality schools (but not vocational schools) enhance cognitive skills and labor trainability, and thus increase both private and social returns.[63] Other studies argue that secondary education produces a disciplined labor force appropriate for industrial production,[64] or serves as a signalling or screening device. Whatever the explanation, industrial and formal-sector services employers in Thailand show a strong hiring preference for secondary school leavers. And shortage of skilled workers has been cited by Japanese and other foreign firms as a constraint to their investing and expanding in Thailand.

Rural children, for the reasons suggested above, are increasingly left behind, least able to compete, or left out of this process entirely. Even if high quality schools were widely available at the secondary level, rural students of equal or superior innate ability to urban students have neither the intergenerational advantage of educated parents, nor the nearness and clarity of labor market signals, of their urban counterparts. That this is an equity issue is obvious. But it's more than that. An important function of secondary and higher education is to identify talent. Some of the important -- if, as yet unmeasured -- external benefits of expanded access to higher education may come from greater identification of talent. If half or more of potential secondary students, and potential talent, are left out of the process for one or more of the reasons suggested, then higher education and the nation are the poorer.

For all these reasons, there is now a concerted push to extend universal education to the ninth grade nationwide -- to the completion of lower secondary education. Pilot schemes to open up lower secondary classes in primary schools are under full steam, and new secondary schools are being built more rapidly. Some of the perceptions of villagers regarding these schemes are described in another paper in this Conference.[65] Below,

63. Knight and Sabot (1990).
64. McGinn, Noel, et. al. (1980).
65. Sopchokchai (1991).

additional policy options are suggested to compliment the current efforts, with particular focus on the need to ease the burden of secondary education (both direct and opportunity costs) to the rural poor.

6.7. Policy Options for Secondary Education

Rapid structural change of the Thai economy and equity considerations require a rapid increase in secondary enrollment, and improvements in quality. Improvements in quality by themselves are likely to increase enrollment and retain students already enrolled. There are both short-term and longer-term options.

1. Short term measures would be to:

   a. Ease the time conflict between secondary education and the need to help the family in own-enterprises, thus reducing the opportunity costs of secondary school attendance, by having more flexible academic school calendar and/or school hours to free students for periods of peak labor demand. The MOE's "semi-formal system" experiments are attempting to do this.

   b. Subsidize the costs to poorer households by providing an allowance per child attending lower secondary school. This allowance would need to be targeted to needy households. The amount required would be on the order of 800 to 1,000 baht per child per year, given that lower secondary is universal, and hence fees and some direct costs are provided by the government. The best locations for such pilot tests would be those provinces with high primary achievement but low primary to secondary transition ratios. The most dramatic example of such a case is Nakhon Phanom where the primary achievement of sixth graders was superior to Bangkok in 1987-1989, yet the transition ratio was only 22 percent, compared to Bangkok's 98 percent.

   c. Encourage income producing activities involving teachers and students after school hours; this is popular with parents but requires special dedication by teachers.

   d. Provide "opportunity vouchers" for gifted and talented rural children, organized and offered by communities, government and/or private sector companies. For example, families of

rural students with high scores in math and science would receive the direct and opportunity costs of secondary schooling -- if necessary, at better quality municipal schools.

2. Longer term measures would be to:

   a. Intensive efforts to improve teacher quality. This is particularly necessary as teachers who previously taught only at the primary level are more and more being called upon to teach at the lower secondary level. Jiratatrapasot (1988) found that teacher performance, education and experience explained 11 to 29 percent of the variance in standardized test scores. However, improvement in quality involves not only improved formal teacher qualifications, but also attitudes, and sincere interest in the students, their parents, and the local communities.[66]

   b. Improve and change the rural secondary school curriculum. The curriculum can and should make use of content and examples familiar to students, possibly drawing from the local environs. But the core function must still be greater literacy, numeracy, and reasoning ability. If there is to be a "practical curriculum" it must be one that enhances cognitive and thinking skills. There is strong evidence that cognitive skills -- the ability to learn and be trained -- are what employers seek, and are the skills which enhance productivity and income.

   c. Remove completely the tuition ceiling barrier to entry of new private secondary schools in cities. The premise of this suggestion is that there would be a significant increase in the supply of high quality (and high price) urban places at relatively low cost to the public budget. Lower quality (and lower price) private schools will exist along side the better schools, as private schooling, like other commodities produced by the private sector under competition, would presumably come in a variety of qualities and prices, thus providing a range of alternatives to those who cannot get into the best public schools. (This is essentially the system in many other countries where the private sector plays a much bigger role in educational provision than in Thailand.) At the same time, because private provision will not be able to serve the equity objective, the public system should be geared more toward serving this objective. Public schools should be of a fairly good quality, and have true open access for all talented children.

66. The focus on the role of the teachers is covered in Session 2 of the Conference.

The public sector should in particularly focus on the rural target group. And by freeing the private sector to have a much bigger role in the cities, public resources can be diverted to expand educational opportunities in rural areas, and reduce quality variations in public schools generally.

d. For long-term expansion of educational opportunities, it is suggested that experiments with voucher schemes (educational coupons) be initiated in the near future. These will be targeted to the relatively poor rural target group (possibly by targeting certain provinces, or certain designated "poor" districts or villages). It is essential, however, that there should be flexibility in the utilization of the vouchers. Thus, children receiving vouchers should be able to use them in both public and private schools, and need not be restricted to go to certain "designated" schools in particular provinces or location. Also, if children receiving vouchers find it necessary to postpone their schooling continuation for various reasons, then the vouchers should also be useable for non-formal education at a later time as well. The aim is to encourage a variety of secondary school options, and create market incentives for quality improvement, enrollment and retention in secondary schools. Vouchers experiments could initially be funded by international donors to test the idea and, if the tests are successful, to help show policy makers that it may be worth offering vouchers on a much larger scale.

7. THE TRANSITION FROM SCHOOL TO WORK, AND WORKER TRAINING AND UP-GRADING

7.1 Introduction

The competitiveness of the Thai economy depends on the quality and trainability of Thai workers. There are several important questions. How well prepared for work are the sixty percent of new labor force entrants who have completed only six years (or less) of primary school? How well prepared for work are those graduating from academic lower secondary school, from vocational schools and upper technical institutes, and from various non-formal and skill development programs? What kind of pre-work training is offered by employers? And how well do firms do in continued training and up-grading of workers already employed?

7.2 Primary School Leavers

The evidence presented in Section 2 suggests that primary school leavers are ill prepared for changing labor demand in the formal sectors of the economy and for technology intensive agriculture. There individuals are increasingly taking jobs in the lowest paid, informal sectors of the economy.

Some primary school leavers are still able to obtain formal sector jobs for which extensive pre-work training is offered and in which further training and up-grading continue. These workers are able to progress occupationally and avoid the low income trap. This was the path of many primary school leavers in the past. But these employers now increasingly hire lower secondary school graduates, and graduates of other post-primary programs.

However, those with just primary school education (or less) will remain by far the majority of the labor force in Thailand well into the next century, no matter how quickly one can increase the transition rate from primary to secondary education. Table 12 shows that, if the transition from primary to secondary education is according to the Seventh Plan target (73 percent by 1996), then in the year 2000, 75.5 percent of the workforce will have just primary education or below. If, on the other hand, one assumes that the transition from primary to secondary education can (miraculously) be made 100 percent starting in 1992, and maintained thereafter, then still over 70 percent of the workforce will have just primary education or less in the year 2000. This shows that there are very long lags involved in improving the average quality of the workforce through improvement in the formal education system.

Given the above dismal picture, the importance of informal education and training to upgrade those already in the labor force who have at most primary education cannot be over-stressed. The tasks ahead are enormous, but crucially necessary if truly sustainable development of the country is to be achieved.[67]

67. More discussion appears in Sussangkarn (1991c)

TABLE 12
Projected Shares of Workforce by Education (Percent)

Based on 7th Plan Target Transition from Primary to Secondary Education

	1990	1995	2000
Primary and Below	83.2	80.0	75.5
Lower Secondary	6.4	7.7	9.4
Upper Secondary	2.5	3.2	4.1
Vocational	2.7	3.0	3.7
Tech.Vocational	1.3	1.6	2.2
University	3.9	4.4	5.2

Assuming that the Transition from Primary to Secondary Education is 100% starting from 1992

	1990	1995	2000
Primary and Below	83.2	78.9	71.8
Lower Secondary	6.4	8.2	11.3
Upper Secondary	2.5	3.3	4.6
Vocational	2.7	3.2	4.3
Tech.Vocational	1.3	1.7	2.4
University	3.9	4.7	5.5

Source: Sussangkarn (1991c)
Note: Based on 7th Plan Target Transition from Primary Secondary Education.

At the moment, numerous government agencies are involved in non-formal education and training. These include the Ministries of Education, Interior, Agriculture and Cooperatives, Defence, Industry, Public Health, Science, Technology and Energy, the Bangkok Metropolitan Administration, and many State Enterprises.[68,69] While the programs of these agencies undoubtedly bring benefit to the relevant target groups, a much more coordinated and focused effort will be needed for the future. In terms of sheer numbers, the amount of non-formal education and training given has to increase several folds, if economic development that involve a broad participation of everyone in the labor force is to be achieved. Upgrading the skills and knowledge of primary school leavers already in the labor force has to become a national priority. In the short- to medium-term, equal importance should be given to non-formal education and training as to formal education and training. Sufficient financial resources must be devoted to the task, as investment in this area -- and it has to be regarded as investment that is equally as important as, or more important than, other infrastructural investments -- is like to yield high payoffs in terms of sustaining Thai economic development and achieving better income distribution.[70]

7.3 Transition from School to Work: Vocational Schools, and Other Programs

The transition from school to work in advanced countries -- particularly in Japan, the Asian NICs and Western Europe -- is an intensive process which promotes both the enhancement of cognitive and thinking ability, and mastery of high levels of occupational skills. Although the details differ greatly, the programs in these countries have three general characteristics.

First, students not headed for university or academic upper secondary schools are

68. See NEC (1989).
69. For a review of programs of the Ministry of Education, and of issues in their design, see Suntornpithug et al. (1989).
70. See more discussions in another report for the Conference; Sussangkarn (1991c).

still expected to meet demanding academic standards, and are rewarded for their achievement by, for example, admission to apprenticeship programs in Germany or to intensive company training programs in Japan. As a result, workers start their lifetime in the labor market with strong cognitive skills; the ability to understand written instructions, technical materials, designs, blue prints and specifications; the ability to benefit from continuous training and upgrading; the ability to interact with university trained engineers; the ability eventually to contribute to the enhancement of productivity and the redesign of work.

A second component is early provision of information about jobs, post-school training options, the labor market in general for those not going on to higher education. This is most extensively done with corporate cooperation in schools in European countries, particularly in Germany. It is done to a lesser extent in Japan and Korea, where company networks, informal information networks, and family networks are also important.

A third component is intensive occupational preparation, which combines general education and work-site training and lasts several years before individuals are fully prepared for work. In Japan, this is done within large companies at company expense for individuals who will become "lifetime" employees of the firms. In Germany and in other European countries, where there is less of a tradition of lifetime employment, formal apprenticeship programs of two to four years' duration are supported both by government and firms, and enroll more than half of all youths age 15 or 16. The system in Germany is the most extensive with 380 formal apprenticeship programs.

Common characteristics of the European systems include strong connections with schools, programs for a wide range of occupations in manufacturing and services, remedial preparation in academic subjects if needed, assessment of skills against national standards set by industry and other employers, based on written examination and work-site demonstration, and award of certificates that enable those who earn them to enter various higher education programs later in their careers. Employers know that those completing the programs have the skills they want -- and the ability to learn new skills -- and are eager to hire them. Those enrolled in the programs see that there is a direct connection between effort and success in the labor market, and are motivated to work hard and to learn.

In Thailand, there is, of course as yet, nothing remotely comparable to these systems. And for those in formal education who do not, or cannot, stay in the academic stream, there are fewer incentives to do well in school. If there is little perceived connection between effort in school and success in the labor market for those not going to university -- and low expectation of their "ability" to meet high standards in school -- then their effort and motivation in schools are low, and thus their performances are low as well.

What is available now in Thailand are vocational schools, upper-level technical institutes, and two programs which do appear to be quite successful: the National Institute of Skill Development (NISD), and Ratchamongkol Institute of Technology (RIT).

7.3.1 Vocational Schools and Upper Technical Institutes

Vocational schools in 1990 enrolled about 35 percent of lower secondary graduates. About 70 percent of those who enter the vocational schools graduate. The graduates of vocational schools have consistently had the highest open unemployment rate of all graduates, except those from the upper vocational schools.[71] Recently, the employment experience of vocational graduates has improved (as it has for the graduates of all levels of education, because of buoyant demand for labor in the Thai economy), and social and private rates of return have increased.[72] Still there are questions of quality and fit with employer demand.[73]

Upper vocational schools and MOE technical institutes have much smaller enrollments -- at the technical institute level, less than ten percent of the equivalent enrollment of the closed universities. Their fit with employer demand is even less certain than that of the vocational schools. Graduates of the MOE upper vocational schools and

71. The World Bank (1990), pp. 48-51.
72. Ibid.
73. TDRI (1988), TDRI/NESDB (1989), and USAID (1990).

technical institutes have consistently had the highest open unemployment rate of all graduates throughout the 1980s, and low private and social rates of return compared to academic lower secondary and higher education.[74]

Private schools are major providers at the vocational and technical levels, where the barriers to entry are low. Private schools account for 43 percent of vocational enrollment nationally, and 69 percent of vocational enrollment in Bangkok. Some or many of the vocational schools focus primarily on specific job skills, but perhaps not on the cognitive skills which may make workers more trainable. In employment results, if not in curriculum, many of the vocational schools seem to be supplying the services sector rather than industry.

Vocational schools which do not provide easy or clear access to higher education are less appealing to high ability academically successful students. If employers view these schools as producing less able graduates, then labor market effects may create adverse selection problems in the vocational schools. The fact that vocational graduates in Thailand have had the highest open unemployment rates of graduates of any other levels or types of education may reinforce these perceptions and patterns.

Indeed, statistical analysis indicates that these schools are probably acting as second choice or "no other choice" substitutes for upper secondary schools, even when their quality is questionable and their fit with labor demand (either in terms of skills or the trainability of their graduates, or both) is weak.[75]

A recent survey of problems with labor quality as perceived by employers in the BMA indicate that one of the most serious problem is that employers feel that workers has insufficient skill in their own technical profession (table 13). Thus, school graduates cannot have not mastered the technique they are meant to have learned. While this may reflect

74. The World Bank (1990), pp. 48-51.
75. Sussangkarn, Ashakul and Myers (1986), Chapter 6.

TABLE 13
Ranking of Labor Quality As Judged by Employers in the BMA

Labor Quality		Rank	
		Manufacture	Service
1.	Lack of basic skill		
1.1	Writing	7	7
1.2	Reading	15	13
1.3	Speaking or presentation	17	11
2.	Insufficient skill to Handle computer machine	12	4
3.	Not so fluent in Foreign language	4	1
4.	Insufficient skill in Own technique/profession	2	2
5.	Can not catch up with On-the-job training	9	14
6.	Lack of loyalty	3	3
7.	Personality		
7.1	Work slowly	6	8
7.2	Lack of leadership	10	17
7.3	Unhealthy	19	20
7.4	Lack of diligence	5	6
7.5	Lack of concentration in Work and insufficient Tolerance	14	5
7.6	Dishonest	20	15
8.	Responsibility and discipline		
8.1	Lack of responsibility in work	1	12
8.2	Lack of discipline	8	16
8.3	Lack of carefulness	11	9
8.4	Lack of wit	16	18
8.5	Lack of punctuation	13	10
8.6	Disobedient	21	22
8.7	Lack of human relations	22	19
9.	Others	18	21

Source: Limskul and Khantigaroon (1992), appendix.
Note: A ranking of 1 indicates the most serious problem.

unrealistically high expectations on the part of the employers, it also indicates problems with educational quality. In either case, a closer relationship between vocational schools and employers would be beneficial to both parties, and also to the students' work prospects. It will make courses more relevant and up-to-date, and will also give employers better idea of what they can expect from the schools.

Recently, employer/school partnerships have begun to develop between some private and public vocational schools and industries, or groups of industries, for example, in industrial estates. These partnerships have developed in response to mutual self-interests, without any central direction or mandate. Thus, there are many "natural experiments" going on that are worthy of study and policy analysis. Some, or many, may also be worthy of emulation, particularly if they can be shown to have improved quality, given students access to up-to-date technology, and graduates access to jobs in industry after successful completion of training. Some may also provide training and up-grading opportunities for workers already employed.

7.3.2 The National Institute of Skill Development (NISD), and Ratchamongkol Institute of Technology (RIT)

Two programs that appear already to be successful and worthy of careful analysis are the National Institute of Skill Development (NISD), and Ratchamongkol Institute of Technology (RIT).

NISD is run by the Department of Labor and has received support from the bilateral aid programs of Japan and Israel, and from UNDP and ILO. NISD offers pre-employment training, and in-service up-grading for about 30,000 students per year. It also runs training programs for the unemployed, and helps to train trainers. The training programs by NISD have traditionally been closely linked to industrial needs. Current policy direction is to substantially expand the numbers of training institutes over the next several years, and this should be encouraged, particularly as part of the strategy to give more technical training to primary school leavers.

TABLE 14
Employment by Education And Occupation Types: 1987

	Non-S&T	S&T	Total
None	1,551,300	75,300	1,626,600
Lt P.4	922,600	75,600	998,200
Lw.Prim	13,972,900	1,240,800	15,213,700
Up.Prim	4,950,400	504,500	5,454,900
Lw.Second	1,392,300	209,300	1,601,600
Up.Second	481,100	72,700	553,800
Lw.Vocat	11,500	0	11,500
Vocational	551,000	153,900	704,900
Univ.Aca	402,500	72,300	474,800
Higher.Voc	195,600	76,300	271,900
Teacher	596,200	18,500	614,700
Sh.Course	11,400	8,400	19,800
Others	78,300	10,000	88,300
Total	25,117,100	2,517,600	27,634,700

Source: Labour Force Survey 1987, July-September, reproduced from TDRI/NESDB (1989).

RIT offers programs at the vocational, upper vocational and technical institute levels for a total of 55,000 students at two campuses in Bangkok and 29 other locations throughout the country. Although RIT operates under the auspices of the MOE, it has much greater autonomy than other MOE institutions, and works closely with employers though employer/faculty advisory councils and in-plant training of students by prospective employers.[76] Again, like NISD, the close links with prospective employers appear to greatly benefit the training programs, and graduates from the institutes.

7.4 Post-Employment Worker Training and Up-Grading

Only through intensive training and upgrading, will the industrial and formal services sectors' workforce keep abreast of the rapidly changing technology, enhancing the

76. USAID (1990), p. 27.

Thai economy's ability to retain its international competitive edge, and export-led growth.

Training and up-grading of a workforce which will still consist overwhelmingly of workers with primary education for the next decade will be critical. Unless something drastic can be done to re-train and upgrade the skills of the 70-80 percent of the workforce who have only primary education or below,

"...the development pattern in Thailand will have to converge to a pattern consistent with the knowledge and ability of the human resource base in the country."[77]

A significant amount of training occurs on the job. A recent study used the 1987 Labor Force Survey to break down employment into S&T and non-S&T types of occupations. Table 14 gives the break-down of employment by educational levels and S&T occupations. It turned out that about 75% of those in S&T occupations have only primary education or less. The reason they are working in S&T related occupations (mainly as technicians) is because of training on the job, and this illustrates the importance of on-the-job training in the economy. In a relatively low income country such as Thailand, on-the-job training is an important source of human capital accumulation in addition to the formal education system. It is one reason why the economic and industrial structure of Thailand is so diverse, and the economy has performed well over the last 3 decades, in spite of past findings that Thailand has a lower stock of S&T manpower (through the formal education system) per capita compared to many other countries in the region. The experiences of countries such as Japan, Korea and Taiwan also showed that on-the-job training makes substantial contributions to the rapid growth that these countries were able to achieve.

While worker productivity and the competitiveness of Thai industrial and service sector firms will depend in large part on labor training on the job and in more formal training programs provided by employers, relatively little is known about skill acquisition outside of formal education; about employer incentives and disincentives; policy options, costs and benefits of upgrading of the skills of workers as a function, in part, of variations in the quality and attainment levels of formal education. Research in other countries indicates that employees who show the greatest gains in productivity from on the job

77. Sussangkarn (1991a).

training, from other employer training and simple job experiences, are those with the strongest cognitive skills when hired.[78] Larger firms in Japan and Europe spend up to 6 percent of payroll on near continuous training, retaining and upgrading of their workers. In Europe, further training -- even degree training in higher education for workers who have completed the apprenticeship programs -- are supported by payroll taxes on all firms, by large firms themselves and by groups of smaller firms who agree to cooperate to support such training. The payroll taxes and agreements among smaller firms reduce the problem of "free riding" by firms on training paid for by other firms in mobile labor markets.

In Thailand, the evidence is that the labor market for skilled workers has become tight and highly mobile. A study of a sample of firms in 1990, found that while most provided continuing education and training of workers, all feared that the benefits would accrue to other firms due to turnover; 83 percent reported recruiting experienced workers from other firms; 58 percent reported having to hire workers not adequate qualified for their positions, and many reported increasing the compensation of skilled employees in order to retain them.[79] This is also confirmed by the data in table 13, in which firms place problems due to lack of "loyalty" to the company very highly among labor problems.

What is suggested, then, is a pattern of high labor mobility which has the advantage of diffusing skills among firms, but also creates employer incentives either to "free ride" or to make training narrow and minimal, as little marketable outside the firm as is consistent with satisfactory job performance in the firm. Such training is clearly sub-optimal in a social sense, and is inconsistent with the large and continuous training job that needs to be done.[80]

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78. Knight and Sabot (1990).
79. USAID (1990), pp. 14-16.
80. Session 5 of the Conference will examine in more detailed the issue of on-the-job training.

7.5 Policy Options

A number of policy options are suggested:[81]

1. Make skill and knowledge upgrading of those already in the labor force a national priority over the medium-term, with particular emphasis on those with low education. Sufficient resources must be devoted to the task. Resources currently spent on non-formal education and various training programs should be substantially increased. For non-formal education to upgrade formal academic qualifications (eg., to achieve primary school equivalency, or from primary to secondary school equivalency), the responsibility should remain with the Ministry of Education. For other training programs, however, there is a clear need for a national training co-ordination mechanism. Currently, numerous government agencies are involved in some form of "training" for various target groups. These often overlap, and clearer directions need to be established concerning priority areas, and appropriate strategies for the future. Various options for such a mechanism could be envisaged, including:

   1) In the form of a National Committee on Training.[82] This would be the "traditional" Thai approach to coordinate various functions requiring national priority across different public agencies and the private sector. The Committee's memberships will, however, have to be at the highest level to be effective. The question of an appropriate secretariat for the committee also needs to be resolved.

   2) In the form of setting up a training co-ordination office within some existing government agency. Given the numerous and complex training needs for various target groups in the economy, and the need to substantially expand the amount of

81. Many other recommendations appear in other Research Reports for the Conference.
82. This committee would be at a higher level, and has a much wider scope than a similarly named committee that is suggested as part of the draft "Occupational Training Act." See below.

training, it is probably more effective to think of an office to specifically handle training co-ordination, rather than have the function performed, as one of many other duties, by an already existing unit within a particular government agency -- although the latter might be the way to get started initially. Candidates for location of such as office include the NEC,[83] the NESDB and the Department of Labor, particularly if the latter's status is upgraded to Ministry level.[84] It is important that such an office also co-ordinate closely with the private sector, to prevent implementation of training strategies that may not be very relevant to the employers' needs. At the same time, a balance has to be reached between training "manpower" for the private sector, and skill and knowledge upgrading for own-account workers in all sectors of production. This type of office is probably still needed if the above "National Committee on Training" approach is adopted, as the agency in which the office is located can perform the task of secretariat to the Committee, with the office providing the necessary information and expertise.

2. Experiment and begin to develop with industry and other employers more extensive and systematic models for the transition from school to work. Thailand may be "missing its middle," with adequate number of people in university (thought not enough in some fields), and not enough highly qualified workers. This transition will be especially important as the secondary education problems take time to solve, and will only affect the average quality of the labor pool after a long lag. Implementation of something like the (draft) "Occupational Training Act" would be a useful first step. This will allow employers more flexibility in taking in trainees, and will facilitate the establishment of a more formal training and certification system, and also the development of formal apprenticeship programs on a large scale. It will also help strengthen links between schools and factories, making it

83. Because "training" is usually regarded as part of "education" in Thailand, informal training is also under the scope of the NEC. However, a case can be made that, for the future, training should be conceptually separated out from education, even though training programs will inevitably involve a certain amount of "education." This will make it easier to differentiate the roles of various agencies as being more focused on one or the other.
84. Though it may be difficult for the Department of Labor to co-ordinate the diverse types of training that exist, as these occur in other ministries and for a wide range of target groups, and the Department of Labor's primary target group has been the employees. Also, as it also has its own training arm, the question of partially may arise.

easier for educational institutions to have formal training agreements with employers. Clearly, the system needs to be monitored carefully in the early stages so that loop holes and problems can be identified and rectified. If all parties benefit from the system -- trainees, through better career prospects; employers, through more availability of qualified workers; and schools, through an improved curriculum and better attraction for students -- then possible abuses of the system will not generally occur.

3. More use of distance learning options (particularly television) for occupational upgrading; including for farmers and other types of own-account operations.[85]

4. Begin experiment with some on-the-job training incentive schemes. This could start by targeting particular industries initially, especially those where the on-the-job training skills acquired are fairly industry-specific. For such industries, the public sector can also play a catalytic and co-ordinating role to initiate private sector training programs which would serve groups of employers in the same industry, so that narrowness of training and under-investment in training for fear of labor mobility are reduced, and economies of scale, scope and specialization are realized. Industrial training institutes would be the type of model, but the public sector should refrain from operating such an institute, unless there are clear comparative advantages for doing so, or where cost recovery, through charges from trainees or targeted taxes from the industry, is feasible.

8. HIGHER EDUCATION

8.1 Introduction

The structure of higher education is unusual. About forty percent of (full time equivalent) enrollment is in highly selective and highly subsidized public universities. About 25 percent is in highly selective and expensive private universities, and the remainder is in open enrollment universities, which require only completed secondary education for admission, and charge low fees.

85. This is particularly stressed for farmers in Session 4 of the Conference.

This section reviews four issues in higher education: changing enrollment patterns; the consequences of the structure of higher education for lower levels of education, and for the changing patterns of social demand for higher education; problems of response of higher education to employers' demand for engineering and other technical graduates; and problems in graduate education which may affect both higher education and Thailand's ability to increase the capacity for R&D.

8.2 Changing Enrollment Patterns in Higher Education

In the late 1970s and early 1980s, growth of enrollment in higher education was very rapid in response to social demand, reaching over 700,000 students in 1985. Most of this growth took place in the open enrollment institutions. The open enrollment universities had 82 percent of enrollment in higher education in that year -- up from 70 percent in 1978; the private universities had 5 percent, and the Ministry of University Affairs' (MUA) and MOE closed enrollment institutions the remainder.[86]

Since 1983, a somewhat different pattern has emerged. Total enrollments have stayed nearly constant. For example in 1989, the total enrollment in private and MUA universities was about 659,000. The new pattern is one of decreasing enrollment in Ramkhamhaeng (down from 546,277 in 1983 to 343,371 in 1989), steady enrollments at STOU (between 110,000 and 115,000), and rapid growth of enrollment in the private universities (from 38,700 to 77,000), and a slow but steady growth in the MUA closed enrollment universities, from about 100,000 to 123,000. The open university share of total students has fallen back to 70 percent -- the share in 1978.

If corrections are made for full time equivalent FTE students (see Section 3, table 3 above), the open university share has dropped from 54 percent in 1983 to 36 percent in 1989. Overall, between 1983 and 1989, the number of FTE students increased by only 10,200 -- a remarkable change from the buoyant growth of earlier years.

86. Phananiramai and Mason (1988).

8.3 Structure of Higher Education: Effects on Lower Levels of Education and on the Pattern of Demand for Higher Education

The objective of most students at the upper secondary level is higher education. The structure of higher education affects demand patterns (at least in the cities), and curricular focus and structure at the lower levels, and the demand for higher education itself. Regular patterns of influence of higher education on the rest of the system are seen in many countries. Social demand, selection mechanisms, labor markets, and the behavior of the system of higher education interact to create these patterns.[87]

As the supply of higher education graduates increases, employers prefer to hire the "best" graduates. Secondary graduates prefer to attend the "best" universities, or to get degrees in the "best" fields. But best is hard to determine directly. Quality of higher education institutions is, in practice, assessed by applicants and employers by proxy measures -- by general reputation, by category of institution (non-university vs. university), by prestige of field, perhaps by anticipated rate of return, above all by selectivity.

If, as in Thailand, places in closed enrollment universities and private universities are rationed by examination scores, while places in the open access universities require only completion of secondary school, then applicants will show a strong preference for admission to the selective institutions -- even in less selective fields. The number of applicants sitting for the examination for entry into the closed universities has increased each year, the proportion admitted has decreased. Partially as a results, enrollment in the private universities has doubled -- in spite of their high fees. The distribution of socioeconomic backgrounds of students in the closed universities and private universities is virtually identical.[88]

This pattern explains part of the drop in enrollment in the open universities. Other explanations may include low completion rates, and -- since the export boom --

87. Myers (1988).
88. The World Bank (1990).

somewhat higher opportunity costs, and thus less motivation for continuing to study at Ramkhamhaeng.

Increased selectivity of higher education increases demand for high quality secondary education. Quality at the secondary level is measured by parents by success of graduates on national tests, and admission to the most selective universities, public and private.

In Bangkok, and other cities, the demand for (perceived) high quality places at the secondary level has had the predictable consequence of increasing demand and competition for places in high quality "feeder" primary schools, and even in kindergartens and nursery schools. Extra payments to schools, private tutoring and evening cram schools are also part of pattern.

Since admission to selective universities is by national examinations, the examination not only reflects the academic curriculum in secondary schools, it increasingly dominates the curriculum. Intensification of student effort in most schools, and upgrading of standards in some schools can be expected. But the focus may be narrower, and the emphasis will be on better results in the examination, not enrichment of the curriculum as a whole, or on student specialization and excellence in particular fields of interest, unless these happen to coincide with the content of the examinations. Further, admission to the selective universities is to a field, not to the university as a whole, and there is significant variation in selectivity by fields. Some proportion of students may opt for less selective fields in order to gain admission to more selective universities. This may alter where they put their effort at the secondary level. Students' real interests and perhaps their future creativity may be sacrificed to the admissions objective. This may be a particularly important issue for students strong in mathematics and science, but not able to gain admission to the relatively few places available in engineering (See 8.4 below).

Given these patterns, future changes at the higher education level -- eg. new provincial universities, new places in private universities, an increase in the number of places available in the closed universities, or changes in selection mechanisms -- could have

significant impacts on secondary education, and continuing impacts on the shifting pattern of social demand for higher education itself.

8.4 Responsiveness of Higher Education: Engineering as an Example

There are numerous employer reports of scarcities of engineering and other scientific and technical manpower.[89] Two studies by TDRI predict scarcities in some fields in the future.[90] This is confirmed more generally by the most recent study presented as part of this conference.[91]

These graduates are produced mainly in the public closed universities and some private universities. Growth of the closed universities has been constrained by the fact that subsidy per student is highest at the higher education level in the closed universities. Student fees cover about six percent of recurrent costs at these universities. Growth of engineering and related fields in the private universities has been constrained by the high capital costs of start-ups of these fields -- and as will be seen below -- the difficulty of finding qualified faculty with graduate degrees in these fields.

Some of the engineering and other skill shortages may be due to utilization problems including relative pay. The MUA's own data show that less than half of university graduates report that their jobs make any direct use of their fields of study.[92]

89. USAID (1990).
90. TDRI (1988) and TDRI/NESDB (1989).
91. Limskul and Khantigaroon (1992).
92. MUA, "Summary Report Status of Job Placement of Graduates, 1982-1983," Bangkok, 1986, Table 5.

Excluding government jobs, which now absorb fewer new graduates than before, the proportion directly using their training ranged from 42 to 33 percent. More recently, only 53 percent of engineers in a sample of firms in Bangkok and Chiang Mai said their jobs made any use of their training.[93] The data suggest, rather, that hiring criteria and employer rewards are based less on specific field than on perceived quality, intelligence, trainability, social class, etc. None of this is surprising; the same results are found in most countries.

But there is also evidence of the supply constraints mentioned above in critical fields in the universities; take Bachelors degree engineering as an example. Bachelors degrees, in one or more of the engineering fields including computer sciences, are offered in seven closed enrollment MUA universities; Chulalongkorn, Chiang Mai, Kasetsart, Khon Kaen, KMIT, Mahidol, and Prince of Songkhla. Thammasat University recently initiated a B.A. engineering program as well.

B.A. degrees in engineering are offered by the Institute of Technology and Vocational Education (ITVE) run by the Ministry of Education. Five private universities recently initiated B.A. programs, one in computer science, one in computer engineering, one in electrical, one in mechanical and one in other engineering fields.

Most engineers are graduated from the MUA closed enrollment universities. Between 1982-1983 and 1985-1986, the number of engineers graduated from the MUA universities increased from 1,668 to 1,933. The number graduated from ITVE increased from 308 to 635. There were no graduates yet in 85/86 from the new programs in private universities.[94]

At first glance these numbers seem impressive. Students and institutions appear to be responding to higher pay and high returns to engineering particularly in the private sector. The number of ITVE graduates has doubled, though from a low base. The number from MUA universities has increased by 15 percent -- 50 percent faster than the rate of

93. National Education Commission (1989).
94. TDRI (1988), calculated from the Appendix Tables.

overall growth of enrollment and graduation from the closed universities during the period. But the MUA numbers are misleading. Over the same four years, the number of basic science graduates decreased from 833 to 601. If that decrease is subtracted from the increase in engineering graduates the net increase in science and engineering graduates combined was only 33.[95]

Students are indeed responding to higher returns to engineering degrees and the relatively low returns to basic science degrees. They have shifted fields. But the MUA universities appear to have shifted capacity, not to have added much, if any, new capacity. Budget constraints and low fees may be the reason.

Average annual recurrent and capital costs per student in engineering in 1985 in six of the closed enrollment universities were estimated at 56,000 baht.[96] Fees and other student charges ranged from 3,500 to 4,500 baht per year. ITVE annual recurrent and capital costs were estimated at 43,000 baht; fees and other costs to students were just over 3,000.[97]

While changes in the fee structure will be necessary to address the fiscal and faculty constraints of the closed universities, the problem of faculty development and retention in scarce fields may persist even with changes in fees and compensation. The new engineering program at Thammasat, for example, finds it very difficult to hire Ph.D. level faculty. The bulk of the teaching is being done by B.A. engineering graduates with a few years' experience. This should be compared to the economics faculty at Thammasat where much of the teaching is done by Ph.Ds.

In some of the private university engineering programs, the teaching is done by closed university faculty who "moonlight" to augment their civil service salaries.

95. See TDRI (1988).
96. National Education Commission (1989), calculated from appendix tables.
97. Ibid.

8.5 Graduate Education and Research and Development

Graduate education has become increasingly important for Thai development and increasingly under threat.

Graduate education is important for training of the next generation of faculty for the existing universities, for expansion of those universities, and for the staffing of new universities in the provinces. It is important for meeting increasing private sector employer demand for highly skilled scientific, technical, and managerial leadership, and for expansion of capacity for research and development both within the universities themselves (which is critical for new faculty development), and in private firms or groups of firms.

The fundamental importance of R&D to international competitiveness of any given country is not that R&D will lead to discontinuous new discoveries for that country. These are rare, and not as associated with sustained increases in productivity as incremental changes. Rather it is that R&D gives a nation the ability to adopt and adapt discoveries, technology and innovations developed everywhere else in the world. The most dramatic evidence for this view of R&D is that even in the 1950s and 1960s, less than 40 percent of economically significant scientific discoveries and technological developments originated in the U.S. But the U.S. was best prepared then in relative terms to make immediate use of discoveries and innovations wherever they originated. Now many rich countries have the capacity to do the same, and better, and the U.S. share of new discoveries has diminished as well. Thus, the fundamental reason for building R&D capacity in middle income countries is that they will become increasingly able to access new discoveries and technologies, to adapt, to make the "small discoveries" that lead to sustained increases in productivity and international competitiveness.

Yet even this view of R&D has important implications for the quality of higher education, particularly for the development of research scientists. For long-term sustainability, it is not only engineers and technicians for industry that the universities and technical institutes must supply, they must also help build in industry, and in their own faculties, an expanding capacity for R&D. With this expanding capacity, the country would

have an increasing ability to draw upon and assimilate the world's scientific and technological resources, to support new industries and new exports, and to upgrade the old.

However, the picture is not very encouraging. Faculty in key fields are being hired away by the private sector, and to a lesser extent by new universities and new programs in these fields at existing universities. There is thus a real threat to the nation's ability to train the next generation of faculty and the highly skilled manpower increasingly needed in industry and formal sector service firms.

Structural constrains at the university level created by the subsidy of students and the pay structure of faculty would begin to help solve the problem, but support for graduate fellowships and for competitive awards to stimulate research and increase compensation of faculty may also be needed. For the latter, the current government's initiative to establish a sizeable Research and Development Fund is timely and highly encouraging.

8.6 Possible Interventions and Options[98]

Possible short term and long term policy options for higher education, as for secondary education, would focus on increased flexibility, greater choice, reduced supply constraints and more market discipline.

Short term measures would be to:

1. Establish private-sector employer advisory councils to the ministries and universities; the pattern at KMIT is a model for such partnerships
2. Improve counselling and placement services for secondary students selecting fields of study, and for students entering and graduating from university.
3. Allow some initially small proportion of students already enrolled to shift fields after one or two years, so that the

98. More specific options on S&T manpower can be found in Sripaipan and Brimble (1991) and Chaiyawet (1991).

response to market changes will be more rapid, and market orientation of students and of universities and faculties will be increased.

The recently adopted short-term measures to deal with the shortage of engineers -- including doubling-up of enrollment, re-tooling of basic science graduates, and up-grading of vocational graduates make sense. But the long term solution is horizontal and vertical expansion of the closed enrollment universities, further growth of ITVE programs, and of programs in the private universities. Costs at ITVE are somewhat lower and student-teacher ratios higher, eighteen to one compared to nine to one in MUA closed universities. If quality is adequate and graduates meet employer expectations, then further expansion -- with fee increases -- is warranted.

Longer-term policy options might include:

1. Increases in fees in the public closed universities as a way to redress inequities, and to expand capacity in these institutions. Students of the same socioeconomic backgrounds as in the public closed universities are able pay the much higher fees of the private universities. This is not a new issue; the arguments in favor of fee increases are well known and widely accepted. How to take the needed steps, however, is still not clear. The weight of evidence is that fees at the higher level could be raised with no decrease in demand, and with revenues increasing in direct proportion. This may even be the case if only one of the selective institutions or fields increase fees, and the others did not.[99] But cost recovery will have to be part of a package of scholarships, student loan schemes, or a tied scholarship scheme.[100] In the process, equity and efficiency would not conflict, since higher fees allow expansion of places which could be earmarked for the disadvantaged. What is needed now is the political will, and a guarantee that existing government subsidies will not be immediately withdrawn from fee-increasing institutions. And since universities retain fees, and faculty members are underpaid and forced to moonlight

99. This possibility was confirmed in LOGIT demand estimations and repricing simulations done for Thammasat by Sirilaksana Chutikul-Khoman (1987). See also Chutikul-Khoman (1988b).
100. This is essentially a disguised form of loan, repayment of which occurs when scholarship recipients are obliged to work for a pay which is lower than that in alternative employment.

(hurting both teaching and research), the prospective connections between pricing policy and quality improvement -- as well as quantitative expansion of the critical fields -- are clear and compelling.

2. Selection mechanisms which place some weight on students' records in secondary education, and which defer decisions on fields until later -- that is, which admit the applicants to an institution of higher education not initially to a field -- and which may further reduce the intense focusing of the secondary curriculum on single examinations, and may lessen the danger that students will forego pursuing their real interests, and perhaps their future creativity, to the examination process and may improve university and student response to changing market demand

3. Privatization of some of the MUA universities. The "self-financed programs" (like the MBA programs at Chulalongkorn and Thammasat) with high standards, high faculty compensation and high fees are examples of what privatization of the MUA universities might bring. This is something in process, but the prospects for success vary across universities, and many management and financial issues have to be sorted out.

4. Privatization of the private universities by removing most MUA regulations, which constrain innovation and expansion into fields important for future Thai development, replacing these regulations with an independent accrediting mechanism. Changes in attitudes concerning the private sector on the part of government bureaucrats are also necessary.

5. Facilitate the establishment of international universities, or branch campuses of first-rate international universities (as has happened in Japan), with high standards, international faculty and graduate programs to add capacity and to induce reform in Thai universities.

6. Support a highly targeted and sustained program of Ph.D. fellowships for faculty training in critical fields -- where possible for graduate training in Thailand -- thus strengthening graduate training in Thailand, and where this is not yet possible, then for training abroad.

7. Support a program of competitive awards to stimulate research and increase compensation of faculty.

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EDUCATION, LABOR MARKETS, AND ECONOMIC DEVELOPMENT POLICY SIMULATIONS

by

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สรุปสำหรับผู้บริหาร

การศึกษา ตลาดแรงงาน และการพัฒนาเศรษฐกิจ: การวิเคราะห์เชิงนโยบาย

รายงานฉบับนี้วิเคราะห์ถึงความเชื่อมโยงระหว่างการศึกษาตลาดแรงงานและการพัฒนาทางเศรษฐกิจ ในการวิเคราะห์ได้ใช้โมเดลมหภาคทางเศรษฐศาสตร์-ประชากร เพื่อศึกษาผลกระทบของกลยุทธทางด้านการศึกษาและการฝึกอบรมด้านต่าง ๆ ที่มีต่อโครงสร้างตลาดแรงงาน การเติบโตทางเศรษฐกิจและการกระจายรายได้

จากเป้าหมายเกี่ยวกับการเข้าเรียนต่อที่กำหนดไว้ในช่วงแผนพัฒนาฯ ฉบับที่ 7 การศึกษาได้ทำการวิเคราะห์การขยายตัวของเศรษฐกิจและการกระจายรายได้ไปจนถึงปี ค.ศ. 2000 แล้วนำไปเปรียบเทียบกับผลการวิเคราะห์ที่ได้จากกรณีที่มีการเร่งขยายอัตราการเรียนต่อจากประถมศึกษาไปมัธยมศึกษาในอัตราที่เร็วกว่าเป้าในแผนฯ 7

ผลการศึกษาแสดงให้เห็นว่านโยบายการเร่งขยายการศึกษาต่อกว่าจะมีผลต่อคุณภาพของกำลังแรงงานโดยเฉลี่ยอย่างเห็นได้ชัดเจนต้องใช้เวลาอีกนาน ถ้าสมมติให้เด็กทุกคนที่จบชั้นประถมปีที่ 6 ในปีนี้เข้าเรียนต่อในชั้นมัธยมศึกษาในปี 1992 ได้ และยังคงรักษาระดับที่ให้ทุกคนได้เรียนต่อนี้ไปเรื่อย ๆ เมื่อถึงปี ค.ศ. 2000 กำลังแรงงานของไทยร้อยละ 70 ก็ยังคงมีการศึกษาเพียงระดับประถมศึกษาหรือต่ำกว่า

ผลการศึกษาบ่งชี้ให้เห็นว่าควรจะต้องมีการพิจารณาหากลยุทธที่จะยกระดับความรู้และทักษะของผู้ที่อยู่ในกำลังแรงงานแล้ว โดยอาศัยการศึกษานอกระบบและการฝึกอบรม การวิเคราะห์ยังได้ครอบคลุมถึงกลยุทธในการ "แปลงสภาพ" ผู้ที่อยู่ในกำลังแรงงานที่มีการศึกษาเพียงระดับประถมศึกษาหรือต่ำกว่า เพื่อให้มีสมรรถนะและผลิตภาพสูงขึ้น และยังทดสอบหาผลกระทบของกลยุทธดังกล่าวต่อการพัฒนาเศรษฐกิจ ผลที่ปรากฏออกมาก็คือ กลยุทธดังกล่าวจะก่อให้เกิดประโยชน์อย่างมหาศาลในด้านการปรับปรุงการเจริญเติบโตและการกระจายรายได้

ท้ายที่สุดได้ทำการคำนวณดูว่าจำเป็นจะต้องมีการลงทุนเป็นจำนวนเงินเท่าไร เพื่อที่จะดำเนินโครงการยกระดับทักษะฝีมือแรงงานดังกล่าว ผลที่ปรากฏออกมาก็คือ เป็นการใช้เงินทุนจำนวนที่ไม่มากเมื่อเปรียบเทียบกับส่วนของผลิตภัณฑ์มวลรวมประชาชาติที่คาดว่าจะเพิ่มขึ้น การลงทุนดังกล่าวเป็นสิ่งที่น่าทำอย่างยิ่ง โดยเฉพาะเมื่อรวมผลประโยชน์ที่ได้จากการที่การกระจายรายได้จะดีขึ้นเข้าไว้ด้วย

EXECUTIVE SUMMARY
Education, Labor Markets, and Economic Development: Policy Simulations

This paper analyzes the linkages between education, the labor market and economic development. The analysis uses an economic-demographic macroeconomic model to simulate the impact of various education and training strategies on labor market structures, economic growth and income distribution.

Using the 7th Plan target on educational enrollment, the macroeconomic growth and income distribution profiles are generated to the year 2000. This is then compared to situations where the transition rates from primary to lower secondary are substantially accelerated.

It is shown that policies to accelerate educational enrollment will significantly affect the average quality of the labor force only after a long lag. If all children who finish grade 6 this year enroll in lower secondary education next year, and the 100 percent transition rate is maintained thereafter, then by the year 2000, still 70 percent of Thailand's labor force will have only primary education or less.

This suggests that one should also look at a strategy to upgrade the knowledge and skills of those already in the labor force, through non-formal education and training. A strategy to "convert" those in the labor force with only primary education or less, to improve their capabilities and productivities is analyzed, and the impact of such a strategy on economic development is simulated. It is shown that the strategy will bring substantial benefits, in terms of improved growth and income distribution.

Finally, some calculations are made concerning how much investment would be necessary to carry out the skill upgrading program that is suggested. It is shown that the costs involved are small, when compared to the GDP gains possible, and the investment becomes even more compelling when account is also taken of the improvement in income distribution.

TABLE OF CONTENTS

EDUCATION, LABOR MARKETS, AND ECONOMIC DEVELOPMENT POLICY SIMULATIONS

1. INTRODUCTION

This paper analyzes the linkages between education, the labor market and economic development. The analysis uses an economic-demographic macroeconomic model to simulate the impact of various education and training strategies on labor market structures, economic growth and income distribution.[1]

Using the 7th Plan's target on educational enrollment, macroeconomic growth and income distribution profiles are generated to the year 2000. This is then compared to situations where the transition rates from primary to lower secondary are substantially accelerated.

It is shown that policies to accelerate educational enrollment will significantly affect the average quality of the labor force only after a long lag. If all children who finish grade 6 this year enroll in lower secondary education next year, and the 100 percent transition rate is maintained thereafter, then, by the year 2000, still 70 percent of Thailand's labor force will have only primary education or less.

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costs involved are small when compared to the GDP gains possible, and the investment becomes even more compelling when account is also taken of the improvement in income distribution.

The next 2 sections briefly describe the conceptual framework for the analysis. In section 4, the basic simulations, including the 7th Plan target case are carried out. In section 5, the simulation based on accelerated training of those in the labor force is discussed. Finally, section 6 concludes.

2. POPULATION-EDUCATION-WORKFORCE MODULE[2]

The first part of the model links up population projections, educational enrollment and labor force structures. The conceptual framework used in the population-education-workforce module is relatively simple. For the base year, we start with the population by single year of age and by sex. These are divided into those still at school at various levels, and those who are no longer at school. The figures for the total number at school at various levels and grades are derived from NEC (1990). Tabulations from the Labour Force Survey (LFS) in 1987 (round 3) are used to infer the proportions of those at school at various levels by sex, so the total enrollment data from NEC are divided up by sex and grade. To make things simple, we ignored repeaters and assumed that those at each grade in the educational system have the same age.[3] Thus, subtracting the enrollment at each grade (or age) from the total population gives us population not currently at school by age and sex. Tabulations from the LFS gives the proportion of those not at school of each sex at various ages by educational levels, so, for each sex and age, we can divide the population not at school by educational levels to get the base stock of those not at school by sex, age and educational level. Finally, tabulations from the LFS are again used to get participation rates of those not at school by age, sex, and educational levels. Multiplying this by the numbers of those not at school gives the workforce in the base year by age, sex and educational levels.

For the next year, the new population by age and sex is given from the population

projection. Given assumptions of new entrants of students into grade 1 (Pratom 1), and transition rates of students from the previous year, the enrollment at various levels are obtained.[4] This is subtracted from the total population to get the total number of those not at school by sex, and age. Dividing up this total number into various educational levels is more complicated. There are two components that make up those not at school by age, sex, and at various educational levels. The first component is made up from those who were not at school in the previous year and have become one year older, and have not died. The second component consists of those who have left the school system after the last year at various ages and educational levels, and who have also not died.[5] First, those not at school in the previous year and have become one year older are added to those who have left school at the end of the previous year (initially ignoring deaths). Then (adjusting for deaths), the totals for various educational levels are adjusted proportionately so that the sum equal the total population not at school at each sex and age. Essentially, this assumes that the probability of death is the same for each educational level, and also the same for those who were not at school in the previous year, and those who have just left school at the end of the previous year. This gives the population not at school by age, sex, and educational levels. Participation rates by age, sex, and educational levels are then used to derive the workforce by age, sex, and educational levels.

The above calculations can be continued on for future years to give projections on enrollment and workforce by age, sex, and educational levels. The inputs required for the models are:

1. Population by age and sex.
2. The base enrollment at various grades.
3. The base share of population not at school by age, sex, and educational levels.
4. The enrollment rate for Pratom 1, and transition rates for higher grades.
5. The labor force participation rated for those not at school by age, sex, and educational levels.

The outputs from the population-education-workforce module that will be input into the macroeconomic framework are the labor force by various education levels. The macroeconomic framework is briefly described next.

TABLE 3.1
SECTORS IN SAM AND VALUE ADDED AT FACTOR COST

	VALUE ADDED	CAPITAL	LABOR	LAND
PADDY	85560	19675	63037	2849
OTHER MAJOR CROPS	36074	6219	27579	2276
FRUIT AND VEGETABLES	28421	20951	5677	1793
OTHER AGRICULTURE	33573	25274	3631	4668
FISHING	19794	17779	2015	0
SLAUGHTERING	1944	1528	416	0
CANNING AND FOOD PROCESS	11170	1599	9572	0
RICE MILLING	417	-3593	4010	0
BEVERAGES	10874	9837	1037	0
TOBACCO PROCESSING	1383	-338	1721	0
OTHER FOODS	13417	5373	8045	0
CLOTHING	83618	54343	29275	0
WOOD-PAPER-RUBBER PRDS.	43539	22305	21233	0
BASIC INDUSTRIES	22822	5068	17753	0
APPLIANCES	25054	15406	9648	0
OTHER HOUSEHOLD ITEMS	3014	-1230	4244	0
OTHER INDUSTRIES	12738	-669	13407	0
FUEL	2835	2663	171	0
UTILITIES	46256	34669	11587	0
CONSTRUCTION	62653	35321	27332	0
HOTELS AND RESTAURANTS	73703	41641	32062	0
TRANSPORT	73327	45683	27644	0
REAL ESTATE	45277	44123	1153	0
PUBLIC ADMINISTRATION	52700	21356	31344	0
EDUCATION	43918	998	42920	0
HEALTH	15551	6251	9300	0
OTHER SERVICES	253835	82127	171709	0
ALL SECTORS	1103466	514358	577522	11586

3. SALIENT FEATURES OF THE MACROECONOMIC FRAMEWORK

The macroeconomic framework is a Computable General Equilibrium Model (CGE) based on a Social Accounting Matrix (SAM) of the Economy. This section describes some key features of the SAM and CGE model that was used in the simulations. In the SAM, there are 336 accounts and there are 27 production sectors. There are also 22 imported commodity types, two types of capital (agriculture and non-agriculture), six types of labor corresponding to the population-education-workforce module (primary education and below, lower secondary, upper secondary, vocational, technical vocational, and university), land used in agriculture, 5 household types, and four other institutions - government, state-enterprises, private corporation, and the rest of the world.

There are 27 sectors of production as shown in Table 3.1. In agriculture there are five sectors; paddy, other major crops, fruit and vegetable, fishing, and other agriculture.[6] There are 15 industries, starting with slaughtering and ending with construction. The processing activities, such as rice milling and tobacco processing, are included as part of the industries. Finally, 7 service sectors are distinguished, including public administration. Each of the 27 sectors produces output using domestic and imported intermediate inputs and factors of productions. Table 3.1 also shows the distribution of value-added at factor cost for each sector, and the division to the main factors of production; capital, aggregate labor, and land. The labor payment includes imputed wage of own-account and unpaid family workers.

As mentioned earlier, there are six types of labor corresponding the various educational levels. There are also assumed to be four types of employment status:

1. Government Employment,
2. State Enterprise Employment,
3. Private formal sector employment, and
4. Private informal sector employment.

This means that the wage payments for each sector has to be divided up into the different employment status and also the different educational levels. To do this,

tabulations from the 1988 Labour Force Survey, round 3, was used to obtain the employment and wage rate data,[7] which were then used to split up the total wage payments in each sector.

The data on employment and wages are given in Tables 3.2-3.5. These have been described in a previous paper and will not be repeated here.[8] The various payments to the factors of production (labor, capital and land) then flow to the institutions (households, government, state enterprise, and private corporations). The institutions and exports are sources of final demand for commodities that lead back to the production sectors.

The general equilibrium model constructed for this exercise is a SAM-based model similar in main features to models such as the SIAMII.[9] Each account in the SAM has an associated price, quantity, and value, or for some accounts (eg. the account corresponding to government revenue) there were no prices but only values. The model specified which price, quantity or value were endogenous or exogenous. To complete the model, the equations determining each non-empty cell of the SAM have to be specified. The economic specifications in the normal part of the model were fairly standard, for example the payment from a production sector to factors of production were treated as arising from factor demand equations depending on the production function, and assuming profit maximizing behaviors and competitive industries. The main aspects of the previous model upon which the current one is an extension was described in Sussangkarn, Tinakorn and Chongpeerapien (1988). Here, only the labor market will be described.

The specifications for the labor market tries to remain close to the spirit of the formal-informal structure introduced in Sussangkarn (1987). Basically, ignoring the government and state enterprise employees for the moment, each sector except for agriculture, which only employs informal sector worker, employs a composite labor made up of formal and informal workers. The composite labor is divided up into formal and informal according to an exogenous share which can vary over time. In general, given the current pattern of development in Thailand, the formal share is expected to increase into the future.

TABLE 3.2
EMPLOYMENT BY SECTORS AND EMPLOYMENT TYPE

	GOVERNMENT EMPLOYEE	STATE ENTERPRISE	PRIVATE FORMAL	PRIVATE INFORMAL
PADDY	0	0	0	11630072
OTHER MAJOR CROPS	0	0	0	5088205
FRUIT AND VEGETABLES	0	0	0	1047387
OTHER AGRICULTURE	0	0	0	669980
FISHING	0	0	0	371814
SLAUGHTERING	0	0	581	10672
CANNING AND FOOD PROCESS	0	0	67626	125323
RICE MILLING	0	0	21207	72543
BEVERAGES	0	1512	7616	8998
TOBACCO PROCESSING	0	21390	3024	4086
OTHER FOODS	0	2593	33638	147368
CLOTHING	0	4537	149889	494234
WOOD-PAPER-RUBBER PRDS.	0	5077	91136	380116
BASIC INDUSTRIES	0	5725	98227	251794
APPLIANCES	0	2161	46093	158951
OTHER HOUSEHOLD ITEMS	0	0	18584	78948
OTHER INDUSTRIES	0	0	58647	238008
FUEL	0	540	1333	60
UTILITIES	0	140113	2896	16922
CONSTRUCTION	0	0	76034	597222
HOTELS AND RESTAURANTS	0	0	147099	547892
TRANSPORT	0	78753	58682	462528
REAL ESTATE	0	1296	6910	7779
PUBLIC ADMINISTRATION	824552	0	0	0
EDUCATION	658047	0	79470	4299
HEALTH	171817	0	21426	4113
OTHER SERVICES	0	32733	556094	3181488
TOTAL	1654416	296429	1546212	25600801

TABLE 3.3
EMPLOYMENT BY EDUCATION AND EMPLOYMENT TYPE

	GOVERNMENT EMPLOYEE	STATE ENTERPRISE	PRIVATE FORMAL	PRIVATE INFORMAL	TOTAL
PRIMARY AND BELOW	370201	108471	740043	23635931	24854645
LOWER SECONDARY	255679	51279	200607	1118933	1626498
UPPER SECONDARY	68610	11015	106707	329131	515463
VOCATIONAL	197456	49970	214707	276913	739045
TECHNICAL VOCATIONAL	74900	33179	66154	92389	266622
UNIVERSITY	687570	42516	217995	147505	1095586
TOTAL	1654416	296429	1546212	25600801	29097859

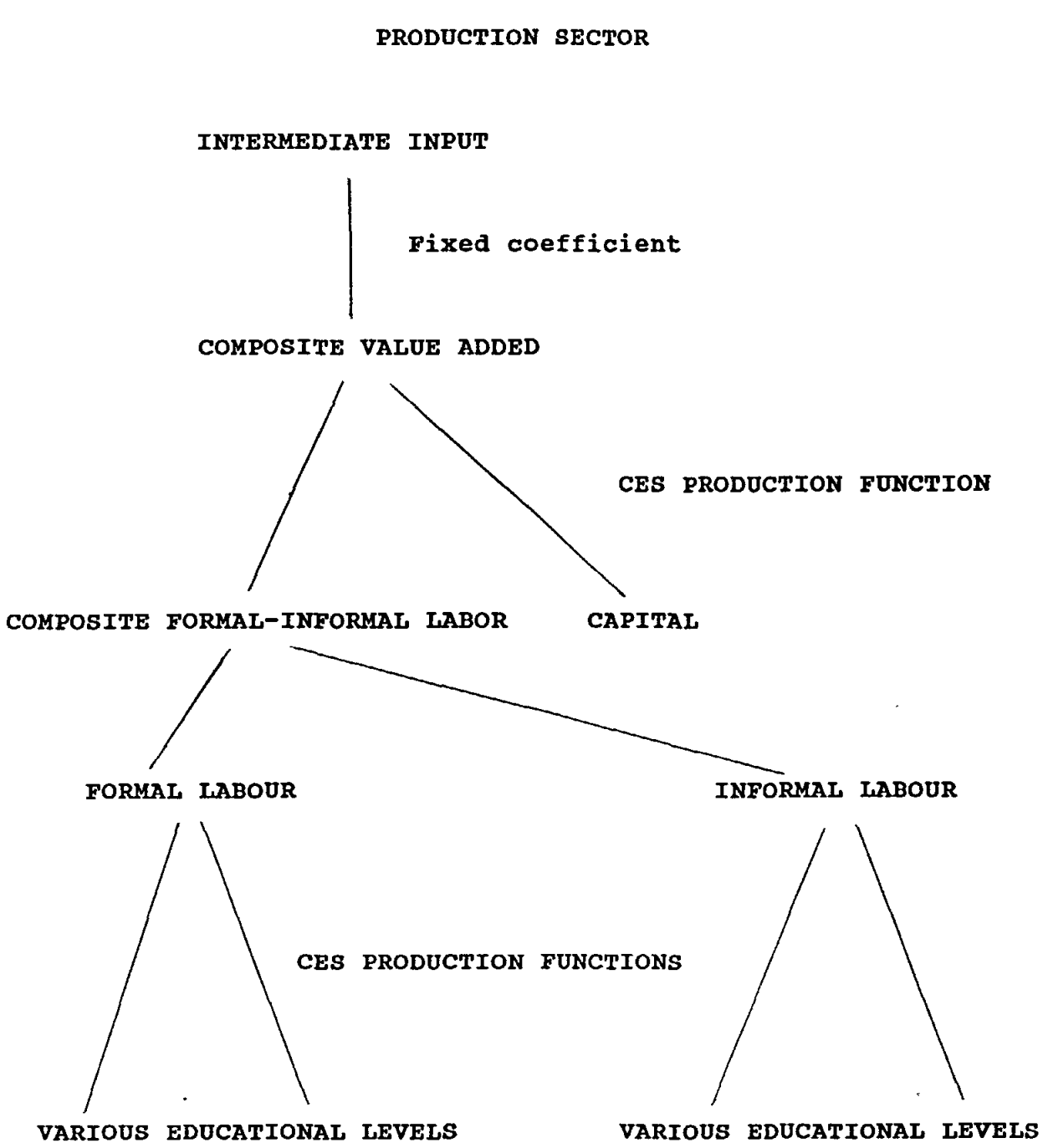
TABLE 3.4
MEAN WAGE PER MONTH

	GOVERNMENT EMPLOYEE	STATE ENTERPRISE	PRIVATE FORMAL	PRIVATE INFORMAL	TOTAL
PRIMARY AND BELOW	2129.61	4956.59	5367.85	1049.55	1211.26
LOWER SECONDARY	3033.12	5246.3	7209.44	1937.16	2864.03
UPPER SECONDARY	3033.12	5797.73	7208.67	2076.37	3345.69
VOCATIONAL	3552.56	5797.73	7603.15	2755.58	4582.52
TECHNICAL VOCATIONAL	3552.56	8405.36	8842.4	2578.11	5131.29
UNIVERSITY	4644.18	8405.36	13754.73	2269.06	6283.14
TOTAL	3586.01	6060.42	7375.31	3017.5	1653.97

TABLE 3.5
TOTAL WAGE PAYMENT (*000000)

	GOVERNMENT EMPLOYEE	STATE ENTERPRISE	PRIVATE FORMAL	PRIVATE INFORMAL	TOTAL
PRIMARY AND BELOW	9461	6452	47669	297684	361266
LOWER SECONDARY	9306	3228	17355	26011	55900
UPPER SECONDARY	2497	766	9231	8201	20695
VOCATIONAL	8418	3477	19589	9157	40640
TECHNICAL VOCATIONAL	3193	3347	7020	2858	16417
UNIVERSITY	38318	4288	35982	4016	82605
TOTAL	71193	21558	136845	347927	577523

FIGURE 1


PRODUCTION SECTOR
INTERMEDIATE INPUT
Fixed coefficient
COMPOSITE VALUE ADDED
CES PRODUCTION FUNCTION
COMPOSITE FORMAL-INFORMAL LABOR
CAPITAL
FORMAL LABOUR
INFORMAL LABOUR
CES PRODUCTION FUNCTIONS
VARIOUS EDUCATIONAL LEVELS
VARIOUS EDUCATIONAL LEVELS

The formal and informal labor in each sector is in turn a composite of the six different types of labor of various educational levels. It is assumed that the six educational types are combined into the composite via CES production functions. Schematically, a production sector employing formal and informal labor may look as in Figure 1.

Governments and state enterprise workers are treated as separate factors of production from the private workers. A sector employing both private and government or state enterprise workers will pay value added to capital, composite private labor (formal-informal), and government or state enterprise workers.[10] The total government and state enterprise demands for workers are assumed to be exogenous. This is also true for the wage levels of government and state enterprise workers.

The closure in the labor market is as follows. Total supply of the workforce of each educational level is given at the beginning of the period from the population-education-workforce module, as described in the last section. Government and state enterprise demand are also exogenous as indicated above. For simplicity, for private employees, it is assumed that for each educational level, the wage differential between the formal, informal non-agriculture, and agriculture remain as in the base period. That is the differential productivity of a worker in the three types of sectors remain the same.

Unemployment is also include in the model. It is assumed that unemployment occurs because of the wage differential between the formal and informal sectors, so that it is because of workers who cannot get into the formal sector choosing to wait for an opening in the formal sector rather than go and work in the informal sector.[11] The quantity of unemployment of each educational type is given as a fixed ratio of the workers of that educational type that cannot get into the formal sectors (including the government and state enterprise).

In this model, workers can move freely between all sectors of production. Thus, fully mobile migration from agriculture is allowed for. This is obviously unrealistic in the short run, so results from the model should be interpreted as giving the longer run trends.

Macroeconomic Closure and Determination of Equilibrium

Given the various specifications of the cells in the SAM, and the endogenous variables in the system, the search for a new equilibrium after some changes in the exogenous variables involved finding a vector of relative prices that will lead to all markets clearing; product markets, factor markets and the foreign exchange market. Equilibrium in the labor market does not of course mean that there is full employment. This is because some workers will prefer to wait to get into the formal sector rather than go and work in the informal sector. Rather, the demand for labor plus the demand for waiting unemployment equals total workforce.

The macroeconomic closure assumed that the quantity of investment is given exogenously and the current account deficit can adjust. In this closure, the determination of equilibrium would work as follows. Given a vector of relative prices (the exchange is fixed and can be taken as the numeraire), and the exogenous demands (government consumption, and total investment), the commodity and factor demands would be determined. This will determine the level of income, and also the current account deficit on the trade side. The incomes determine the savings. However, there may not be an equilibrium in the foreign exchange market. Thus, the current account deficit generated on the trade side may not be equal to the difference between the level of investments and the savings generated from the incomes. Thus, the vector of prices is not an equilibrium, and a new vector of prices has to be tried. The equilibrium price vector will clear all the product markets, and also generate precisely the same current account gap from the trade side as from the saving investment side.

4. BASIC SIMULATIONS

Three basic simulations were carried out to analyze the linkages between educational expansion, the labor market, and economic development trends.

1. Base Case: 7th Plan Target transition simulation, with the educational transitions between primary and lower secondary education (G6-7) fixed to the 7th Plan target of 73 percent in 1996, and the other transitions up to 1996 close to the transition rates used by the Office of the National Education Commission (NEC) to draw up the 7th Education Plan.

This simulation is to establish a "Base" case to compare with the other cases. Other simulations are carried out to see the impact of more "accelerated" educational expansion. Particularly, as Thailand still lags behind many other countries in the region on secondary enrollment, many may regard the 73 percent target for the G6-7 transition in 1996 as too low.[12] Thus, two other basic simulations were carried out.

2. A simulation assuming that a 100 percent transition rate (G6-7) is achieved by the end of the 7th Plan (1996). That is, every child finishing grade 6 in 1995 continues on to lower secondary education in 1996. The transition is also assumed to remain at 100 percent thereafter.

3. A simulation assuming that, somehow, a 100 percent transition rate (G6-7) can be achieved starting in 1992 and remains at this level thereafter.

Simulation 2 increases the target transition from primary to secondary education from the 73 percent target (by 1996) to 100 percent. Many Ministry of Education officials feel that the Ministry should be able to surpass the Seventh Plan target without too much difficulty, particularly if necessary resources are available to accelerate the current pilot on "expansion of educational opportunities."[13] If this turns out to be correct, then the second simulation may be closer to the mark than the 7th Plan target case.[14]

Simulation 3 is not meant to represent a possible situation. With all the efforts in the world, it will simply not be possible to reach a 100 percent transition rate from primary to secondary education by next year (1992). However, this case is meant to show what the impact of the "ideal" case in accelerated expansion of secondary education might be.

4.1 Education and Workforce

4.1.1 Base Case

First, the base case is examined (the 7th Plan target case). Table 4.1 gives the projected population by various age groups to the year 2000, based on NESDB/TDRI projections.[15] It can be seen that, for those aged less than 14 years old, the absolute number is already declining. This affects the enrollment in primary schools and lower secondary schools directly. Those aged 15-19 are still increasing, and will do so until about 1995. Those aged between 20 and 24 will continue to increase until about the year 2000.

Table 4.2 gives the transition rates between various grades in the education system for the base case. In the model, the education system is divided up into 8 different levels:

1. Primary
2. Lower Secondary
3. Upper Secondary
4. Vocational
5. Closed University
6. Open University
7. Technical Vocational
8. Higher Technical Vocational

For transition rates from the primary level up to the vocational level, the data in Table 4.2 are taken mostly from those used by NEC in the projections prepared for the Seventh Education Plan with minor adjustments. The first row of the table (labeled P1/POP6) is the proportion of population aged 6 who are enrolled in Pratom 1. It can be seen that in 1990, this proportion is larger than one hundred percent. This reflects the fact that some students in Pratom 1 are younger than 6 years old, and there are presumably also some repeaters. Following NEC, this ratio is set to decline to 100 percent, to keep consistency with the model's assumption that students enter Pratom 1 at 6 years old. However, the transition from Pratom 1 to Pratom 2 (labeled P2/P1 in Table 4.2) are assumed to increase, so that most of those aged 7 remain in school. The rows labeled P3/P2, P4/P3 etc. are transitions within the primary level. The row labeled ENDP6/P6 refers to the proportion of those enrolled in Pratom 6 who actually graduate.

TABLE 4.1
Total Population ('000)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
0-4	5939	5872	5812	5757	5710	5670	5645	5622	5602	5585	5570
5-9	6146	6096	6047	5997	5945	5895	5830	5772	5721	5676	5637
10-14	6240	6227	6210	6186	6158	6124	6075	6026	5977	5927	5877
15-19	6172	6193	6206	6215	6217	6213	6201	6184	6162	6135	6102
20-24	6027	6053	6075	6097	6115	6131	6152	6169	6177	6181	6178
25-29	5190	5401	5587	5744	5874	5978	6005	6030	6052	6072	6090
30-34	4475	4598	4727	4861	4999	5142	5354	5539	5697	5828	5932
35-39	3655	3817	3974	4128	4278	4424	4549	4677	4812	4950	5093
40-44	2792	2957	3120	3282	3442	3600	3761	3918	4071	4221	4366
45-49	2262	2329	2410	2503	2609	2730	2893	3054	3214	3373	3529
50-54	2045	2047	2063	2091	2132	2186	2252	2332	2424	2529	2647
55-59	1660	1728	1790	1846	1896	1942	1946	1962	1991	2031	2084
60-64	1300	1343	1388	1435	1482	1532	1597	1656	1710	1759	1802
65-69	906	955	1005	1052	1099	1145	1185	1227	1269	1314	1359
70-74	619	636	657	681	708	739	782	823	864	903	943
75+	654	671	689	709	732	755	778	803	832	865	901
TOTAL	56082	56923	57760	58584	59396	60206	61005	61794	62575	63349	64110

TABLE 4.2
Educational Transitions: Base Case (7th Plan)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
P1/POP6	101	100	100	100	100	100	100	100	100	100	100	100
P2/P1	95	97	98	98	98	98	98	98	98	98	98	98
P3/P2	99	99	99	99	99	99	99	99	99	99	99	99
P4/P3	98	99	99	99	99	99	99	99	99	99	99	99
P5/P4	98	99	99	99	99	99	99	99	99	99	99	99
P6/P5	97	98	99	99	99	99	99	99	99	99	99	99
ENDP6/P6	96	96	96	97	97	98	98	98	98	98	98	98
M1/ENDP6	48	52	54	59	64	69	73	75	77	79	80	82
M2/M1	96	96	97	97	98	98	99	99	99	99	99	99
M3/M2	96	97	97	98	98	99	99	99	99	99	99	99
ENDM3/M3	99	99	99	99	99	99	99	99	99	99	99	99
M4/ENDM3	44	44	43	42	41	40	40	42	44	46	48	50
M5/M4	91	92	93	94	95	96	97	97	97	97	97	97
M6/M5	93	94	95	96	97	98	99	99	99	99	99	99
ENDM6/M6	99	99	99	99	99	99	99	99	99	99	99	99
C1/ENDM3	35	35	35	35	35	35	35	35	35	35	35	35
C2/C1	85	86	88	89	90	91	92	92	92	92	92	92
C3/C2	95	96	97	97	98	98	99	99	99	99	99	99
ENDC3/C3	86	87	89	91	92	93	94	94	94	94	94	94
A1/ENDM6	42	49	53	55	54	52	52	52	52	52	52	52
A2/A1	95	95	95	95	95	95	95	95	95	95	95	95
A3/A2	95	95	95	95	95	95	95	95	95	95	95	95
A4/A3	95	95	95	95	95	95	95	95	95	95	95	95
ENDA4/A4	100	100	100	100	100	100	100	100	100	100	100	100
R1/(ENDM6-	63	63	63	63	63	63	63	63	63	63	63	63
R2/R1	61	61	61	61	61	61	61	61	61	61	61	61
R3/R2	61	61	61	61	61	61	61	61	61	61	61	61
R4/R3	61	61	61	61	61	61	61	61	61	61	61	61
ENDR4	100	100	100	100	100	100	100	100	100	100	100	100
V1/ENDC3	60	60	60	60	60	60	60	60	60	60	60	60
V2/V1	93	93	93	93	93	93	93	93	93	93	93	93
ENDV2/V2	100	100	100	100	100	100	100	100	100	100	100	100
T1/(ENDM6-A	18	20	20	20	19	20	21	21	20	19	18	18
T2/T1	93	93	93	93	93	93	93	93	93	93	93	93
ENDT2/T2	100	100	100	100	100	100	100	100	100	100	100	100

Note: P=Primary, M=Secondary (Academic), C=Vocational(Por-Vor-Chor),
A=Closed University, R=Open University, V=Por-Vor-Sor, T=Por-Vor-Tor

TABLE 4.3
Total Enrollment ('000): Base Case

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
PRATOM 1	1252.6	1224.9	1167.9	1176.0	1184.2	1182.8	1163.3	1120.3	1131.4	1143.5	1147.1	1150.8
PRATOM 2	1206.0	1215.0	1206.5	1150.4	1158.3	1166.5	1165.0	1145.8	1103.5	1114.4	1126.3	1129.9
PRATOM 3	1202.1	1202.9	1212.6	1204.7	1148.7	1156.6	1164.7	1163.3	1144.1	1101.9	1112.7	1124.6
PRATOM 4	1125.2	1190.1	1196.9	1210.2	1202.9	1147.0	1154.9	1163.0	1161.5	1142.4	1100.2	1111.0
PRATOM 5	1129.7	1123.5	1188.3	1195.1	1208.4	1201.1	1145.2	1153.1	1161.2	1159.8	1140.7	1098.6
PRATOM 6	1096.5	1107.1	1112.2	1184.7	1192.7	1206.5	1199.3	1143.5	1151.4	1159.5	1158.0	1139.0
ENDP6	1047.2	1062.8	1073.3	1149.2	1162.9	1182.4	1181.3	1126.4	1134.1	1142.1	1140.7	1121.9
MATHAYOM 1	497.7	523.6	573.9	633.3	735.5	802.4	863.2	886.0	867.3	896.0	913.7	929.6
MATHAYOM 2	456.8	480.2	507.9	559.6	620.6	724.4	794.4	854.5	877.1	858.6	887.0	904.6
MATHAYOM 3	405.2	443.1	468.2	497.7	551.2	614.4	720.8	790.4	850.3	872.7	854.3	882.6
ENDM3	402.0	440.0	465.4	495.2	549.0	612.5	719.4	788.8	848.6	871.0	852.6	880.8
MATHAYOM 4	168.3	176.9	189.2	195.5	203.0	219.6	245.0	302.1	347.1	390.3	418.1	426.3
MATHAYOM 5	154.6	154.9	164.5	177.8	185.7	194.9	213.0	237.7	293.1	336.7	378.6	405.5
MATHAYOM 6	149.6	145.3	147.1	157.9	172.5	182.0	193.0	210.9	235.3	290.1	333.3	374.8
ENDM6	149.0	144.8	146.8	157.6	172.2	181.8	192.9	210.8	235.2	290.0	333.1	374.7
PORVORCHOR 1	133.9	140.7	154.0	162.9	173.3	192.1	214.4	251.8	276.1	297.0	304.8	298.4
PORVORCHOR 2	108.3	115.2	123.8	137.1	146.6	157.7	176.8	197.2	231.6	254.0	273.2	280.5
PORVORCHOR 3	99.4	104.0	111.7	120.7	134.3	144.4	156.2	175.0	195.3	229.3	251.5	270.5
ENDCHOR3	85.5	90.5	99.4	109.9	123.6	134.3	146.8	164.5	183.5	215.6	236.4	254.3
CLOSE.U 1	70.5	73.5	77.0	81.2	85.7	90.7	95.8	100.3	109.6	122.3	150.8	173.2
CLOSE.U 2	64.5	67.0	69.8	73.2	77.1	81.4	86.2	91.0	95.3	104.1	116.2	143.3
CLOSE.U 3	54.5	61.2	63.6	66.3	69.5	73.3	77.3	81.9	86.5	90.5	98.9	110.4
CLOSE.U 4	45.7	51.7	58.2	60.4	63.0	66.0	69.6	73.5	77.8	82.1	86.0	94.0
ENDCLOSEU4	45.7	51.7	58.2	60.4	63.0	66.0	69.6	73.5	77.8	82.1	86.0	94.0
OPEN.U 1	61.2	47.5	42.7	41.3	45.3	51.3	54.2	58.3	63.7	71.1	87.6	100.7
OPEN.U 2	37.7	37.6	29.2	26.2	25.4	27.8	31.6	33.3	35.8	39.2	43.7	53.9
OPEN.U 3	25.7	23.2	23.1	18.0	16.1	15.6	17.1	19.4	20.5	22.0	24.1	26.9
OPEN.U 4	17.6	15.8	14.3	14.2	11.0	9.9	9.6	10.5	11.9	12.6	13.5	14.8
ENDOPENU4	17.6	15.8	14.3	14.2	11.0	9.9	9.6	10.5	11.9	12.6	13.5	14.8
PORVORSOR 1	52.8	51.8	54.8	60.3	66.6	74.9	81.4	89.0	99.7	111.3	130.7	143.3
PORVORSOR 2	49.5	49.1	48.2	51.0	56.1	61.9	69.7	75.7	82.8	92.8	103.5	121.5
ENDSOR2	49.5	49.1	48.2	51.0	56.1	61.9	69.7	75.7	82.8	92.8	103.5	121.5
PORVORTOR 1	14.6	13.9	13.8	13.6	14.4	15.8	17.5	19.6	21.3	23.3	26.1	29.2
PORVORTOR 2	14.2	13.6	13.0	12.9	12.6	13.4	14.7	16.2	18.3	19.8	21.7	24.3
ENDTOR2	14.2	13.6	13.0	12.9	12.6	13.4	14.7	16.2	18.3	19.8	21.7	24.3

The row labeled M1/ENDP6 is the proportion of those graduating from Pratom 6 in the previous year who enter Mathayom 1. It can be seen that this ratio is only about 50 percent in 1991, and is the key point in the education system with the largest exit out of the formal education system.[16] Currently, about half a million children who graduate from Pratom 6 drop out of the education system at this point each year. It can be seen that this ratio is assumed to rise to 73 percent by 1996 according to the 7th Plan target, and to 80 percent by the year 2000.

After graduating from Mathayom 3 (M3), students have three options. They may go on to Mathayom 4, the academic stream, or the vocational stream (labeled C1-C3), or they may drop out of the education system. In the base period (1990), 44 percent of those graduating from Mathayom 3 go on to Mathayom 4, and another 35 percent go to the vocational stream. Thus, the percentage who drop out of the education system after graduating from Mathayom 3 is only about 22 percent.

After those in the academic stream graduate from Mathayom 6, they are assumed to have four options. They may enter the closed universities (including private universities), labeled A1-A4, or they may enter the open university (Ramkhamhaeng), labeled R1-R4, or they may take up vocational courses (Por-Vor-Tor), labeled T1-T2, or they may drop out of the education system. The ratio A1/ENDM6 is the proportion of those graduating from Mathayom 6 who go to the closed universities. The ratio R1/(ENDM6-A1) refers to the proportion of those graduating from Mathayom 6 and who cannot get into the closed university entering Ramkhamhaeng, and the ratio T1/(ENDM6-A1) is the proportion who cannot get into the closed universities who go to the vocational stream. For the purposes of this model which is to link up population, education, and the workforce, Sukhothai University is ignored by assuming that the students in Sukhothai are those currently in the workforce (this is mostly true).

The transition ratios at the university levels were not readily available from the NEC study. These were estimated from the expected entrants into the university levels from the NEC study. It is assumed that there is a 5 percent drop out rate after each year of the closed universities. For Ramkhamhaeng, the transition rates, showing about a 61

percent drop out rate after each of the 4 years, need some explanation. Basically, there is a very high enrollment in Ramkhamhaeng. However, many of those whose name appear on the enrollment register are not active students at a given time. Students may study part time while working and taking much longer than the standard 4 years to complete a degree. Further, if one compares the number of students who enter Ramkhamhaeng and those who graduate, the ratio is very small. In 1982-4, new entrants into Ramkhamhaeng number about 80-90,000 each year. However, the number who graduate in 1988 was only about 13,000. Thus, to make sure that the students enrolled in Ramkhamhaeng but are not actively studying are included in the workforce pool, a simple approach is to assume a high drop out rate. This adjustment procedure is similar to that suggested in a recent World Bank study (World Bank, 1990), when comparing the upper level gross enrollment ratio in Thailand with those of other countries which do not have an open university system. With the adjustment, the number enrolled in Ramkhamhaeng in the model cannot be compared to the actual number on the enrollment register. One can interpret the Ramkhamhaeng enrollment in the model as the "effective" enrollment or "full-time equivalents", not counting those who should really be regarded as part of the workforce, and who are mostly employed doing some kind of work.

TABLE 4.4
Gross Enrollment Ratio: Base Case

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
PRIMARY	94.6	95.9	97.1	97.8	98.0	98.3	98.8	99.1	99.1	99.3	99.5	99.4
L.SECONDARY	36.3	38.2	40.9	45.3	51.7	58.3	64.2	68.2	71.4	73.5	75.0	76.4
U.SECONDARY	22.0	22.5	23.8	25.4	27.0	29.2	32.5	37.6	43.2	48.8	53.3	57.0
TERTIARY	10.3	10.3	10.3	10.6	11.1	11.8	12.5	13.4	14.5	16.0	18.5	21.2
MIDDLE	29.2	30.4	32.4	35.3	39.3	43.6	48.4	53.0	57.2	60.9	64.0	66.6

For the vocational stream, after graduating from the third year, students can either go to the Technical Vocational level (labeled V1-V2) or drop out. This Technical Vocational level corresponds to Por-Vor-Sor. Note that the model does not allow for crossing over to the academic stream after the vocational level. This does not affect the results much, however, as the cross-overs are already included as part of enrollment in the universities, though they were assumed to have come from the upper secondary academic stream.

The population figures and the educational transition ratios yield the enrollments at various levels as given in Table 4.3. Comparing the number of those enrolled at various levels with the corresponding population age groups, gives the gross enrollment ratios in Table 4.4. It can be seen that with the adjustment for the enrollment in Ramkhamhaeng, the gross enrollment ratio at the tertiary level is only about 10 percent, compared to the figure usually quoted of about 20 percent, if one includes all those in the enrollment register of Ramkhamhaeng. The 10 percent figure is close to the figure arrived at in the cited World Bank study.

In 1990, the gross enrollment ratios at the primary, lower secondary, upper secondary (including vocational), and tertiary levels were 94.6, 36.3, 22.0, and 10.3 percent, respectively. For the middle level as a whole (or the secondary level), the ratio is 29.2 percent. Given the base transition rates, these ratio are expected to change to 99.4, 76.4, 57.0 and 21.2, respectively by the year 2000, and for the middle level, the ratio increases to 66.6 percent. The main driving force for the increase in the gross enrollment ratios above the primary level is the increase in the transition from Pratom 6 to Mathayom 1, with the transition rate increasing from 50 percent in 1991 to 80 percent in the year 2000.

It is clearly encouraging that, with the current targeted enrollment rates, the gross secondary enrollment will more than doubled in a decade. This ratio has indicated a weakness in the Thai educational situation, and it is much lower than the corresponding ratio in many countries in the region (Table 4.5). However, is should be noted that, even with the gross secondary enrollment ratio rising to 66.6 percent by the year 2000, the Thai ratio in the year 2000 will still be less than the ratio of the Asian NICs in 1988.

TABLE 4.5
Gross Enrollment Ratios for Selected Asian Countries (1988)

	Primary	Secondary	Tertiary
South Korea	104	87	37
Singapore	111	69	12
Hong Kong	106	74	13
Indonesia	119	48	7
Malaysia	102	57	7
Philippines	110	71	28

Source: World Bank. World Development Report, 1991
Note: Data For Indonesia, Singapore, and Hong Kong For The Tertiary Level Is For 1985

Turning next to the labor force structure. From the population and school enrollment, one can work out the total population not at school at various ages and by educational levels. This is then multiplied by the labor force participation rate for each age and educational level to given the workforce by age and educational levels.[17]

Table 4.6 gives the total workforce by educational levels, the growth rates, and shares by education. The followings can be seen:

1. The total labor force growth is gradually slowing down, from about 2.2 percent per annum current, to between 0.9 and 1.1 percent per annum at the end of the decade.

2. The absolute number of those workers with primary education or less will continue to increase until the year 1997 (after the end of the 7th Plan).

TABLE 4.6
WORK FORCE: BASE CASE

WORKFORCE ('000)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
LEPRIM	26353.55	26757.36	27062.65	27247.51	27388.90	27461.44	27510.41	27498.10	27437.97	27344.09	27231.29	27146.73
LSECOND	2038.43	2153.83	2270.04	2385.23	2505.96	2639.53	2786.63	2940.83	3098.02	3254.68	3402.34	3542.48
USECOND	780.34	850.83	914.28	973.38	1031.28	1091.79	1156.71	1226.84	1294.31	1370.37	1459.52	1564.62
VOCAT	878.21	908.98	940.19	972.52	1008.81	1050.77	1098.70	1150.00	1205.40	1267.40	1339.65	1424.17
TECHVOC	398.66	429.32	459.75	489.09	520.18	554.51	592.90	635.56	679.36	727.29	781.64	845.44
UNIV	1288.16	1328.86	1376.74	1439.47	1503.36	1565.96	1629.94	1695.95	1763.16	1835.08	1910.67	1994.61
TOTAL	31737.34	32429.17	33023.65	33507.19	33958.49	34363.99	34775.28	35147.28	35478.21	35798.90	36125.11	36518.04

WORKFORCE

**** GROWTH %%%	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
LEPRIM	1.51	1.53	1.14	0.68	0.52	0.27	0.18	-0.05	-0.22	-0.34	-0.41	-0.31
LSECOND	6.00	5.66	5.40	5.07	5.06	5.33	5.57	5.53	5.35	5.06	4.54	4.12
USECOND	11.45	9.03	7.46	6.46	5.95	5.87	5.95	6.06	5.50	5.88	6.51	7.20
VOCAT	3.66	3.50	3.43	3.44	3.73	4.16	4.56	4.67	4.82	5.14	5.70	6.31
TECHVOC	8.84	7.69	7.09	6.38	6.36	6.60	6.92	7.20	6.89	7.06	7.47	8.16
UNIV	4.69	3.16	3.60	4.56	4.44	4.16	4.09	4.05	3.96	4.08	4.12	4.39
TOTAL	2.29	2.18	1.83	1.46	1.35	1.19	1.20	1.07	0.94	0.90	0.91	1.09

WORKFORCE SHARE BY EDUCATION

**** SHARES %%%	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
LEPRIM	83.04	82.51	81.95	81.32	80.65	79.91	79.11	78.24	77.34	76.38	75.38	74.34
LSECOND	6.42	6.64	6.87	7.12	7.38	7.68	8.01	8.37	8.73	9.09	9.42	9.70
USECOND	2.46	2.62	2.77	2.90	3.04	3.18	3.33	3.49	3.65	3.83	4.04	4.28
VOCAT	2.77	2.80	2.85	2.90	2.97	3.06	3.16	3.27	3.40	3.54	3.71	3.90
TECHVOC	1.26	1.32	1.39	1.46	1.53	1.61	1.70	1.81	1.91	2.03	2.16	2.32
UNIV	4.06	4.10	4.17	4.30	4.43	4.56	4.69	4.83	4.97	5.13	5.29	5.46
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

NOTE: LEPRIM = PRIMARY OR BELOW, LSECOND = LOWER SECONDARY, USECOND = UPPER SECONDARY,
VOCAT = VOCATIONAL (POR-VOR-CHOR), TECHVOC = TECHNICAL VOCATIONAL (POR-VOR-SOR, TOR)
UNIV = UNIVERSITY (INCLUDING TEACHER TRAINING)

3. The growth rate of those with lower secondary education in the workforce will slow down over the next few years. The growth rate will begin to increase in 1995, as increasing the transition rate from primary to secondary during the 7th Plan period begins to pay off. The growth rate only increases briefly (until 1996), before declining again, as the effect from the changing age structure of the population dominates.

4. For levels above the lower secondary level, generally the growth rates over the next decade will be slower than in the past, but does not show any clear trend, the exception being at the vocational level, where the growth rate increases through out the decade.

5. The share in the workforce of those with primary education or less is currently very high -- 82.5 percent in 1991. In this scenario, as the absolute number of those with primary education or less in the workforce continues to increase until after the end of the 7th Plan, this ratio falls only slowly. By the year 2000, the ratio only falls to 75.4 percent.

This last point should be a source of major concern. Nowadays, it is common to hear the view that Thailand is rapidly becoming a Newly Industrialized Country (NIC or NAIC). Yet, modern industries and services are requiring workers of good education. Those with primary education or less make up less than half of the workforce of modern industries and services. Yet, by the year 2000, this scenario shows that 3 out of 4 of Thai workers will have only primary education or less. The question then is whether Thailand will have sufficient workers with more than primary education to sustain development, and what will be the fate of the vast majority, who finished only primary education or less?

Comparing Thailand's future educational composition in the labor market with data from some of her neighboring countries raises even more concern. Table 4.7 shows that the share of those with primary education or less in the Thai labor force 10 years from now will be more than what the share was in all the countries shown in the table about 10 years ago; South Korea, Taiwan, Singapore, China, Malaysia and the Philippines. In the case of South Korea and Taiwan, less than half of their labor force have primary education or less in 1980.

TABLE 4.7
Shares of Workforce with Primary Education or Less: Selected Countries

	Percent of Workforce
South Korea (1980)	49.1
Taiwan (1980)	44.0
Singapore (1980)	71.3
China (1982)	62.7
Malaysia (1980)	58.4
Philippines (1980)	56.5

Source: Psacharopoulos and Arriagada (1986), cited in Pernia (1990).

Because the educational composition of the Thai labor force is so dominated by those with low education, it is important to see how more accelerated educational expansion than that in the 7th Plan target will affect the educational composition of the labor force. This is shown in the other two simulations.

4.1.2 Accelerated Educational Expansion Simulations

In simulations 2 and 3, the increase in the transition rate from primary to secondary education is much more rapid than in the 7th Plan case. In case 2, 100% percent transition is reached in 1996, and in case 3, this is reached in 1992.

Table 4.8 gives the gross enrollment ratios for these two cases. Not surprisingly, the gross enrollment ratios increase much more rapidly than in the base case. By the end of the 7th Plan, the gross secondary enrollment ratio (middle level) is nearly 60 percent in simulation 2, and nearly 65 percent in simulation 3. By the end of the 8th Plan (2001), the gross secondary enrollment ratio in both cases reaches over 80 percent.

TABLE 4.8
GROSS ENROLLMENT RATIO (SIMULATIONS 2 AND 3)
(PERCENT)

END 7TH PLAN CASE (SIMULATION 2)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
PRIMARY	94.6	95.9	97.1	97.8	98.0	98.3	98.8	99.1	99.1	99.3	99.5	99.4
L.SECONDARY	36.3	38.2	42.6	50.2	61.5	73.0	84.2	91.2	95.2	95.4	95.4	95.4
U.SECONDARY	22.0	22.5	23.8	25.4	27.0	29.5	34.0	40.8	48.6	56.7	62.4	66.6
TERTIARY	10.3	10.3	10.3	10.6	11.1	11.8	12.5	13.4	14.6	16.7	19.9	23.7
MIDDLE	29.2	30.4	33.3	37.8	44.1	51.1	59.1	66.2	71.8	75.8	78.5	80.8

BEGINNING 7TH PLAN CASE (SIMULATION 3)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
PRIMARY	94.6	95.9	97.1	97.8	98.0	98.3	98.8	99.1	99.1	99.3	99.5	99.4
L.SECONDARY	36.3	38.2	53.8	69.9	87.4	90.8	93.4	94.3	95.2	95.4	95.4	95.4
U.SECONDARY	22.0	22.5	23.8	25.4	27.0	30.4	35.6	42.9	50.2	57.5	62.6	66.6
TERTIARY	10.3	10.3	10.3	10.6	11.1	11.8	12.5	13.4	15.1	17.5	20.7	24.4
MIDDLE	29.2	30.4	38.9	47.6	56.9	60.3	64.5	68.8	72.6	76.2	78.7	80.8

TABLE 4.9
WORK FORCE: END 7TH PLAN CASE

WORKFORCE ('000)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
LEPRIM	26353.55	26757.36	27013.78	27109.37	27112.38	26994.51	26788.61	26533.20	26251.47	25946.05	25638.30	25372.18
LSECOND	2038.43	2153.83	2270.04	2385.23	2505.96	2678.58	2887.52	3138.58	3419.10	3725.96	4023.58	4290.26
USECOND	780.34	850.83	914.28	973.38	1031.28	1091.79	1156.71	1226.84	1295.01	1374.64	1470.64	1587.39
VOCAT	878.21	908.98	940.19	972.52	1008.81	1050.77	1098.70	1150.00	1207.90	1275.28	1358.52	1459.63
TECH.VOC	398.66	429.32	459.75	489.09	520.18	554.51	592.90	635.56	679.36	727.29	784.17	853.34
UNIV	1288.16	1328.86	1376.74	1439.47	1503.36	1565.96	1629.94	1695.95	1763.16	1835.08	1910.67	1994.61
TOTAL	31737.34	32429.17	32974.77	33369.05	33681.98	33936.11	34154.36	34380.13	34615.98	34884.30	35185.88	35557.41

WORKFORCE

**** GROWTH %%%	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
LEPRIM	1.51	1.53	0.96	0.35	0.01	-0.44	-0.76	-0.95	-1.06	-1.16	-1.19	-1.04
LSECOND	6.00	5.66	5.40	5.07	5.06	6.89	7.80	8.70	8.94	8.98	7.99	6.63
USECOND	11.45	9.03	7.46	6.46	5.95	5.87	5.95	6.06	5.56	6.15	6.98	7.94
VOCAT	3.66	3.50	3.43	3.44	3.73	4.16	4.56	4.67	5.04	5.58	6.53	7.44
TECH.VOC	8.84	7.69	7.09	6.38	6.36	6.60	6.92	7.20	6.89	7.06	7.82	8.82
UNIV	4.69	3.16	3.60	4.56	4.44	4.16	4.09	4.05	3.96	4.08	4.12	4.39
TOTAL	2.29	2.18	1.68	1.20	0.94	0.76	0.64	0.66	0.69	0.78	0.87	1.06

WORKFORCE SHARE BY EDUCATION

**** GROWTH %%%	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
LEPRIM	83.04	82.51	81.92	81.24	80.50	79.55	78.43	77.18	75.84	74.38	72.87	71.36
LSECOND	6.42	6.64	6.88	7.15	7.44	7.89	8.45	9.13	9.88	10.68	11.44	12.07
USECOND	2.46	2.62	2.77	2.92	3.06	3.22	3.39	3.57	3.74	3.94	4.18	4.46
VOCAT	2.77	2.80	2.85	2.91	3.00	3.10	3.22	3.34	3.49	3.66	3.86	4.10
TECH.VOC	1.26	1.32	1.39	1.47	1.54	1.63	1.74	1.85	1.96	2.08	2.23	2.40
UNIV	4.06	4.10	4.18	4.31	4.46	4.61	4.77	4.93	5.09	5.26	5.43	5.61
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

NOTE: LEPRIM = PRIMARY OR BELOW, LSECOND = LOWER SECONDARY, USECOND = UPPER SECONDARY,
VOCAT = VOCATIONAL (POR-VOR-CHOR), TECH.VOC = TECHNICAL VOCATIONAL (POR-VOR-SOR, TOR)
UNIV = UNIVERSITY (INCLUDING TEACHER TRAINING)

TABLE 4.10
WORK FORCE: BEGINNING 7TH PLAN CASE

WORKFORCE ('000)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
LEPRIM	26353.55	26757.36	26687.95	26544.92	26381.50	26139.28	25908.16	25618.87	25322.44	25015.24	24725.49	24467.91
LSECOND	2038.43	2153.83	2270.04	2385.23	2505.96	2990.19	3439.12	3865.33	4236.31	4546.72	4835.91	5101.03
USECOND	788.34	850.83	914.28	973.38	1031.28	1091.79	1156.71	1226.84	1297.41	1380.41	1480.20	1599.52
VOCAT	878.21	908.98	940.19	972.52	1008.81	1050.77	1098.70	1150.00	1211.65	1284.48	1372.83	1478.52
TECH.VOC	398.66	429.32	459.75	489.09	520.18	554.51	592.90	635.56	679.36	727.29	787.95	862.46
UNIV	1288.16	1328.86	1376.74	1439.47	1503.36	1565.96	1629.94	1695.95	1763.16	1835.08	1910.67	1994.61
TOTAL	31737.34	32429.17	32648.95	32804.60	32951.10	33392.49	33817.52	34192.55	34510.32	34789.22	35113.05	35504.06

WORKFORCE

---- GROWTH %%%	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
LEPRIM	1.51	1.53	-0.26	-0.54	-0.62	-0.92	-0.92	-1.09	-1.16	-1.21	-1.16	-1.04
LSECOND	6.00	5.66	5.40	5.07	5.06	19.32	15.01	12.39	9.60	7.33	6.36	5.48
USECOND	11.45	9.03	7.46	6.46	5.95	5.87	5.95	6.06	5.75	6.40	7.23	8.06
VOCAT	3.66	3.50	3.43	3.44	3.73	4.16	4.56	4.67	5.36	6.01	6.88	7.70
TECH.VOC	8.84	7.69	7.09	6.38	6.36	6.60	6.92	7.20	6.89	7.06	8.34	9.46
UNIV	4.69	3.16	3.60	4.56	4.44	4.16	4.09	4.05	3.96	4.08	4.12	4.39
TOTAL	2.29	2.18	0.68	0.48	0.45	1.34	1.27	1.11	0.93	0.81	0.93	1.11

WORKFORCE SHARE BY EDUCATION

---- SHARE %%%	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
LEPRIM	83.04	82.51	81.74	80.92	80.06	78.28	76.59	74.93	73.38	71.91	70.42	68.92
LSECOND	6.42	6.64	6.95	7.27	7.61	8.95	10.17	11.30	12.28	13.07	13.77	14.37
USECOND	2.46	2.62	2.80	2.97	3.13	3.27	3.42	3.59	3.76	3.97	4.22	4.51
VOCAT	2.77	2.80	2.88	2.96	3.06	3.15	3.25	3.36	3.51	3.69	3.91	4.16
TECH.VOC	1.26	1.32	1.41	1.49	1.58	1.66	1.75	1.86	1.97	2.09	2.24	2.43
UNIV	4.06	4.10	4.22	4.39	4.56	4.69	4.82	4.96	5.11	5.27	5.44	5.62
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

NOTE: LEPRIM = PRIMARY OR BELOW, LSECOND = LOWER SECONDARY, USECOND = UPPER SECONDARY,
VOCAT = VOCATIONAL (POR-VOR-CHOR), TECH.VOC = TECHNICAL VOCATIONAL (POR-VOR-SOR, TOR)
UNIV = UNIVERSITY (INCLUDING TEACHER TRAINING)

TABLE 4.11
REAL GDP FOR BASE AND SIMULATIONS 2 AND 3

REAL AGGREGATED GDP (MILLIONS BAHT: 1987 PRICES)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
GDP (BASE)	1762374	1903059	2076632	2252227	2434942	2629417	2832463	3030629	3237100	3452466	3674346	3908755
GDP (SIMULATION 2)	1762374	1903059	2075548	2248816	2427372	2616992	2813202	3005577	3207808	3420684	3641821	3875754
GDP (SIMULATION 3)	1762374	1903059	2068257	2234653	2406903	2603196	2806371	3003798	3208813	3421572	3643431	3878202

**** GROWTH %%%

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
GROWTH (BASE)	10.64	7.98	9.12	8.46	8.11	7.99	7.72	7.00	6.81	6.65	6.43	6.38
GROWTH (SIMULATION 2)	10.64	7.98	9.06	8.35	7.94	7.81	7.50	6.84	6.73	6.64	6.47	6.42
GROWTH (SIMULATION 3)	10.64	7.98	8.68	8.05	7.71	8.16	7.81	7.04	6.83	6.63	6.48	6.44

TABLE 4.12
WORKFORCE DIFFERENCES FROM BASE CASE

ABSOLUTE DIFFERENCES

WORKERS ('000): SIMULATION 2 - BASE

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
LEPRIM	0.00	0.00	-48.87	-138.14	-276.51	-466.93	-721.80	-964.90	-1186.50	-1398.03	-1592.99	-1774.54
LSECOND	0.00	0.00	0.00	0.00	0.00	39.05	100.88	197.75	321.08	471.28	621.25	747.79
USECOND	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	4.27	11.12	22.76
VOCAT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	7.88	18.87	35.46
TECH.VOC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.53	7.91
UNIV	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	-48.87	-138.14	-276.51	-427.88	-620.92	-767.15	-862.23	-914.60	-939.22	-960.63

WORKERS ('000): SIMULATION 3 - BASE

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
LEPRIM	0.00	0.00	-374.70	-702.59	-1007.40	-1322.16	-1610.25	-1879.23	-2115.53	-2328.84	-2505.80	-2678.82
LSECOND	0.00	0.00	0.00	0.00	0.00	350.66	652.49	924.50	1138.29	1292.04	1433.57	1558.55
USECOND	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.10	10.04	20.68	34.90
VOCAT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.25	17.07	33.18	54.35
TECH.VOC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.31	17.03
UNIV	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	-374.70	-702.59	-1007.39	-971.50	-957.76	-954.73	-967.89	-1009.68	-1012.06	-1013.98

RELATIVE DIFFERENCES (PERCENT FROM BASE)

PERCENTAGE DIFFERENCE FROM BASE: SIMULATION 2

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
LEPRIM	0.00	0.00	-0.18	-0.51	-1.01	-1.70	-2.62	-3.51	-4.32	-5.11	-5.85	-6.54
LSECOND	0.00	0.00	0.00	0.00	0.00	1.48	3.62	6.72	10.36	14.48	18.26	21.11
USECOND	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.31	0.76	1.45
VOCAT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.62	1.41	2.49
TECH.VOC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.94
UNIV	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	-0.15	-0.41	-0.81	-1.25	-1.79	-2.18	-2.43	-2.55	-2.60	-2.63

PERCENTAGE DIFFERENCE FROM BASE: SIMULATION 3

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
LEPRIM	0.00	0.00	-1.38	-2.58	-3.68	-4.81	-5.85	-6.83	-7.71	-8.52	-9.20	-9.87
LSECOND	0.00	0.00	0.00	0.00	0.00	13.28	23.41	31.44	36.74	39.70	42.13	44.00
USECOND	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.73	1.42	2.23
VOCAT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	1.35	2.48	3.82
TECH.VOC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81	2.01
UNIV	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	-1.13	-2.10	-2.97	-2.83	-2.75	-2.72	-2.73	-2.82	-2.80	-2.78

NOTE: LEPRIM = PRIMARY OR BELOW, LSECOND = LOWER SECONDARY, USECOND = UPPER SECONDARY,
VOCAT = VOCATIONAL (POR-VOR-CHOR), TECH.VOC = TECHNICAL VOCATIONAL (POR-VOR-SOR, TOR)
UNIV = UNIVERSITY (INCLUDING TEACHER TRAINING)

Tables 4.9 and 4.10 give the workforce structures for the two simulations. In the second simulation, the absolute number of those with primary education or less in the labor force begins to decline in 1995, and in simulation 3, this starts to happen in 1992. The share of those with primary education or less in the labor force declines more than in the base case. However, it can be seen that, even in simulation 3, the decline in the share of those with primary education or less occurs rather slowly, still remaining over 70 percent of the workforce by the year 2000.

These simulations show that it takes a very long time for improvement in educational enrollment to affect the average composition of the labor force. This is because Thailand is now at the stage where labor force growth is fairly slow, so that the new additions to the labor force coming out of the education systems are not that large. Thus, changes in the educational qualifications of those coming into the labor market has relatively little affect on the average composition of the workforce in the short to medium term. If increases in secondary enrollment had occurred at the time when the Thai labor force growth was still high (say 10 years ago), then the time lag for educational improvement to affect labor force composition would have been much less.

4.2 Economic Growth and Income Distribution

4.2.1 Economic Growth

Table 4.11 gives the simulated real GDP (1987 prices) for the base and the other two cases, as well as the growth rates. In the base case, the simulation tried to maintain an average growth rate over the 7th Plan period close to the target (average about 8.2% per annum), with growth gradually slowing down (mainly because of the already large size of the economy, and less efficiency gains available from structural changes) in the 8th Plan period.

On comparing the base simulation with the other simulations, it can be seen that average growth in the second simulation is lower than in the base case until about the year 2000. While for the third simulation, average growth is lower than for the base case until

about 1995, when growth begins to get faster than in the base case for most years.

Basically, there are two forces at work driving these differences. The first concerns the impact of accelerated education on the absolute number of workers of various educational levels. If more children stay on in school, then initially the number of workers will be less than otherwise. Even though relatively young workers are likely to have low productivity, but if the numbers are large enough, then this will have significant impacts on output and economic growth. The second factor is that with more education, the average "quality" of the workforce in terms of educational composition improves.

These two factors can be seen in table 4.12, where the differences in the workforce by educational composition between simulations 2 and 3 and the base simulation are shown. It can be seen that in both simulations, the number of those with just primary education in the labor force is much less than in the base case. This is essentially due to more children going to secondary school. The absolute difference reaches about 1.8 million workers by the year 2001 in the second simulation, and reaches almost 2.7 million workers by 2001 in the third simulation.

However, the increase in the numbers of workers with secondary education and above occurs only with significant time lags. For the lower secondary level, the lag is 3 years, starting from the time enrollment differences occurs. For other levels, the lags are much longer, and for university education, the time lag from entry into lower secondary school to exiting with a university degree is about 10 years. The latter is clearly seen in the table, as the number of workers who finished university education in the three simulations are identical all the way to the year 2001.

In 1992 and 1993, the only difference in the labor force between simulations 2 and 3 and the base simulation is that the numbers of workers with primary education in the latter simulations are less than for the base. Thus, total workforce is also less. Hence, economic growths in the latter simulations are lower. Only when the bigger numbers of those going to secondary school begin to come into the labor force in significant enough numbers will educational investment begin to pay off. For the second simulation, as we

have seen, this takes almost a decade. For the "ideal" third simulation, this occurs in 1995. However, even in this case, by the year 2001, the absolute level of real GDP (1987 prices) is still less than in the base case. Thus, one has to be prepared for a very long lag before educational investment will pay off in production and economic growth terms.

4.2.2 Income Distribution

In terms of getting more children, especially from poor rural families, to go to secondary school, the payoffs to their earning abilities occur only with a long lag.[18] Thus, assistances need to be given to poor families to send their children to school. For the very poor, this should cover the opportunity costs of time as well as the direct educational costs. If lower secondary education is made compulsory (currently, the policy is to make it "universal" but not compulsory), then poor families are likely to suffer the most, and poverty and income distribution will be directly and adversely affected.[19] In evaluating the impact of the simulations on income distribution, we will assume that, indeed, the poor are given sufficient assistances for the time that their children spend in school, and evaluate the impact on incomes in the labor market.[20]

Table 4.13 gives the average wage (including imputed labor cost of own-account workers) of various educational groups in the labor force relative to those with primary education for the three simulations. These relative wages will to a large extent by governed by the relative supply-demand growths in the labor market, and also changing composition of workers in various sectors, ie., public employees, formal private labor market, informal labor market, agriculture versus non-agriculture etc. In the base case, it can be noticed that the relative position of those with primary education vis-a-vis those with upper secondary and technical vocational education shows an improving trend. This is mainly because of the high supply growths of the latter two levels (though both from a low base). Relative to those with lower secondary education, the position of those with primary education or less gets worse from 1991 until about 1994-95, when it begins to get better. Relative to the vocational group, those with primary education or less begins to catch up only after 1996, and relative to the university educated group, after 1992.

TABLE 4.13
RELATIVE WAGE BY EDUCATIONAL LEVEL: RELATIVE TO PRIMARY

AVERAGE WAGE RELATIVE TO PRIMARY (BASE CASE)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
LEPRIM	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
LSECOND	219.05	217.19	219.25	220.35	220.90	220.62	219.80	218.79	217.03	215.74	216.44
USECOND	228.56	223.36	222.52	222.15	221.89	221.41	220.55	219.09	217.15	214.29	211.56
VOCAT	400.28	414.68	433.45	447.32	456.53	461.86	463.34	461.80	455.07	445.72	435.68
TECH.VOC	370.64	367.44	365.83	363.84	359.88	354.28	349.54	344.63	337.87	330.58	325.03
UNIV	469.02	477.64	486.59	478.95	471.02	465.92	461.89	458.60	453.79	448.33	446.28
TOTAL	136.36	137.73	139.74	141.11	142.35	143.63	144.91	146.18	147.14	148.04	149.37

AVERAGE WAGE RELATIVE TO PRIMARY (SIMULATION 2)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
LEPRIM	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
LSECOND	219.05	217.19	218.91	219.34	218.70	214.20	207.71	199.85	191.17	182.99	177.48
USECOND	228.56	223.36	222.16	221.08	219.54	217.73	215.16	212.17	208.85	204.40	199.93
VOCAT	400.28	414.68	432.52	444.65	449.88	451.78	448.93	443.92	433.20	419.32	403.29
TECH.VOC	370.64	367.44	365.09	361.69	355.08	346.99	339.01	331.36	322.47	313.79	305.88
UNIV	469.02	477.64	485.45	475.43	463.11	454.02	444.77	436.89	428.31	420.39	416.08
TOTAL	136.36	137.73	139.69	140.93	141.85	142.75	143.46	144.08	144.30	144.41	144.87

AVERAGE WAGE RELATIVE TO PRIMARY (SIMULATION 3)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
LEPRIM	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
LSECOND	219.05	217.19	216.64	215.44	213.87	189.62	174.27	163.43	156.00	151.51	149.04
USECOND	228.56	223.36	219.75	216.95	214.46	212.76	210.68	208.03	204.49	199.63	194.90
VOCAT	400.28	414.68	426.34	433.34	435.91	439.55	439.03	435.44	423.06	406.52	389.23
TECH.VOC	370.64	367.44	360.17	353.27	344.93	338.33	332.28	325.98	317.94	309.38	300.12
UNIV	469.02	477.64	477.85	462.89	448.52	442.76	437.31	432.27	425.63	418.18	414.87
TOTAL	136.36	137.73	139.30	140.24	141.03	141.14	141.36	141.63	141.64	141.67	142.12

TABLE 4.14
WAGE SHARES OF TOP AND BOTTOM 20 PERCENT OF WORKFORCE

BASE CASE

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
TOP 20%	41.33	41.92	42.75	43.31	43.80	44.30	44.52	44.33	44.02	43.67	43.41
BOTTOM 20%	5.49	5.39	5.19	5.07	4.97	4.86	4.77	4.70	4.63	4.57	4.51
TOP20/BOT20	7.53	7.77	8.23	8.54	8.82	9.11	9.33	9.44	9.51	9.56	9.63

SIMULATION 2

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
TOP 20%	41.33	41.92	42.73	43.23	43.60	43.96	43.50	42.95	42.36	41.79	41.38
BOTTOM 20%	5.49	5.39	5.19	5.07	4.99	4.89	4.81	4.76	4.71	4.68	4.64
TOP20/BOT20	7.53	7.77	8.23	8.53	8.74	8.99	9.04	9.03	8.99	8.93	8.91

SIMULATION 3

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
TOP 20%	41.33	41.92	42.57	42.95	43.28	43.32	41.94	41.54	41.18	40.86	40.68
BOTTOM 20%	5.49	5.39	5.20	5.08	4.99	4.94	4.89	4.85	4.81	4.78	4.74
TOP20/BOT20	7.53	7.77	8.19	8.46	8.68	8.78	8.58	8.56	8.56	8.55	8.58

Comparing the relative position of those with primary education or less with respect to each of the other groups can be mis-leading, however, as the educational composition in the workforce changes a lot. It may be better to compare the relative position of those with primary education or less to the average worker (row labeled "Total"). Here, it can be seen that in the base simulation, the relative position of those with primary education, relative to the average worker, gets worse all the way up to the year 2000, with no sign of stabilizing.[21]

For the other simulations, while the relative position of those with primary education or less relative to the average worker also gets worse, yet there are signs of a stabilizing trend. For the second simulation, this occurs about 1996-97, and for the third simulation, this occurs about 1994-95. Thus, for these latter two cases, income distribution is more likely to show signs of improvement sometime over the next 3 to 6 years.

Another way to look at income distribution is to look at the relative wage share of the top and bottom 20 percent of workers.[22,23] Table 4.14 shows the wage shares of the top and bottom 20 percent of the workforce for the three simulations.

In the base case, the wage share of the top 20 percent increases until 1996, then declines. For the bottom 20 percent, however, the share continually falls all the way to the year 2000. The ratio of the share of the top 20 percent to the share of the bottom 20 percent increases throughout the next decade. Thus, for the base case, while the share of the top 20 percent falls after the end of the 7th Plan, the relative position of the poorest 20 percent with respect to the top group becomes worse and worse.

In simulations 2 and 3, the share of the top group begins to fall in 1995. As in the base case, the share of the bottom group continues to fall throughout the next decade. However, the rate of decline is not as large as in the base case. Consequently, the relative position of the bottom group begins to improve after 1996 in simulation 2, and after 1995 in simulation 3. Thus, accelerating the transition to secondary education appears to help improve income distribution -- subject, of course, to the proviso that poor households need subsidies to compensate them for keeping the children at school longer.

4.2.3 Conclusions from Simulations

Overall, the simulations seem to show that, in terms of economic growth, Thailand should still be able to maintain a rate of growth of about 7.5 percent per annum over the next decade. While the share in the labor force of those having just primary education or below is and will remain at an unsatisfactorily high level through out the next decade, this should not yet become a major constraint on moderate growth. Very high growth rates as achieved over the previous 3 years seem unlikely over the medium to longer term. But if high growths return, then the shortages of manpower at the middle level on up may become more serious constraints. More analysis needs to be done on this point. A reason why moderate growth does not appear to run into much of a middle level manpower bottleneck problem is that, even now, for workers with secondary education, only about 1 in 3 are found to be working in the formal sectors of the economy. This is because the formal sectors still employ a relatively small proportion of the workforce (although it produces a lot of the value added in the economy). As shown in table 4.15, for those with lower secondary education, only just over 30 percent work in the formal employment sectors in 1990.[24] Thus, there are still enough of workers at the secondary level who could be drawn into the formal sectors.[25]

TABLE 4.15
SHARE OF EACH LEVEL OF EDUCATION WORKING IN FORMAL SECTORS
(BASE CASE)

(PERCENT)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
LEPRIM	4.91	4.88	4.90	4.89	4.91	4.94	4.95	4.95	5.00	5.06	5.04
LSECOND	31.77	32.07	32.10	31.99	31.76	31.45	31.03	30.52	29.97	29.49	29.21
USECOND	33.95	34.29	34.26	34.17	34.00	33.84	33.61	33.20	32.75	32.15	31.54
VOCAT	69.97	72.04	73.45	74.33	74.74	74.88	74.67	74.14	73.27	72.15	70.80
TECH.VOC	66.24	66.85	66.67	66.44	65.87	65.16	64.21	62.94	61.50	59.95	58.44
UNIV	86.58	87.18	87.21	86.35	85.47	84.79	84.14	83.40	82.65	81.80	80.99

Accelerating the transition from primary to secondary education leads to a lower overall labor force, and hence initially affects growth rates negatively. Only when a sufficient number of those who stay on at school come out into the labor force will growth start to become faster than in the base case. The lags can be rather long.

The large share of those with just primary education in the workforce, however, affect income distribution fairly directly. For those with just primary education, only 1 in 20 can get work in the formal sectors, where pay and job security are better. The simulations show that the accelerated increase in educational transition will lead to an eventual improvement in income distribution within the decade. In the base case, the outlook for income distribution is not that promising.

The simulations also show that, even in the best of cases (the third simulation), the share of those with primary education or less in the labor force will still remain at over 70 percent by the year 2000. This is more than 20 years behind some of our neighboring countries, and should be a source of major concern. This leads one to think about a strategy to focus on upgrading the skills and knowledge of those already in the labor force. Because of the population age structure, the labor force growth in Thailand will shortly be below 2 percent per annum, and gradually falls to only about one percent per annum by the end of the decade. This means that it will be very difficult to improve the average educational composition of the workforce through action on formal education alone, as this simply focuses on those who will come into the labor force in the future, and their numbers are very small relative to the number of workers already in the labor force.

If those already in the labor force can be "converted," so that their skills and knowledge are at a level above what their formal educational qualifications would indicate, then even though the numbers on the distribution of workers according to formal educational qualifications in Thailand may be fairly dismal, but in terms of the distribution of abilities and skills, the performance of Thai workers may be much better than what the formal educational distribution would indicate. Thus, another simulation is carried out to investigate this issue.

5. ACCELERATED "TRAINING" SCENARIO

As shown in the last section, in the base case, 3 in 4 of Thai workers in the labor force in the year 2000 will have just primary education or less. This must be regarded as totally unsatisfactory. But even with the most optimistic (and impossible) educational expansion scenario (simulation 3), the ratio of workers with primary education or less will not fall to below 70 percent until after the year 2000.

In this section, a scenario of accelerated training is considered. Here, the fact that a worker who may only have finished primary school can be given additional training (either academic equivalency education, or occupational training), so that he or she can be as productive as someone with more formal education, is considered. Using this strategy a training target is set, to "convert" a large number of workers with only primary education so that they can perform as well or better than someone with lower secondary education. Note that this assumes fairly intensive training, as one is not talking here about marginal increases in skills and knowledge, but a fairly discrete jump.[26]

Table 5.1 indicates the calculations on training targets. In the base scenario, the share of those with primary education or less in the labor force declines from 83 percent in 1990 to 75.4 percent in 2000. We set a new target that we want this ratio to decline to 55 percent by the year 2000.[27] The way this will be done is to "train" large numbers of workers with primary education or less in the labor force, so that their skills and productivity will be at least the equal to someone who has formal education up to the lower secondary level. Once a worker has been so "trained," he or she is then counted as equivalent to someone with formal lower secondary education, and is taken out of the primary education labor pool and put into the lower secondary education labor pool. Presumably, as informal education and training is already given to a large number of people in the labor force, some of the 83 percent or so of the workforce who have only primary education in 1990 may have already been converted. A guesstimate, based on figures on recent training and non-formal education programs, would put the figures of those already converted at about 5-10 percent of the workforce, or about 1.5 to 3 millions people.[28] Thus, if the 55 percent target is achieved in 2000, and if those already converted currently are added, then, by that time,

Thailand should have slightly less than half of its workforce at the productivity level equivalent to someone with just formal primary education with no additional training. This can be regarded as something of a milestone.

The calculation shows that to achieve the 55 percent target by 2000, a total of 7.4 millions workers have to be so "converted." The marginal changes give the number of new people that have to be trained each year. This rises to about between 800 thousands to a million workers a year. If this can be accomplished, then the new workforce structure results, and shows very high growth rates of those with lower secondary education (or rather those "skilled-equivalent" to lower secondary education).[29]

The impacts on economic growth and on income distribution as compared to the base case are shown in table 5.2.

First, GDP growth is faster than in the base case. Essentially, average worker productivity increases without a reduction in the workforce (although see endnote 29). The level of real GDP differences (at 1987 prices) reaches 3.36 percent of the base GDP level in 2000, or about 123,550 million baht at 1987 prices. This is indeed a very large gain, but then one is not talking about a target that can be reached without a great deal of commitment and efforts. The marginal yearly gain compared to the base rises from about 5,000 million baht a year to about 24,000 million baht by 2000.

The impact on income distribution is also dramatic. The income share of the bottom 20 percent of the workforce begins to rise in 1994, and reaches 6.06 percent in 2000, compared to 5.39 percent in 1991, and the base case level of 4.51 percent in 2000. The relative position of the bottom 20 percent of the workforce with respect to the top 20 percent of the workforce start improving in 1993. The ratio of the income share of the top 20 percent to that of the bottom 20 percent declines from 8.07 times in 1992 to 6.59 times in 2000.

These numbers are indeed impressive. Intensive training to "convert" the ability of workers with primary education, so that they attain the knowledge, skills, and productivity

TABLE 5.1
TRAINING TARGET: REDUCE PRIMARY SHARE TO 55% BY YEAR 2000

SHARE PRIMARY

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
BASE	83.04%	82.51%	81.95%	81.32%	80.65%	79.91%	79.11%	78.24%	77.34%	76.38%	75.38%
NEW TARGET	83.04%	82.51%	80.51%	78.01%	74.76%	71.03%	67.49%	64.12%	60.93%	57.89%	55.00%

NEW PRIMARY TOTAL ('000)

TOTAL	26354	26757	26587	26139	25387	24409	23470	22538	21615	20723	19869

CHANGE FROM BASE ('000)

TOTAL	0	0	475	1109	2001	3052	4041	4960	5823	6621	7362
MARGINAL	0	0	475	633	893	1051	989	920	862	798	741

NEW WORKFORCE (TURN PRIMARY TO LOWER SECONDARY, '000)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
PRIMARY	26354	26757	26587	26139	25387	24409	23470	22538	21615	20723	19869
L.SECONDARY	2038	2154	2745	3494	4507	5692	6827	7901	8921	9876	10765
U.SECONDARY	780	851	914	973	1031	1092	1157	1227	1294	1370	1460
VOCATIONAL	878	909	940	973	1009	1051	1099	1150	1205	1267	1340
TECH.VOCAT	399	429	460	489	520	555	593	636	679	727	782
UNIVERSITY	1288	1329	1377	1439	1503	1566	1630	1696	1763	1835	1911
TOTAL	31737	32429	33024	33507	33958	34364	34775	35147	35478	35799	36125

NEW SHARES

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
PRIMARY	83.04%	82.51%	80.51%	78.01%	74.76%	71.03%	67.49%	64.12%	60.93%	57.89%	55.00%
L.SECONDARY	6.42%	6.64%	8.31%	10.43%	13.27%	16.56%	19.63%	22.48%	25.14%	27.59%	29.80%
U.SECONDARY	2.46%	2.62%	2.77%	2.90%	3.04%	3.18%	3.33%	3.49%	3.65%	3.83%	4.04%
VOCATIONAL	2.77%	2.80%	2.85%	2.90%	2.97%	3.06%	3.16%	3.27%	3.40%	3.54%	3.71%
TECH.VOCAT	1.26%	1.32%	1.39%	1.46%	1.53%	1.61%	1.70%	1.81%	1.91%	2.03%	2.16%
UNIVERSITY	4.06%	4.10%	4.17%	4.30%	4.43%	4.56%	4.69%	4.83%	4.97%	5.13%	5.29%
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

NEW GROWTH RATES

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
PRIMARY	1.51%	1.53%	-0.64%	-1.69%	-2.88%	-3.85%	-3.85%	-3.97%	-4.09%	-4.13%	-4.12%
L.SECONDARY	6.00%	5.66%	27.46%	27.26%	29.02%	26.27%	19.96%	15.73%	12.90%	10.71%	9.00%
U.SECONDARY	11.45%	9.03%	7.46%	6.46%	5.95%	5.87%	5.95%	6.06%	5.50%	5.88%	6.51%
VOCATIONAL	3.66%	3.50%	3.43%	3.44%	3.73%	4.16%	4.56%	4.67%	4.82%	5.14%	5.70%
TECH.VOCAT	8.84%	7.69%	7.09%	6.38%	6.36%	6.60%	6.92%	7.20%	6.89%	7.06%	7.47%
UNIVERSITY	4.69%	3.16%	3.60%	4.56%	4.44%	4.16%	4.09%	4.05%	3.96%	4.08%	4.12%
TOTAL	2.29%	2.18%	1.83%	1.46%	1.35%	1.19%	1.20%	1.07%	0.94%	0.90%	0.91%

TABLE 5.2
COMPARISON OF TRAINING SIMULATION AND BASE CASE

GDP: MILLIONS BAHT, 1987 PRICES (TRAINING SIMULATION VERSUS BASE)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
GDP (TRAINING)	1762374	1903059	2082231.8	2260720.7	2455707.9	2663755.5	2880745	3095879	3319587.2	3551692.8	3797896.1
GDP (BASE)	1762374	1903059	2076632	2252227	2434942	2629417	2832463	3030629	3237100	3452466	3674346
GROWTH (TRAINING)	10.57%	8.09%	9.42%	8.57%	8.63%	8.47%	8.15%	7.47%	7.23%	6.99%	6.93%
GROWTH (BASE)	10.64	7.98	9.12	8.46	8.11	7.99	7.72	7.00	6.81	6.65	6.43
DIFFERENCE	0	0	5600	8494	20766	34338	48282	65250	82487	99227	123550
PERCENTAGE DIFF	0.00%	0.00%	0.27%	0.38%	0.85%	1.31%	1.70%	2.15%	2.55%	2.87%	3.36%
MARGINAL DIFFERENCE	0	0	5600	2894	12272	13572	13943	16969	17237	16740	24323

WAGE SHARE OF TOP AND BOTTOM 20 PERCENT OF WORKFORCE

TRAINING SIMULATION

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
TOP 20%	41.33	41.92	42.46	41.87	40.89	40.03	39.81	39.69	39.69	39.77	39.93
BOTTOM 20%	5.49	5.39	5.26	5.22	5.24	5.35	5.46	5.61	5.75	5.91	6.06
TOP20/BOT20	7.53	7.77	8.07	8.02	7.81	7.49	7.29	7.08	6.90	6.73	6.59

BASE CASE

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
TOP 20%	41.33	41.92	42.75	43.31	43.80	44.30	44.52	44.33	44.02	43.67	43.41
BOTTOM 20%	5.49	5.39	5.19	5.07	4.97	4.86	4.77	4.70	4.63	4.57	4.51
TOP20/BOT20	7.53	7.77	8.23	8.54	8.82	9.11	9.33	9.44	9.51	9.56	9.63

equivalent to those with lower secondary education or above, can yield high payoffs to both faster economic growth and better income distribution. The lag time should be much less than that involved in the formal education system. Thus, it is a strategy worthy of receiving the highest of priority, given the great difficulty in improving the average quality of the labor force through the formal education system, as already shown above.

Two questions arise at this point. First, how does the training target compare to what Thailand is already doing in terms of informal education and training? And, secondly, how much expenditure will be required for the training, and will it be worth it?

5.1 Estimating Current Training

Poapongsakorn (1991) cites fairly impressive training figures. His table 3.9 shows that in 1990, almost 600,000 thousand people received formal training (as opposed to informal training on the job) in industries and services. However, much of the training are relatively short. For the "conversion" that we talk about, fairly intensive training would be required. If one assumes that to be "converted" effectively, the number of training days per person should be equal to what Poapongsakorn cites as the average number of training days for a National Institute for Skill Development (NISD) course, which is 60 days, then the total number of "person-equivalent" workers trained turns out to be about 220,000 persons. Many of these, of course, are those with more than primary education, so they fall outside the target training group of this paper. Assuming that the proportion of the 220,000 who have primary education is the same as the proportion of those with primary education in the non-agricultural workforce (72 percent), the number of "converts" in the sense we are talking about is probably around 160,000 workers per year.

Firms also give informal on-the-job training to workers. This is quite wide-spread and important.[30] However, this does not seem to fall into the kind of "conversion" we are thinking of. The reason is that on-the-job training is part of doing the job. Every employee receives it to some extent. Thus, this is already part of the productivity that one can expect from people with various levels of education. The key is that those with better educational backgrounds, or skills and knowledge, can absorb the on-the-job training better. Thus,

their productivities will be higher. On-the-job training given to workers with primary education or less, per se, is not something apart from what one can expect from the person performing the job, as the necessary tasks have to be learned as part of carrying out the job in any case. Of course, there may be a socially sub-optimal amount of on-the-job training given, or the amount may be less than that given in other countries, but this is a different matter.[31]

In addition to training in industry and services, there are also a lot of training given to agriculturalists. Getting a figure which would correspond to the concept of "conversion" in this paper can only be done roughly. NEC (1989) reports the numbers of those receiving occupational training in agriculture to be about 190,000 in 1986. "Occupational training" is defined to be courses that require 45 hours or more of training, thus the actual training involved could be relatively little. Of these 190,000, probably about 75 percent "successfully" graduate, or about 142,500 persons. Using a factor of one in three to adjust for the relatively short training as in the case of industries and services as above, we get a number of about 47,500 "person-equivalent" workers getting upgraded. Of these, assuming a proportion of primary educated workers equal to the proportion those in agriculture with primary education or less (95 percent), we get a figure of about 45,000 "person-equivalent conversions" from those with primary education or less. This was in 1986, and if we assume that the numbers have increased by 50 percent since then, we arrive at a figure of 67,500 "person-equivalent conversions."[32]

Thus, one can say that, from training, there are probably about 250,000 "converts" each year currently. To this, one can add those receiving adult equivalency academic qualifications above the primary level. Most of the people who take these academic equivalency courses do so at the basic primary education level -- those who may have dropped out from primary schools earlier. NEC (1989) reports that about 30 percent of those taking adult academic course are for qualifications higher that the primary level. In 1986, those who actually succeeded in passing the adult equivalency tests above the primary level numbered only about 6,000 persons.

Overall, taking into account training and various forms of education, it is probably

not too far off the mark to estimate the number of current "conversions" according to the concept of this paper as about 300,000 per year. This is a respectable figure. However, from the above target, a lot more needs to be done. If the above target is to be achieved, then one is talking about increasing the number of "converts" on the order of 2.5 to 3 times the current level. Further, increasing the training and non-formal educational capacities has to be started soon.

5.2 Cost-Benefit of Training

Given that accelerating the training and non-formal education of those with primary education or less, to lift them up to higher productivity levels, will have high payoffs for both economic growth and income distribution, is the gain worth it?

From the data in Poapongsakorn (Table 3.9), one can estimate the training cost in terms of "person-equivalent conversions" to be about 2,100 baht per person. This presumably only includes the recurrent costs. Assuming that the capital cost required per head (for the life-time of the investment) is equal to the recurrent cost, gives a per head cost of about 4,200 baht (1990). For agriculture, the per head training cost may be cheaper, but we can assume the same number. For non-formal education (academic), the cost is usually much less than for training. However, for the sake of argument, let us assume that the cost is the same. If one also assumes that the *real* cost (as opposed to nominal) of training per worker increases by 5 percent per annum, then to convert the numbers of people required in the above simulation would require an expenditure of about 42,100 million baht (in 1990 constant prices) over the next 9 years, to the year 2000.

This is certainly not a small investment,[33] and would be equivalent to some medium-large infrastructure project. However, the real GDP gain made possible by such an investment was estimated to be about 3 times the cost (Table 5.2), or about 123,550 million baht up to 2000.[34,35] Thus, the benefit far outweighs the cost, and the cost-benefit appears to be much bigger than many other types of investment that one can think of. And this is only comparing the GDP gains. The investment will also yield substantial benefits in terms of improving income distribution. There are few investments which can lead to gains

in GDP and income distribution concurrently. Investment in formal education will do so only after quite long lags. Thus, much more attention, efforts, and resources need to be put into training and non-formal education. Both growth and equity objectives will be served, and even the purely economic benefits will far swamp the cost.

6. CONCLUSIONS

From the above analyses, there are very compelling reasons that priority by attached to accelerated non-formal education and training programs for those already in the workforce. Of course, efforts must continue in expanding the coverage of formal education, and improve quality. However, educational improvements only take impact after a long lag. In the meanwhile, those who only have primary education, and who are already in the labor force, need help. If present trends continue, they will fall further and further behind better educated groups. Income gaps will continue to widen, and development will proceed without much of their participation.

Many agencies are currently carrying out non-formal education and training programs. More need to be done, with a doubling or tripling of resources necessary. However, a coordinated approach is necessary. As with many issues where so many agencies are involved, unless institutional structures are developed and some effective coordination mechanism can be found, then while all agree that things need to be done, yet nothing happens. For accelerating the scope of training and non-formal education for those already in the labor force, it is hoped that there will be the political will, and the coordinated and intensive efforts necessary to reach the vast numbers of people out in the labor force with only primary education or less waiting to be "converted." Many of these have the capacity and talent, as the reason why they have only primary education is not that they do not have the "brains," but rather it is because they did not have the opportunity. If appropriate means can be found to help these vast numbers of people find ways to improve their productivities and utilize all the talents that they have, then their contributions to the future development of the country will far outweigh the investment costs required.

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ENDNOTES

1. The economic-demographic macroeconomic model was built as part of the project on "Promotion of Analysis and Consideration of Population Consequences of Development Planning and Policy in Thailand," which was an NESDB project, with funding from the United Nations Population Fund (UNFPA), and with the research components subcontracted to TDRI.

2. The economic demographic model is essentially the framework in Sussangkarn (1991a), (1991b), and (1991c).

3. One exception is Pratom 1, where usually the total enrollment is greater than the total population of age 6, the age children are assumed to start primary school. However, this is unimportant for the calculation of the workforce from those population not at school, as those below 11 are automatically regarded as not in the workforce.

4. This also ignores re-entry into the education system for those who may have exited earlier.

5. This component will be zero, for those ages older than the top schooling age.

6. Livestock was included as part of other agriculture.

7. The 1988 Labour Force Survey was used rather than the 1987 Survey because the former had more complete indicators which could be used to split up the formal and informal division of the labor market. For descriptions of how various indicators are used to divide up between formal and informal, see Sussangkarn (1987).

8. See Sussangkarn (1991b).

9. See the description of the SIAMII model in Amranand and Grais (1984).

10. Such sectors as transportation, for example, will have both private and state-enterprise producers.

11. This is exactly as in Sussangkarn (1987).

12. A number of Ministry of Education's officials also feel that the Ministry can easily surpass this target.

13. See Sopchokchai (1991) for discussions concerning the pilot projects.

14. There are, however, also those who feel that attaining the 7th Plan target would not be that easy. Many constraints exist, such as the availability of qualified teachers for example. Also, the initial phases of the pilot may be successful, but as the project reaches into the very poor areas, parents may need more financial assistances than available current in the pilot project.

15. See NESDB(1991).

16. With the pilot project to accelerate secondary enrollment, the actual ratio this year is probably slightly

higher than this. The initial success of the pilot project is presumably a key reason why the MOE thinks that it will be able to reach the 7th Plan target without difficulty.

17. In the actual calculations, the population is also separated by sex.

18. As indicated above, if they go all the way to university, the lag is at least 10 years.

19. See the discussions in Sussangkarn, Patamasiriwat, Ashakul and Chimkul (1988), Sussangkarn (1988), and Sopchokchai (1991).

20. While this does not evaluate income distribution directly, it should be a fair indicator of income distribution.

21. This is essentially because there are an increasing proportion of workers in higher educated groups, who have higher wage levels than those with primary education.

22. Remember that wage here also includes the imputed returns to labor of own-account workers.

23. We use the distribution of labor by educational levels and sectors (agriculture, private formal and informal, and public sector) to split workers into the top and bottom 20 percent.

24. Formal sector in this context ignores workers who may be working in medium and large firms, but are on daily wage or temporary contracts, on the grounds that such workers do not have sufficient job security (which is similar to informal sector workers).

25. Of course, the locations of these workers may not be near to where the jobs are located, but presumably some migration will occur to match workers up with jobs, if the incentives are right.

26. Of course, cynics may suggest that staying on at school for three more years after primary education only given students "marginal" benefit.

27. Other targets could be set as well, but 55 percent seem a target that, while not easy to achieve, is not something that is completely out of the questions in terms of the number of people who have to be trained. Also, even this target is below what the situation was in some other countries in the region 10 years ago (Table 4.7).

28. Though one has to be careful about aggregate figures on non-formal education and training, as much that is included would not by equivalent to what we are talking about here. For example, in non-formal academic equivalency education, the vast majority is to bring the students up to primary equivalency level. Successfully upgrading those who have finished primary education to higher levels occur in very small numbers. Also see below.

29. For simplicity it has been assumed that the training can be accomplished within a year, and can be done mostly without affecting work in the current job (i.e., outside of work hours). This may be too optimistic, as one is talking about a fairly discrete jump in knowledge and skills. If it takes longer, or will lead to lower average productivity in the current job, then the impact of simulation will alter slightly, and will show some lag in impact like in the educational expansion case, though the lag will be shorter.

30. See TDRI/NESDB (1989).

31. See Poapongsakorn (1991) for an analysis of on-the-job training in Thai industry.

32. There are also may who get occupational upgrading training lasting less than 45 hours. This is probably too short to correspond to our "conversion" concept in this paper.

33. Actually, this also includes the recurrent cost.

34. Even if it is assumed that there are some lost in productivity while the workers are being trained, the gains will still overwhelm the costs.

35. Actually, as currently there are already many training programs, the new expenditure required would be about two thirds of this amount. The additional benefit (from the additional training programs) in terms of economic growth and income distribution will also be correspondingly less than the simulated amount, as the base case simulation did not take the existing "conversion" into account.

THREE MORE YEARS IN SCHOOL: PARENTS' OPINIONS AND PROBLEMS

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สรุปสำหรับผู้บริหาร

อีก 3 ปีในโรงเรียน: ปัญหาและความเห็นของผู้ปกครองในชนบท

ในช่วงที่ประเทศไทยกำลังก้าวเข้าสู่ยุคของการพัฒนาทางเศรษฐกิจอย่างรวดเร็ว ความต้องการแรงงานที่มีคุณภาพในสาขาต่าง ๆ ทั้งสาขาการเกษตร อุตสาหกรรม และบริการ ย่อมมีมากขึ้นเป็นเงาตามตัว หากแรงงานเหล่านี้มีจำนวนจำกัดก็จะเป็นอุปสรรคต่อกระบวนการพัฒนาประเทศ และคงไม่สามารถพัฒนาไปได้ตามเป้าหมายที่คาดไว้ ดังนั้น การให้การศึกษาซึ่งเป็นการพัฒนาทรัพยากรมนุษย์จึงเป็นปัจจัยที่สำคัญประการหนึ่งในการพัฒนาประเทศ

การพัฒนาระบบการศึกษาภาคบังคับของรัฐบาลนั้น นับว่าประสบความสำเร็จได้ระดับหนึ่งดังเห็นได้จากการที่ในปัจจุบันประชากรที่มีอายุระหว่าง 6-11 ปี มีโอกาสได้เข้าเรียนในระดับประถมศึกษาแล้วถึงร้อยละ 95 แต่ปัญหาสำคัญคือเด็กส่วนใหญ่ที่จบการศึกษาระดับประถมศึกษาแล้ว มิได้เข้าเรียนต่อในระดับมัธยมศึกษา ซึ่งจะมีผลกระทบโดยตรงต่อคุณภาพของแรงงานไทยทั้งในปัจจุบันและในอนาคต

รัฐบาลได้ดำเนินนโยบายเพื่อแก้ไขปัญหานี้หลายประการ อาทิเช่น ในช่วง 2-3 ปีที่ผ่านมา กระทรวงศึกษาธิการได้ริเริ่มโครงการขยายโอกาสการศึกษาระดับมัธยมศึกษาตอนต้นในจังหวัดต่าง ๆ หลายจังหวัด โครงการที่สำคัญคือ "โครงการนำร่องขยายโอกาสทางการศึกษาภาคบังคับ" ของสำนักงานการประถมศึกษาแห่งชาติ และ "โครงการขยายโอกาสทางการศึกษาระดับมัธยมศึกษาตอนต้น" ของกรมสามัญศึกษา โครงการเหล่านี้มุ่งที่จะขยายโอกาสทางการศึกษาในระดับมัธยมศึกษาตอนต้นให้แก่เด็กที่มาจากครอบครัวยากจนในเขตชนบททุรกันดารทั่วประเทศ

แม้ว่ารัฐบาลได้เริ่มดำเนินโครงการต่าง ๆ เพื่อขยายโอกาสไปแล้ว แต่ความสำเร็จของโครงการมีเพียงใดนั้น ย่อมต้องขึ้นอยู่กับความร่วมมือและความนิยมของผู้ปกครองในการที่จะส่งบุตรธิดาเข้าเรียนต่อในระดับมัธยมศึกษา โครงการวิจัยนี้มีวัตถุประสงค์หลักเพื่อศึกษาว่าในปัจจุบันผู้ปกครองที่อยู่ในเขตชนบทยากจนมีความคิดเห็นอย่างไรเกี่ยวกับนโยบายการขยายการศึกษาภาคพื้นฐานจาก 6 ปี เป็น 9 ปี และหากจะต้องส่งบุตรธิดาเข้าเรียนต่อนั้นจะประสบปัญหาอะไรบ้าง คณะผู้วิจัยของสถาบันวิจัยเพื่อการพัฒนาประเทศไทยได้ดำเนินโครงการวิจัยภาคสนามในภาคตะวันออกเฉียงเหนือ ซึ่งเป็นภาคที่มีอัตราการเรียนต่อต่ำกว่าทุกภาค โดยได้สัมภาษณ์ผู้ที่เกี่ยวข้องและจัดการประชุมผู้ปกครอง ซึ่งมีผู้ปกครองเข้าร่วมทั้งสิ้น 116 คน

ข้อสรุปจากการสำรวจภาคสนามพบว่า ผู้ปกครองทุกคนมีความเห็นตรงกันว่าการศึกษาเป็นสิ่งสำคัญสำหรับอนาคตของบุตรหลาน เพราะในปัจจุบันชาวบ้านในหมู่บ้านที่ห่างไกลทราบถึงข้อมูลข่าวสารเกี่ยวกับความต้องการของตลาดแรงงานอยู่อย่างสม่ำเสมอ ทั้งจากประสบการณ์ที่เคยเข้าไปแสวงหางานทำในเมือง คำบอกเล่าของเพื่อนฝูงที่ทำงานอยู่ในเมือง ประกาศและโฆษณารับสมัครงานตามหน้าหนังสือพิมพ์ และจากเจ้าหน้าที่ของรัฐ ครู กำนัน และผู้ใหญ่บ้าน ข้อมูลที่สำคัญคือปัจจุบันผู้ที่มีการศึกษาสูงกว่าจะมีโอกาสเข้าทำงานที่ได้ค่าจ้างแรงงานสูง หางานทำได้ง่าย และเป็นงานที่ไม่ต้องใช้กำลังมาก

ผู้ปกครองได้เสนอว่าอันที่จริงเด็กที่จบชั้นประถมศึกษาปีที่ 6 โดยไม่ตกซ้ำชั้นจะมีอายุน้อยและยังไม่มีบัตรประชาชน ดังนั้นโอกาสที่จะแสวงหางานทำจึงมีน้อยกว่า และได้ค่าแรงไม่คุ้มค่า บรรดาผู้ปกครองจึงมีความเห็นตรงกันว่าหากมีโอกาส และฐานะทางเศรษฐกิจอำนวย ก็น่าจะให้เรียนต่อในระดับมัธยม หรือสูงกว่านั้น แต่การที่จะส่งบุตรธิดาคนหนึ่งเข้าเรียนต่อในระดับมัธยมศึกษานั้นจะต้องสิ้นเปลืองค่าใช้จ่ายสูง โดยเฉพาะอย่างยิ่งถ้าจะต้องไปเรียนต่อในเมือง ทำให้เด็กส่วนมากไม่มีโอกาส

โดยปกติผู้ปกครองที่พอจะมีฐานะมักจะส่งบุตรธิดาเข้าไปเรียนต่อในเมืองหรือในกรุงเทพฯ โดยมักจะมีความเชื่อว่าโรงเรียนในเมืองดีกว่า แม้ว่าจะต้องแบกภาระในเรื่องค่าใช้จ่ายที่สูงกว่ามาก ถึงกระนั้นผู้ปกครองบางคนยังมีข้อกังวลเกี่ยวกับปัญหาเรื่องความปลอดภัยของบุตรธิดาที่อาจจะต้องเดินทางโดยรถประจำทางหรือจะต้องไปเช่าหอพักอยู่ในเมือง และปัญหาเรื่องความประพฤติของวัยรุ่นที่อาจจะเป็นไปในทางที่เสื่อมเสียง่ายเพราะในเมืองมีสิ่งล่อใจหลายประการ และยังขาดการอบรมดูแลของผู้ปกครอง

สำหรับครอบครัวยากจนที่ไม่สามารถจะหาเงินเป็นค่าใช้จ่ายด้านการศึกษาได้ ก็จะไม่ส่งบุตรธิดาไปเรียนต่อ ดังนั้นโครงการที่เปิดการสอนระดับมัธยมศึกษาในหมู่บ้าน จะเป็นโครงการที่ช่วยให้เด็กที่ไม่มีโอกาสเข้าเรียนต่อเนื่องจากความยากจนได้มีโอกาส เพราะจะเสียค่าใช้จ่ายน้อยกว่าไปเรียนในเมืองหลายเท่าตัว ผู้ปกครองที่ยากจนมักจะต้องการแรงงานบางส่วนจากบุตรธิดา ก็ยังสามารถใช้แรงงานในส่วนนี้เพราะเด็กไม่จำเป็นต้องไปอยู่ในเมืองและไม่เสียเวลาในการเดินทาง และประการสำคัญครอบครัวก็ยังอยู่ร่วมกันทำให้เด็กได้รับความอบอุ่นจากพ่อแม่ นอกจากนี้โครงการที่ดำเนินในระดับหมู่บ้านยังให้การสนับสนุนในเรื่องค่าใช้จ่ายบางส่วนซึ่งช่วยลดภาระทางการเงินของครอบครัวไปได้บ้าง

หากรัฐมีวัตถุประสงค์ในการขยายโอกาสทางการศึกษาให้กับครอบครัวที่ยากจนอย่างจริงจัง การเปิดสอนระดับมัธยมในหมู่บ้านเป็นสิ่งที่จำเป็น โดยเฉพาะในเขตชนบทยากจนและหมู่บ้านที่อยู่ห่างไกลจากชุมชนเมือง การคัดเลือกโรงเรียนที่จะเปิดสอนระดับมัธยมนั้นควรจะเลือกเปิดในหมู่บ้านที่อยู่ห่างจากแหล่งที่มีโรงเรียนมัธยมอยู่แล้ว และจะต้องเป็นชุมชนที่ยากจน

เพื่อกระจายโอกาสและสร้างความเท่าเทียมทางการศึกษาไปสู่ชนบทที่ยากจนอย่างแท้จริง การพัฒนาระบบข้อมูลนักเรียนที่จบชั้นประถมศึกษาปีที่ 6 ของแต่ละปีและการจัดทำแผนที่ตั้งของโรงเรียนที่เปิดสอนในระดับต่าง ๆ เพื่อให้สอดคล้องระหว่างอุปทานและอุปสงค์จึงมีความจำเป็นอย่างยิ่ง

ในการที่จะเปิดการสอนระดับมัธยมในโรงเรียนประถมนั้น คุณภาพของครูผู้สอนเป็นสิ่งที่สำคัญอันดับสูงสุด ครูเหล่านี้ควรจะได้รับการอบรมในวิชาที่จะต้องรับผิดชอบ นอกจากงบประมาณในการอบรมครูแล้ว รัฐจะต้องจัดสรรงบประมาณในการปรับปรุงหลักสูตรและจัดหาอุปกรณ์การสอนที่จำเป็น

ตราบใดที่รัฐยังไม่สามารถขยายโรงเรียนมัธยมให้มีจำนวนเพียงพอและทั่วประเทศ นโยบายที่จะขยายการศึกษาภาคบังคับเป็น 9 ปีนั้น คงจะใช้บังคับทั่วไปไม่ได้ ในการกำหนดนโยบายการศึกษาเกี่ยวกับเรื่องนี้จะเป็นอย่างไรนั้น ผู้กำหนดนโยบายและนักวางแผนน่าจะศึกษาจากข้อมูลและประสบการณ์ที่ผ่านมาจากการดำเนินโครงการนำร่องทั้งหมด

รัฐบาลน่าจะพิจารณาจัดตั้งกองทุนการศึกษาเพื่อจัดสรรในเรื่อง ทุนการศึกษาหรือดำเนินโครงการประเภทเงินกู้เพื่อการศึกษา สำหรับผู้ปกครองและนักเรียนที่มีฐานะระดับต่าง ๆ ซึ่งจะเป็นเครื่องจูงใจให้ครอบครัวยากจนส่งบุตรธิดาเข้าเรียนต่อในระดับมัธยม

การจูงใจผู้ปกครองอย่างเดียวจะไม่เพียงพอ ควรให้ความสนใจเด็กนักเรียนขณะที่ยังเรียนอยู่ในระดับประถมศึกษาด้วย เพราะส่วนหนึ่งของการตัดสินใจเรียนต่อขึ้นอยู่ที่ความสมัครใจของตัวผู้เรียนเอง หากการเรียนการสอนในระดับประถมศึกษามีคุณภาพ และสร้างความสนใจให้กับนักเรียนแล้ว เด็กนักเรียนส่วนใหญ่มักจะมีความสนใจและความต้องการที่จะเรียนต่อ ดังนั้นการพัฒนาและขยายโอกาสทางการศึกษาระดับมัธยมศึกษาตอนต้นจะต้องทำควบคู่ไปกับการรักษามาตรฐานและการพัฒนาระบบการศึกษาในระดับประถมศึกษาด้วย

EXECUTIVE SUMMARY
Three More Years in School: Parents' Opinions and Problems

Education is an important element of national development. Analyses of labor demand show that almost all economic sectors will require better educated workers in the future. This includes the agricultural sector, which will be transformed from utilizing tradition methods to more technologically intensive methods. If skilled labor is limited, it will be difficult to continue the development momentum.

The Thai government has successfully expanded compulsory education during the past two decades, resulting in approximately 95 percent of children aged 6-11 years old attending primary schools. Despite this impressive rate of primary school attendance, it is disappointing that only one out of three children enrolled at the secondary level.

Responding to this problem, the government, through the Ministry of Education have made great efforts to improve the curriculum, to persuade parents to enroll their children for secondary education and higher, and to provide incentives to expand educational opportunities for the poorer families in rural areas. Two projects for lower secondary education were implemented: a "Project on the Extension of Basic Education to Lower Secondary Level" initiated by the Department of the General Education, and a "Pilot Project for Extension of Educational Opportunities," implemented by the Office of the National Primary Education Commission. Both projects aimed at implementing appropriate educational programs to increase the ratio of lower secondary school enrollment, and providing greater educational opportunities for poorer children in rural areas.

The success of these policies depends on the cooperation of parents. This research aimed at examining the opinions of parents in rural areas, the problems relating to the formal education system, and the government's educational policy. A series of interviews and village workshops (116 villagers participated) were conducted in the Northeastern region.

Villagers who were interviewed agreed that education is important for their children's future. A grade six certificate is no longer sufficient for competing in the labor market. Villagers obtained information on labor market requirements, wages, and job opportunity through their own work experiences, friends returning from cities, job advertising in the newspapers, and local government officials -- educational officials, teachers, school principals, kamnan, and village heads.

Parents acknowledged that children who finished primary school were usually too young to enter the labor market, and that they would have more difficulty applying for jobs as they were too young and did not yet have a citizen's identification card, that are issues to children aged 15 years old.

All parents wished to provide their children with a lower secondary education. Parents were aware of the costs of secondary education. If parents were able to find

adequate funds, they would send their children to secondary school. For poorer families, this would not be possible. If enough money was available, parents preferred to send their children to a better school in a town or Bangkok. But besides higher expenses for schooling in towns, they would also have to face many other problems, such as safety of their children, the loss of family labor, and the possibility of various teenage behavioral problems.

The availability of lower secondary classes in villages (in primary schools) can provide more opportunity for poorer families as the direct educational costs -- dormitory or travel expenses, daily allowances, and tuition -- are lower. Children can stay at home and help the family. In addition, the pilot project to expand the lower secondary educational opportunity provided some financial assistance, such as tuition fee, textbooks, and a uniform.

Establishing more lower secondary classes in villages is necessary for remote areas, but they should not be located near a town, or presently established secondary schools. A comprehensive map of existing schools as well as annual amount of pupils being enrolled in lower secondary education would be most useful.

Primary school teachers assigned to teach the lower secondary educational curriculum should be re-trained in appropriate fields. Sufficient budget should be allocated for improvement of the curriculum, obtaining more teaching equipment, and training teachers.

As long as lower secondary schools are not available in every village, the policy on nine-year education should be on a voluntary basis.

The government should consider initiating more financial assistance programs, such as scholarships, educational loans, and partial financial support, to motivate poorer parents to send their children to school.

To encourage children to continue their education, primary education must provide a solid base. Expansion of lower secondary education must be carried out in conjunction with the development and quality improvement of primary education.

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THREE MORE YEARS IN SCHOOL: PARENTS' OPINIONS AND PROBLEMS

1. INTRODUCTION

Implementation of the National Education Plan of 1977 changed the school structure to the system of a six-year elementary education (Pratom or grade 1-6), and two three-year secondary levels (lower secondary education grade 7-9 and upper secondary education grade 19-12). The Office of the National Primary Education Commission (ONPEC) was assigned to oversee the six-year compulsory education program throughout the country, which resulted in a more rapid and comprehensive expansion of compulsory education. The number of elementary schools increased from 30,906 schools in 1976 to 34,035 schools in 1987, or by about 10 percent, many of them located in rural areas. While many new schools have been established, Thailand also experienced a decline in the number of school children at the elementary level, especially during the time of the Fifth National Economic and Social Development Plan (1982-1986). There were two reasons for the decline-- the success of the family planning program introduced during the Third and the Fourth Plan, and fewer children failing and repeating the same grade, which may have resulted from improvement of teaching quality.[1] By 1987, about 95 percent of the population aged between 6-11 years old were attending elementary schools.

Despite this impressive rate of school attendance, it has been quite disappointing that only one out of three children has enrolled for secondary level. This figure is rather low compared to other Asian countries, and it is not impressive for a country at Thailand's income level.[2] The statistics showed that, in 1982, 31.96 percent of population aged

1. Office of the National Education Commission, Follow-up Study of the Implementation of the National Education Plan of 1977, December 1988, p. 41.
2. Population and Human Resources Division, World Bank. Thailand's Education Sector at a Crossroads: Selected Issues. Report No. 9011-TH, February 7, 1991, p. 16.

between 12-14 were in lower secondary education, and this increased to 34.26 percent in 1986. Of course, there was a big difference between the urban and rural enrollment ratios. For children in the Bangkok Metropolitan Area enrolled in lower secondary schools, the ratios were 66.31 percent and 74.83 percent in 1982 and 1986, respectively. Rural children did not have much opportunity to further their education beyond elementary education, and the attendance rate was low. We found that the lowest figure was in the Northeastern region, which was about 19.95 percent in 1982, and the figure has not much improved by 1986, as only 20.06 percent of children age between 12-14 were in school.

It is clear that a problem concerning the distribution of educational opportunities among regions exists. A survey confirmed that, in general, all parents are more than willing to send their children to lower and upper secondary schools, but for parents in rural areas, this is more difficult. Most of them could not send their children to school due to economic problems, and school locations. We found that the enrollment rates of children who lived in Muang (urban) districts were higher than those in rural districts, and these differences have increased between 1981 and 1985, as shown in Table 1.

Table 1 Percentage Difference of Secondary Education Enrollment Rate Between Children in Muang District and Rural Areas

Location	Percentage of Enrollment		
	1981	1983	1985
Muang Districts	60.73	59.63	59.51
Other Districts	35.56	32.10	30.63
Difference	25.17	27.53	28.88

Source: Office of the National Education Commission, Follow-up Study of the Implementation of the National Education Plan of 1977, p. 104.

Besides economic problems and school locations, previous studies seem to show that rural parents did not see the value of a formal education for their children's future as farmers, or for job opportunities in town.[3] Reviewing the implementation of the National Education Plan during the past decade, it was also found that the new curriculum was not flexible and responsive to the students' and to communities' needs.

Education is an important element of national development. As development proceeds, it is clear that almost all economic sectors will require better educated workers. This includes the agriculture sector, which will obviously transform from utilizing tradition methods to more modern and intensive methods. Required technology of the modern methods is more complex and demanding. For agricultural products of this nature, a traditional elementary education may no longer be sufficient. In addition, in the years to come, the industrial sector will have to apply higher technology to be more competitive. Industrial development will demand skilled and educated workers. Workers with lower education will be pushed into low paying sectors. If there are large number of Thai workers with low education, it will be quite difficult to attain the goals of better income distribution and poverty alleviation.[4]

2. NINE YEAR UNIVERSAL EDUCATION: THE PILOT PROJECTS

This section reviews educational policies and projects implemented by key departments of the Minister of Education.

It is clear that more education for children than the primary level is needed. During the past few years, the government has put a great deal of effort into improving the

3. Office of the National Education Commission, Follow-up Study of the Implementation of the National Education Plan of 1977.

4. Myers, Charles and Chalongphob Sussangkarn. "Education Issues and Options for Policy Reform." Working paper prepared for the United Nations Development Programme, Thailand Development Research Institute, October, 1991, p. 3.

curriculum, as well as persuading parents, especially those in rural areas, to send their children to secondary schools. In 1988, the government announced that it was necessary to enhance the educational opportunities for rural people throughout the country. The idea was to extend universal education from 6 years to 9 years on a voluntary basis, and the curriculum was to be redesigned to focus on three areas -- regular education, vocational training, and basic skill training. In 1989, the Ministry of Education and several agencies adopted and implemented this policy. The Department of Curriculum and Instruction Development was assigned to develop a new curriculum for this program; the Department of General Education expanded and established new schools at the Tambon level, and the Department of Non-Formal Education coordinated many non-formal education and training programs. This department has offered various educational options for those with only primary education.

During the first year, project implementation faced many obstacles. A major problem was limited resources -- budget and manpower. It was found that inflexible laws and regulations, as well as the bureaucratic process, made less effective these organizations' efforts to coordinate their resources as planned. In 1990, a new tactic was initiated. ONPEC designed and proposed a pilot project, which was aimed at increasing the number of pupils in lower secondary schools, and expanding educational opportunities in rural area. The project was to open lower secondary classes in appropriate elementary schools under the Office.

In summary, there are presently two main thrusts to expand formal secondary education for those who finish grade 6. The first is a "Project on the Extension of Basic Education to the Lower Secondary Level" initiated by the Department of the General Education, and the second is a "Pilot Project For Expansion of Educational Opportunities" implemented by ONPEC. These two projects are summarized as the follows.

2.1 Project on the Extension of Basic Educational to Lower Secondary Level

In accordance with the Cabinet's resolution to increase educational opportunities for children beyond compulsory level, and to encourage children to further their education,

the Department of General Education initiated a project known as the **Project on the Extension of Basic Education to Lower Secondary Level** in 1987. The project plans to establish 718 schools in 38 economically disadvantaged provinces, and some selected remote areas around the country from 1987 to 1991. In general, the concept was that schools joining the project would establish a branch at sub-district level (Tambon level), which would provide lower educational services to serve children in nearby villages.

Schools were given freedom to design their curriculum in accordance with their resource capabilities and the needs of the community. Three types of curriculum were suggested -- normal curriculum, special curriculum, and a mixed system. The normal curriculum is the standard system taught in all lower secondary schools. The special curriculum emphasizes vocational and basic competence trainings, and pupils need not necessarily attend school at regular hours, which aimed to provide flexibility for the children, so that they can help their parents on the farm, and also for those who live far from the school. The mixed system -- a combination of the regular and special curricula -- requires pupils to attend school, or its branch, from 2 to 4 days a week, and they are required to work individually at home on the teacher's assignments. In some areas where there are a limited number of teachers, children may have to study at home, and a teacher will visit them once or twice a week. Most schools, however, preferred the regular system, as data in 1989 illustrated that only 2.83 percent of all schools in the project adopted the special system; 26.22 percent, the mixed system; and 70.95 percent, the normal curriculum.[5] It was also reported that several schools decided to change back to the regular system after the first year of joining the program.

It was concluded that most parents preferred the normal curriculum, as most of them believed that the educational quality obtain from the normal curriculum is better. They also liked to see their children spend more time at schools, and they found it is quite difficult if the children have to study without teachers' supervision.

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5. Office of the National Education Commission, Evaluation of the Increasing Educational Opportunity for the Lower Secondary Education Project, implemented by the Department of General Education, Prepared by the Educational Evaluation Division, March 1991, p. 5.

Many schools joining the program have adopted new policies or programs in order to encourage parents to send their children to school. The most common incentives are: tuition fee exemption for poor pupils, in which the amount of money can be reimbursed from the Department of General Education, textbook loan projects, no uniform requirement for pupils in the program, low-cost or free dormitory in schools for children who cannot commute, and mobile school units. Through these educational subsidies, it was reported that the average ratio of enrollment at the lower secondary level in the 42 provinces increased from 30.86 percent in 1986 to 37.72 percent in 1989.[6]

2.2 Pilot Project for Expansion of Educational Opportunity

In 1989, to rapidly implement the government policy on the expansion of basic education throughout the country, ONPEC was requested to design and carry out a pilot project to expand universal educational opportunities for children who may have less opportunity to continue their education to the lower secondary level. The project is to experiment whether the three-year lower secondary education can be successful taught in elementary schools. The rationales are:

1) Children finishing grade 6 are too young to enter into labor market, and they are likely to be push into a lower paying job, or be exploited,

2) Elementary schools are in almost every village around the country, and it will be economically advantageous for the children to attend the existing schools,

3) There is an urgent demand to provide more educational opportunities for children who live in remote areas, and

(4) Elementary schools under ONPEC may be the best solution at the present time.

Major objectives of the pilot project are to identify an appropriate curriculum system for this basic education, to provide more educational options for pupils finishing grade 6, and encourage them to attend the three-year lower secondary education, and to

6. Ibid. p. 31.

test parents' attitudes toward lower secondary education.

The pilot project is similar to the one of the Department of General Education, but it offers both regular education and special vocational training courses. For this project, a new curriculum has been developed, which require inclusion of three types of activities: teaching basic and selected courses as listed in the Education Regulation, B.E. 1990; vocational training courses, which will be designed in accordance with the needs of the pupils, parents, the community, and local capacity; and normal school activities such as girl guide or boy scout activities, and community development. Pupils must attend school at regular hours, but each school is free to plan the school schedule to suit parents and local community demands. For example, some schools may consider to alter their school schedule and close during the harvest season to allow children to help their parents.

In the project design, the project was targeted to be implemented in 72 provinces starting with 122 schools in 1990, and increasing to 4,187 schools by 1996, by which time it is expected to have about 753,660 students enrolled. In the first year, there were only 119 schools in the project, which enrolled a total of 3,751 students (1,903 boys and 1,848 girls). With some incentives such as promotion for teachers, more budget allocation, and special training for teachers that ONPEC offered for any school in the pilot project, in the second year it was found that the number of the schools in the project have increased more than ten folds. Table 2 compares the number of schools that applied to implement the pilot project between 1990 and 1991, by educational regions.

There are three main criteria for a school to be eligible to participate in the project. These are (1) adequate classrooms, teaching equipment, and availability of teachers, (2) the school executive and teachers team are active and willing to work continuously for the project, and (3) the local people are interested in joining the program.

Pupils who enroll under the pilot program do not have to pay tuition, and receive free textbooks, and a uniform per year. In some areas, a school lunch program is also available.

Table 2 Comparison of the number schools implemented the pilot project in 1990 and 1991

Educational Region	Number of Schools	
	1990	1991
1	7	46
2	5	3
3	8	100
4	7	31
5	10	60
6	12	84
7	19	130
8	14	128
9	8	140
10	14	159
11	8	211
12	8	34
Total	119	1,156

Sources: The Office of the National Primary Education Commission, Public Relations: the Pilot Project for Expansion of Educational Opportunity, Ministry of Education, 1991, p. 31-45 and the Office of the National Education Commission, 1991

From a preliminary survey conducted by the Evaluation Committee appointed by the National Education Commission to review the implementation of the pilot project, it was reported that the project had obvious accomplished the goal to increase the number of children enrolled in the lower secondary level, by providing a more accessibility to the school for those children from poor families. It is clear that having a school within walking distance can reduce direct educational costs for many families, and give more educational opportunities for poorer pupils. However, it was also found that many schools that participated in the first year of the project are located near other secondary schools, because this factor was not taken into consideration when the school was selected. As a result, the poorest and most disadvantaged children are left out, and there can be conflict between new lower secondary schools under the Department of General Education, and current primary schools, in terms of location and student supply.

In many areas, there was not enough space available for pupils that applied for the program, and some pupils, especially those who have been out of school for longer than

one year, dropped out during the academic year due to academic problems. Several pupils left school because of economic reasons. However, it was found that the majority of pupils in the program enjoyed going to school and were satisfied with the curriculum.

The preliminary survey reported that problems were encountered, and that there was urgent need for improvement. Among the most serious problems found were:

1) Teachers for the new lower secondary level are those who regularly teach the elementary level. Many of them are not prepared for this higher level. The main problem is a lack of teachers for several core subjects, such as mathematics, Thai and English languages, and some vocational courses. The most important factor is quality variation. Some teachers have attended special training courses, but many never have had the chance. It was also reported that many teachers have not yet understood the new lower secondary education regulations.

2) Although, very few schools have building and classroom problems, a more serious obstacle is limited or lack of teaching equipment, particularly for science classes and special vocational training courses such as sewing electronics, and machines.

3) In many areas, elementary schools in the program were located near other secondary schools under the Department of General Education, thus not really serving the objective of expanding educational opportunities to the most disadvantage children who live in the remote areas. In addition, because the program offers tuition fee exemption, some parents tried to transfer their children from the secondary school into the program.

4) After two years of project implementation, there are also problems in project management. Many school executives and teachers did not fully understand the project policy and guidelines. Sometimes, children enrolling in the program are not really poor.

At present, many elementary schools have expressed their desire to participate in the project, and ONPEC has put a great deal of efforts into expanding the project, while at the same time striving to obtain desirable results.

3. RESEARCH METHODS

3.1 Methodology

In February 1991, TDRI conducted an action research on Women's Organizing Abilities which was carried out in sixteen villages in the lower Northeastern region: in the provinces of Maha Sarakham, Buri Ram, Nakhon Ratchasima, and Surin. Although the research project was aimed at examining issues on women's organizing abilities and community development, from the village workshop processes interesting information concerning education was also collected. It was quite amazing to find out that in almost every village workshop, when villagers were asked to design and select their highest priority development project, they would included a project on education, or one related to education. Some were formal education for young children, and others were non-formal education for older people. The reason was that most villagers now realize how important it is to have more education, and they found that their (or their children's) job opportunities will be limited if they lack of a lower secondary education certificate. Wages would be lower, and career advancement in the modern sector would be limited.

Although many villagers requested more educational projects, during the workshops, we found that some villagers disagreed. They usually gave a common reason -- poverty. They are too poor to send all children to school. Some children are needed to help on the farm, otherwise they have to hire others to work. Some children can go and work in the town, and they can help support the family. Some villagers thought that formal education has nothing to do with farming. On the other hand, it took away their children from agriculture to other modern sectors. The longer their children were in school, the less farming skills and knowledge their children will have, and they were usually unwilling to continue in the family tradition.[7]

From these village workshops, we found that most villagers whose village was located near to big towns or factories felt strongly toward having more education, as they

7. Sopchokchai, Orapin, et al. "Women's Organizing Abilities: A Case Study of Sixteen Northeastern Villages in Thailand." Working paper, Thailand Development Research Institute, 1991.

knew about job requirements and wage differences.

This current study aimed at investigating how people who live in the remote areas think about formal education, and discovering the parents' opinions about the government's policy to extend universal education for three more years.

This investigation used two research methods to obtain information. The first method was to review some available documents to collect additional information on education policy and project operation. The second method focussed on parents' opinions, which included both people who currently have children in school, and those who have had some experiences. Focused group interview technique, which is a combination of AIC approach and ZOPP card technique, was selected as a tool to collect information. Interviews were carried out during one-day village workshops which emphasized three main aspects:

1) What do villagers think about the educational system in their village, and how important is the education to their children,

2) How important do they think the pilot project for the expansion of lower secondary education in their village, and

3) What kinds of problems do they have in sending their children to school.

In addition to these village workshops, we conducted in-depth interviews with villagers who have children in both elementary and secondary schools in Sakon Nakhon province. These interviews aimed at re-checking and confirming some prior information. We also interviewed teachers, school principals, educational planners at provincial and district levels, and government officers and researchers who assessed educational projects to expand the lower secondary education implemented by the Department of General Education and the Office of the National Primary Education Commission.

Four one-day village workshops were organized between October 25-29, 1991. Villagers were from all the villages listed in the following paragraph accept Ban Nong-

harng, Tambon Tat-thong, Wa-non-niwat District, where researchers conducted face-to-face interviews on October 27, 1991.

Two methods were used to collect information from villagers. Villagers expressed their opinions through drawing pictures, which is an effective tool from which each villager can describe the current situations Researchers can analyze and use pictures to ask further questions. Most of the pictures provided a more inside information than was gained from verbal descriptions. After the first drawing session, all participants were more relaxed, and understood the content of the workshop, which helped them to be more focused on the issues, and able to think about previous experiences. In some sessions, each villager was asked to think and write down his/her opinions privately, and then shared them with the group. This method gave us a variety of information from each villager without group influence.

Using this method, much was learned from the villagers, and many interesting pieces of information which will be useful for policy makers and researchers emerged.

3.2 Research Sites

Four village workshops were conducted in two upper Northeastern provinces: Udon Thani and Nakhon Phanom. Udon Thani was selected to represent a province with moderate income and level of economic development, while Nakhon Phanom represents the opposite.[8] Two workshops were organized in each province, where two types of villages were selected as research sites: villages with a pilot school in the Expansion of Educational Opportunities project and villages without one. The villages were:

Udon Thani Province

1) Ban Pon-ngarm Mu. 1, Tambon Pon-ngarm, Nong-harn District
2) Ban Pon-ngarm Mu. 15, Tambon Pon-ngarm, Nong-harn

8. Chalamwong, Yongyuth. "Study Area 3 on Regional Economic Performance and Outcomes," in National Urban Development Policy Framework, Final Report, vol. 1, p. 111.

District
3) Ban Pon-ngarm Mu. 19, Tambon Pon-ngarm, Nong-harn District
4) Ban Huey-dua, Tambon Pon-tan, Nong-boa-lumpu District
5) Ban Tam-glong-pane, Tambon Pon-tan, Nong-boa-lumpu District
6) Ban Pon-thong, Tambon Pon-tan, Nong-boa-lumpu District
7) Ban Pon-tan, Tambon Pon-tan, Nong-boa-lumpu District

Nakhon Phanom Province

8) Ban Nong-praduk, Tambon Ban-peung, Muang District
9) Ban Pak-teoy, Tambon Vern-pra-baht, Ta-utain District

Sakon Nakhon Province

10) Ban Nong-harng, Tambon Tat-thong, Wa-non-niwat District.

3.3 Target Groups

A total of 134 people were interviewed; 18 government officials and teachers, and 116 parents, from the villages listed above. Government officials, including teachers and headmasters, gave many useful pieces of information concerning elementary and secondary education in each village, success and obstacles of the pilot project on the Expansion of the Educational Opportunities, and educational policy and plan implementation.

A total of 116 villagers were selected as samples which can be divided into three categories: villagers who have one or more children presently studying at the elementary level, those whose children are participating in the pilot projects, those who send their children to secondary schools in town, and those who do not have any children in schools but have some experience of the issue. The last group included village chiefs, and members of the village educational committee.

It is clear from our previous research that men and women have different perspectives in analyzing and assessing various issues. Therefore, we planned that our interviewees equally included both men and women. One member -- a mother or a father -

- from each family was invited to attend our workshop. As planned, there are almost an equal number of mothers and fathers interviewed, 50.9 percent male, and 49.1 percent female. The majority of males are older than females, and most of them are between 36 to 45 years old. 81.9 percent of the parents finished only an elementary education, or grade 4, and 9.5 percent did not finished even this level of education. We found that only 3.4 percent of the parents finished grade 6, and 5.2 percent finished lower secondary education. There is not much difference in the pattern of education between males and females as illustrated in Table 3. Most parents interviewed are able to read and write, even though some were better than others. About 22 percent of the parents said that they are unable to do so.

Table 4 shows that 90.5 percent of parents are farmers, including those who do not own a piece of land, and 9.5 percent of the respondents said they have other occupations, such as carpenters, construction workers, traders, domestic servants, handicraft workers, silk weavers, and housewives. 96.6 percent of the males interviewees said they are farmers, while less of the females (84.2 percent) are farmers. Almost 60 percent of the interviewees said they do not have supplementary or second occupation because of two reasons: they do not have enough time to engage in other activities, and they cannot find any lucrative activities and they also lack investment capital. It is interesting that more female than male interviewees are engaging in supplementary activities, which may be explained by several reasons. Northeastern women are usually managing the family budget, therefore they are more enthusiastic to find extra income for their families.[9] Most men are working full time, while women eventually thought they did not have a real job. In addition, many governmental and non-governmental programs on income generation implemented during the past decade have, to some extent, successfully reached female target groups.

The background and experiences of our interviewees may have had an impact on how they think of their children's education. From the pre-workshop questionnaires, we found that the majority of parents interviewed said they have never had experiences working in urban areas (Bangkok, other cities and foreign countries). Table 5 shows that

9. Sopchokchai et. al., 1991.

27.6 percent mentioned that they had previous experiences working in urban areas, and, as expected, more men than women migrated to seek employment outside the agricultural sector. However, we also found that some interviewees occasionally worked in other rural areas during the harvesting season.

Tables 6 and 7 describe how our interviewees have access to information, which we believe may have a certain degree of influence on the parents' perception on their children's' education. Television viewing is common and more popular than reading newspapers. Almost all interviewees (96.6 percent) said they watch television regularly, while only 44 percent of them read newspapers, and a majority of those who read newspapers (64.7 percent) read about 1 to 4 times per week. On the contrary, 69.7 percent of interviewees who watch television said they watch it everyday. Some villagers who do not own a television set would go to their neighbors. The behavior patterns of men and women who watching television are similar, but we found that there are more men than women who read newspapers, although for the younger age group (25-35) many more women than men read newspapers.

The average number of children of all the parents who participated in the workshops is 4.4 children. The largest family has 14 children and the smallest family has one child. Nearly one half of the children are between 6 to 15 years old. Few families have children under 5 years old. In Table 8, the average number of children who stay with their parents is 3.2 children. Some children left home to seek employment in other cities or left to get married.

Out of the total of 522 children reported by the interviewees, there are only 220 (42.15 percent) children presently in school, and 4.98 percent are too young to go to school. About one half of the samples' children (52.87 percent) already finished school, and are now either working in other provinces or staying with the parents, and working at home. We found that 1.4 percent of them have less than grade 4 education, 40.9 percent finished grade 4 level; 39.9 percent, grade 6 level; 17.8 percent, higher than compulsory education, with very few who graduated from junior college. This is typical, for most rural children quit school as soon as they finish the required compulsory education.

Table 3 Number of Parents Interviewed and Educational Background (by gender and age group)

Parents	No.	Education				Read and Write Ability		
		Under P.4	P.4	P.6	Above	Yes	No	No Ans.
Male								
25 - 35	6 10.2%	0	5	1	0	4	2	0
36 - 45	13 22.0%	0	13	0	0	11	2	0
46 - 55	30 50.8%	3	26	1	0	21	7	2
More than 55	10 16.9%	2	6	1	1	7	3	0
Total Male	59 50.9%	5 8.5%	50 84.7%	3 5.1%	1 1.7%	43 72.9%	14 23.7%	2 3.4%
Female								
25 - 35	13 22.8%	2	10	0	1	11	2	0
36 - 45	30 52.6%	1	26	1	2	24	6	0
46 - 55	11 19.3%	3	6	0	2	8	3	0
More than 55	3 5.3%	0	0	0	0	2	1	0
Total Female	57 49.1%	6 10.5%	45 78.9%	1 1.8%	5 8.8%	45 78.9%	12 21.1%	0 0%
Total	116 100%	11 9.5%	95 81.9%	4 3.4%	6 5.2%	88 75.9%	26 22.4%	2 1.7%

Table 4 Parents' Occupation (by gender and age group)

Parents	Total No.	Main Occupation		Supplementary Occupation	
		Farmers	Others	Yes	No
Male					
25 - 35	6	5	1	3	3
36 - 45	13	13	0	5	8
46 - 55	30	29	1	11	19
More than 55	10	10	0	3	7
Total Male	59 100%	57 96.6%	2 3.4%	22 37.3%	37 62.7%
Female					
25 - 35	13	11	2	5	8
36 - 45	30	26	4	13	17
46 - 55	11	8	3	5	6
More than 55	3	3	0	2	1
Total Female	57 100%	48 84.2%	9 15.8%	25 43.9%	32 56.1%
Total	116 100%	105 90.5%	11 9.5%	47 40.5%	69 59.5%

Table 5 Percentage of Working Experience in Urban Area (by gender and Age group)

Parents	Number	Working Experience in Town		
		Yes	No	No Ans.
Male				
25 - 35	6	33.3%	66.7%	0%
36 - 45	13	46.2%	53.8%	0%
46 - 55	30	36.7%	63.3%	0%
More than 55	10	20.0%	70.0%	0%
Total Male	59	35.6%	62.7%	1.7%
Female				
25 - 35	13	23.1%	76.9%	0%
36 - 45	30	23.3%	76.7%	0%
46 - 55	11	9.1%	90.9%	0%
More than 55	3	0%	100.0%	0%
Total Female	57	19.3%	80.7%	0%
Total	116	27.6%	71.6%	0.9%

Table 6 Percentage of Newspaper Readers (by gender and age group)

Participants	Number	Do you read newspaper?			
		Never	Yes	No Ans.	Less than 4 per week
Male					
25 - 35	6	66.7%	33.3%	0%	50.0%
36 - 45	13	53.8%	46.2%	0%	100.0%
46 - 55	30	33.3%	56.7%	10.0%	58.8%
More than 55	10	60.0%	40.0%	0%	75.0%
Total Male	59	45.8%	49.2%	5.1%	69.0%
Female					
25 - 35	13	23.1%	76.9%	0%	20.0%
36 - 45	30	73.3%	26.7%	0%	100.0%
46 - 55	11	63.6%	36.4%	0%	75.0%
More than 55	3	100.0%	0%	0%	0%
Total Female	57	61.4%	38.6%	0%	59.1%
Total	116	53.4%	44.0%	2.6%	64.7%

Table 7 Percentage of Television Viewing (by gender and age group)

Participants	Do usually you watch television?				
	Yes	No	How many days per week?		
			1-3 days	4-6 days	7 days
Male					
25 - 35	100%	0%	16.7%	0%	83.3%
36 - 45	100%	0%	23.1%	0%	76.9%
46 - 55	96.7%	3.3%	11.5%	11.5%	76.9%
More than 55	100%	0%	20.0%	40.0%	40.0%
Total Male	98.3%	1.7%	16.4%	12.7%	70.9%
Female					
25 - 35	92.3%	7.7%	33.3%	0%	66.7%
36 - 45	96.7%	3.3%	10.3%	10.3%	79.3%
46 - 55	90.9%	9.1%	30.0%	30.0%	40.0%
More than 55	100%%	0%	33.3%	0%	66.7%
Total Female	94.7%	5.3%	20.4%	11.1%	68.5%
Total	96.6%	3.4%	18.3%	11.9%	69.7%

Table 8 Average Numbers of Children (by age group)

Parents (by age group)	Number of Children			Avg. of Ch'd at Home	Percentage of Children by age group			
	Avg.	Max.	Min		0-5	6-15	16-30	30+
25 - 35	3.2	6	2	3.2	7.9%	87.3%	4.8%	0%
36 - 45	3.7	8	1	2.9	4.3%	54.7%	41.0%	0%
46 - 55	5.4	14	1	3.7	1.8%	31.4%	61.9%	4.9%
More than 55	5.7	11	2	3.2	0%	12.0%	65.3%	22.7%
Total	4.4	14	1	3.2	3.1%	42.5%	49.0%	5.4%

Table 9 Educational Level of Children in School

Parents (by age group)	Average Number of Children in School			Percentage of Children in Each Educational Level			
	Avg.	Max.	Min.	P 1-6	M 1-3	M 3-6	M 6+
25 - 35	2.57	5	1	73.5%	24.5%	2.0%	0%
36 - 45	2.18	4	1	51.1%	33.0%	8.5%	7.4%
46 - 55	1.60	4	1	47.0%	43.9%	7.6%	1.5%
More than 55	1.10	2	1	18.2%	54.5%	9.1%	18.2%
Total	2.00	5	1	53.2%	35.5%	6.8%	4.5%

Note: Figures in this table excluded six parents who do not have any children enrolled in school at the present time.

For those children presently in school, the average number living at home is 2 children, which is about half of the average number of children. Most parents interviewed have children in elementary and lower secondary schools as illustrated in Table 9.

4. PERSPECTIVES ON THE EDUCATIONAL SYSTEM AT VILLAGE LEVEL

An objective of this research is to identify how villagers view education in their villages, which will be useful to explain certain behaviors of parents concerning their children's education. The session began by each participant being asked to draw a picture describing the current situation of education and school system in their village that they could imagine, then each person had to describe his/her picture and combined all ideas into a single group picture that illustrated a picture of the village educational system. Messages derived from each picture would naturally reflect views or opinions of the villagers. Synthesizing all the pictures, we found that each group picture from different villages told a similar story.

All pictures describe that education is very important for their children, and they

are very proud to have children in school. For example, one village picture included a star in the sky to symbolize the brighter future for their children after they finished their education. Previous experiences on working in town and having access to various information such as watching television and reading newspaper made villagers realize the importance of the education.

In general, we found that rural people viewed the education and school system differently from most parents in urban areas. Rural people have developed very close relationships with their schools and the teachers. Children's education, as described by the villagers, mainly emphasized other school activities rather than regular subjects such as mathematics, science, languages, etc. The regular subjects or curriculum symbolized by a school building represented teaching and learning activities behind the close door which villagers do not understand, but they believe it will make their children smarter. Pictures that villagers frequently drew are other school activities including sport activities, mainly football, and various special agricultural training projects, such as school fishery projects, vegetable projects, chicken farms, and rice fields.

Villagers depicted teachers as persons who are teaching everything to their children, including discipline and morals. Pictures showed teachers holding a stick, teachers watching children playing football, and teachers standing in classrooms. Two pictures drawn by villagers from villages near the town showed empty houses on campus for teachers, and they further described that now all teachers like to stay in town. They said it was not like the old days, when teachers lived in the villages and spent more time with the children.

Besides teachers, a janitor was also included as a person who stayed in school, and took care of the school and all special projects. They often pictured a janitor sweeping the ground or feeding fish in a pond.

Villagers were quite impressed with school beautification projects initiated by teachers. Villagers, especially the women, drew pictures of children planting flowers and trees around the school ground, and they thought that it is good activities for their children.

Many parents were pleased to note that this activities was carried out at home.

School facilities -- water supply for drinking, toilets, and an auditorium -- were considered important and necessary, and always included in the pictures. Villagers preferred the elementary school in the village, because they can ensure that their children have sufficient and adequate facilities. We learned that in several villages, parents voluntarily helped the school to develop certain necessary facilities. Some villagers complained that most pupils in town have to buy their own soft drinks due to inadequate supplies of water. As a result, the parents have to spend more money on daily allowances.

Almost all pictures showed that the schools located near the village, and children able to walk to school. A common picture showed of children safely walking along the highway, by carrying a flag and walking as a group. In front of the school, a teacher directed traffic. Several pictures showed children going to school in a crowded bus, as some of children live far from school. Villagers expressed their concerns about this, as their children do not have other means to go to school. Villagers said that each day, there is only one bus picking up the children as well as other passengers along the highway. All children must get on that bus, or miss school that day. It was common to see pupils sitting on roofs of buses.

5. THREE MORE YEARS IN SCHOOL: IS IT IMPORTANT?

Six years compulsory education (Grades 1 - 6) is required by law, and there is no question that most parents will normally enroll their children in a school near their home. After these six years, parents and children decide whether to continue school or enter the labor market. In the past, a large number of people have decided to leave school after finishing grade 6, because of poverty and limited educational opportunities. This pattern is particularly common for the children living in the Northeastern region, which is the poorest region in the country. Most children either helped their parents in the fields, or sought employment in Bangkok or other cities.

Since 1987, the Ministry of Education has put a great deal of efforts and resources to encourage parents, particularly in the rural areas, to send their children on for lower secondary education. The successful indicator of such a program can be measured by how rural people value and think about education.

During the workshops, villagers who have children in school were asked to imagine about their children's future. The majority of villagers (about 80 percent) preferred several professional careers for their children. The most popular professions were doctors, military, policemen, civil servants, and teachers. Both female and male parents show no differences on how they distinguished careers for boys and girls. We found the majority of pictures said that a boy should be a military officer, policeman, doctor, and lawyer, while a girl should be a nurse, teacher, bank worker, and salesperson. Very few parents (less than 5 percent) wanted their children to be a farmer, and most of them know which child will follow the family tradition. There were several reasons given as follows: farmers can earn less income and farming is hard work; no more land is available for all their children; other older children who did not have any opportunity to further their education are helping on the farm; and being a farmer is not a prestigious career, therefore, some of their children who are now in school should have a better career. The rest of the villagers did not mention any profession, but they mentioned that they want their children to be good persons. They gave as reasons that they were not sure how much they can afford to send their children to school, and it also depends on the children's choice in the future.

The descriptions of all the pictures confirm that, in general, the majority of villagers agree that education is important for their children's' future. The compulsory education requires that all children must finish elementary education, which now most villagers find not enough to get a decent job in the formal sector. They realize that the labor market is now demanding at least the lower secondary education. Information on job opportunities flow to villagers through three main channels. The first is from friends and relatives who migrated to town and have experiences on job hunting. They returned with information to tell their friends and relatives back home about the job requirement, especially for those who want to work in a factory. The second channel is from newspaper advertising. Even though we found that only 44 percent of villagers interviewed read

newspapers, and the majority of them did not read it every day, villagers mentioned that they learn from newspapers job advertising that only those with at least lower secondary education can apply for the job. The last channel is from local government officers, including kamnan, village chief, teachers, and educational officers at district and provincial levels, who convince some parents to send their children to further education.

Without lower secondary education, as mentioned by villagers, one can only expect low pay and hard working jobs such as by becoming construction workers, unskilled workers, and domestic servants. Villagers know that there is a big difference between wages paid for workers with and without lower secondary education (3,500 versus 4,500 baht per month). A person with primary education often cannot find employment, and has to return to work on the farm, and, sometimes, has become a burden for the parents. Pay scales and job opportunities seem to be the first two primary reasons that villagers have taken into account in investing in their children's' education. In connection with job opportunities, villagers found that their children when finished elementary education (normally about 11-12 years old) are still too young to enter into the labor market. One of the major problems is that they cannot apply for a citizen identification card, which is usually required for most job applications in the formal sector, and they will get less pay if they work as a farm worker (about 20-30 baths per day). Most parents said their children could help on the family farm but they could not expect too much.

Villagers felt that the lower secondary education is good. Although they do not quite understand what and how much knowledge lower secondary education will give to their children. They believe that, with this educational experience and certificate, their children will be smarter, have greater opportunities to get a good job, and have a better life and future than the parents. In addition, some villagers said enrollment of the lower secondary education will ensure that their children are able to continue in the upper secondary and higher educational level if they wanted to.

6. LOWER SECONDARY SCHOOL IN TOWN

The majority of rural people do not live near a secondary school. Thus, for parents in many villages, sending a child to secondary school means higher expenses and many other problems.

There are several pre-conditions that most parents in rural villages have to consider.

1) Is the family able to afford to send another child to school, and how much money do they need to spend?

2) How much do their child want to enroll in secondary school?

3) Where do they have to send their child to school?

While most parents want to give all children as much education as they can afford, the family economic situation is the first and the most important key factor influencing the parents' decision to send certain child to school. Sending a child to lower secondary school will cost money. Children will be able to continue to lower secondary education, if parents have some money or can arrange to borrow the money. The most disadvantaged child is the eldest one, because at the time he/she finished school, his/her parents were usually too poor and had other children in school to finance. In general, the older sons or daughters have had less educational opportunities, which seem to be a similar pattern we found from all the profiles of the interviewees. The younger children usually have a better chance, since bothers and sisters are now working and supporting the family.

The second factor is how much a child wants to continue to lower secondary school. Villagers said age and child performance in elementary school will also determine the transition from grade 6 to 7. Parents may decide to discontinue schooling, if previous performance was not good enough. Usually, it is also the child's decision not to continue. In addition, children older than 14 years are more likely to enter the labor market, or get married.

The third factor influencing the parent's decision to send their children to school is the location of lower secondary school. If there is no secondary school in the village, some villagers will have to reconsider about this enrolling their child, as there are several issues involved. Direct costs will be much higher -- for dormitory or transportation. They may have to worry about the child's' safety and behavior when they are away from home without a chaperon.

Although villagers know there are many problems, the majority of them confirmed that three years of the lower secondary education is important and they wish to see their children continue to the secondary school and higher education if there is an opportunity.

We found that if they could afford to send their children to secondary education, some villagers and most children preferred a school in town. The reasons they gave can be summarized as follows:

1) The children would receive a better education, because the secondary schools in town would have better teachers and teaching equipments.

2) It was believed that if their children wanted to pursue a higher education, they would have more opportunity.

3) By going to school in a town, their children would make more friends that may prove useful in the future.

4) For children's reason, life would be more excited.

However, there are many disadvantages. Many villagers who have sent their children to school in town also mentioned about the problems of allowing their children to attend school in town. The first problem would be the expenses. Many parents would have to work harder, or find temporary jobs such as construction work, or riding tricycle in towns, especially when children needed extra money for school activities. Many people said that, sometimes, they have to borrow money from friends or relatives. Daily allowances would be increased for buying lunch at school. Uniforms, shoes, books, and

school materials are relatively expensive.[10] As their children are older, they must pay full fare for transportation to school. Concerning travelling, most parents said they were worried about the children's safety and car accidents. In many cases, the school is too to far to commute, parents have to pay for room and board in town. This creates other problems, as more and more children who live in town get into trouble due to a lack of guardianship, and too many temptations. Many children have dropped out of school. Because of fears for the safety of children in lodging, many parents decide not to send their daughters to school away from home. Therefore, many of them are helping their parents until they are old enough to find work in other cities.

Another disadvantage mentioned was that children staying in towns created a a shortage of family labor during the harvest season, and help for daily house work.

In summary, we found that the majority of parents agreed that lack of sufficient funds is the key reason for their children not being able to continue their education. Other problems are minor, and could be worked out. If they thought they could earn the money, they would try to send their children to school. If a child shows some interest and potential, most parents are willing to work harder to obtain the necessary funds. From the above findings, we believe, children would have a greater educational opportunity and the parent's decision would be easier, if education is not so expensive.

7. LOWER SECONDARY EDUCATION IN THE VILLAGE

As mentioned earlier, the Ministry of Education is endeavoring to expand the educational opportunities for pupils in rural villages who finished grade 6. Two projects are in operation: the pilot project to expand grades 7-9 in elementary schools, implemented by ONPEC; and secondary school branches at the tambon level of the Department of

10. Villagers who have to send a child to lower secondary school in a town which located 15-20 kilometers from their village, estimated the average costs per year as follows: tuition fee is 620 baht; daily allowance and transportation are 3,000 baht; textbooks uniforms, and materials are about 2,800 baht; sport, handcraft activities and other costs are about 700 baht. Total expenses for a pupil per year is 7,120 baht per year or about 890 baht per month. If the pupil has to stay in a dormitory or rented room, the estimate cost is about 1,200 per month.

General Education. Both projects are aimed at expanding educational opportunities for children in rural areas, and offering some incentives to motivate parents to send their children for secondary school.

Parents with children presently enrolled in both projects were interviewed. Only a few parents who currently sends their children at secondary school branch were interviewed, the answers, however, were similar.

In general, the majority of parents liked the educational expansion projects. They were very pleased to have a lower secondary school near their home. Supporting reasons given by the parents are as follows:

1) The project created more opportunities for children in villages to obtain higher education. Most parents believed that the longer their children were in school, and the closer they are with their teachers, the better they would be in the future. Unlike urban parents, villagers said that they have time to be with their children, but they believed that teachers would be better persons to influence their children. Parents believed that good teachers have a great deal of influence on children's behaviors. Parents expected their children to be more knowledgeable, more responsible, and have greater job opportunities after finishing grade 9, or lower secondary education.

2) For many poor parents, a project that offers financial incentives, such as free tuition, textbooks, and uniform has unquestionably provided a unique educational opportunity for their child. They are willing to send their child to school for three more years as they feel no drastic change in the economic situation of the family. Children would go to school as they did when at elementary school. Direct costs may go up a little but they could find some money. Family labor would still be available when necessary.

3) Children could walk to school, which would be safer than taking a public bus and there would be no transportation costs.

4) Living close to the school, poor children could return home for lunch, thus saving money. Most children, however, preferred having lunch at school but wherever a school lunch program is not available, many children have to bring lunch or go home.

5) The child could continue helping the family with domestic chores such as cleaning the house, feeding animals, and watering vegetables before and after school. Many parents preferred this type of arrangement so the children would not become too urbanized.

6) The whole family could still live together, which is good for both children and parents. Many parents thought this was one of the best benefits of the program. They could take care of their children, and not be separated as they would if the child had stay in town most of the time.

In summary, the true beneficiaries of the project are those people who are very poor and have no opportunities to send their children to school in towns. We found from the survey that the project has not always reached the most disadvantaged groups, as several villagers shared their experiences that many poorer villagers still chose not to send their children to school at all, the main reason being that they could not afford to, even though they paid less to send their child at the village school. It is obvious that partial financial assistance from the project did not cover all the expenses, and each parent would have to pay about two thirds of direct educational costs. For them, there is no alternative but to send their children to school only as far as compulsory education. We were told that some children often volunteered to leave school as they knew of the family's financial situation. Many others felt depressed by being unable to continue their education. The majority of children want to go to secondary school, except for those who did not do well in elementary school, and do not liked to study.

Those who send their children to a lower secondary school, which is a branch of the secondary school in town told similar stories. Even though they had to pay some transportation costs, these were less than sending their children to school in towns, where they would have to stay in rented rooms.

A major advantage mentioned by the villagers was having more school services. The branch system or the secondary school within the elementary school system meant more educational choices for the children in the area. Limited spaces and high "charity" fees requested by many secondary schools in towns are additional difficulties, besides some

of the problems mentioned earlier. Each academic year, there have been a large number of children who could not enroll in a selected secondary school in town. The secondary school in the village becomes another alternative as the school registration starts after the secondary school in town.

There are both advantages and disadvantages. One advantage is that is that the children will be ensured of a place in school, and do not have to stay idle an academic year. Parents wishing to send their children to school in towns had conflicting opinions. They liked the project and the school, but they felt it was not the best choice. Often, pupils wanted to be transferred to a school when the opportunity arises. Alternatively, some parents transferred a child from a school in town to take advantage of the financial assistance of the program. Many educational administrators have become concerned about this problem. Therefore, to reinforce the policy to expand educational opportunities and increase transition rates, geographic location of the pilot projects should be of prime importance. The pilot project should be initiated in truly remote areas, where the transition rates have been low and there are no other secondary schools in nearby areas.

Due to the early stage of the projects, especially the pilot project of ONPEC, their are a number of confusions and problems expressed by most parents. Even through most parents felt that they and their children would fully benefit from the pilot project, some parents are skeptical about the outcome of the project.

From our survey, we found three types of parents with children in the lower secondary school project. By dividing them into three categories, it is evident the different types of opinions and behaviors, as shown in the following:

1) Parents who are very poor, and cannot send their children to school if there are no financial assistances of the pilot projects.

This first group of parents will probably want their children to help earning extra income for the family. However, they may be persuaded by the school principal, teacher, village chief, local educational officer, friends, or their own child to apply for the project.

This first group decided that they would like their children to finish grade 9, but could not unless financial assistance such as scholarship was available. They expected that with a grade 9 certificate, the child would receive better pay. This group of parents were not really concerned much about the normal curriculum, they preferred their children to be trained in vocational courses such as electronic, mechanical, dress making courses, etc. They did not know if they would be able to afford higher level of education than the lower secondary level in the future.

2) Parents with low incomes who try to find ways to earn more money, if it is necessary in order to send their children to school in village or in town.

For them, it was important that the child received as high an education as possible. These parents also think it is a good idea to be able to delay sending their child to school in town for three more years. By that time, the child would be older. Most of them felt that educational costs were too high and living conditions in town were not desirable for them at this time, therefore they chose to have their children attend school in the village.

This group believes that a child should at least finish grade nine or higher. They felt that the pilot project was very good to offer such an opportunity, and they are more comfortable taking care of their child at home. They hoped that after this lower secondary education, they might be able to send their children to upper secondary education in town. To send a child for higher education, the following three criteria have to be met:

a) The family financial situation is manageable,

b) The child shows his/her enthusiasm to continue to higher education, and

c) The child's academic performance has always been good.

These parents expected that the three years lower secondary educational service in the village would be academically good enough to enable their child to easily transfer to an upper secondary school in a town. They expressed their concern about the new curriculum, which seems to put more emphasis on vocational and agricultural training. As they are

willing to invest in their children's education at a higher level, they do not expect the child to become a farmer.

3) Parents who have enough money, or are able to earn more, can provide their children with the best opportunities which would be to enroll them in a better school in a town or in Bangkok.

This type of parent preferred to send their children to secondary schools in towns or elsewhere, because they always believe their child will get better academic training and more experience. They felt that the schools in towns have better teachers and teaching equipment, thus a child would be in a better learning environment. They have similar ideas on education as we found among parents in urban areas, who preferred to send their children to famous private school. The reasons for their child's enrollment in the project were:

a) The child was unable to enroll in a selected schools in town,

b) Education is partially subsidized,

c) It was not a bad idea to have their children living at home for three more years.

The parents were not sure that the lower secondary school in the village was the best choice. They were the group who worried about academic standards and the quality of teaching. Many of them said that their child wanted to re-apply for the lower secondary school in town the following academic year. They said their child felt degraded at attending the village school because no examination was required, and other upper secondary schools may not recognize the grade 9 certificate from such a school.

Most parents interviewed were familiar with the pilot project implemented by ONPEC. They expressed the desire to see some improvements of the pilot project in their village. The overall comments and suggestions from parents can be summarized as follows:

1) The quality of teacher is something most villagers find difficult to comment on, because they themselves had received only a limited educational experiences. They thought that the

majority of the teachers were good though they were quite concerned with the performance of teachers who did not keep up with the teaching schedule. Villagers want teachers to spend as much time as it has been scheduled with the children, and give more attention to children's behavior and morals. Villagers said they did not expect teachers to stay overtime, but they would like them to be in class on time.

2) Textbooks and uniform distribution should be better managed. At present, many parents said free uniforms usually did not fit their child, and therefore they had to buy their own uniforms. Textbooks sometimes did not arrive on time, and so parents had to buy an extra set themselves.

3) Schools should be more flexible with the uniforms of other school activities, such as boy scout and girl guide uniforms, annual sports activities which also required different colored uniforms, and other materials for special vocational courses. All cost more than the tuition fee, and they thought some items should be subsidized, and the others should be available for borrowing, such as sports uniforms.

Certainly, all parents expressed their wish to provide the best educational opportunities for all their children. But because of poverty, they and their children were forced to choose between family survival and the children's education, and naturally, education had to receive a lower priority.

8. POLICY IMPLICATIONS AND RECOMMENDATIONS

Results from field research and interviews with 116 parents in different villages gave new dimensions for analyzing previous performance, and providing options for future government policy on lower secondary education. Although the majority of parents in poor rural areas think and behave differently from urban parents, but they do have one thing in common. They all share the same dream -- a better future for their children, through better education.

8.1 Needs of Parents for More Educational Opportunity for Their Children

The majority of parents realize that grade 6, or compulsory education, is not sufficient for their children to survive and compete in the job market. Most parents hope that their children will finish at least grade 9, and have lower secondary educational experiences and certificates, so that they will not end up in the lower-paying job. We were told by most parents that they were more than willing to find ways to send their children to school if two out of three factors are met -- (1) the family financial situation is manageable, (2) the child shows his/her enthusiasm to continuation to higher education, and (3) the child's academic performance has always been good.

In many poor families, when parents ask a child whether he/she wishes to continue to secondary school, the child usually hesitates to express his/her own needs, because it was obvious that educational expenses would be a burden for their parents. Older sons or daughters of the family volunteered to find work in order to help support the family.

Roughly half of the pupils who finished grade 6 do not go to secondary school, and many have been forced by family poverty to enter into the labor market. Many of them have been exploited and abused.

The survey data, however, suggest that most children expressed their desire to continue into lower secondary education. To increase the level of secondary educational enrollment, it is important to understand the situation of both the parents and children. Poverty is a major problem for most families, and a great deal of political and developmental efforts to solve this problem is needed. If education is important for national development, various measures and interventions are necessary to support these poor families. Subsidized lower secondary education similar to the pilot project is still necessary for poor families, especially for those who live in remote area villages.

But, financial support is not the only factor that motivates most parents to send their children to school. As mentioned earlier, if parents believe education is worthwhile,

they will work harder to find additional funds. Thus, we are left with two other factors -- the children's academic performance, and the children's eagerness. These two factors can be considered side by side and may occurred since the elementary educational level. If any child did not do well in elementary school, they may not want to continue with their education. Tackling these various problems will help increase the lower secondary educational ratios in Thailand.

8.2 Improvement of Schools and Curriculum, and Upgrading Elementary School Teachers

To meet the above demand, it is important to consider various educational services available for rural people. Public schools are the only option for those who cannot afford to send their children to school in towns. Establishing more public schools to teach lower secondary education alone is not sufficient to solve this problem. School programs must demonstrate to parents and children that it is worth their while to spend three years of their time, and to invest money on education. If they feel they can benefit from a lower secondary education, they will enroll. On the other hand, if the school and curriculum are unable to meet their expectations, most people will not waste their time and money.

Therefore, to motivate more people towards a lower secondary education, there is an urgent need to maintain and improve the quality of schools in rural areas. Parents and children need to be assured that graduation from these school will be recognized, and that the quality of education can be guaranteed.

To improve lower secondary educational standards in rural areas, there are three interrelated factors to be considered:

1) Teachers who are assigned to teach the lower secondary level should be trained in the appropriate fields. Available teachers should be assessed in order to place them in appropriate areas.

2) The curriculum should be flexible, and suitable for the needs of the community. Parents and pupils should be helped to understand the details of the curriculum being offered at their

local schools.

3) Budget should be allocated to buy the necessary teaching equipment.

8.3 Government Interventions: Projects and Policies

Expanding educational opportunities to rural children through a lower secondary program in elementary schools proved to be a useful tool. The program will increase the enrollment rates of lower secondary education. A numbers of difficulties, however, still exist, and appropriate solutions are urgently needed in the 4 following areas:

1) Coordination of educational opportunity projects implemented by all agencies, including the Office of the National Primary Education Commission, the Department of General Education, the Department Non-Formal Education and several related organizations, is needed in order to avoid redundancy in geographical location, and wasteful use of resources. School mapping, and pupils and teachers database will be useful.

2) Management lessons and experiences of all the pilot projects and their outcomes should be reviewed in order to identify appropriate educational strategies, and to improved the educational expansion projects for the future.

3) Sufficient budget should be allocated to upgrade elementary level teachers, to provide teaching equipments, and to improve curriculums.

4) Selection of school location should be more careful, and new criteria for recruiting schools should be created.

In addition, fully and partially subsidized educational programs should be designed to encourage the poorer people to send their children to school. Fully subsidized educational programs include both tuition fee and all direct costs.

Besides the above educational subsidies for secondary education, the government, through various government banks or the Ministry of Education, should initiate educational

funds program, offering long-term low-interest educational loans to pupils wishing to participate in lower secondary education and higher education. The loan can be paid back when the pupils earn money.

Appendix I

Names of Provinces Making up Educational and Geographic Regions in Thailand

Geographic region	Educational region	Provinces	
I CENTRAL (around Bangkok)	1	Nakhonpathom Nonthaburi Pathumthani	Samutprakan Samutsakhon
SOUTH	2	Yala Pattani	Narathiwat Satun
	3	Songkhla Phattalung	Nakhonsithammarat Chumphon
	4	Phuket Trang Krabi	Phangnga Ranong
II CENTRAL	5	Ratchaburi Phetchaburi Prachuapkhirikhan	Supanburi Kanchanaburi Samutsongkhhram
	6	Lopburi Ayutthaya Angthong Saraburi	Singburi Uthaithani Chainat
NORTH	7	Phitsanulok Tak Kamphaengphet Nakhonsawan	Pichit Uttaradit Sukhothai Phetchabun
	8	Chiangmai Lumpang Maehongson Chiangrai	Nan Lamphun Phrae Phayao
NORTH-EAST	9	Udonthani Loei Sakonnakhon	Khonkaen Nongkhai
	10	Udonratchathani Roi Et Nakhonphanom Mahasarakham	Yasothon Kalasin Mukdahsan
	11	Nakhonrachasima Surin Sisaket	Burirum Chaiyaphum
III EAST CENTRAL	12	Chachoengsao Prachinburi Nakhonnayak Chonburi	Chanthaburi Rayong Trat
BANGKOK METROPOLITAN AREA	13	Bangkok	

THAI SCHOOLING INVESTMENT IN AN INTERNATIONAL PERSPECTIVE

by

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สรุปสำหรับผู้บริหาร

การลงทุนในการศึกษาของไทยในทัศนะระหว่างประเทศ

รายงานฉบับนี้อธิบายการลงทุนการศึกษาในประเทศไทยเปรียบเทียบกับประเทศอื่น ๆ ตลอดจนการเปลี่ยนแปลงของการลงทุน ในช่วงปี ค.ศ. 1965 และ 1987 ตัวแปรต่าง ๆ (ทางขวามือ) ที่ใช้อธิบายประสบการณ์การลงทุนในการศึกษา (โดยสมการถดถอย) ของแต่ละประเทศคือ ตัวแปรรายได้และอัตราการอ่านออกเขียนได้ (การรู้หนังสือ) ของชายและหญิงที่เป็นผู้ใหญ่แล้ว (ซึ่งในกรณีนี้ได้กำหนดให้การรู้หนังสือนี้มีความสัมพันธ์ผกผันกับการลงทุนในการศึกษาในรูปของค่าใช้จ่ายในการจ้างครู)

ผลจากสมการถดถอย ปี ค.ศ. 1965 ช่วยชี้ให้เห็นว่าประเทศไทยโดยเปรียบเทียบแล้วมีอัตราการเข้าเรียน (enrollment) และจำนวนปีที่เรียนเฉลี่ย ต่ำกว่าประเทศอื่น ๆ ถ้าได้รวมเอาอัตราการรู้หนังสือของผู้ใหญ่และรายได้ไว้ด้วยในการวิเคราะห์ ทั้งนี้เพราะประเทศไทยมีผู้ที่รู้หนังสือที่เป็นผู้ใหญ่โดยเปรียบเทียบแล้วค่อนข้างมาก เพราะฉะนั้นจึงมีค่าใช้จ่ายในการจ้างครู (การลงทุนในการศึกษา) ต่ำกว่าประเทศอื่น ๆ แต่ถ้าเราควบคุมเฉพาะตัวแปรรายได้ (แต่ไม่ควบคุมอัตราการรู้หนังสือของผู้ใหญ่) ในการวิเคราะห์ ประเทศไทยจะมีอัตราการเข้าเรียนระดับประถมศึกษาและมัธยมศึกษา (ไม่รวมอุดมศึกษา) และจำนวนปีที่เรียนเฉลี่ยอยู่ในระดับที่ค่อนข้างสูง ขณะเดียวกันกลุ่มผู้หญิงจะมีอัตราการเข้าเรียนและจำนวนปีที่เรียนเฉลี่ยอยู่ในระดับสูงโดยเปรียบเทียบเช่นเดียวกัน จึงทำให้ปัญหาความแตกต่างระหว่างเพศมีค่อนข้างน้อย

ผลจากสมการถดถอย ปี ค.ศ. 1987 ได้ชี้ให้เห็นว่าประเทศไทยมีอัตราการเข้าเรียนและจำนวนปีที่เรียนเฉลี่ยในทุกระดับต่ำกว่าประเทศอื่น ๆ ที่อยู่ในระดับการพัฒนาใกล้เคียงกับประเทศไทย และเมื่อได้เปรียบเทียบการเปลี่ยนแปลงระหว่าง ปี ค.ศ. 1965 และปี ค.ศ. 1987 จะพบว่าประเทศไทยได้มีการเปลี่ยนแปลงอัตราการเข้าเรียนในระดับประถมที่สูงกว่าประเทศอื่น ๆ ที่นำมาเปรียบเทียบ แต่กลับจะด้อยกว่าประเทศอื่น ๆ มาก ในกรณีการเปลี่ยนแปลงการเข้าเรียนในระดับมัธยมศึกษาและจำนวนปีที่เรียนเฉลี่ย ส่วนระดับอุดมศึกษานั้นใกล้เคียงกับประเทศอื่นถึงแม้ว่าจะต่ำกว่าเล็กน้อย ดังนั้นจากการเปรียบเทียบประสบการณ์ของประเทศอื่น ๆ ในช่วง 2 ทศวรรษที่ผ่านมาประเทศไทยได้มีการลงทุนในการศึกษาที่เพิ่มขึ้นเพียงเล็กน้อย และโดยเฉพาะอย่างยิ่งการลงทุนในระดับมัธยมศึกษาไม่ได้ขยายมากเท่าที่ควร

EXECUTIVE SUMMARY
Thai Schooling Investment in an International Perspective

This paper describes how Thai investments in schooling compare with cross-country experience in 1965 and 1987, and for the changes between these years. The right-side variables in the regressions that are used to characterize the cross-country experience are nonlinear functions in income and the adult male and female literacy rates (which can be given an interpretation of representing inversely the relative price of school staff). The regressions for 1965 suggest that Thailand had relatively low school enrollment rates and expected years of schooling for a synthetic cohort if the adult literacy rates are included in addition to income because it had relatively high stocks of literate adults and therefore what we interpret as low prices of skilled labor to staff schools. If only income (and not adult literacy rates) is controlled, however, Thailand had relatively high primary and secondary (though not tertiary) enrollment rates and expected years of schooling. The primary enrollment rates and therefore the expected years of schooling were relatively high for females, so the gender gap was relatively small. The regressions for 1987 suggest that Thailand was below the cross-country primary, secondary, and tertiary enrollment and expected years of schooling experience. With regard to the changes between 1965 and 1987, Thailand was above the cross-country experience for the primary enrollment rate, but below the cross-country experience substantially for secondary enrollments and expected years of school and slightly for tertiary enrollments. Thus, in comparison with the cross-country experience in these two decades, Thailand had small total increases in schooling investment and a shift away from secondary investments.

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THAI SCHOOLING INVESTMENT IN AN INTERNATIONAL PERSPECTIVE

1. INTRODUCTION

Schooling is widely thought to be an important human capital investment with significant potential for increasing growth and equity in developing countries. While there may be some disagreements about just how effective schooling is for these purposes and how well empirical estimates of the impact of schooling control for factors such as ability, motivation, schooling quality, and family background, there seems to be widespread agreement that the effects of schooling are likely to be substantial and important in many developing country contexts.[1]

The purpose of this paper is to provide some simple descriptive cross-country perspective regarding how Thai schooling investments compare with those in other developing countries based primarily on data in World Bank (1990a), supplemented by data from UNESCO (1965, 1970). Such description is limited by the data that are available and by measurement problems for those data. For example, only enrollment rates and literacy rates are available to represent schooling investments and stocks of educated individuals, without control for grade repetition nor for the quality of the schooling,[2] and there are differences in definitions of variables such as literacy across countries. Also only per capita GNP at official exchange rates are available to represent per capita income for many of the countries, so these data are used instead of purchasing-power-parity measures of income per capita. Even aside from such data problems, such description in itself does not answer any very profound questions, nor does it provide a very firm basis for comments on causality. But it may provoke some questions about why the Thai experience differs, to the extent that it does, from that of other developing countries.

Section 2 presents the enrollment and illiteracy rates for Thailand and, for comparison, the averages for all low-income and middle-income countries, for 1965 and

1987. Section 3 summarizes where Thailand stands with regard to total schooling enrollment rates and the implied expected years of schooling for a synthetic cohort in comparison with cross-country regressions that control for GNP per capita and an indicator of the schooling price in the same two years. Section 4 describes similar relations for males and females and for the differences between them. Section 5 summarizes where Thailand stands with regard to changes in these variables between 1965 and 1987 in comparison with cross-country regressions that control for changes in real GNP per capita and in the indicator of the price of schooling during this period and for all country-specific fixed effects.

2. THAI ENROLLMENT AND ILLITERACY RATES IN 1965 AND 1987

Table 1 gives primary, secondary and tertiary school enrollment rates and adult illiteracy rates for Thailand and for the averages for low- and middle-income country groups.[3]

Enrollment rates reflect one important component of the current investment in schooling. In 1965 Thai total and female primary schooling enrollment rates respectively were 78 and 74 per cent of the numbers of individuals in the primary school age group.[4] The total rate was the above the mean of 73 per cent for current low-income countries, and low relative to the mean of 92 per cent for the current middle-income countries. The female rate was low relative to the 86 per cent rate for the middle-income countries though the gender gap was about the same as the average for the middle-income countries.[5] The total secondary enrollment rate was 14 per cent, both below the means for current low-income (20 per cent) and middle-income countries (26 per cent). The female secondary school rate was lower at 11 per cent, with the gap about the same as for the current middle-income countries' mean. The total tertiary enrollment rate of 2 per cent was the same as the mean for current low-income countries and below the 6 per cent mean for current middle-income countries. Thus in 1965 Thailand in comparison with the current low-income countries had somewhat high total primary school enrollment rates, a low secondary school enrollment rate, and an average tertiary enrollment rate. In comparison

with current middle-income country means, at all three levels the Thai enrollment rates were low, but the gender gaps were about average at both the primary and the secondary levels.

Table 1. Thai Country Mean Enrollment and Literacy Rates in 1965 and 1987

	Percentage of age group enrolled in education										Adult illiteracy rates in 1985	
	Primary				Secondary				Tertiary			
	Total		Female		Total		Female		Total		Total	Female
	1965	1987	1965	1987	1965	1987	1965	1987	1965	1987		
Thailand	78	95	74	..	14	28	11	..	2	11[a]	9	12
Low-income	73	104	..	95	20	37	..	29	2	..	44	58
Middle-income	92	104	86	101	26	54	22	54	6	17	26	31

[a]World Bank (1990a) reports 20 per cent. But this is believed to be a substantial overestimate in comparison with other countries because of the nature of the open university (see note 6 in the text). Therefore the estimates from World Bank (1990b) and Sussangkarn (1991) is used here..

In 1987 Thai total primary schooling enrollment rates of 95 per cent were 17 per cent higher than in 1965, but 9 per cent lower than the means of 104 per cent for all developing countries. The Thai total secondary school enrollment rate had doubled from 14 to 28 per cent by 1987, with the latter level substantially below the mean experiences of all low-income countries and of all middle-income countries. Thai tertiary enrollment rates increased from 2 to 11 per cent between 1965 and 1987, but with both the change between these years and the absolute level in the latter year somewhat below the means for middle-income countries.[6]

Adult illiteracy rates reflect (inversely) one possibly important component of the

stock of human capital. In 1985 the Thai total adult illiteracy rate was 9 per cent, far below the means of 44 per cent for low-income countries and of 26 per cent for middle-income countries. That for females of 12 percent also was far below the means of 58 per cent for low-income countries and of 32 per cent for middle-income countries.

Thus, Thailand had a profile of investments in schooling in 1987 that differed from the mean experiences of other developing countries. In comparison with the mean experience of middle-income countries, the primary, secondary and tertiary enrollment rates were low, but the adult literacy rates were high. That is, the investments in schooling seemed relatively limited, though the literacy rates indicate relatively broad basic education for the total population and for females.[7]

3. COMPARISONS OF TOTAL THAI SCHOOLING INVESTMENT WITH CROSS-COUNTRY EXPERIENCE

We now turn to comparisons of Thai schooling investments in 1965 and 1987 with cross-country regressions based on all countries in the World Bank (1990a) that have the necessary data. The dependent variables are the total enrollment rates for each of the three schooling levels and the expected years of schooling implied by those rates for a synthetic cohort that experience such schooling enrollment rates.[8]

We present four cross-country regressions for each dependent variable. Each of these regressions controls for average per capita income[9] in the relevant year and the last two of which control for an indicator of the scarcity cost, or the price of schooling. The income and price effects can be interpreted as representing the income and price demand effects for school investments, under the presumption that such effects are transmitted in part through the political system for public schools in addition to any more direct demand effects for private schools.[10] The proxy that we use for the relative price of schooling is the adult literacy rate.[11],[12] The argument for interpreting this variable as a price variable has three components: First, the relative price of sufficiently skilled labor to staff the school levels that most students attend and of inputs that are complementary with schooling[13] is

inversely related to the share of the adult population that has such skills.[14] Second, the adult literacy rate is a good proxy for the relative size of the adult population with such skills.[15] Third, that the literacy rate is not representing other, nonprice considerations.[16] Because there may be some gender segmentation in the labor markets for skilled persons, we include the literacy rates separately for adult males and females. Because the literacy rates are proxies for the relevant scarcity prices and have some definite limitations as such, we present the regressions without them as well as those with them.[17]

The four regressions that we present for each outcome are as follows: (A) only a quadratic in real per capita GNP, with the quadratic to allow for changing marginal income effects; (B) both with a dichotomous variable for the country group (i.e., lower-middle-income, upper-middle-income, and high-income, with low-income as the reference group) into which each country falls and with a quadratic in per capita GNP to capture variations within these broad country groups; (C) same as (A) but with both the male and female adult literacy rates in addition; and (D) same as (B) but with both male and female adult literacy rates in addition. Regression (A) is the simplest regression, for which reason we use it when we present some figures below. However for some of the outcomes, the income effect is more consistent with the variance in the dependent variable if we include in addition the country-group dichotomous variables as in (B), which suggests an added income nonlinearity beyond that captured by the quadratic in income.[18] Regressions C and D, with the price proxies, are in some cases considerably more consistent with the variance in the educational investments of interest in the cross-country regressions in Tables 2 and 3.[19] For this reason we focus on alternatives C and D in discussing the regression results in these two tables, but we attempt to note cases in which the conclusion that one draws differs importantly for one of the other alternatives. We refer to D or C as the preferred regression depending upon whether or not the country-group dichotomous variables add significantly to the consistency of the relation with the cross-country variance in a given dependent variable. In the differenced regressions in Table 4, however, regressions B usually are preferred in the sense of being most consistent with the variance in the dependent variables.

Table 2. Cross-Country Regressions for Total Schooling Investments: 1965 and 1987

Dependent Variable		Constant	Income	Income^2	Country Group			Adult Literacy Rate		R^2	N	F	Residual for Thailand
					Lower-Middle	Upper-Middle	High	Male	Female				
1965 Enrollment Rates													
1. Primary	(A)	68.6 (19.2)	0.00050 (4.3)	-1.2*10-7 (2.7)						.18	96	11.9	7.5
	(B)	56.2 (12.4)	0.0032 (0.8)	-6.5*10-8 (0.7)	25.3 (3.8)	31.0 (2.1)	20.7 (0.7)			.30	96	9.2	20.6
	(C)	46.2 (6.4)	-0.00072 (0.6)	4.1*10-8 (1.1)				.82 (3.1)	-.20 (0.9)	.45	64	14.1	-21.6
	(D)	41.3 (5.2)	-0.0033 (1.1)	9.9*10-8 (1.4)	11.4 (1.8)	26.1 (2.3)	27.9 (1.3)	.83 (3.2)	-.26 (1.1)	.48	64	9.4	-12.9
2. Secondary	(A)	11.0 (5.9)	0.0069 (11.2)	-1.7*10-7 (7.7)						.60	94	72.9	0.3
	(B)	8.2 (3.3)	0.0038 (1.7)	-9.9*10-8 (1.8)	9.2 (2.5)	12.4 (1.5)	25.9 (1.5)			.62	94	31.4	4.3
	(C)	-4.7 (1.0)	0.0031 (3.9)	-6.4*10-8 (2.6)				.37 (2.1)	.048 (0.3)	.72	62	41.1	-14.5
	(D)	-4.4 (0.8)	-0.00097 (0.5)	2.6*10-8 (0.5)	3.0 (0.7)	7.4 (1.0)	31.3 (2.1)	.41 (2.3)	.016 (0.1)	.73	62	25.3	-14.5
3. Tertiary	(A)	1.4 (2.0)	0.0023 (6.6)	-9.1*10-8 (3.5)						.51	88	46.7	-0.3
	(B)	0.47 (0.5)	0.0041 (3.2)	-1.5*10-7 (2.9)	-0.20 (0.1)	-4.0 (1.0)	-10.7 (1.4)			.51	88	19.4	-0.1
	(C)	-2.5 (1.1)	0.0012 (2.3)	-4.3*10-8 (1.3)				.084 (1.0)	.018 (0.2)	.49	61	15.5	-3.6
	(D)	-2.4 (0.9)	0.0028 (1.8)	-1.0*10-7 (1.6)	-2.5 (1.1)	-5.8 (1.1)	-10.6 (1.1)	.086 (1.0)	.024 (0.3)	.47	61	8.9	-4.8
4. Years of School	(A)	4.7 (14.8)	0.0012 (7.8)	-6.0*10-8 (5.1)						.50	85	44.0	0.4
	(B)	3.7 (9.4)	0.0018 (3.3)	-7.7*10-8 (3.5)	1.5 (2.3)	-1.0 (0.6)	-3.1 (1.0)			.57	85	23.9	1.2
	(C)	2.2 (4.3)	0.00045 (3.8)	-2.5*10-8 (3.5)				.072 (4.0)	-.0057 (0.4)	.80	58	57.8	-2.2
	(D)	1.9 (3.3)	0.00075 (2.1)	-3.7*10-8 (2.6)	-0.026 (0.1)	1.4 (1.3)	-1.6 (0.8)	.077 (4.2)	-.0085 (0.5)	.80	58	33.6	-2.2

Table 2. Cross-Country Regressions for Total Schooling Investments: 1965 and 1987 (Continued)

Dependent Variable		Constant	Income	Income^2	Country Group			Adult Literacy Rate		R^2	N	F	Residual for Thailand
					Lower-Middle	Upper-Middle	High	Male	Female				
1987 Enrollment Rates													
5. Primary	(A)	81.8 (23.2)	0.0059 (3.4)	-2.7*10-7 (2.8)						.13	91	7.8	7.9
	(B)	67.8 (16.8)	0.0089 (1.8)	-3.2*10-7 (1.8)	24.1 (3.7)	11.2 (0.8)	-22.4 (0.8)			.34	91	10.2	-5.1
	(C)	22.0 (2.8)	-0.0020 (1.4)	4.5*10-8 (0.6)				1.0 (4.3)	.014 (0.1)	.65	81	38.1	-21.7
	(D)	21.4 (2.8)	.000086 (0.02)	-2.6*10-8 (0.2)	6.0 (1.1)	-5.2 (0.5)	-8.4 (0.3)	.97 (4.2)	.0041 (0.02)	.65	81	22.8	-24.3
6. Secondary	(A)	25.3 (9.5)	0.011 (8.5)	-3.9*10-7 (5.5)						.70	90	104.7	-7.4
	(B)	17.2 (5.6)	0.0069 (1.9)	-2.0*10-7 (1.4)	18.7 (3.8)	32.0 (3.0)	18.4 (0.8)			.77	90	60.5	-14.4
	(C)	-8.5 (1.2)	0.0063 (5.1)	-2.1*10-7 (3.3)				.48 (2.1)	.11 (0.6)	.84	80	106.0	-24.2
	(D)	-7.9 (1.2)	0.0032 (0.9)	-7.2*10-8 (0.6)	8.1 (1.8)	23.9 (2.5)	21.7 (1.0)	.51 (2.4)	-.0043 (0.02)	.85	80	68.2	-22.5
7. Tertiary	(A)	6.1 (4.1)	0.0034 (5.9)	-9.8*10-8 (3.5)						.51	88	46.5	1.7
	(B)	1.5 (0.8)	0.0016 (1.1)	-3.5*10.8 (0.7)	10.4 (3.7)	12.6 (2.5)	15.0 (1.4)			.57	88	24.5	-2.3
	(C)	3.3 (0.7)	0.0018 (2.9)	-5.1*10-8 (1.8)				-.26 (1.7)	.42 (3.5)	.65	78	37.1	-6.7
	(D)	3.0 (0.6)	0.00061 (0.4)	-1.60*10- (0.3)	5.9 (1.9)	7.5 (1.3)	13.4 (1.0)	-.26 (1.7)	.37 (3.0)	.65	78	21.9	-7.2
8. Years of School	(A)	6.6 (16.2)	0.0012 (6.3)	-4.8*10-8 (4.4)						.53	83	48.0	0.1
	(B)	4.8 (11.2)	0.00079 (1.7)	-2.3*10-8 (1.3)	3.9 (5.9)	4.4 (3.2)	2.2 (0.8)			.72	83	42.8	-1.5
	(C)	0.33 (0.4)	0.00036 (2.4)	-1.2*10-8 (1.6)				.095 (3.5)	.016 (0.7)	.85	73	103.7	-3.1
	(D)	0.19 (0.2)	-.000057 (0.1)	4.0*10-9 (0.3)	2.0 (3.8)	2.9 (2.7)	3.9 (1.5)	.099 (4.0)	-.0037 (0.2	.87	73	73.2	-3.3

Data source: World Bank (1990) and UNESOO (1965, 1970). Enrollment rates (and therefore residuals for enrollment rates) are in percentages. Years of school (i.e., expected years of school for a synthetic cohort as defined in the text) are in years (and therefore so are the residuals for these regressions).

Table 3. Cross-Country Regressions for Male and Female Schooling Investments 1965 and 1987

Dependent Variable		Constant	Income	Income^2	Country Group: Lower-Middle	Country Group: Upper-Middle	Country Group: High	Adult Literacy Rate: Male	Adult Literacy Rate: Female	R^2	N	F	Residual for Thailand
1965 Enrollment Rates													
Primary													
1. Female	(A)	58.6	0.0065	-1.6*10-7						.21	94	13.7	12.8
		(14.6)	(4.9)	(3.3)									
	(B)	44.0	0.0054	-1.2*10-7	28.0	32.9	14.9			.33	94	10.4	27.8
		(8.7)	(1.2)	(1.1)	(3.7)	(1.9)	(0.4)						
	(C)	34.4	-0.0016	6.3*10-8				.67	.14	.59	62	23.1	-20.2
		(4.7)	(1.4)	(1.7)				(2.4)	(0.6)				
	(D)	29.7	-0.0035	1.1*10-7	11.2	26.3	22.1	.63	.12	.61	62	15.0	-10.6
		(3.7)	(1.2)	(1.5)	(1.7)	(2.3)	(1.0)	(2.3)	(0.5)				
2. Male	(A)	77.5	0.0041	-8.5*10-8						.13	94	8.2	2.9
		(21.7)	(3.4)	(2.0)									
	(B)	66.0	0.0021	-3.3*10-8	23.6	27.6	20.9			.23	94	6.7	15.2
		(14.3)	(0.5)	(0.3)	(3.5)	(1.8)	(0.7)						
	(C)	57.6	0.00035	1.5*10-8				1.0	-.57	.28	62	7.1	-23.3
		(7.2)	(0.3)	(0.4)				(3.3)	(2.1)				
	(D)	53.0	-0.0032	9.4*10-8	12.3	27.0	34.9	.99	-.61	.30	62	4.9	-14.1
		(6.0)	(0.9)	(1.2)	(1.7)	(2.1)	(1.4)	(3.3)	(2.2)				
3. Male-Female	(A)	18.9	-0.0024	7.4*10-8						.09	94	5.6	-9.9
		(8.7)	(3.4)	(2.9)									
	(B)	21.9	-0.0033	9.2*10-8	-4.4	-5.3	6.0			.09	94	2.8	-12.6
		(7.4)	(1.2)	(1.4)	(1.0)	(0.5)	(0.3)						
	(C)	23.2	0.0020	-4.8*10-8				.34	-.71	.62	62	26.2	-3.1
		(6.1)	(3.3)	(2.5)				(2.3)	(5.4)				
	(D)	23.2	0.00034	-1.2*10-8	1.2	0.73	12.8	.37	-.73	.61	62	15.1	-3.6
		(5.4)	(0.2)	(0.3)	(0.3)	(0.1)	(1.1)	(2.5)	(5.5)				

Table 3. Cross-Country Regressions for Male and Female Schooling Investments 1965 and 1987 (continued)

Dependent Variable		Constant	Income	Income^2	Country Group			Adult Literacy Rate		R^2	N	F	Residual for Thailand
					Lower-Middle	Upper-Middle	High	Male	Female				
Secondary													
4. Female	(A)	7.8 (4.1)	0.0071 (11.4)	-1.8*10-7 (8.1)						.61	93	73.3	0.4
	(B)	4.8 (1.9)	0.0038 (1.7)	-1.0*10-7 (1.9)	9.5 (2.5)	13.5 (1.6)	27.4 (1.6)			.62	93	31.8	4.7
	(C)	-5.4 (1.2)	0.0025 (3.3)	-5.0*10-8 (2.2)				.12 (0.7)	.34 (2.1)	.77	61	50.7	-12.7
	(D)	-5.4 (1.1)	-0.0016 (0.8)	4.0*10-8 (0.9)	3.4 (0.8)	8.3 (1.1)	31.5 (2.3)	.16 (0.9)	.30 (1.9)	.78	61	31.4	-12.4
5. Male	(A)	13.8 (6.9)	0.0068 (10.3)	-1.6*10-7 (6.9)						.58	93	64.0	0.5
	(B)	10.6 (3.9)	0.0040 (1.6)	-9.7*10-8 (1.7)	9.7 (2.4)	11.9 (1.3)	24.3 (1.4)			.59	93	27.6	4.8
	(C)	-3.5 (0.6)	0.0038 (4.2)	-7.8*10-8 (2.7)				.59 (2.8)	-.21 (1.1)	.65	61	29.5	-15.7
	(D)	-3.3 (0.5)	-0.00030 (0.1)	1.2*10-8 (0.2)	3.1 (0.6)	6.9 (0.8)	31.2 (1.8)	.64 (3.0)	-.25 (1.3)	.66	61	18.1	-15.8
6. Male-Female	(A)	6.1 (6.0)	-0.00025 (0.8)	1.7*10-8 (1.4)						.01	93	1.5	0.0
	(B)	5.8 (4.1)	0.00019 (0.1)	6.7*10-8 (0.2)	0.21 (0.1)	-1.6 (0.3)	-3.0 (0.3)			-.02	93	0.6	0.1
	(C)	2.0 (0.7)	0.0013 (2.9)	-2.7*10-8 (2.0)				.47 (4.5)	-.55 (5.8)	.39	61	10.8	-3.0
	(D)	2.1 (0.7)	0.0013 (1.1)	-2.8*10-8 (1.0)	-0.29 (0.1)	-1.4 (0.3)	-0.34 (4.4)	.48 (5.6)	-.55	.36	61	5.9	-3.4

Table 3. Cross-Country Regressions for Male and Female Schooling Investments 1965 and 1987 (continued)

Dependent Variable		Constant	Income	Income^2	Country Group			Adult Literacy Rate		R^2	N	F	Residual for Thailand
					Lower-Middle	Upper-Middle	High	Male	Female				
Year of School													
7. Female	(A)	3.9 (11.0)	0.0014 (7.7)	-6.6*10-8 (5.1)						.50	84	43.4	0.8
	(B)	2.7 (6.2)	0.0020 (3.3)	-8.5*10-8 (3.5)	1.6 (2.3)	-0.90 (0.5)	-3.7 (1.0)			.57	84	23.5	1.7
	(C)	1.4 (2.7)	0.00032 (2.7)	-2.1*10-8 (2.9)				.049 (2.7)	.033 (2.0)	.85	57	81.2	-2.0
	(D)	1.0 (1.8)	0.00067 (1.9)	-3.4*10-8 (2.4)	-0.023 (0.0)	-1.4 (1.3)	-1.9 (0.9)	.053 (2.8)	.031 (1.9)	.85	57	46.7	-2.0
8. Male	(A)	5.4 (17.4)	0.0011 (7.3)	-5.5*10-8 (4.9)						.47	84	38.6	0.2
	(B)	4.4 (11.3)	0.0017 (3.1)	-7.2*10-8 (3.3)	1.5 (2.4)	-1.1 (0.6)	-2.8 (0.9)			.55	84	21.7	1.0
	(C)	3.1 (5.3)	0.00058 (4.3)	-2.9*10-8 (3.6)				.093 (4.4)	-.043 (2.2)	.70	57	34.0	-2.3
	(D)	2.8 (4.3)	0.00084 (2.1)	-4.0*10-8 (2.5)	0.021 (0.0)	-1.4 (1.1)	-1.3 (0.6)	.098 (4.5)	-.045 (2.4)	.70	57	19.8	-2.3
9. Male-Female	(A)	1.6 (8.4)	-0.00022 (2.3)	1.0*10-8 (1.5)						.07	84	4.1	-0.6
	(B)	1.7 (6.7)	-0.00034 (1.0)	1.3*10-8 (1.0)	-0.069 (0.2)	-0.15 (0.1)	0.93 (0.5)			.05	84	2.0	-0.7
	(C)	1.8 (5.3)	0.00026 (3.5)	-8.6*10-9 (1.9)				.044 (3.7)	-.076 (7.1)	.67	57	30.0	-0.3
	(D)	1.8 (4.7)	0.00017 (0.7)	-5.7*10-9 (0.6)	0.044 (0.1)	-0.025 (0.0)	0.59 (0.4)	.046 (3.7)	-.076 (7.0)	.66	57	16.6	-0.3

Table 3. Cross-Country Regressions for Male and Female Schooling Investments 1965 and 1987 (continued)

Dependent Variable		Constant	Income	Income^2	Country Group			Adult Literacy Rate		R^2	N	F	Residual for Thailand
					Lower-Middle	Upper-Middle	High	Male	Female				
1987 Enrollment Rates													
Primary													
10. Female	(A)	74.4	0.0073	-3.3*10-7						.17	87	9.8	...
		(18.2)	(3.7)	(3.0)									
	(B)	58.1	0.01	-4.0*10-7	28.3	12.4	-27.1			.38	87	11.6	...
		(12.6)	(2.0)	(1.9)	(3.8)	(0.8)	(0.8)						
	(C)	13.0	-0.0025	5.8*10-8				.76	.41	.73	77	52.6	...
		(1.6)	(1.7)	(0.8)				(3.1)	(2.1)				
	(D)	12.1	-0.00017	-2.6*10-8	7.5	-7.7	-8.4	.70	.42	.74	77	32.7	...
		(1.5)	(0.0)	(0.2)	(1.4)	(0.7)	(0.3)	(2.9)	(2.2)				
11. Male	(A)	8.8	0.0044	-2.1*10-7						.07	87	4.3	...
		(25.9)	(2.6)	(2.2)									
	(B)	76.8	0.0073	-2.6*10-7	20.7	8.9	-20.5			.25	87	6.7	...
		(19.0)	(1.5)	(1.4)	(3.2)	(0.6)	(0.7)						
	(C)	29.4	-0.0021	5.7*10-8				1.3	-.35	.54	77	23.5	...
		(3.6)	(1.4)	(0.7)				(5.2)	(1.8)				
	(D)	29.0	-0.00044	1.3*10-9	6.1	-3.1	-6.1	1.2	-.35	.54	77	13.8	...
		(3.5)	(0.1)	(0.0)	(1.1)	(0.3)	(0.2)	(5.0)	(1.8)				
12. Male-Female	(A)	14.4	-0.0029	1.2*10-7						.19	87	11.4	...
		(8.3)	(3.5)	(2.6)									
	(B)	18.7	-0.0039	1.4*10-7	-7.6	-3.4	6.6			.26	87	7.0	...
		(8.6)	(1.5)	(1.4)	(2.2)	(0.5)	(0.4)						
	(C)	16.4	0.00037	-5.3*10-10				.52	-.76	.68	77	42.5	...
		(4.2)	(0.5)	(0.0)				(4.5)	(8.0)				
	(D)	16.9	-0.00027	2.7*10-8	-1.4	4.5	2.2	.54	-.77	.69	77	24.9	...
		(4.3)	(0.1)	(0.3)	(0.5)	(0.8)	(0.2)	(4.6)	(8.1)				

Table 3. Cross-Country Regressions for Male and Female Schooling Investments 1965 and 1987 (continued)

Dependent Variable		Constant	Income	Income^2	Country Group: Lower-Middle	Country Group: Upper-Middle	Country Group: High	Adult Literacy Rate: Male	Adult Literacy Rate: Female	R^2	N	F	Residual for Thailand
Secondary													
13. Female	(A)	21.3	0.012	-4.2*10-7						.70	84	98.9	...
		(7.1)	(8.2)	(5.3)									
	(B)	11.7	0.0075	-2.1*10-7	23.2	35.7	21.3			.78	84	60.3	...
		(3.5)	(1.9)	(1.4)	(4.2)	(3.0)	(0.9)						
	(C)	-6.4	0.0062	-2.1*10-7				.098	.52	.88	74	131.2	...
		(0.9)	(5.1)	(3.4)				(0.4)	(2.8)				
	(D)	-4.9	0.0025	-6.0*10-8	9.8	26.8	26.6	.086	.43	.89	74	86.2	...
		(0.7)	(0.7)	(0.5)	(2.1)	(2.8)	(1.2)	(0.4)	(2.4)				
14. Male	(A)	29.0	0.010	-3.6*10-7						.68	84	89.4	...
		(10.7)	(7.7)	(5.0)									
	(B)	20.9	0.0058	-1.6*10-7	20.0	33.4	21.0			.76	84	53.4	...
		(6.8)	(1.6)	(1.1)	(4.0)	(3.1)	(0.9)						
	(C)	-11.2	0.0060	-1.9*10-7				.88	-.28	.80	74	76.1	...
		(1.4)	(4.5)	(2.8)				(3.4)	(1.4)				
	(D)	-9.8	0.0036	-7.8*10-8	10.7	26.2	19.2	.86	-.39	.82	74	50.5	...
		(1.3)	(1.0)	(0.6)	(2.1)	(2.5)	(0.8)	(3.6)	(2.0)				
15. Male-Female	(A)	7.7	-0.0017	6.6*10-8						.16	84	9.1	...
		(5.7)	(2.7)	(1.8)									
	(B)	9.2	-0.0017	5.8*10-8	-3.2	-2.3	-0.30			.15	84	4.0	...
		(5.2)	(0.8)	(0.7)	(1.1)	(0.4)	(0.0)						
	(C)	-4.8	-0.00013	1.9*10-8				.78	-.80	.68	74	40.3	...
		(1.5)	(0.2)	(0.7)				(7.8)	(9.8)				
	(D)	-5.0	0.0011	-1.9*10-8	1.0	-0.59	-7.4	.78	-.82	.67	74	22.9	...
		(1.6)	(0.7)	(0.3)	(0.4)	(0.1)	(0.7)	(7.7)	(9.8)				

Table 3. Cross-Country Regressions for Male and Female Schooling Investments 1965 and 1987 (continued)

Dependent Variable		Constant	Income	Income^2	Country Group: Lower-Middle	Country Group: Upper-Middle	Country Group: High	Adult Literacy Rate: Male	Adult Literacy Rate: Female	R^2	N	F	Residual for Thailand
Years of School													
16. Female	(A)	5.9 (12.4)	0.0013 (6.0)	-5.2*10-8 (4.1)						.54	76	45.0	...
	(B)	3.9 (8.2)	0.00098 (1.8)	-2.9*10-8 (1.4)	4.5 (5.9)	4.4 (2.7)	1.9 (0.6)			.73	76	41.5	...
	(C)	-0.32 (0.4)	0.00030 (2.1)	-1.0*10-8 (1.4)				.068 (2.5)	.055 (2.5)	.89	66	134.7	...
	(D)	0.38 (0.5)	-0.000089 (0.2)	4.8*10-9 (0.4)	2.2 (4.3)	2.5 (2.4)	3.8 (1.5)	.067 (2.8)	.040 (2.0)	.91	66	101.3	...
17. Male	(A)	7.3 (17.9)	0.0011 (5.5)	-4.0*10-8 (3.7)						.50	76	39.4	...
	(B)	5.6 (13.5)	0.00072 (1.5)	-2.0*10-8 (1.1)	3.7 (5.4)	3.7 (2.6)	1.7 (0.6)			.69	76	34.5	...
	(C)	0.53 (0.6)	0.00033 (2.1)	-1.0*10-8 (1.2)				.14 (4.6)	-.032 (1.3)	.80	66	68.0	...
	(D)	0.49 (0.6)	-.000028 (0.1)	4.3*10-9 (0.3)	2.2 (3.7)	2.7 (2.2)	3.6 (1.3)	.14 (5.0)	-.048 (2.1)	.84	66	48.9	...
18. Male-Female	(A)	1.4 (8.0)	-0.00028 (3.5)	1.1*10.8 (2.5)						.24	76	13.2	...
	(B)	1.7 (8.1)	-0.00025 (1.0)	8.8*10-9 (0.9)	-0.80 (2.3)	-0.61 (0.8)	-0.13 (0.1)			.30	76	7.4	...
	(C)	0.85 (2.3)	.000031 (0.5)	8.1*10-11 (0.0)				.071 (5.9)	-.087 (8.8)	.75	66	50.7	...
	(D)	0.86 (2.3)	.000060 (0.3)	-5.2*10-10 (0.1)	-0.034 (0.1)	0.14 (0.3)	-0.25 (0.2)	.071 (5.8)	-.088 (8.5)	.74	66	28.0	...

Data source: World Bank (1990) and UNESOO (1965, 1970). Enrollment rates (and therefore residuals for enrollment rates) are in percentages. Years of school (i.e., expected years of school for a synthetic cohort as defined in the text) are in years (and therefore so are the residuals for these regressions).

Figure 1
Cross-Country Regression for Total Expected Schooling in 1965 and 1987 with Selected Countries Indicated

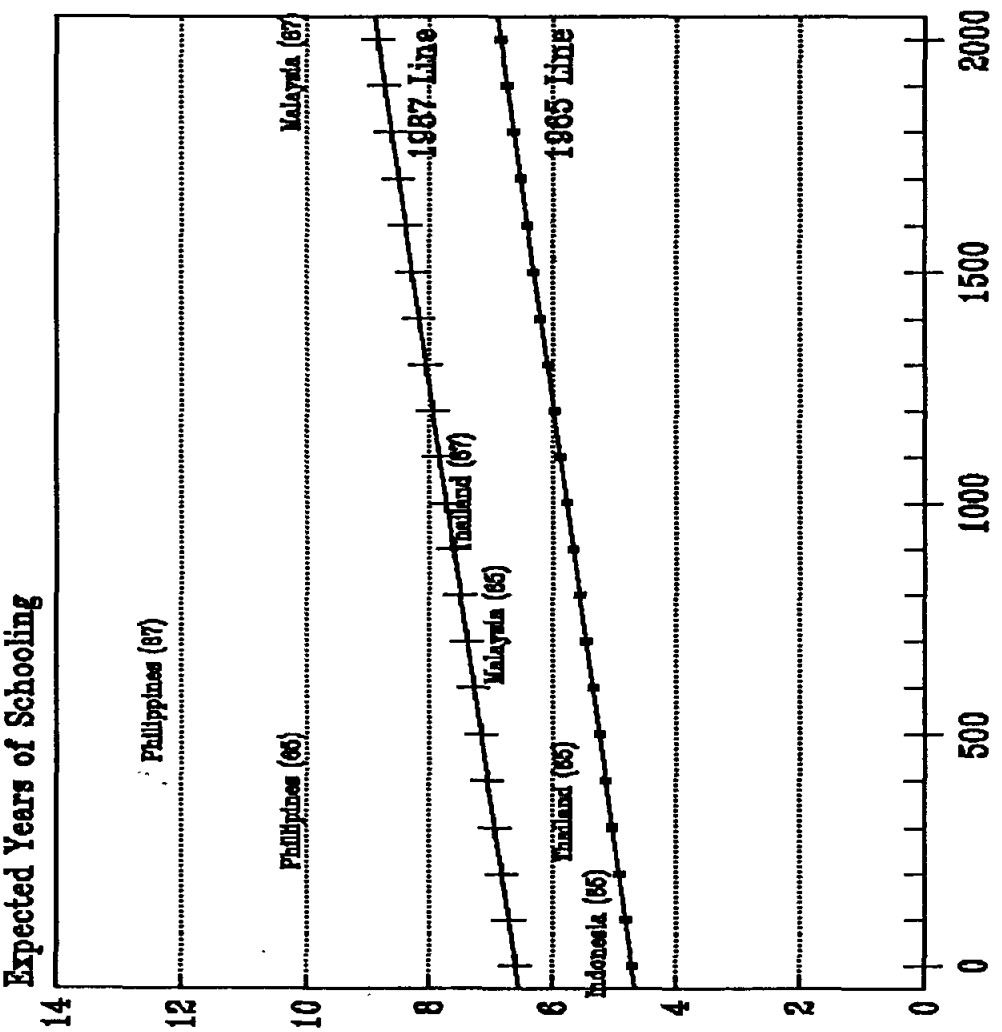

Table 2 gives the cross-country regression estimates both for 1965 and for 1987 for the total enrollment rates for each of the three school levels and for the expected years of schooling for a synthetic cohort. Figure 1 plots the A regressions for the expected years of schooling for a synthetic cohort for both 1965 and 1987 (with the observed values indicated explicitly for Thailand, Indonesia, Malaysia and the Philippines).

For 1965 the C and D regressions are consistent with from about half to four-fifths of the sample variances. For primary school enrollments in that year, the indicators of the country group by income have a substantial effect,[20] without an added significant impact of the quadratic in per capita income. For post-primary schooling enrollments and for the expected years of schooling, the quadratic in income represents the basic income effect, with diminishing marginal effects[21] in the C regressions (and with no additional significant country group effects in the D regressions). As is indicated in Figure 1, although the quadratic term in income is significantly nonzero, the curvature over the range of incomes for the developing countries is not very large. For primary and secondary enrollments and for the expected years of schooling, male literacy rates have positively significant effects beyond the income effects. These signs are consistent with the interpretation of a negative price effect that is given above.

For 1987 the regressions are consistent with more (than for 1965) of the cross-country variances -- from over three-fifths to over seven-eights of those variances for the C and D regressions. A comparison of regressions C and D indicates that in terms of explanatory power, the country group dichotomous variables in the D regression do not add anything beyond the quadratics in income in regressions C. These quadratics again indicate a positive, but slightly diminishing at the margin,[22] association with income for post-primary schooling and expected years of schooling. These relations are shifted upwards relative to those for 1965, as is indicated by comparisons of the constant estimates and is illustrated in Figure 1. The male literacy rate again has significantly positive coefficient estimates for the primary and secondary school enrollments and for the expected years of schooling for a synthetic cohort. In addition the female literacy rate has significantly positive coefficient estimates for tertiary schooling.[23] If the price interpretation is correct, there are strong price effects in these demand relations.

How do Thai schooling investments compare with these cross-country regressions? The last column in Table 2 gives the estimated residuals for Thailand. In 1965 Thailand had a primary school enrollment rate that was 12.9 per cent below the preferred D regression line, and secondary and tertiary enrollment rates that were 14.5 per cent and 3.6 per cent below the respective preferred C regression lines. The net result was an expected years of schooling 2.2 years below that predicted by cross-country experience in the preferred C regression. Except for the tertiary enrollment rate, however, these signs are dependent on the inclusion of the adult literacy rates. That is, Thailand was low relative to the cross-country regressions conditional on its (relatively high) literacy rates in addition to income, but if anything slightly high conditional on income alone. In 1987 the Thai primary school enrollment rate was 21.7 per cent below the preferred C regression line,[24] the secondary enrollment rate was 24.2 per cent below the preferred C regression line, and the tertiary enrollment rate was 6.7 per cent below the preferred C regression lines.[25] The net result was an expected years of schooling 3.1 years below the preferred C regression line.[26] Thus, over the two decades between these years, Thailand declined slightly relative to the cross-country regression line for enrollment at the secondary schooling level and for expected schooling for a synthetic cohort, though Thailand increased relatively in tertiary enrollment rates[27] (and remained about the same with respect to primary school enrollments).

4. COMPARISONS OF MALE AND FEMALE THAI SCHOOLING INVESTMENT WITH CROSS-COUNTRY EXPERIENCE

We note in Section 2 that there appear to be some gender patterns in the Thai schooling investments. In Section 3, we consider total schooling investments relative to cross-country regressions for 1965 and 1987. Now we turn to similar considerations, but with separate relations for males than for females.[28] Table 3 gives regressions estimates similar to those in Table 2, but with separate relations for males versus females. In addition this table gives estimates of the differences between the male and female primary and secondary enrollment rates and the expected years of schooling for synthetic cohorts.

Many of the patterns in these regressions are similar to those that are discussed in Section 3, without significant differences between the estimates for females versus males. Therefore, to avoid repetition, we here summarize only the results that indicate some significant difference between males and females. We again focus on the C or D regression for each outcome, depending which is preferred in the same sense as used in Section 3.

For 1965, regression 3C is consistent with over two-fifths of the variance in the difference in primary school enrollments between males and females. This regression suggests that this difference is a significant 23.2 per cent for very low incomes, and then, as income increases, this gap increases at a decreasing rate and subsequently declines (but only above per capita incomes that are greater than $20,800. These estimates also imply that the gap increases significantly with male literacy but falls significantly (and significantly more) with female literacy.[29] This may reflect that in some countries teachers for children are largely of the same sex as the children in single-sex schools, so the relative scarcity value of teachers for a child depend on the stock of skilled adults of the same sex.[30] For secondary school enrollment, regression 6C is consistent with about two-fifths in the variance. The constant in this regression is insignificant, but again there is an initially increasing and then declining gap with income (again, with decreases only above very high per capita income levels -- $24,000 in this case). Also again the male literacy rates are associated with significantly larger and the female literacy rates with significantly smaller gender gaps in enrollment.[31] Regression 9C for combined effect of gender gaps in enrollment rates in terms of the gender difference in expected years in school is consistent with two-thirds of the variance in that variable. The constant in this regression indicates that at very low income levels males have 1.8 more years of expected schooling than do females. The significant quadratic in income implies that this gap also initially increases, but at a decreasing rate, with income (above $15,000). The literacy rates again indicate a significantly positive effect of adult male literacy and a (significantly larger in absolute value) significantly negative association with adult female literacy.

For 1987, regression 12C is consistent with over two-thirds of the variance in the

difference in primary school enrollments between males and females. This regression suggests that this difference is a significant 16.4 per cent for very low incomes, which is substantially smaller than the constant in the parallel regression for 1965. In contrast to the estimates for 1965, the income effects in this regression are not significantly nonzero.[32] However, as for the estimates for 1965, these estimates imply that the gap increases significantly with male literacy but falls significantly (and significantly more) with female literacy.[33] For secondary school enrollment, the estimates are similar to those for primary school enrollment: regression 15C is consistent with about two-thirds of the variance, income is not significant, and the estimates imply that the gap increases significantly with male literacy but falls significantly with female literacy (though in this case without a significant difference between the absolute magnitudes of the two literacy coefficient estimates). Regression 18C for the combined effects of gender gaps in enrollment rates in terms of the gender difference in expected years in school is consistent with thirds-quarters of the variance in that variable. The constant in this regression indicates that at very low income levels males have 0.85 more years of expected schooling than do females, less than half that estimated for 1965. The quadratic in income also (as for the 1987 enrollment gap estimates) is not significant, in contrast to the results for 1967. The coefficient estimates of literacy rates again indicate a significantly positive association with adult male literacy and a significantly negative association with adult female literacy (with these two effects not differing significantly in absolute magnitudes).

How does Thai schooling investment compare with the cross-country experience? The last column in Table 3 gives the residuals for Thailand. For 1965, Thailand had female and male primary schooling enrollment rates 20.2 and 23.3 per cent below the C regression lines, with the male-female differential 3.1 per cent above the regression line.[34] The female secondary schooling enrollment rate was 12.7 per cent below the regression line and the male rate was 15.7 per cent below, with the gender gap at the secondary school level 3.0 per cent below.[35] The net result was an expected years of schooling for females 2.0 years below and for males 2.3 years below the C regression lines, so the gender gap was 0.3 years below the regression line.[36] For 1987, unfortunately, the data for Thailand in the World Bank (1990a) do not have any gender breakdowns.

5. COMPARISONS OF THE CHANGES IN THAI SCHOOLING INVESTMENT WITH CROSS-COUNTRY EXPERIENCE

The previous two sections have focused on how Thai schooling investments compared with the cross-country experience in 1965 and 1987. A related, but distinct, question is how did the changes in Thai schooling investments compare with changes in the cross-country experience. This question is of interest because of its dynamic nature and because the differenced estimates control for unobserved additive country-specific fixed effects.[37]

Table 4 gives such estimates. For primary school enrollment rates, estimates are consistent with from a quarter to four-fifths of the variance in the changes in enrollment rates (total, female, and male). Though the standard errors are large, the point estimates in the B and D regressions seem to indicate greater increases in primary school enrollments for countries with lower incomes in 1965 (more so for females than for males). For secondary school enrollment rates the preferred estimates are consistent with from a third to a half of the variance, but the patterns are somewhat different than for primary school. There are increases on the average in the preferred B estimates for the total female and male enrollment of 12.0 per cent for initially low-income countries, but there are significantly larger increases for initially lower-middle-income countries (25.4 per cent) and still larger increases for initially upper-middle- and high-income countries (over 36 per cent on the average).[38],[39] Also for the low-income countries the increases are larger for males than for females on the average, though the opposite is the case for the middle- and upper-income country groups. For tertiary school, the preferred relation B is consistent with 45 per cent of the variance in the change in enrollment rates between 1965 and 1967. For this school level the average increase is relatively low and insignificant for low-income countries (1.6 per cent), but significantly higher (10.3 per cent) for lower-middle-income countries and still higher (above 13.8 per cent) for the upper-middle- and high-income countries. The changes in enrollments at all three levels implies an gain in expected years of schooling of 2.0 for the low- and high-income countries, and of 3.4 years for the middle-income countries (with larger point estimates for females than for males, but without significant differences). Note that in all of these sets of estimates the C and D regressions

have relatively large standard errors for the adult literacy rates. This may imply that in the estimates in Tables 2 and 3 adult literacy rates basically are proxying for some unobserved variables (e.g., culture), so their effects disappear once there is control for unobserved fixed effects. If so, then the price interpretation given above is bought into question.[40] However since the samples are much smaller for the C and D estimates (since literacy rates must be available for both 1965 and 1987, in addition to the other variables for the A and B regressions), it may be that the insignificance of the literacy rates in Table 4 is due to the smaller (and probably selected since the countries for which such information is not available tend to be countries with lower income in 1965) samples.

Once again, how does Thailand compare? Once again, the last column gives the residuals for Thailand. For the preferred B regressions Thailand was 1.7 per cent above the regression line for changes in primary school enrollments, 11.1 per cent below for changes in secondary school enrollments, 1.7 per cent below the line for changes in tertiary enrollments,[41] and 0.8 years below the line for changes in expected years of schooling for a synthetic cohort. Unfortunately the absence of gender-specific data for Thailand precludes similar comparisons for females and males separately. Thus the two characteristics of the Thai changes, relative to the cross-country changes, that stand out are: (1) small increases in total schooling investment and (2) the relative shift away from secondary schooling. The first point may reflect in part the relatively high primary school enrollments in 1965 (at least if there is no control for adult literacy, see Tables 1-3), but it also reflects relatively smaller increments in secondary schooling.

Table 4. Cross-Country Regressions for Changes Between 1965 and 1987 in Total, Male and Female Schooling Investments

Dependent Variable		Constant	Income	Income^2	Country Group			Adult Literacy Rate		R^2	N	F	Residual for Thailand
					Lower-Middle	Upper-Middle	High	Male	Female				
1965-1987 Enrollment Rates													
Primary													
1. Total	(A)	17.5 (9.1)	-0.0013 (2.7)	-1.3*10-7 (4.1)						.16	89	9.3	0.3
	(B)	23.9 (8.3)	-.000063 (0.1)	-5.7*10-8 (1.2)	-8.5 (2.1)	-15.7 (2.7)	-19.4 (2.6)			.23	89	6.4	1.7
	(C)	4.3 (0.9)	-.000098 (0.2)	-8.6*10-8 (2.6)				.42 (1.4)	.21 (0.7)	.31	54	7.0	-0.1
	(D)	19.0 (2.7)	0.00046 (0.6)	-4.2*10-8 (0.9)	-13.3 (2.3)	-16.5 (2.3)	-21.4 (2.2)	.22 (0.8)	.23 (0.8)	.37	54	5.4	0.3
2. Female	(A)	20.2 (9.9)	-0.0015 (2.9)	-1.3*10-7 (3.8)						.15	83	8.6	...
	(B)	24.6 (8.0)	-0.00025 (0.3)	-4.7*10-8 (0.9)	-3.5 (0.8)	-15.7 (2.6)	-18.2 (2.4)			.22	83	5.7	...
	(C)	3.9 (0.9)	-0.00012 (0.2	-7.3*10-8 (2.2)				.42 (1.4)	.35 (1.2)	.37	49	8.2	...
	(D)	16.2 (2.2)	0.00042 (0.6)	-2.8*10-8 (0.6)	-8.3 (1.3)	-15.3 (2.1)	-19.0 (1.9)	.22 (0.7)	.37 (1.2)	.40	49	5.6	...
3. Male	(A)	13.9 (6.6)	-0.00092 (1.7)	-1.3*10-7 (3.8)						.13	83	7.1	...
	(B)	20.2 (6.3)	0.00017 (0.2)	-6.4*10-8 (1.2)	-9.2 (2.1)	-12.7 (2.0)	-18.0 (2.2)			.18	83	4.6	...
	(C)	5.1 (1.0)	-0.00011 (0.2)	-1.0*10-7 (2.8)				.46 (1.4)	.015 (0.0)	.24	49	4.8	...
	(D)	18.8 (2.4)	0.00058 (0.7)	-4.8*10-8 (0.9)	-12.4 (1.8)	-14.2 (1.7)	-22.3 (2.0)	.26 (0.8)	.026 (0.1)	.27	49	3.6	...

Table 4. Cross-Country Regressions for Changes Between 1965 and 1987 in Total, Male and Female Schooling Investments (continued)

Dependent Variable		Constant	Income	Income^2	Country Group			Adult Literacy Rate		R^2	N	F	Residual for Thailand
					Lower-Middle	Upper-Middle	High	Male	Female				
Secondary													
4. Total	(A)	21.7 (13.2)	0.0011 (2.5)	5.1*10-8 (1.9)						.06	86	3.7	-8.3
	(B)	12.0 (5.8)	-0.00050 (0.9)	-4.2*10-8 (1.2)	13.4 (4.7)	24.1 (5.7)	25.9 (4.9)			.39	86	11.8	-11.1
	(C)	27.2 (6.4)	0.00029 (0.5)	1.8*10-8 (0.6)				-.51 (1.9)	.36 (1.4)	.33	53	1.5	-17.3
	(D)	8.7 (1.6)	-0.00084 (1.4)	-7.2*10-8 (1.9)	11.7 (2.7)	21.5 (3.9)	32.1 (4.2)	-.22 (0.9)	.41 (1.9)	.31	53	4.3	-15.7
5. Female	(A)	22.1 (11.1)	0.0014 (2.8)	7.4*10-8 (2.3)						.09	79	4.9	...
	(B)	9.3 (4.1)	-0.00050 (0.9)	-3.8*10-8 (1.1)	18.2 (5.8)	34.0 (7.0)	32.1 (5.8)			.52	79	18.0	...
	(C)	31.2 (6.4)	0.00020 (0.3)	2.0*10-8 (0.6)				-.88 (2.8)	.65 (2.1)	.12	46	2.6	...
	(D)	7.4 (1.2)	-0.00010 (1.6)	-7.6*10-8 (1.9)	17.5 (3.5)	29.6 (4.7)	38.7 (4.8)	-.45 (1.8)	.58 (2.4)	.47	46	6.7	...
6.Male	(A)	21.6 (12.7)	0.00074 (1.8)	2.8*10-8 (1.0)						.02	79	1.7	...
	(B)	12.5 (5.8)	-0.00050 (0.9)	-4.6*10-8 (1.3)	12.9 (4.2)	24.2 (5.1)	21.7 (4.0)			.32	79	8.5	...
	(C)	24.2 (5.4)	0.00028 (0.5)	6.1*10-9 (0.2)				-.32 (1.1)	.30 (1.1)	-.05	46	0.5	...
	(D)	3.9 (0.7)	-0.00058 (1.0)	-6.4*10-8 (1.7)	15.2 (3.1)	27.0 (4.4)	31.0 (4.0)	.035 (0.1)	.23 (1.0)	.30	46	3.8	...

Table 4. Cross-Country Regressions for Changes Between 1965 and 1987 in Total, Male and Female Schooling Investments (continued)

Dependent Variable		Constant	Income	Income^2	Country Group: Lower-Middle	Country Group: Upper-Middle	Country Group: High	Adult Literacy Rate: Male	Adult Literacy Rate: Female	R^2	N	F	Residual for Thailand
Tertiary													
7. Total	(A)	7.9 (7.7)	0.0019 (2.8)	-5.4*10-8 (0.7)						.24	78	13.0	0.0
	(B)	1.6 (1.1)	0.00065 (0.8)	8.5*10-8 (0.0)	8.7 (4.5)	12.4 (5.0)	12.2 (3.3)			.45	78	13.6	-1.7
	(C)	17.1 (6.6)	-0.00052 (0.6)	8.8*10-8 (1.1)				-.31 (2.0)	.044 (0.3)	.23	51	4.9	-4.6
	(D)	8.2 (2.0)	-0.0012 (1.1)	1.1*10-7 (1.4)	10.0 (2.7)	8.7 (2.1)	12.7 (2.2)	-.31 (2.0)	.055 (0.3)	.31	51	4.2	-5.8
Year of School													
8. Total	(A)	2.6 (13.3)	0.00028 (1.8)	-3.0*10-8 (1.8)						.019	71	1.7	-0.5
	(B)	2.0 (6.9)	0.00014 (0.5)	-1.7*10-8 (0.8)	1.0 (2.5)	1.4 (2.5)	0.85 (0.8)			.099	71	2.6	-0.8
	(C)	2.9 (5.5)	.000024 (0.1)	-7.0*10-8 (0.4)				-.019 (0.6)	.024 (0.8)	-.058	44	0.4	-1.5
	(D)	1.7 (1.8)	-0.00026 (0.7)	1.1*10-8 (0.4)	1.3 (1.5)	1.6 (1.7)	2.3 (1.3)	-.011 (0.4)	.025 (0.7)	-.053	44	0.7	-1.1
9.Female	(A)	2.8 (12.5)	0.00037 (2.1)	-3.8*10-8 (2.0)						.038	63	2.2	...
	(B)	2.0 (6.4)	0.00032 (1.0)	-3.1*10-8 (1.3)	1.4 (3.3)	1.5 (2.3)	0.65 (0.6)			.18	63	3.8	...
	(C)	3.0 (4.7)	.000097 (0.4)	-1.3*10-8 (0.6)				-.038 (1.1)	.054 (1.4)	-.025	36	0.8	...
	(D)	1.1 (1.0)	-0.00017 (0.4)	3.7*10-8 (0.1)	2.2 (2.0)	2.1 (1.7)	2.9 (1.4)	-.022 (0.6)	.038 (0.9)	.010	36	1.1	...
10.Male	(A)	2.3 (10.5)	0.00025 (1.4)	-2.5*10-8 (1.4)						.00	63	1.0	...
	(B)	1.8 (5.6)	.000068 (0.2)	-1.1*10-8 (0.4)	0.83 (1.8)	1.4 (2.0)	0.92 (0.8)			.04	63	1.5	...
	(C)	2.8 (4.3)	-.000016 (0.1)	-3.5*10-9 (0.2)				-.0057 (0.2)	.0065 (0.2)	-.10	36	0.1	...
	(D)	0.58 (0.5)	-0.00028 (0.6)	1.3*10-8 (0.4)	2.4 (2.2)	2.7 (2.2)	3.1 (1.6)	.014 (0.4)	-.011 (0.3)	-.03	36	0.9	...

Data source: World Bank (1990) and UNESOO (1965, 1970). Enrollment rates (and therefore residuals for enrollment rates) are in percentages. Years of school(i.e., expected years of school for a synthetic cohort as defined in the text) are in years (and therefore so are the residuals for these regressions). The per capita GNP Variables are in the form of differences between 1965 and 1987.

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ENDNOTES

1. For surveys of the impact of schooling on growth and distribution, see Behrman (1990a,b,c), Colclough (1982), Eisemon (1988), Haddad, Carnoy, Rinaldi and Regel (1990), King (1990), King and Hill (1991), Psacharopoulos (1985, 1988), Schultz (1988, 1991), and World Bank (1980, 1981, 1990, 1991).

2. Some data are available on primary net enrollment rates and primary pupil-teacher ratios, but data are missing for many countries in each case so we do not include them in this paper. While there undoubtedly are measurement problems for school enrollment rates in Thailand, we have no reason to think in general that they are more severe than for many other developing countries, nor that they bias our estimates in any particular manner. However the tertiary enrollment rate for 1987 is an exception to this statement because of the open university. See note 6 and note a to Table 1.

3. According to the World Bank (1990), in 1988 Thailand was in the lower-middle-income country group, and was 57th from the bottom in terms of GNP per capita in that year (out of a total of 121 countries). In terms of annual growth rates in GNP per capita for the 1965-1988 period, Thailand (with 4.0 per cent) ranked eleventh (tied with Malaysia) out of the 101 countries for which such rates were reported (only Botswana, Singapore, Republic of Korea, Oman, Hong Kong, China, Lesotho, Hungary, Indonesia and Japan had higher reported rates).

4. These enrollment rates are defined as, for example, the number of students in primary school relative to the population age 6-11. If there are enough primary school students who are under 6 or over 11, the enrollment rate so calculated can be greater than 100 per cent.

5. The female rate was 4 per cent below the total rate for Thailand, and 6 per cent below the total rate for the middle-income country means. The mean female primary school enrollment rate is not reported for low-income countries. In Section 4 below we compare the Thai experience with the cross-country regression.

6. But see note a to Table 1. If the level of tertiary enrollments in Thailand in World Bank (1990a) of 20 per cent is used, both the level and the change for Thailand are above those for middle-income countries. However, about half of this enrollment is for the open university, many of whose students do not regularly attend classes and only a small proportion of whom obtain degrees. Therefore we use here the estimates in World Bank (1990b) and Sussangkarn (1991) that are adjusted for the impact of the open university. We think that this is an important enough adjustment that we have proceeded with it, despite the fact that we are not able to adjust the data for all of the anomalies, of which there undoubtedly are a number (see note 2).

7. Sussangkarn (1990, 1991) emphasizes these patterns and argues that the limited investment in Thai secondary education is likely to place Thailand at a disadvantage in continuing to change the production structure to higher labor productivity activities.

8. The numerators for the enrollment rates for the three schooling levels are respectively the number of children 6 to 11, 12 to 17 and 20 to 24 years old. Therefore the expected years of schooling for a synthetic cohort that faced the enrollment rates for these three schooling levels recorded for Thailand in 1987, for example, is $7.9 = 0.95*6 + 0.28*6 + 0.11*5$, given the enrollment rates for that year in Table 1.

9. The distribution of income also may be important, but comparable measures of the income distribution are available for relatively few countries, so we do not explore this possibility.

10. Schultz (1987, 1988) and Behrman (1987), for example, give such an interpretation. From a micro perspective, however, if schooling were purely an investment and if capital markets were perfect, income would not enter into the schooling investment decision though interest rates would. We have not explored the possibility that interest rates enter into these relations.

11. We actually use the literacy rates for about 1965 and 1985 because that is what is available in World Bank (1990) and in UNESCO (1965, 1970). Since adult literacy refers to a stock concept, we do not think that the slight lags between the outcomes of interest and the literacy rates have much effect on the estimates. In fact, to the extent that there is some lag in adjustment to relative scarcities, it may be preferable to use lagged values for the relative stocks of literate adults.

12. The direct measure that we would like to have would be the relative price of time of adults with control for the qualifications needed to be school teachers. Such data are not readily available. Conceptually one can think of estimating such data with controls for selectivity into different occupations, but with existing data this would be an enormous task to undertake for all of the countries included in the cross-country regressions, and is far beyond the scope of this paper. Nancy Birdsall suggested to us that lagged secondary schooling enrollment rates might be a better proxy for the availability of teachers in Brazil than the literacy rate. To translate past enrollment rates over several decades into a measure of the stock of adults with such a level of education would be possible, but also is beyond the scope of this project (and past enrollment rates are not available for many countries before the 1960s, so assumptions would have to be made about the rates for earlier years in order to generate such a measure).

13. For example, a child with more educated parents is likely to have a home environment that is complementary with more schooling ceteris paribus. Therefore on a more aggregated level, if adult literacy is higher, all else equal, the price of time that children spend with educated adults is likely to be less, with complementary effects on the benefits from time spent in school.

14. In the comparison of two different situations with the same literacy rates but different demand intensities for literate labor, the relative price of literate workers is likely to be higher in the case in which the demand intensity for literate workers is greater. This means that the literacy rate is a noisy proxy for the relative price of literate adults, with the implication ceteris paribus that its coefficient is biased towards zero as a representation of the true price effect.

15. Presumably how good a proxy it is depends in substantial part on the levels of schooling that most students attend. That is, it probably is a better proxy for primary and lower middle schooling than for upper secondary and tertiary schooling.

16. For example, there may be cultural differences across countries that affect both the stock of literate adults and current investments in schooling of children, for which literacy may proxy in cross-country regressions. If this is the case in part, then it may be misleading to interpret the estimated impact of literacy in cross-country regressions as purely a price effect. But the regressions that include literacy rates among the right-side variables as controls still are preferred over those that do not so that the estimated income coefficients are not biased by such cultural effects. See Section 5 for some exploration of the possibility that the literacy rates are representing unobserved fixed effects such as for culture.

17. Richard Sabot has suggested to us that the literacy rate, by representing the accumulative past schooling enrollments, reflects serial correlation in the enrollment rates. We think that this is probably is true, but that the wage for skilled labor also would reflect the same phenomenon if it declines relatively with relatively more

skilled labor as argued, for example, in Knight and Sabot (1990) for a particular developing country context on the basis of careful micro empirical analysis. But we present estimates both with and without the literacy rates below to see if the results change much if they are dropped.

18. For example, the R^2s in Table 2 for primary schooling increase from 0.18 to 0.30 for 1965 and from 0.13 to 0.34 for 1987 with this addition. Also see Table 4.

19. For primary school enrollments, once again, the R^2s in Table 2, respectively, are 0.18, 0.30, 0.45 and 0.45 for 1965 and 0.13, 0.34, 0.65 and 0.65 for 1987. For the differenced regressions over time in Table 4, however, the addition of the adult literacy rates does not increase so much the consistency of the estimates with the variance in the changes in the enrollment rates and in the expected years of schooling for synthetic cohorts.

20. We use significant to refer to the standard 5 per cent level throughout this paper unless otherwise qualified.

21. Though these effects are diminishing, they still reach maximums at very high per capita income levels (over $24,000, about $14,000, and $9,000 respectively, in comparison with an unweighted mean cross-country sample income in 1965 of $2,956 -- all in 1987 dollars).

22. And again, with the maximum effects at high per capita incomes (e.g., $15,000, $17,650, and $15,000 -- in comparison with an unweighted mean across countries of $4371, all in 1987 dollars).

23. For tertiary enrollments male literacy rates also have significantly negative coefficient estimates at the 10 per cent level. These apparently reflect multicollinearity in the sense that they appear positively significant if the female literacy rates are precluded from the specification.

24. But above the regression A alternatives with only the quadratic in income.

25. Though for alternative A Thailand was 1.7 per cent above the regression line.

26. Though for alternative A Thailand is 0.1 years above the regression line.

27. The apparent increase is much greater with the data in World Bank (1990a) for tertiary enrollments because of the treatment of the open university data there. See note 6.

28. Data are given in World Bank (1990) only for the female enrollment rates for primary and for secondary school in addition to the total enrollment rates for all three schooling levels. For the estimates that we present in this section we assume that the sizes of the relevant age cohorts are the same for males as for females in order to be able to estimate male primary and secondary enrollment rates. To calculate the expected years of schooling for synthetic cohorts we assume that there are no gender differences in the tertiary enrollment rates. This last assumption probably results in an underestimate of the gender gap for many countries, but has a limited impact on the overall estimates because of the relatively low enrollments for the tertiary (as opposed to the primary and the secondary) schooling levels in most developing countries (including Thailand). Given the assumption of equal enrollment rates at the tertiary level for females and males, whether we use the data in World Bank (1990a) or the adjusted data in World Bank (1990b) and Sussangkarn (1991) for the tertiary enrollment rate in 1987 (see note 6) does not affect the estimated gender differences on which we focus in this section.

29. But note the contrast with the individual estimates for males and females in regressions 1C and 2C, in which

only the male literacy rates have significantly positive coefficient estimates.

30. Rural Pakistan is one such case. In this case, Alderman, Behrman, Ross, and Sabot (1991) estimate that elimination of the gender gap in the supply of primary schools (probably requiring a large expansion in the number of women teachers) would eliminate much or all of the substantial gender gap in cognitive achievement in younger cohorts.

31. In this case the underlying regressions (4C and 5C) for females and males also indicate significant own-gender associations.

32. Though if there only is a quadratic in income as in regression 12A, it appears that there is a significant quadratic in income. However regression 12A is consistent with less than a third as much of the cross-country variance as is regression 12C.

33. But note the contrast with the individual estimates for females in regression 11C, in which both the male and female literacy rates have significantly positive coefficient estimates.

34. In this case the A regressions imply positive residuals for both females and males (parallel to those reported for total primary enrollments in Section 3), but still imply a gender gap below the residual line.

35. In this case whether Thailand was above or below the regression line for both females and males depends on whether or not there is control for adult literacy (for reasons parallel to those discussed above). The gender gap is on the regression line for the A regressions.

36. For both females and males, but not for the gender gap, the residuals change signs in regression A.

37. That is, these estimates, by controlling for such fixed effects, have less in the way of omitted variable bias than do the estimates in Tables 2 and 3. They may have more random measurement error due to the differencing (which would tend to lead to biases towards zero in the coefficient estimates), though Behrman (1984) shows that the control for systematic errors due to omitted variables such as for schooling quality and general educational environment that may be relatively fixed within countries over time as compared with across countries at a point in time may mean that the total bias is less for the differenced estimates.

38. The first percentage in this sentence is from the constant in regression 4B. The others are from the sum of the constant with the coefficients of the dichotomous variables for the initial country groups. For all of these calculations the quadratic in income (with the large standard errors for the point estimates) is ignored.

39. For the primary school enrollment rates, the C and D regressions are more consistent with the sample variances than are the B regressions. However the differences are not large, the impact of the adult literacy rates are estimated with little precision, and the samples are much smaller for the C and D regressions than for the B regressions. Therefore we consider the B regressions to be preferred for the primary school enrollments as well as for the other sets of estimates.

40. But the income estimates with such controls still are likely to be the preferred ones since one would not want to attribute to income differences across countries what are, say, cultural differences.

41. Though 7.3 per cent above if the tertiary enrollment rates in World Bank (1990a) are used. But see note 6 above.

EDUCATION AND SOCIAL AND CULTURAL VALUES THE CHANGING ROLE OF TEACHERS

by

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สรุปสำหรับผู้บริหาร

การศึกษากับค่านิยมทางสังคมและวัฒนธรรมะ บทบาทครูที่เปลี่ยนแปลงไป

ระบบการศึกษาสมัยใหม่ของไทยที่เริ่มมาเมื่อราวศตวรรษที่ผ่านมาเกิดขึ้นเพื่อตอบสนองต่อความต้องการกำลังคนในภาครัฐ จากการปฏิรูประบบบริหารราชการทั้งในส่วนกลางและส่วนภูมิภาค การปรับตัวทางการศึกษาในครั้งกระนั้นส่งผลต่อเนื่องถึงการเปลี่ยนโฉมหน้าทางการศึกษาอย่างสำคัญ 2 ประการ ประการแรก ความต้องการบุคลากรในภาครัฐเร่งให้เกิดการศึกษาหาความรู้ตามอย่างวิชาการสมัยใหม่ โดยรัฐได้จัดให้บริการทั้งการประถมศึกษาและการอาชีพในด้านต่าง ๆ แต่สำหรับชนชั้นผู้นำทางสังคมมีแรงจูงใจในการศึกษาหาความรู้ต่อไปในชั้นมัธยมจนถึงอุดมศึกษา เพื่อมุ่งสู่ระบบงานในภาคราชการเป็นสำคัญ

ผลต่อเนื่องประการที่สองจากวิวัฒนาการการศึกษาสมัยใหม่ได้แก่ การลดบทบาทของการให้การศึกษาโดยครอบครัวและโดยพระสงฆ์ โดยมีครูวิชาชีพเข้ามารับบทบาทแทน และนอกจากครูจะเป็นผู้ประสิทธิ์ประสาทวิทยาการสมัยใหม่แล้ว ผู้ปกครองและชุมชนเองก็ยังมีความคาดหวังต่อครูที่จะให้เป็นผู้อบรมถ่ายทอดค่านิยมทางสังคมและศีลธรรมจรรยาให้อีกด้วย

การเปลี่ยนแปลงทางเศรษฐกิจที่เกิดขึ้นอย่างรวดเร็วในช่วงทศวรรษนี้ ก่อให้เกิดผลกระทบอย่างใหญ่หลวงต่อระบบการศึกษาของไทยและตัวครู โดยครูไม่อาจจะคงอยู่ในสภาพอย่างที่เคยเป็นผ่านมา เนื่องมาจากสภาพสังคมและสถานภาพในวงสังคมซึ่งเปลี่ยนแปลงไป ครูต้องอยู่ในฐานะที่เผชิญต่อการปรับตัวอย่างยากลำบากในสภาพที่การสนับสนุนจากชุมชนก็อ่อนตัวลง และขณะที่ความต้องการจากส่วนกลางผ่านหลักสูตรมีมากขึ้นแต่ค่าตอบแทนที่ครูได้รับกลับอยู่ในอัตราที่ล้าหลังหรือลดลงไป

ตามหลักสูตรการประถมศึกษา พ.ศ. 2521 ซึ่งความมุ่งหมายของหลักสูตรกับวิธีการสอนของครูในทางปฏิบัติยังไม่เป็นไปในแนวทางเดียวกัน ส่วนมากแล้วครูยังเคยชินต่อระบบเดิมที่เน้นบทบาทในห้องเรียน ชุมชนเองก็ยังคงไม่ยอมรับการเรียนการสอนที่ให้นักเรียนเป็นศูนย์กลาง และการสนับสนุนภายในท้องถิ่นมีอยู่น้อย ซึ่งทำให้การประยุกต์ปรับใช้หลักสูตรยังไม่ได้ผลดี จึงยังต้องการการสนับสนุนทั้งจากส่วนกลางและการปรับบทบาทของตัวครูเสียใหม่ โดยเฉพาะเพื่อให้เข้ากับความต้องการของประชาชนในท้องถิ่น ซึ่งจะทำให้สามารถบรรลุเป้าประสงค์ของหลักสูตรต่อไป

การปรับตัวไปสู่แนวทางที่มีนักเรียนเป็นศูนย์กลางในกระบวนการเรียนการสอน จะต้องใช้พัฒนาการเกิดขึ้นนอกห้องเรียนเป็นส่วนเสริมด้วย เพราะเมื่อเวลาที่อยู่ในห้องเรียนก็จะยังคงมีครูเป็นศูนย์กลางอยู่เสมอด้วยวิธีการสอนที่มุ่งเพื่ออ่านออก เขียนได้ และคำนวณเป็น เป็นสำคัญ กระบวนการ

เรียนการสอนที่เกิดนอกห้องเรียนจะมีองค์ประกอบของประสบการณ์จากชุมชน หรือสังคมและผู้ปกครองที่จะนำมาช่วยสร้างความคิด ความเห็น และการประเมินในเชิงวิเคราะห์สภาวะแวดล้อมได้ด้วยตัวของนักเรียนเอง

ถึงแม้จะมีการดำเนินการต่าง ๆ เพื่อให้บรรลุเป้าหมายของหลักสูตร แต่ก็ยังมีงานศึกษาวิจัยและจากการสังเกตการณ์ที่ให้ข้อมูลในเชิงบ่งชี้ถึง เจ้าหน้าที่ของส่วนกลาง ผู้บริหารโรงเรียนและครู ยังไม่ตระหนักเพียงพอถึงช่องว่างที่เกิดขึ้น จากการปรับประยุกต์ใช้หลักสูตรที่เน้นการเรียนการสอนที่มีนักเรียนเป็นศูนย์กลาง โดยใช้ประโยชน์จากการเรียนรู้ประสบการณ์ของสมาชิกชุมชน ผู้ปกครองตลอดจนความสัมพันธ์ที่ดีระหว่างโรงเรียนกับชุมชน ช่วยในการเสริมสร้างการปรับประยุกต์ใช้หลักสูตรให้ได้ตามความมุ่งหมาย อย่างไรก็ตามพัฒนาการตามแนวทางนี้ต้องการการสนับสนุนในปัจจัยด้านต่าง ๆ โดยเฉพาะโครงสร้างด้านแรงจูงใจในระบบการศึกษาและส่วนราชการที่รับผิดชอบเพื่อสร้างกำลังใจในการบูรณาการซึ่งเป็นเรื่องที่ยอมรับกันว่าตกอยู่ในภาวะที่วิกฤตในท่ามกลางการเปลี่ยนแปลงที่เกิดขึ้น โดยที่ชุมชนและผู้ปกครองซึ่งเป็นผู้ที่ได้รับผลจากพฤติกรรมการสอนของครู แต่มักจะไม่ได้มีส่วนร่วมในการแสดงความต้องการให้ปรากฏสอดคล้องไปในหลักสูตรที่เปลี่ยนแปลงไป

EXECUTIVE SUMMARY
Education and Social and Cultural Values: The Changing Role of Teachers

Thailand's modern education system, created in the late 1890s, was geared initially to meet the demands for skilled manpower created by reforms in the central and provincial administrations. The adoption of modern education had two important consequences that shaped the face of Thai education. The first was that administrative imperatives and the subsequent value attached to government service became the underlying raison d'etat of modern education. Compulsory education and occupational training in areas other than government service were not immediately popular. For the elite who could afford secondary schooling or the university, government service was most often their ruling aspiration.

A second consequence was that the adoption of modern education reduced the role of the family and the clergy in educating the young, replacing these agents with professional teachers. Not only were teachers assigned to educate students in modern subjects and scientific knowledge. Parents and communities also expected that teachers would teach ethics and values.

Rapid economic and social change during this century has had a profound impact on Thailand's modern education system. While the education system generally and teachers in particular have performed well according to the original demands on education, social displacement and changing societal priorities are creating numerous challenges. Teachers find themselves in a very difficult position. Support from communities is often low, curriculum and Ministry demands are high, and teachers' material existence is in decline.

The 1978 curriculum in particular creates difficulties for teachers. It unfortunately is incompatible, in many respects, with the customary role of the teacher in the classroom. A student-centered approach is often not welcomed by the community. Receiving little local support, the curriculum is often not applied effectively. There is a need to make the demands of the Ministry and the role of the teacher more compatible with the needs of local populations. For this to be achieved through the application of the 1978 curriculum, a number of innovations are in order.

The application of a student-centered approach may require innovations that extend beyond the classroom. If attached to the classroom is the expection of a teacher-centered approach, then innovation in teaching methods may require departure from the classroom. One option is to assign instruction of the "three Rs"--reading, writing, and arithmetic--to the classroom with a teacher-centered approach. A student-centered style of learning might then be achieved outside the classroom, involving aspects of social experience relevant to the local community. Discussion and evaluation that encourage student participation may be included.

Such techniques have been attempted in numerous localities already. However,

research and observation indicate that Ministry officials, school administrators, and many teachers have not yet realized the incompatibility of the traditional classroom with innovations that focus more on the student. Experience learning has the advantage of involving members of the community, including parents, and could improve relations between the school and the community in ways favorable to student-centered learning. However, such innovations would not succeed in absence of changes in the Ministry of Education's incentive structure. Teachers must be rewarded for such innovations. This is extremely crucial during times of rapid change when community and parent responses to teacher behavior are often not supportive of the demands implied by changes in the curriculum.

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EDUCATION AND SOCIAL AND CULTURAL VALUES THE CHANGING ROLE OF TEACHERS

1. INTRODUCTION

This paper is an attempt by non-educationists to understand the changing role of teachers in the dynamics of the transformation of Thai society. As the role is partly defined by the curriculum and the goals of the educational scheme, the paper will begin by tracing the early development of modern education in the socio-political context of the time. How did the dangers and the necessities facing the country give special character to the development of education? What features were impressed upon the nature and the purpose of education? Later developments will also be described.

The structure of Thai society, its traditional forms and the changes that have occurred will then be described. These changes have had a profound impact on the role of teachers. Educational reforms have been carried out in response to these changes. How have teachers adapted to the new role prescribed by educational reforms? How do teachers perceive their new role? How compatible is the new role with the expectations of society and local communities? How do teachers manage in a situation of role conflicts?

The paper will try to analyze the relationship among teachers, the school, and the Ministry of Education on the one hand, and the relationships among teachers, the school and the community on the other. In the end the paper will suggest a solution to the problem of the changing role of teachers, and offer recommendations to improve the situation of the teachers and their relationships with the school and the community.

This paper will concentrate its attention on the role of teachers in primary schools in rural areas. The main reason is that the majority of school-age children still reside in the rural areas. The role of the teachers and the school in their socialization may become more important, as in a number of places their parents have migrated elsewhere in

search of employment.

Most of the data for this study come from documents and research reports, including those of the BRIDGES Project. Some data have been gathered through interviews of villagers, provicial supervisors, district supervisors, principals, teachers, and teachers' college instructors in Surin, Udon, and Nakhon Phanom provinces. Five school principals, who are doing further studies in Bangkok, have also been interviewed. However, first-hand accounts have been gathered very unsystematically, and in a short amount of time. These accounts will be used to supplement and expound upon the documentary data.

2. THE BEGINNING OF MODERN EDUCATION AND ITS CIRCUMSTANCES

The twentieth century has witnessed rapid and profound changes in Thailand. Regarding the impact on educational development, we may divide the process of change into three phases. The first involved responses to the threat of Western imperialism, and the reform of the central government and the provincial administration. The second was the building up of a national consciousness among the Thai people under single monarch. The third, the present one which is still continuing, is the profound change from an agricultural to industrial society. These phases in fact overlap, and all through we can see the struggle of the central government to expand its control over the provinces and the hinterland.

The beginning of change can be traced back to the latter part of the nineteenth century when threats of Western imperialism loomed over Southeast Asia. The Bowring Treaty of 1855 was probably the first major concession that the Thai government had to make to an imperial power. Its provisions put an end to state trading monopolies. It set up, instead, a free trade regime, with limits on export and import duties, and it established extra territoriality.[1]

Such clauses implied that the practices of the Thai administration, including the

code of law, were "primitive" and unacceptable by Western standards.[2] In order to survive and retain her independence, Siam had to be "modernized," which often meant adopting or accommodating Western ways.

It was in that atmosphere that the modern system of education was born in Siam. There could be no doubt that it was to be oriented to the West. Western people right from the beginning had a share in its development. King Rama V gave a missionary, Mc Farland, the responsibility to operate Suan Anan School, which was opened in 1878. The King prohibited the preaching of Christianity and advised that the school should teach only reading and writing so that the pupils of the school could later become clerks. Arithmetic and crafts as well as customs indigenous to Siam were allowed.[3]

The historian, David K. Wyatt, says that "The basic accommodation reached with Britain and France in the nineties was possible only because both European powers by then had become convinced of the stability of the Siamese government, its ability to assure a modicum of security and public conveniences in the country, and its ability to protect the treaty rights of the European powers."[4] A Thai historian, Tej Bunnag, has nicely summarized the result of the major reforms which were implemented between 1892 and 1915 as follows:

> "From a loose conglomeration of states and provinces without clear boundaries, she (Siam) became a smaller and more compact state with clearly defined frontiers. During the same period, her people were emancipated from semi-vassalage and slavery and her central government was modernized."[5]

Modernization of the central government and reform of the provincial administration created great demands for educated manpower. It has been noted that the most serious need of the administration in that period was educated men for the civil service. Education for them had to be modern because they had to have an understanding of the changes the government was trying to introduce.[6] Thus the practical purpose of the development of education was mainly for the production of man-power for the reformed administration. People went to schools in order to become clerks and government officials.

The reform of the provincial administration was considered to be most successful. It contributed directly to the maintenance of the country's independence. However, it would seem to have produced a certain attitude among Bangkok officials and educated men towards the provincial and the rural population. We can sense it from the vivid description which follows:

> "...1902. By this time, Prince Damrong's reform of the provincial administration had shifted into high gear and rapidly was sweeping away the old order in the provinces. Bangkok officials, well dressed, confident, educated, urban young men, working out of the monthon capitals were aggressively attacking what they viewed as the evils and abuse of local ruling families in the north, the northeast, and the south... From the rational, moralistic perspective of these Ministry of Interior officials, the old system was wasteful and inefficient. But as exploitative as it may have been, the old order was an order. It gave structure to the local society, on the basis of which people knew what to expect and from which they gained some sense of identity, a sense of home and culture."[7]

The above quotation is Wyatt's explanation for the rebellions early in the twentieth century. It shows not only the rather extreme centralization process of the reform, but also the feeling of superiority of the Bangkok officials and educated citizens over the provincial and the rural population.

In a sense, the reform was overpowering and sweeping. It had to be done in time to prevent fragmentation of the Kingdom. The reform itself created such great demand for trained personnel that education became a tool to serve such demand. To become government officials was the main reason for getting educated. The atmosphere of the period and the show of Western power created an awareness of the superiority of the West. At the same time, the process of reform of provincial administration made the educated people look down upon the provincial and rural population. There was, as it has been observed by Prof. Hanks, "feeling of urban superiority but of national inferiority, along with a sense of urgency to overtake the Occident in technical knowledge."[8]

It is only fair to state that in introducing modern education, King Chulalongkorn

saw the benefits of education for the country and the religion.[9] General education in the provinces was planned in 1893 by Prince Patriarch Wachirayan and the Ministry of Interior. It used the existing monasteries as schools and traditional teachers, the monks, to propagate modern education. Prince Damrong and Prince Wachirayan proposed to set about "providing all existing monastery schools with modern textbooks, not books translated from foreign sources, but written by Siamese, and from a Siamese perspective."[10] For four years after 1898, the administration of education was split between two separate organizations.

> "The provincial schools were given to Buddhist monks, and a programme was devised to standardize and improve the thousands of existing monastery schools. In Bangkok, however, educational reform was modelled on the British education system"[11]

Probably after these four years laymen were replacing monks as teachers. The number of students had increased from 44,073 in 1909 to 83,966 in 1910, and 113,444 in 1911.[12]

Compulsory Education was introduced in the year 1921. It was probably done with the sincere conviction that it was necessary to provide education for all. The result was a quantitative increase at the expense of quality. Realizing that people were using modern education as a ladder to obtain civil service rank only, educators of the time decided to set up occupational schools to give training for other occupations besides the civil service. But this step forward did not seem to be popular. Secondary schooling also suffered similar fate.[13] On the other hand, university education which was set up in 1916 prospered. The first University was developed from the Training School of Civil Servants.[14] Undoubtedly it was popular at least among the elites and the wealthy who could afford their children's education through the secondary schools. It was an essential step towards government career.

Phase II of educational development began in the reign of King Vajiravudh. After the reform of the Provincial administration, it was natural to create a nationalist ideology. Universal primary education was a powerful tool for its propagation. The British ideology,

"God, King, and Country," was made into "Chat (Nation), Sasana (Religion), Phra Maha Kasat (King)".[15] Even after the 1932 Coup d'tat, the use of education (especially compulsory primary education) for creating national unity was maintained and even reinforced. The threat of colonialism died down about the beginning of the twentieth century, but there was a dramatic increase in the Chinese population.[16] The revolution in mainland China, with the establishment of the republic, combined with the introduction of a constitutional democracy, affected Thai educational policy. It was probably the fear of the Chinese minority that motivated the government to introduce measures to control private schools, and to use education for creating national unity and identity.[17] Again, in the period before and after the Second World War, education was used for creating "Thai nationalism". According to Wyatt, such educational policy, aiming rather at Chinese immigrants, disturbed the Malays in the South. This led to a large-scale insurgency in the south in 1948 which was put down by the Government with massive force.[18] Later, in the fifties and the sixties, schools and the curriculum were used effectively to incorporate the Northeasterners, the Southerners, and the minorities.[19] This was connected with measures taken to suppress Communist insurgencies.

So far we have briefly reviewed the development of modern education in the light of its socio-political circumstances. We have found that the most important incentive for the introduction of modern education was to modernize the country in order to preserve its independence. The orientation of the new education system had to be towards the West. A number of Thai students were sent to study abroad, mainly in Europe.

Also to preserve her independence, Thailand reformed her central and provincial administration. This created immense needs for people with modern education to fill up positions in the new and expanding bureaucracy. In the minds of the people, and perhaps of some of the educators also, education was useful only to prepare people for the civil service. All steps of education -primary education, secondary education, and university education, were directed towards receiving the certificates from the King and becoming government officials. However, out of the masses that attended 4 or later 6 years compulsory education, only a handful could go through secondary education, and a few select ones could reach the goal of becoming government officials.[20] Most people went

back to agricultural work after primary education. They were considered to have failed.[21] As Prof. L. M. Hanks wrote about popular reactions to education in the 1940s, parents found the subjects taught in school beyond their ken and left school affairs to the teachers. Their indifference to school, he pointed out, resulted from the failure of schools to conform with traditional assumptions concerning education.

> "As knowledge is assumed to be both substantial and practical, a considerable portion of the curriculum stands functionless in the eyes of the community. Parents understand moral education as practical education for, through acting virtuously, one may improve one's lot. Such people would insist that education should present the important sacred precepts. Other parents also understand that education may be more directly and implementally practical, and they would insist on subject matter paying more direct heed to the problems of the farmer. This is the conclusion of the people who think of knowledge in substantial and practical terms, so that textbooks telling simple stories in order to sharpen skills in reading, as we in the West have directed, have no relevance."[22]

The demands of the villagers were practical. Villagers simply felt that education should improve their living. The idea underlying measures taken to introduce and expand education was practical also, but for different purposes i.e., to supply manpower for the bureaucracy and to create a national ideology and unity.

With all curriculum governed by the Ministry of Education in Bangkok, and with the compulsory use of Bangkok language and dialect, the Ministry of Education has done as well at creating national unity as the Ministry of the Interior. However the Ministry of Education is rather reluctant to accept this honor.

We found that from 1932 to 1959 compulsory education expanded rapidly. In the year 1932, the number of compulsory school-age children was 1,374,625, but the State could manage to accommodate only 724,889 or 52.73 per cent. The proportion of the school-age population who did not attend schools went down to 32.92 percent in 1942. In the year 1959 it was found that 95.97 percent of the required school age population were attending schools.[23]

It is not clear whether the vast increase in the number of students in primary schools reflects increasing popularity of modern education or the expansion of the power and authority of the central government into the rural and remote areas. It is, however,a credit to the Ministry of Education if only those who had gone through primary education could read, write, and do simple arithmetic. Even this is uncertain because it has been found that a rather large number of those who have completed compulsory schooling could hardly read or write. It is said, however, that they could not retain their ability due to lack of diligent study.[24]

3. CHANGES IN THAI ECONOMIC AND SOCIAL STRUCTURE

The last fifty years have seen unprecedented changes in Thailand, and they have occurred so rapidly that it looks like a dream. Her population increased from about 20.2 million in 1951 to 25.6 million in 1959, to 34.7 million in 1969, and again to 55.9 million in 1989.[25] Regarding communication and transportation, the railway to Khorat in the Northeast was completed in the year 1900, and by 1941 the railway system included lines to Chiengmai in the north, the Malayan border in the South, and extensions from Khorat to Ubon and Udon in the Northeast.[26] There was no national road system prior to 1950. And yet by 1969 there were 7,822 km. of national paved highways, and 2,164 km. of gravel and laterite ones.[27] At present (1990) there exists a very good system of roads linking Bangkok with every provincial town, as well as between towns in the same and different regions. Branched roads now reach the large majority of villages. However, Bangkok was and still is the center of communication, and until recently was the only gateway to other countries, both by air as well as by boat. Electrical power production, with the building of multipurpose dams, expanded. It is said that by the 1960s, the suuply was adequate forindustrial demands.[28] At present its expansion has covered large numbers of villages. Together with roads, pick-up trucks came to the villages. With electricity, television sets and refrigerators have come. Regarding mass-media, most villagers have received news and entertainment by the use of transistor radios probably since the 1960s. Television has become popular only recently. However, newspapers are not available in a number of villages.

For decades now, Thailand has performed very well in terms of economic growth. She has been able to sustain noninflationary annual growth averaging 7 to 8 percent for over two decades.[29] During these last few years (about 1988-90) annual growth has even been higher than 10%[30] However, there are some phenomena related to such growth and prosperity which, to say the least, are worrying.

The first and the most obvious is the ruthless destruction of the environment. The forest area of the country has been reduced from 171 million rai in 1961 to only about 89 million rai in 1988.[31] The air of Bangkok has become poisoned. Our development has been rather lopsided. While the industrial sector has grown up rapidly, the agricultural sector has been regressing (see table I below). For the present year (1990), while GDP (1972 price) is highest (158.0 billion Baht) for the industrial sector, GDP for the agricultural sector was far below at 86.4 billion Baht. And yet 59.2% of the population is engaged in agriculture. The income gap between the rich and the poor has widened. The economic growth of the country has benefited the top 20% of the population most. There has been hardly any improvement in income for the poorest 10%.[32]

Table 6.6 on "Resource Flows from Agriculture to the Rest of The Economy", in Ammar and Suthad, Trade, Exchange Rate, and Agricultural Pricing Policies in Thailand shows clearly the disadvantages of the agricultural sector in the overall development of the country.[33] There is much disparity in income distribution between regions, between cities, and between the urban-rural populations. Bangkok has by far dominated other provinces and rural areas,[34] as regards both population and income generating capabilities. Most industrial plants and manufacturing establishments center on Bangkok and surrounding provinces.

TABLE 1

GROWTH RATES OF REAL GROSS DOMESTIC PRODUCT AND ITS COMPONENTS

Period	GDP	Agriculture	Industry[a/]	Service[b/]
1951-58	3.9	1.9	5.4	5.6
1958-73	7.2	5.4	9.0	7.3
1973-84	6.4	3.9	8.2	6.9

Notes:
a/ Including mining, manufacturing, construction,electricity and water supply.
b/ Includes transportation, and communication, wholesale, and retail trade, banking insurance and realestates etc.

Sources Ammar Siamwalla and Suthad Setboonsarng, Trade, Exchange Rate, and Agricultural Pricing Policies in Thailand, World Bank Comparative Studies, The World Bank, Washington D.C. 1989, p.10

Just as there have been changes in the economic structure, there have also been changes in the social structure. Probably the simplest way to introduce a summary of Thai social structure is by referring first to the basic belief of the people. Because of the belief in reincarnation and the karmic law in a materialistic sense as well as a moral one, Thai people accept personal differences in wealth and power as natural. Thus, a person is born into or gains wealth and power because he has accumulated merit (bun) in his past or present lives. Similarly, a person is born into poverty or loses his wealth and power because of his bad deeds (bap) in his past or present lives. At the level of behavior, we find that vertical relations such as junior-senior (luknong-lukphi), or superior-inferior (phuyai-phunoi) to be the most important relationship in the organization of Thai society. This type of relationship is based upon asymmetrical (unequal) exchanges of benefits (economics, political and/or social), and is generally referred to in academic circles as a patron-client relationship.[35]

This type of relationship is the base upon which groups which have been called "entourage"[36] are organized. An entourage is a hierarchically organized group in which a number of subordinates support a leader who holds their allegiance by successfully advancing their interests. Historically, prior to the Administrative Reformation of the nineteenth century, this type of relationship and group organization was incorporated into the formal structure of the bureaucracy. At that time, Thai society could be said to be divided into two classes or "estates," namely the governing class (nai) which consisted of the princes (chao) and the nobles (khunnang), and the governed, which consisted of the phrai (commoners, and ordinary peasants, or farmers), and the that (slaves, indebted persons who constituted household servants). A government official was a nai with a number of phrai attached to him as his subordinates. As there was no regular salary for the officials, they lived on gifts from the phrai, who were their subordinates, and on fees for performing their duties. In return for such gifts from their phrai, each noble gave protection for their phrai against the State as well as against other people, and in some cases assisted them in their advancement in power and social status.[37] Although the Reformation of the 19th century tried to make bureaucratic departments into functional units, based on Western models, such groups as "entourage" are found to exist everywhere informally within as well as outside of the bureaucracy.

Although there may be much argument about whether Thai society still has a two-class or "estates" system, or whether the criterion for class division has shifted from power attached to official positions to accumulated commercial wealth, it remains true that the leaders of entourages are people of power and/or wealth, be they bureaucratic officials or merchants, or even relatively rich farmers. Nevertheless, we find that ever since the Reformation, the officials and the wealthy persons, particularly the merchants, are closely linked in their interests. One may be a member of the entourage of another, depending upon their relative wealth and power.

As the model of the "entourage" is the family or the extended family, the ideal leader of an entourage is like the head of the family, the father who protects and distributes benefits to his children. However, regarding the relationship between the nai

and his phrai, the relationships between officials and the masses, or the relationship between merchants and small farmers, there has always been a hidden element of exploitation. With the commercialization of agriculture in the twentieth century, this hidden element seems to have been increasing and in a number of cases has come out into the open. Patron-client relations in certain situations have become direct illegal contractual relations, or quid-pro-quo, such as bribery for a special favor or an undertaking.

The ideal model of patron-client relation has given birth to Thai paternalism. The ideal superior, or leader of the entourage, protects and distributes benefits to his clients. This is particularly so within the bureaucracy, where we find superiors are unwilling to decentralize decision-making to subordinates, giving protection to subordinates even when the latter have done wrong and deserve punishment. Thus, the process of administration is characterized by top-down orders, often without sufficient explanation of the reasons behind the orders. On the other hand, the attitude of inferior persons, including low-ranking officials as well as farmers, is that personal advancement or success is dependent on finding an effective patron or entourage leader who can further one's security. One cannot find success through one's own work alone, or in cooperation with one's equals.[38]

The system described above operates at the level of districts (Amphoe) and provincial towns (Changwat). Its influence in villages varies because villages are unequally modernized. Traditionally, most Thai villages used to have kae ban, the elders who looked after the affairs of the village, and kae wat, the elders who looked after the local temple (wat). Thus, age, virtues, and wisdom were the required qualities of the village leaders. Later on the government appointed headmen, although the Provincial Governor would carefully select the elder who was the most popular man in the village. Then, as the country became more modernized, headmen were elected by show of hands. It was unfortunate, however, that the government issued a requirement that headmen must be able to read and write. Thus, such popular elders as the kae ban were not eligible as headmen. Younger men became headmen instead.

Most of them were reasonably good middle-age men who were actually asked by the members of the community to serve as their representatives in dealing with

government. No one really wanted to serve as headmen as there were no apparent, tangible benefits. However, in the 1960s rural and community development became fashionable. The central government sent in officials and bestowed benefits upon the tambon (sub-district) and villages. The positions of kamnan (sub-district head) and village headmen became lucrative and people were fighting for such positions. Candidates for village headman may have needed to spend "at least 10,000 Baht" to get elected, and for a kamnan at least 100,000 Baht.[39] In the end, we usually have rich farmers as village headmen, and rich merchants as kamnan. We may observe that the basis for ranking people in the hierarchy has changed. From the power which derived from the sacredness of the King and personal virtues (often religious ones) it has changed into "money power" no matter how it is obtained.

4. RECENT CHANGES AND EDUCATIONAL UPHEAVAL.

The readers may note that nowhere we have written about educational philosophy. In fact, there have been all through periods of modern education in Thailand statements of great educationists, many beautiful words, but they did not appear to affect the direction of education or the way schooling was implemented. In the eye of an outsider, perhaps of the villagers also, modern education was a ladder to reach high positions in the civil service. And it was such a slippery ladder that none or few sons or daughters of ordinary farmers could ever succeed. The children had to obtain compulsory primary education because they were ordered by the government, but what they learned at school was of little value to their living and working in the villages.

The critics have said that our educational plan and curriculum lack our own uniqueness and ideology. Thus the organization of education in Thailand met with many problems.[40] The system of modern education was not for the masses but for the elites, and did not give rise to social equality and social justice.[41]

After the events of October 14, 1973, there were accusations that national education did not prepare the people for democracy, did not prepare the people for

involvement in politics, and did not prepare the people for their occupations. Demands were made for educational reform.[42] A number of communities were set up to revise the curriculum of primary education, and a number of academic seminars took place to draw up a new curriculum, which was given trials in a number of schools during 1976 and 1977. This new curriculum for primary education was formally declared by the Ministry of Education to be used by all in the year 1978. It was a substantial educational reform.[43]

The educational scheme of 1977 states that "Primary education aims to develop learners in basic knowledge and skills, to maintain literacy and mathematical skills, to enable learners to earn their living according to age and ability, to develop citizenship characteristics under the democratic system within the constitutional monarchy".[44] A person who has completed compulsory education was expected to become literate with regard to arithmetic and language skills which would enable him/her to earn a living suitable to his/her age and to become a good citizen with ethical behavior. The curriculum aimed at improving the quality of life, cultivating an awareness of being a Thai, developing concepts of self-reliance, creativity, and self-adjustment in society with an emphasis on diligence, honesty, frugality, endurance and discipline. Follow-up evaluations found that the curriculum could not fully respond to rapid changes in the society, economy, science, and technology. Experiences provided in school could not equip learners with adequate knowledge, self-reliance, or with the obtain to apply knowledge in everyday living.[45] A revision was then made in 1990, putting more emphasis on the learning process with the use of a student-centered approach rather than the usual teacher-centered one.

We should note that the needs for the teachers to change their roles are essential for the success of the curriculum. Many of the evaluations mentioned above found that the teachers are the main problem. Although most teachers understand the curriculum and hold favorable attitudes towards it, they are unable to perform as the curriculum prescribes. The majority of teachers do not change their technique or methods of teaching. They cannot make or find required teaching aids. They do not understand the evaluation methods and cannot construct testing instruments.[46] On the other hand, the teachers themselves have protested the contradictory directives from the Ministry of Education. An example can be seen in the emphasis on cognitive skill so in exams, while curriculum

addresses learners' abilities to solve problems. Some teachers, however, have managed to find a role for themselves which is different from that prescribed by the curriculum but which leads to attainment of the goals of the curriculum.[47] The rapid social changes of the present time demand that teachers change their roles. What is not certain, however, is whether the role which they will play will be that prescribed by the Government or one of their own or the local communities' selection.

5. THE TRADITIONAL ROLE OF TEACHERS

In traditional Thai society before the administrative reforms of King Chulalongkorn-the teachers were bhikku (monks). Every writer who writes about bhikku (monks) as teachers always emphasizes their high status and sacredness. Bhikku taught (and still teach) the scriptures, which were immortal words of the Buddha. These words had to be remembered. At important ceremonies such as house warming, marriages, death rites and various other solemn occasions, the monks were (and are) invited to recite parts of the scriptures and give blessings in the Pali language. Word of bikkhu (monks) were believed to be sacred, and thus their blessings were effective. According to the Vinaya, bhikku (monks) must always speak the truth, abstain from touching the persons of the opposite sex, give up greed, etc. They are revered because of their virtues. And their virtues can a priori be assumed because of the yellow robes, a powerful symbol that they wear. However, I have known cases of monks, who have been driven away from villages because of their misbehavior. And, I have known cases of monks whom the villagers refuse to give alms to because of their misbehavior. Cases like these happen because the wat (temples) belong to the villagers, and, indirectly, the monks are under the villagers' control. The villagers love their wat, and revere the bhikku.

Most modern people think that, as teachers, the bhikku were only instructors of the scriptures, the moral, and the "three Rs", particularly reading and writing. A number of modern educationists think that education provided in this fashion has been all rote learning. The reverence given to the teacher-bhikku was emphasized even more because parents had to take their children to be ceremoniously given to the bhikku. It was up to the

bhikku to give lessons to the boys or not, and how far. The pupils have to pay respect to their teachers-bhikku ceremoniously every day. The lay-teachers have, somewhat, inherited that highly respected position from the teacher-bhikku.

However, we would like to take this opportunity to bring to the reader's notice that the wat (temple) did not only teach the children of community, the three Rs, or the scriptures. The children were taught many other things in the wat, ranging from such crafts as painting, decoration, construction, agricultural practices, and even boxing, swordsmanship, and valuable experiences such as how to make experiments, how to live with and understand others, how to give respect and to honor others, especially elders, and how to have a happy life in the community. Most of this knowledge and wisdom were usually not taught in the main buildings of the wat, or even in the kuti, where the bhikku slept. We have seen the abbot of Wat Yokkrabat squatting among villagers in the Wat's ground, experimenting with a new method of growing pine trees, fruit trees, etc. We have seen bhikku (monks) and novices and villagers together building the bodhi (main building of the temple) or the Sala Kan Parien (the Assembly Hall).[48] Seeing the abbot of the wat doing such things in the wat's ground, or in the fields or gardens together with the villagers, a large number of the modern Thai people may not think that the abbot is playing the role of a teacher. Again, we often see the abbot or senior bhikku (monks) discussing with the villagers the problems of the village, such as the operation of the local "rice bank", or the operation of the local cooperative store.[49] Few people realize these bhikku (monks) are playing the role of teachers. The reasons are that (a) the lessons being taught are not considered to be knowledge, and (b) they all seem to be out of place somehow.

We have to make a special note, then, that traditionally the bhikku (monks) played the role of teachers both in class and formally in the bodhi, or sala, or kuti, and informally in the wat's ground, fields, gardens, or sometimes in the sala or kuti, but never in the bodhi.[50] It would seem that informal teaching was more effective. Further, the lessons were given to many more members of the community than we, the modern, educated people of today have ever thought of.

6. SOCIAL CHANGE AND THE TEACHER'S ROLE

We have described earlier in section 6 the social structure of Thai society. It can be seen that greatest emphasis was given to the hierarchies of social status. The position of patron derived from seniority in age; the possession of knowledge, wisdom and virtues; the power derived from the King and the religion; and the amount of wealth that one was willing to distribute to those who were loyal to him. Teachers were generally ranked high on the ladder because they possessed knowledge, wisdom, and virtues. The bases and organization of these ranks have undergone much charge. The following anecdotes may give a better impression of the changes than would a factual description.

> "In 1960 after I came back from a long study abroad, I was working in the police force. At that time, there was much discussion among us, the police officers, as to whom we should wai,[51] and whom we should not wai. There was a wealthy merchant, whom some of our friends wai. We all were telling them not to do so. To wai such a man was to wai money only. We wai only virtuous persons. Now we shall find that most people are more ready to wai a rich man, than to wai a virtuous but poor person."[52]

Again

> "One day, my daughter aged 14 came back from school and was angry about the behavior of her close friends. It was a close group of students in a class of about 10-13 members. My daughter was angry because all of her friends refused to associate with a student in the same class, who was poor, being the daughter of the janitor of the school. My daughter was saying to me that it was not fair to treat the poor girl like that."[53]

Again

> "One day, my daughter came back from school and asked me, 'Father, my friends ask me why we don't have a chauffeur driving our car?' And on another day, she came to ask me, 'Father, my friends ask me why we have only a small Japanese car? Why don't we have a Volvo or a Mercedes Benz?' Members of the group that my daughter belongs to evaluate and compare with each other how luxurious their houses look, and how expensive their clothes are, and how often their parents take them abroad on holidays."[54]

In a number of villages, we have asked whether life is better nowadays than in the past, and this is what the villagers say:

> "In a way, it is more convenient nowadays. We can go places easily. We can enjoy lots of new things. But life is so hard. We have to rush around and work all the time to get money. And money is so important for our lives."[55]

While the Bangkok elites use a Volvo, Mercedes Benz, or a BMW to maintain their status, the teachers in rural areas use scooters, motorcycles, and pick-up trucks to maintain theirs. Teachers have high status, which must be looked after, inorder to gain respect from students and parents of students. When the worth of a man is measured by the amount of money he possesses, where will the teachers rank?

Dr.Supang Chantavanich writes:

> "People on the whole now look down on the teaching profession. It receives low accord due to its demanding work and low income. Secondary students tend to choose other prestigious professions like medicine, engineering, army or other more financially rewarding careers like banking or business. Pedagogy ranks the lowest in the University entrance examination."[56]

Chinnapat Bhumirat and Pensri Arunrungrueng tell us that the BRIDGES survey, conducted in 1988, shows that about 40% of teachers have difficulties in handling monthly income, and around 80% do not have other sources of income.[57]

Although it is definitely necessary to raise the salary of teachers, the number of teachers as civil servants is as large as 500,000. To raise the salary of teachers, therefore, often draws resistance from other civil servants of smaller Ministries and Departments. Even M.P.s are not very willing to agree to measures raising the salaries of teachers.

The BRIDGES survey also indicates that the relationship between teachers and the community is not as intimate as it once was. Dr.Chinnapat is of the opinion that it is the consequence of the phenomenon that more and more teachers are living outside the

communities.[58] One instructor of the Teacher Training College in Surin, who is also a man from Amphoe Sangkha, tells me that all school teachers of Sangkha District live in the town, Surin, which is 60 km. away. They ride on their motorcycles to schools in Sangkha District every morning, and come back to the town Surin in the evening. One of the authors interviewed teachers and villagers in Udon Province, and Nakorn Phanom in the Northeast Region, and found that over 50% of rural school teachers now live outside the communities in towns or urban areas. It is difficult to determine the real reasons for the preference for living outside the rural communities. The reason given for the school teachers of Sangkha is that they want their children to attend better schools in town. Supang seems to suggest that many teachers prefer to take refuge from village expectations and move to urban areas (where a secondary relationship within the community can partly protect them from severe criticism over their lack of accountability). We are told that in a number of villages in the Northeast Regions, grown-up children have no one to socialize and discipline them. Their parents have migrated to work in Bangkok or other towns. Their teachers live in towns outside the villages. They have only the grandparents who are too old to look after them. What will be the future of these children?

7. TEACHERS' DILEMMA AND SUGGESTED SOLUTIONS

Teachers perhaps are living in the towns and away from village communities because they are in a dilemma. Their dilemma is caused partly by changing circumstances, but mainly by the Government, especially the Ministry of Education. The criteria or basis for evaluating the status of a person in the social structure has, changed. Their superior status on account of knowledge and wisdom must have declined in comparison to the wealthy kamnan (sub-district head), or the rich village headman. Their salaries continue to be very low, and they have little opportunity to make additional income through corrupt practices. Unlike their urban colleagues, who can make additional incomes from tutoring wealthy students, rural school teachers cannot give extra lessons and charge their students for them because rural students are already poor and their parents are not very eager to support their children's studies. So the changing economic situation and social values do affect the rural teachers' status.

The Ministry of Education truly places them in a dilemma. We have already noted that the new curriculum of 1978 has admirable aims, and no one can argue against its suitability for education in the rapidly changing society and the increasingly smaller world. We have learned that the greatest obstacle or problem in the operation of the curriculum is the teachers. In fact, the intention of the curriculum is to make education a part of living, the whole of one's life in the communities. The learner should learn to be self-reliant and develop the ability to solve problems, his own and his community's. This is very similar to the kind of education in the past. We have noted at the end of Section VI that the real problems preventing us from seeing the role or roles of bhikku as teachers in all aspects are (a) differences in the concepts of what constitutes "knowledge.", and (b) how different spaces define different ways to perform the role.

First, we have to consider what the new curriculum defines as "knowledge", what the officials of the Ministry define as "knowledge", what the school teachers define as "knowledge", and what the villagers define as "knowledge" Apparently, since the beginning of modern education in Thailand, the definition of "knowledge" of a Ministry of Education official has never been the same as that of the villagers. As we have seen earlier in Section III, the substance of knowledge of the Ministry was the three Rs and the building up of the "Nation". See description by Prof. L. M. Hanks:

> "The official program holds that the knowledge and habits of a modern nation must be built into a population only recently disinterested in the world beyond the national borders. For this task, education is primary: men must hold a deep loyalty to the nation beyond their personal fealty to the king; old superstition must be replaced with a knowledge of science; 'out-moded' living habits must yield to modern practices".[59]

The idea of knowledge on the part of the villagers was "to be both substantial and practical, like a tool which copes with one of life's difficulties".[60]

At first, important knowledge discovered only by heroes or saints was valued, but later on as the practical usefulness of the three Rs became accepted, the three Rs became valued knowledge. For some, "reading was desirable because, although it did not help to

grow rice, it taught virtue, on which success of every sort depended".[61] "Some conceded minor value to literacy like the man who found it helpful to read signs when travelling, but who otherwise saw no gain from education for farmers".[62] As changes have come over the village, more and more of what are taught in school would eventually become "knowledge".

Chinnapat's paper shows differences of what the Ministry wants the learners to be, and what the schools, and the village wants.

> "According to the 1978 primary education curriculum, students should develop certain characteristics such as diligence, endurance, honesty, frugality, and self discipline. However, from research observation schools emphasized obedience, diligence, and good manners. All of the characteristics that schools emphasized also reflected parents' expectations, but the parents had the additional expectation of being religious."

I believe it is probably the time now that education should be a part of life. What it teaches should be close to the experience of the learners, and understood by the learners and the villagers as would be useful to them in the conduct of their lives. Besides the three Rs which every village must have accepted by now as the necessary part of education, things being taught must be related to the experiences of the members of that community. For example where agriculture is dominant, certain additional useful ways to improve it may be addressed in the school. For communities in forest areas, the school may lead students and villagers in establishing agro-foresty or the growing fruit trees. The introduction of fish culture in certain places may be needed. The operation of cooperatives and many other such practices can also be initiated by teachers and students.

Here, educationist readers will argue the schools are already doing that. But most of the existing programs do not specifically meet the community's needs. Further, they receive only half-hearted support from the Ministry. Their success does not upgrade the school for being of superior quality. The Ministry's manner of evaluation concentrates far too much on "cognitive knowledge", learned in class and by memory. Such tests are used to evaluates school performance, and awards are given to school accordingly. The other type of education, probably the most important in educational reform, cannot be evaluated and

is thus excluded in the evaluation of the performance of the schools and the teachers. Naturally, the teachers will concentrate only on those subjects which can be done by the "chalk and talk" method (teacher-centered) because the students' success in cognitive areas will bring benefits to schools and to teachers. The Ministry cannot easily test the success of teaching students to think, to be self-reliant, and to solve problems, for that success varies according to the circumstances and the needs of each locality. Thus success in teaching students to think, to be self-reliant, and to find solutions to communities' problems wins no rewards. The main objectives of the curriculum cannot be achieved because the Ministry does not know how to evaluate their success. Teachers are only being rational by devoting their efforts toward tasks that draw rewards. And they will shy away from tasks that draw punishment.

Critical here is that rewards (such as salary increases) should conform to the purposes and objectives of the curriculum. We must also find what is necessary for the success of the project. The success of the project depends largely on the teachers' understanding of the real needs of the community. Teachers can learn indirectly from villagers the needs of the community. They do not need to rely completely on the Ministry.

The capability of teachers to understand the needs of villages will need training and assistance. We are certain that such assistance can be obtained from local teacher colleges and regional universities. It is time now that the Ministry, the School, and the communities work with the same meaning of knowledge. If we throw off our American or British gowns, and our Bangkok glasses, we might see and understand better our brothers and sisters in Thailand.

Social space and role performance are critical factors. We have seen that the bhikku (monks) teach scriptures in the main buildings of the temple but teach how to select seeds and plant trees in the wat gardens. Just as we cannot wear a bathing suit in Bangkok, but can do so in Honolulu, the space prescribes what kind of behavior one should perform. The classroom always has been used for teaching in the method of "chalk and talk". The classroom also supports a teacher-centered approach. The teacher's prominent chair and table, and the rows of students facing him, are suitable for this approach. The assumption

of the villagers is that in the classroom the teacher has to act out his or her role in that way. The bhikku in the bodhi acts out his role in a certain way too. But both the bhikku and the teachers can act out the teachers' role in other ways in the wat's ground, the rice field, the fish pond, or even in industrial plants. To require a teacher to use the student-centered method of teaching in the classroom is to ask him to do something he is not accustomed to do there. A school teacher told me that he tried to teach using the student-centered approach. The parents of the students told him that he should not play with the children in the classroom.

One option is to assign the teachers to teach the three Rs in the classroom and have the student-centered experiences outside the classroom in the school gardens, the farms, or even in industrial plants. By doing so the school will be bringing in local outside experts to assist in teaching. An observation tour followed by discussion could follow. An experiment could be made, with the help of specialists, in the school yard or even in the expert's farms.

I think what I have described are all related to education. The effectiveness would lie in the discussion after the observation tour, at the very place of the visit. The villagers can join in such activities. These techniques of learning together could also utilize assets of the Thai character, namely nam chai and to know "how to forgive". Nam chai, meaning "care and assistant," can be applied to activities or organizations of the community. Kreng-chai, which is used from person to person, can be applied to villages as a whole, or to relations among many villages, etc.

The main point is to understand which teaching approach and what subject matter can be used appropriately where and when. A large part of the curriculum could be designed by the teachers and the communities with the help of other local institutions such as the Teachers Training School or the universities. Such a curriculum should arise out of research on the communities and from discussions with the members of the communities. Limits should be put upon in-class, teacher-centered approaches in teaching, and more time given to alternative methods for making the learners self-reliant and capable of solving their own and their communities' problems.

This recommendation is made only if the Ministry of Education sincerely wish to reach the goal of the curriculum of 1978. We have to add also an additional caveat. In training the teachers the student-centered approach in teaching, please do not overlook the possibility that the Ministry officials may need to adopt a similar approach.

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50. The authors and the readers have to agree on this aspect of the traditional role of teachers.
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SOCIAL CHANGES AND THEIR IMPACT ON THE TEACHER'S ROLE

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บทสรุปสำหรับผู้บริหาร
เรื่อง การเปลี่ยนแปลงทางสังคมและผลกระทบที่มีต่อบทบาทครู

การปรับตัวทางการศึกษาตามอย่างระบบตะวันตกในช่วงศตวรรษที่ผ่านมา ได้มีผลในทางลดบทบาทของการให้การศึกษากับเยาวชนที่มีมาในครอบครัวและโดยพระสงฆ์ โดยมีครูวิชาชีพเข้ามาแทนที่ ได้รับการสวมบทบาทให้เป็นผู้ถ่ายทอดค่านิยมทางสังคมไทยไปสู่เด็กในรุ่นต่อไป แต่ถึงปัจจุบันคุณลักษณะงานของครูดูจะเปลี่ยนแปลงไปตามแรงของการเปลี่ยนแปลงทางเศรษฐกิจที่เกิดขึ้นอย่างรวดเร็ว เสริมด้วยความเจริญก้าวหน้าทางเทคโนโลยีสมัยใหม่ ตลอดจนการสื่อสารมวลชนที่ทวีความสำคัญยิ่งขึ้น สภาพเหล่านี้ได้แทรกซึมเข้ามา และช่วยหล่อหลอมให้เกิดค่านิยม 'วัตถุนิยม' มากขึ้นทุกขณะ ครูเองก็ตกอยู่ในสภาวะที่ล่อแหลม ต้องเครียดกับภาวะการณ์ที่ต้องเผชิญและยังต้องหาทางที่จะปรับจัดวางตัวให้ยืนหยัดอยู่ได้

ครั้งหนึ่งสังคมเคยมอบเกียรติยศและความเคารพนับถือแก่ครู นักเรียนก็ซาบซึ้งถึงบุญคุณของครูในอันที่ครูคือผู้สร้างสรรประโยชน์ให้แก่สังคม ปัจจุบันนี้สิ่งเหล่านี้กำลังเจือจางไปอย่างรวดเร็วและแพร่ขยายอาณาเขตกว้างออกไปเรื่อย ๆ ภาวะการครองชีพที่สูงขึ้นและข้อเรียกร้องของชุมชนที่เปลี่ยนไปมีส่วนกดดันฐานะและความรู้สึกของครูอย่างรุนแรง จนบ่อยครั้งที่ครูไม่สามารถที่จะตอบสนองได้ทันกับความต้องการของสังคมที่มีความหลากหลาย สภาพของครูในปัจจุบันถูกรุมล้อมด้วยความคาดหมายที่เปลี่ยนแปลงอยู่เสมอและมากขึ้นจากสังคม ในขณะที่สิ่งที่เคยเป็นรางวัลจากสังคมที่ทำให้ครูภาคภูมิใจในการเป็นครูกลับลดน้อยลง

การเปลี่ยนแปลงหลักสูตรในการเรียนการสอนแม้จะได้พยายามที่จะให้สนองตอบกับการเปลี่ยนแปลงทางสังคมที่เกิดขึ้น แต่กระนั้นการบรรลุเป้าหมายของหลักสูตรก็ขึ้นอยู่กับความสามารถและความตั้งใจจริงของตัวครูในการประยุกต์ใช้หลักสูตร ยังมีครูจำนวนมากที่ยังไม่มุ่งตามแนววิธีการของหลักสูตร การที่วุฒิการศึกษาของครูโดยส่วนมากมีระดับสูงขึ้น ก็ไม่ได้เป็นผลต่อสัมฤทธิ์ผลทางการเรียนของนักเรียนเสมอไป กล่าวคือ คุณภาพและการจูงใจในการสอนของครูไม่ได้ขึ้นอยู่กับระดับคุณวุฒิทางการศึกษาของครูเท่านั้น ดังนั้นระบบการศึกษาโดยหลักสูตรและครูแต่ละคนจึงเป็นผู้รับผิดชอบต่อผลผลิตทางการศึกษาร่วมกัน

ในด้านคุณธรรมและจริยธรรมที่ถ่ายทอดให้กันดูจะไม่เป็นไปตามที่คาดหวัง เนื่องจากครูจำนวนมากยังสอนคุณธรรมและจริยธรรมโดยการให้เด็กท่องจำ หรือสวดมนต์ตามบทในตอนเช้าที่สนามเป็นกิจวัตรตามธรรมเนียมปฏิบัติ การสอนแบบนี้ทำให้นักเรียนต้องรับไปโดยไม่มีปฏิกิริยาโต้ตอบ และเรียนค่านิยมจากสภาพรอบตัวไปโดยปราศจากข้อซักถามหรือหาเหตุผล ในสภาพสังคมวัตถุนิยมเมื่อการเรียนการสอนยังคงลักษณะเช่นนี้นักเรียนก็ย่อมรับค่านิยมการบริโภคไปอย่างง่ายดาย

การเชื่อว่าการสอนแบบป้อนให้ถึงปากและโดยการท่องจำเป็นสิ่งที่จะก่อประโยชน์ต่อนักเรียนและสังคมนั้นเป็นความเชื่อที่ไม่สมกับความจริงในปัจจุบัน ในสภาพที่ค่านิยมและความต้องการทางสังคมเปลี่ยนแปลงอย่างรวดเร็วคงจะเหมาะสมกว่าที่จะใช้การสอนที่มุ่งให้นักเรียนได้มีความสามารถในการคิด ใช้วิจารณญาน นักเรียนจะได้มีความสามารถที่จะประเมินสิ่งที่เป็นไปในโลกรอบตัวเขาและตัดสินใจด้วยตนเองแทนที่จะต้องทำตามอย่างที่บอกเล่า สิ่งนี้เป็นสิ่งสำคัญที่สุดสำหรับสังคมที่ประสบกับการเปลี่ยนแปลงทางเศรษฐกิจที่รวดเร็วและบางครั้งมีปัญหา แต่การที่จะทำได้อย่างนี้นั้นต้องการการริเริ่มและความสามารถของครู ความเพียรพยายามทั้งหลายควรไปใช้ในการอบรมและฝึกสอนครู พร้อมกับให้เครื่องมือในการสอน ตลอดจนกำลังใจเพื่อสร้างพลังในการบูรณาการ

EXECUTIVE SUMMARY
Social Changes and Their Impact on the Teacher's Role

The adoption of a Western-style education system over a century ago reduced the role of the family and monks in educating the young, replacing these agents with professional teachers. More and more, teachers assumed the role of transmitter of social values to Thailand's youths. Today, however, another change is at work. Rapid economic development, high technology, and the mass media are creating a materialistic society that is undermining the role conferred on teachers to transmit social values. Teachers are now in a very precarious position, they come under much strain, and yet they must innovate and meet the challenges of a modern society in order to be effective.

The prestige and rewards once derived from public recognition and students' gratitude for their contribution to society are now eroding, and rapidly so in many areas of the country. More and more, rising costs of living and changing demands from communities are pressuring teachers, and often they are not able to meet the demands society places on them. As social expectations increase and change, the rewards that once kept teachers committed to their profession are rapidly in decline.

Changes in the school curriculum aimed to respond to rapid changes in society. However, the curriculum's success depends on teachers' capacities and willingness to adopt it, and to innovate. Many teachers have not performed adequately. Obtaining higher teaching degrees does not always result in higher learning achievements among students. Teaching quality and motivation do not necessarily accompany a higher degree. Both the education system and individual teachers are responsible for these outcomes.

The transmittal of morality and ethics suffers in particular. Many teachers are found to rely on spoon-fed rituals on the school-grounds to inculcate social values. This teaches students to accept, passively, the values of their surroundings, without questioning their merit or utility. In a materialistic society, students would then be likely to accept consumeristic values, too.

It is unrealistic to assume that spoon-fed values and rituals would be beneficial, for the pupil or for society. Since values and preferences change rapidly, it would be far better to instill in students the ability to think critically so that students would evaluate the world around them and make judgements that are not imposed on them authoritatively. This is most important for a society undergoing rapid, and sometimes unsettling, economic changes. But it requires innovation and competence among teachers. All efforts should be made to further train and educate teachers, and provide them with the tools and motivation to innovate.

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SOCIAL CHANGES AND THEIR IMPACT ON THE TEACHER'S ROLE

1. INTRODUCTION

It is generally agreed that education is a process of socialization or enculturation of new members in a society. Each society, primitive or modern, sets its own pattern of socialization to educate children according to its ideals. However, in this rapidly changing phase of development in Thailand, education faces difficulties in meeting ever-changing societal needs. It also faces the problem of answering to the society what should be the appropriate and ideal goals of this enculturation process. In the past, to sets goal and to identify devices to achieve goals in the socialization process require a long transformation and crystallization of ideas. Education in the age of supersonic information is challenged and even threatened by rapid modernization.

Actually, this culture lag did not occur over night, but a century ago. King Chulalongkorn decided to modernize Thai society in the late 19th century. Western scientific knowledge was introduced, as was the modern schooling system. This paper will examine the changing process which impinged on Thai education, especially on school teachers; it will then look at teacher-pupil relationships within this new socio-cultural setting.

2. SOCIO-ECONOMIC AND CULTURAL CHANGES AND THEIR IMPACT ON THE TEACHER'S ROLE

2.1 Changing Influences of Various Agents of Socialization

As already mentioned, the modernization of Thai society brought with it western knowledge and new methods of enculturation i.e., schooling. In the past, ethical and

religious knowledge and values, occupational skills, and literacy and were considered important according to social norms. There were fixed patterns of behavior into which all children had to be moulded accordingly. Family, monastery, and the noblemen's palace served as agents of socialization. With the arrival of Western scientific knowledge, those agents were no longer competent to educate the young. They were then replaced by the modern schooling system.

However, at the down of modern education in Thailand, in 1898 the State could produce only 40 teachers per year to be distributed all over the country.[1] Therefore, the Ministry of Education assigned Buddhist monks to be primary school teachers because most schools were founded in the temple.[2] However, without training, those monks became incompetent in their teaching, and they were finally substituted by teachers. Although early teachers were not well trained, the public and the Ministry of Education expected them to be the most active agents of socialization. This expectation can be seen in the decreasing role of the family to educate its children, and the acceptance of this. Parents abandoned the task of socialization, leaving it to the teachers and schools. As an anthropologist observed:

> "Parents who had attended school under the priests would have recognized with approval the daily obeisance to the teacher. Copying letters of the alphabet from the blackboard into notebooks, chanting a text, or reciting the Five Noble Precepts would also have seemed appropriate. Saluting the flag may have reminded some fathers of their service in the army but it was certainly novel to require this of children. The remainder, with the possible exception of arithmetic, made little sense to the parents. Geography, history, and scoutcraft lay beyond their ken. Though any one of these subjects might have been explained by an interested person, the whole did not fit the recognized province of education and parents quietly left school affairs to the teachers."[3]

1. See Ministry of Education (1964), p. 129.
2. See Ministry of Education (1964), pp. 175-176.
3. From Hanks (1958).

Both parents and monks became incompetent to teach modern knowledge and skills to children. However, it was regretful that their role in teaching moral values was changed, too. In fact, it was considered secondary to cognitive skills teaching.

However, modern technology and the mass media in the 20th century can play an active role in transmitting information to the masses, especially to the young people. Mass media has now become a new and influential agent of socialization. Social values transmitted through mass media entertainment influence children's attitudes more pervasively than those transmitted by schools and religious institutions. Therefore, the status of teachers and monks in Thai society is deteriorating while their role in socializing children decreases also.

2.2 The Pressure of Materialism on the Teaching Profession

To answer why mass media has replaced teachers in educating social values to young members of society, we have to consider the teaching profession within its socioeconomic context. In the past, the teaching profession was highly esteemed. Its rewards lay in the prestige derived from public recognition and the gratitude of students. The high status of teachers who succeeded monks in schooling was described as:

> "Although teachers no longer dress in yellow robes, obeisance to the teacher occurs daily preceding classroom recitation. A more elaborate, traditional paying-of-respect to teachers by both pupils and teachers is a standard annual feature of the school calendar. In addition, although teachers no longer have the privilege of selecting their pupils from among the petitioners, they encourage and attend to the needs of the most devotedly industrious, preserving, in this manner, the assumption of worthiness to receive attention. Then, in permanent debt for this special help, the pupils of special industry continue as followers of a teacher, ready to assist him when needed. In this informal manner a teacher's moral leadership is preserved."[4]

However, while monks live on donations and from lay people, teachers have to earn their own living. Rural teachers were provided with no social security. It was not until

4. Hanks (1958), p. 14.

1948 that rural primary school teachers were recognized as government officials and their low salary was adjusted accordingly.[5] Hence, they were neglected for 50 years since the establishment of rural primary schools in 1898. The decades of the 60s and 70s brought with them the rise of capitalism and rapid economic changes in Thailand, and encouraged materialistic values and consumerism among the Thai people. Teachers were severely affected by this rapid change. Their status as moral leaders was shaken, as was the monks' status a century ago when the Western schooling system invaded Thai society. As we all know, the teaching profession is not a money-making career, yet teachers need to maintain a standard of living which can support them in a materialistic society. Materialism then reduces the devotion of teachers to their profession as they find it necessary to land outside employment. They also find added income from private tutorials. In doing so, they fail to meet what society expects of them. Teachers are forced by the money economy to evade their responsibility.

2.3 Society's Perceptions and Expectation of Teachers

People on the whole now look down on the teaching profession. It receives low accord due to its demanding work and low income. Secondary students tend to choose other prestigious professions like medicine, engineering, army or other more financially rewarding careers like banking or business. Pedagogy ranks the lowest in the university entrance examination. Even in 1937, no male student applied for a seat in teacher training colleges, while there was a shortage in male teachers in secondary schools at that time.[6]

Yet, the expectations on teachers grow in the direction opposite to the social recognition conferred on teachers. Changes in the curriculum and educational policy require teachers to work harder as a classroom manager, a teacher, a counsellor, teaching aids-maker, and evaluator of students' performance. But these demands have not been

5. Ministry of Education (1964), p. 450.
6. Ministry of Education (1964), p. 452.

successfully fulfilled. Research findings confirmed that teachers could not perform all the prescribed tasks.[7] It was found also that teachers who failed to perform the expected roles became alienated, lost their self respect, and developed negative attitudes toward the teaching profession.[8]

At the community level, expectations from parents and villagers also put pressure on teachers. At Bangchan, parents objected to secular learning in the local school because of its incongruence with their religious and moral conceptions of education. In addition, a considerable portion of the curriculum subjects provide no utility in the eyes of the community.[9] Consequently, there is a contrast, if not conflict, between the enculturated base of pupils at home and the socialization process in school. Experiences from other societies like Malaysia confirm that inefficiencies occur within dichotomy.[10] And certainly, the teacher is in a reluctant position in the community. Folkmen expect him or her to behave as a moralistic symbol but they look down upon his competence in vital village activities such as rice growing. Failing to meet any of the expectations, some teachers struggle to maintain their respectable status in the community while many prefer to take refuge and move to urban areas (where a secondary relationship within the community can partly protect them from severe criticism over their lack of accountability). This results in the congestion of competent teachers in cities and big towns while the less privileged stay in remote areas with poor morale and social insecurity.

2.4 The rapid expansion of schools and student enrollment

When the Compulsory Education Act was promulgated in 1921, schools were not

7. See, for example, Chantavanich et al. (1987), and Office of the Phashee District Primary Education (1985).
8. Niranthawee (1988).
9. Hanks (1958), p. 14.
10. Beymour (1974).

sufficient in number and there was a great need for teachers to cope with the increasing levels of enrollment. The Ministry of Education worked hard to produce teachers by various means. In addition to teacher training in Bangkok, during 1921-1934 the Ministry recruited new teachers by giving 1-2 years additional training to students who immediately graduated from primary school. It also expanded teacher training colleges in rural areas in the 60s and 70s to comply with the National Economic and Social Development Plan. Since 1951, the National Education Plan indicated that only the State could train teachers, and this policy has been sustained until the present. This policy limited competition from other potential trainers of teachers. As a result, the Ministry needed to accelerate its own production of teachers. During the 1960s, most teacher training colleges had to give extra evening courses to double the number of graduates. Consequently, a significant amount of teachers had no teaching experience because of this acceleration. The quality of teachers, which was quite questionable at the commencement of the schooling system, has become stagnant. It was not until 1954 that a Department of Teacher Training was founded. Yet, it could not improve teacher quality. The kind of in-service training offered by the Department was for teachers' upgrading rather than retraining or recycling their knowledge and teaching skills. The rapid growth of schools and enrollment thus affected the quality of teachers and made them ill equipped to fulfill their tasks.

2.5 Teacher-pupil Relationships

The socioeconomic and cultural changes which conditioned teachers brought about certain strains in teacher-pupil relationships. Within the process of cultural transmission, the relationship between teachers and pupils can be examined in three aspects: knowledge teaching, moral teaching, and authority over students.

2.5.1 Knowledge Teaching

Thias and Carnoy (1969) found that teaching degrees among teachers do not correlate with high learning achievement among their students. In some case studies in rural Thailand this argument was confirmed. Teaching degrees even had an adverse effect on student achievement. Teachers agreed that what made a good teacher instead was his

perseverance and his sense of responsibility.[11] To examine the teacher-pupil relationship in knowledge teaching, a description of "a day in the life of a teacher" as recorded by a researcher can serve as a good illustration.

"In the morning, if he is on duty, he has to arrive earlier than all the other teachers to supervise the students until the time for lining up when he rings the bell. At that time he sees that the student pay respect to the national flag while they sing the national anthem. This is followed by homeroom. He will accompany the students to their classrooms and sees that the students clean the classroom properly. There may be an occasional inspection of the students' nails, teeth and hair before any teaching starts. The lesson plan has been prepared by the teacher during the previous evening when he was at home. The actual teaching starts with a general concept outline, followed by examples or illustrations, and then learning assessment through questioning or giving an assignment. After the assignment, the teacher will summarize the concept before the actual testing of the students' ability and understanding of each objective in the lesson. If the lesson in that morning is the integrated subject, then the teacher has to spend twice as much time preparing the lesson and evaluation. By this time the teacher would be able to identify the slow and weak students and subsequently prepare remedial work for them. During lunch break, he supervises the students' lunch and sees that everything is in order after lunch. This is followed by the afternoon lessons. If the lesson is a working experience block when the students learn how to prepare vegetable beds, for example, the teacher then has to provide the seeds and the fertilizer (often out of his own pocket). The afternoon session ends at 15.30 when he sees that things are in order before staring remedial work with the weaker students. Often there is routine paper work such as roll call, or filling out forms for evaluation of objectives, before he can actually depart for home."

The above description is for an ideal teacher. Actually, not many teachers perform in this way. Even though the curriculum as well as the school emphasize knowledge and skill teachings, teachers can not fulfill the requirement due to their low quality and lack of motivation. Some teachers do not grasp the concepts underlying the curriculum.

11. Chantavanich et al. (1987), pp. 53-54.

Methodology-wise, they use the traditional lecturing method which is teacher-centered and is not stimulating for pupils. Usually, questions asked are of yes-no type and those asking the 'how' and 'why' are indeed few in number. Observations from research showed that teachers' motions did help to create a more lively atmosphere. The moderate verbal speed with which the teacher used in his explanation, his clear pronunciation, his eye movement which focused on the students individually, and his walking to and fro between the front and the back of the classroom all helped to retain the students' attention and interest. However, teachers usually stayed at his table and focused only clever or attentive students.[12]

While correcting homework or exercises, teachers tried to save time and labor. They gave the answers of assignments on the blackboard and asked pupils to correct one another's homework. Thus the emphasis was more on giving the right answers than on finding out why the pupils had arrived at the mistake they did.

We can conclude that relationships between teachers and pupils in knowledge teaching varies according to teacher's quality and motivation on one hand, and to pupil's attentiveness and cleverness on the other hand. On many occasions, pupils stay passive due to the unstimulating atmosphere in the classroom.

2.5.2 Moral Teaching

Moral teaching under the curriculum came under the habit formation block while knowledge teaching is under the skill block. In the old curriculum, moral and religious teaching stood out as separate subjects in their own rights. Citizens' rights and obligations, moral, and religious teachings were previously taught in lectures.

Actually, socio-cultural values and moral teachings were conducted in 4 ways : first during homeroom in the morning, secondly during the classroom hours, thirdly through the giving of rewards or punishments and finally by laying down rules which everyone was

12. Chantavanich et al. (1987), pp. 70-71.

expected to follow. A description of the process of value teaching reads as follows:

Homeroom in the morning was usually given by the headmaster or the teacher on duty. After the national flag was hoisted, the students prayed. This was followed by the pledge of loyalty, which reads:

> "I swear to be good, to respect and uphold the nation, the religion, and the king. I'll respect and obey my parents and teachers."

This pledge of loyalty was not dictated by any ministry of education's rule. It was first initiated by the provinces. The school had been pledging that it now has become part of the flag hoisting ritual and was itself a ritual to the students and teachers alike. The children could not tell the meaning of the pledge and some teachers did not remember the actual wordings of the pledge. After this ceremony, the headmaster would give homeroom for 3-5 minutes. The topic was left to the teachers' discretion. Often it concerned manners, cleanliness, instruction for taking care of school properties, or, if the time was near the examination, instruction for revision. Children were usually inattentive. None of the four schools had a loudspeaker and the teachers' voice did not carry so his talk was inaudible to the students who talked or played with one another. These homerooms were not regular at the beginning of the school year but would become more frequent towards the end.[13]

As for classroom teaching, the 1978 primary curriculum required moral and religious lessons to be integrated in other subjects. This was a mistake as teachers sometimes ran the risk of omitting this block of learning from their teaching so that they could give more attention to the skill block. At the secondary level, this lack of integration was also observed.[14] In fact, moral and value teaching took place more often than what happened in the classroom. It took all the times students were at school. But it came in form of punishment rather than praise or rewards. Pupils got punished or scolded whenever they made a lot of noise, teased one another, stole or neglected to do their homework. Thus moral and value teaching was taught through teacher reactions to their

13. Chantavanich et al. (1987), p. 101.
14. Gabaude (1980).

pupils' negative behavior and so depended a great deal on teachers' personal standard and criteria.

What Dreeben called the "hidden curriculum",[15] which meant the social norms expected to be observed by all students without being actually written in the curriculum, also exists in Thai schools. Certain rules were never uttered by were obeyed by generations of pupils. One such rule is never to speak rudely to your teachers. New pupils soon learned what they were allowed to do and what was forbidden. In American schools, Dreeben identified 4 types of cultural transmission through this hidden curriculum, namely independence, perseverance and achievement, universalism (the respect for people's human rights) and specificity (the appropriate mode of interaction for each individual). These normative social patterns train students for future career and political involvement and also help them to adjust themselves to the outside world once they leave the school.

In the Thai primary schools under study, the author found that teachers trained students to be obedient, diligent, attentive to study, and good mannered.[16] Having good religious faith, often required by parents, was not emphasized in the school. In the past, the prime function of schooling was to transmit ethical and religious norms. Literacy was valued as a means of participating more fully in religious life.[17] The new hidden curriculum transmits values that appear to be more civic than religious. We may make the preliminary conclusion that its hidden goal is to encourage individuals to protect their interests rather than to encourage the protection of society more broadly. Therefore moral teaching is a personal matter without a social dimension.

In the teachers' manual for moral teaching in secondary schools, there is an attempt to explain social phenomenon like stratification in terms of inappropriate individual desires or lack of realism. The manual reads:

15. Dreeben (1968).
16. Chantavanich et al. (1987), pp. 103-104.
17. Blanchard (1958), p. 444.

"Some people are unhappy; if this is so it is because they desire what is beyond their capacities. Not getting it, they blame society for being unfair. There is then class splitting. This is not democracy because one does not consider how one should behave...When someone knows his social position, society is happy, the country has no problem."[18]

The above mentioned explanation indicates a narrow moral concern. It may discourage pupil from creatively seeking ways to solve moral dilemmas outside the field of morals prose. Other examples form moral lessons on corruption and the structural link between Buddhism and Thailand show that moral teaching aims at support of the government.[19] Authors of the manuals implicitly politicalize the morals to be taught. They did this with superficial and limited understanding of morals and of social phenomena. Thus it turns out to be surface moralization.[20]

To conclude, teachers are not very influential to pupils in their teaching of morality. The content of morals taught reflects the aims of political demobilization as prescribed by the government. However, what pupils learn most is from the hidden curriculum at school. The kinds of values transmitted to students are mainly individual rather than social.

2.5.3 Teachers' Exercise of Control over Students

"What right have you got to whip my child?"

When teachers exercised their authority over students by excessive corporal punishment, many parents were outraged. Some over-protective parents resented any form

18. Nisarrat (1977), p. 43, quoted by Gabaude (1980), p. 13.
19. Gabaude (1980), p. 12.
20. Gabaude (1980), p. 16.

of punishment by the school even when their children deserved it. In the past, pupils would never tell their parents if they were punished. And even when they did so, their parents would take the teachers' side and blame their own children. Teachers were thus empowered to exercise their authority over pupils. With the deteriorating social status of teachers, pupils and parents would not accept that anymore. Some of them made a formal complaint about teachers to the authorities, causing an investigation.

Often one found teachers to be highly emotional and temperamental when they exercise the authority to punish students. The word "stupid" was used not infrequently. After frequent repetitions of the word, teachers soon managed to make the students believe that they were really stupid. Students would then be afraid of expressing any opinion or venturing any answers to questions. Consequently, the authoritative use of power affected the teaching and learning process. Punished pupils sometimes rejected school and started to skip class. Modern teachers tend to play a more supportive role in teaching and try not to exercise excessive corporal punishment over students.

2.6 The Horns of a Dilemma

Teacher-pupils relationships, as earlier described, show a passive role of pupils in the socialization process. In knowledge teaching, teachers who pursued the lecture method tended to believe that they were the only source of correct information and that through teaching they imparted their knowledge. This attitude was not conducive to the investigation method which aims at getting pupils to look for the answers themselves before coming to their own conclusions. Moral teaching also emphasized the prescribed political objectives which limited the learners to passively think about themselves only. The hidden curriculum taught them to be obedient and good mannered (which means passive in a way). Teachers' exercise of authority over pupils also contributed to passive characteristics in learning. If the quality of teachers was good and if they were competent in their job, pupils' passivity might have not been so dangerous. But the fact is that teachers are incompetent. Unfortunately, pupils who have been trained to be docile can do nothing but obey the advertisements, the political propaganda, and the materialistic values imposed by the media because they have learned already to obey the teachings of those in authority.

What is to be done? Teachers need to be recycled and retrained so they will radically change their performance. Instead of teaching the State's prescribed values, they should teach pupils to think critically and make thorough judgements. Society changes so rapidly that any social and cultural values could become out of date overnight. Teachers will never be ready to cope with ever-changing values. The best thing they can do to their pupil is to give them an intellectual weapon, i.e., to encourage them to think critically and to make judgements by themselves. Of course, local resources which could be highly relevant and contribute a great deal to children's education must be included within this process.

But how can poorly trained teachers perform the above-mentioned task? We need a structural breakthrough in education. A radical reform in teacher education and recruitment is welcome and would be indispensable. Teachers' academic quality must be controlled and monitored. Relying only on upgrading their qualifications with higher degrees does not encourage higher achievement among students. Only when teachers can compete or defeat mass media in socializing pupils will the schools continue with their raison d'etre. Otherwise, the idea of deschooling will be proposed due to the insignificance of schools. Nevertheless, this structural breakthrough has constraints stemming from the socio-political context. How can a tiger be born from a cat? If the society still wants its people to be docile, teachers will never be successful in teaching, as teacher training could only reproduce obsolete teachers. And even if teacher training could manage to train good teachers, pupils would be prepared to live in an authoritative world outside once they leave school.

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THE CHANGES IN RELATIONSHIPS BETWEEN TEACHERS AND STUDENTS: THE IMPACT ON EDUCATION AND SOCIETY

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บทสรุปสำหรับผู้บริหาร
เรื่อง การเปลี่ยนแปลงความสัมพันธ์ระหว่างครูกับนักเรียน: ผลกระทบต่อสังคมและการศึกษา

ความสัมพันธ์ระหว่างครูกับนักเรียนเป็นปัจจัยสำคัญประการหนึ่งที่สนับสนุนความพยายามเพื่อบรรลุเป้าหมายของหลักสูตรประถมศึกษา แต่การเปลี่ยนแปลงอย่างรวดเร็วทางเศรษฐกิจและสังคมในช่วงทศวรรษที่ผ่านมา ได้หยั่งลึกเข้าไปกระทบต่อความสัมพันธ์ในแนวทางที่ตึงเครียด ครูที่เคยได้รับการยอมรับนับถือให้เป็น "พ่อแม่ที่สอง" ของเด็กโดยเฉพาะกับนักเรียนชั้นประถมก็ดูจะเลือนรางไป ครูในชนบทจำนวนมากก็ไม่ได้อยู่กับชุมชน แต่เดินทางไปจากที่พักอาศัยในเขตเมืองแล้วกลับออกไปจากโรงเรียนในตอนเย็น โดยเฉพาะอย่างยิ่งถ้าเป็นโรงเรียนที่อยู่ในพื้นที่ห่างไกลหรือเป็นท้องที่ที่เป็นหมู่บ้านเกิดใหม่จากการรวมตัวกันของผู้อพยพมาจากถิ่นอื่น

กรณีศึกษาได้นำเสนอข้อค้นพบเกี่ยวกับ ความสัมพันธ์ซึ่งจางไปนั้นมีผลทำให้ผลสัมฤทธิ์ทางการเรียนของนักเรียนอ่อนลง ในขณะที่ยังไม่สามารถคลี่คลายปัญหาผลกระทบจากการเปลี่ยนแปลงทางเศรษฐกิจและสังคมที่มีต่อตัวครูให้บรรเทาไปได้ ก็ตกเป็นภาระที่นักการศึกษาจะต้องดำเนินความพยายามโดยใช้มาตราการต่างๆ เพื่อปรับความสัมพันธ์ระหว่างครูกับนักเรียนชั้นประถมให้เอื้อต่อการเรียนการสอนที่มุ่งสัมฤทธิผล

มีปัจจัยอย่างน้อย 3 ประการ ที่ส่งผลต่อความสัมพันธ์ระหว่างครูกับนักเรียน **ประการแรก** องค์ประกอบทางด้านการบริหารภายในโรงเรียน ขึ้นอยู่กับคุณภาพของผู้บริหารโรงเรียน (อาจารย์ใหญ่) เป็นปัจจัยหลัก กล่าวคือ ถ้าอาจารย์ใหญ่เน้นด้านวิชาการเป็นสำคัญจะส่งผลต่อการประยุกต์การนำหลักสูตรไปใช้ในการเรียนการสอน ซึ่งคล้ายกับเป็นการนิเทศน์ภายในขณะปฏิบัติงาน หรือการที่ตัวอาจารย์ใหญ่มีบุคลิกภาพเป็นที่ยอมรับนับถือ ตลอดจนมีมนุษย-สัมพันธ์ที่ดีกับครูอื่นๆ ก็ส่งผลได้มากเช่นกัน เป็นต้น ซึ่งปัจจัยด้านนี้ได้จากข้อค้นพบส่วนหนึ่งของงานศึกษาวิจัยในโครงการ BRIDGES เกี่ยวกับ งานด้านการบังคับบัญชาและกำกับดูแลของผู้บริหารโรงเรียน ที่มีผลกระทบต่อประสิทธิผลของกระบวนการการเรียนการสอนในทางเสริมสร้างหรือในเชิงลบในการสอนของครู และเช่นเดียวกันต่อสัมฤทธิผลในการเรียนของนักเรียน

ประการที่สอง องค์ประกอบด้านความสัมพันธ์ระหว่างโรงเรียนกับชุมชน การที่โรงเรียนได้เกี่ยวข้องกับผู้ปกครองของนักเรียนโดยผ่านกิจกรรมต่างๆ ของโรงเรียน หรือการที่โรงเรียนมีความสัมพันธ์ใกล้ชิดกับวัดหรือพระในพื้นที่ ตลอดจนการที่ครูได้มีส่วนร่วมในกิจกรรมของชุมชนอยู่เสมอ เป็นปัจจัยที่เชื่อมโยงไปถึงการช่วยลดการขาดเรียนของนักเรียนได้ และยังทำให้ครูกับนักเรียนได้มีความสนิทสนมใกล้ชิดกันมากยิ่งขึ้น

ยังมีองค์ประกอบด้านสมรรถนะของตัวครูในการสอน ซึ่งเป็นปัจจัยประการที่สาม ที่มีความสำคัญยิ่งต่อความสัมพันธ์ของครูกับนักเรียนโดยตรง เพราะถ้าครูเป็นผู้ที่มีความกระตือรือล้น มีทักษะ และคุณวุฒิเหมาะสมแล้ว โดยกำลังสติปัญญาย่อมสามารถการปรับประยุกต์ใช้หลักสูตรในกระบวนการการเรียนการสอนได้ แต่ปัญหาที่เกิดขึ้นโดยเห็นจากกรณีศึกษา มีครูที่ยังไม่ได้มุ่งตามแนวหลักสูตรอย่างเพียงพอ ยังทำการสอนในลักษณะที่มีตัวเองเป็นศูนย์กลาง โดยใช้ "ชอล์กกับการบอกเล่า" ในการสอนเป็นหลัก ซึ่งยังคงสนับสนุนให้เกิดการเรียนแบบท่องจำ และครูอีกจำนวนมากที่ยังไม่ได้ช่วยกระตุ้นนักเรียนให้แสดงออกทางความคิด ความเห็น ด้วยการใช้คำถามในลักษณะ "ทำไม...? และอย่างไร?"

การปรับในวิธีการและประยุกต์ใช้หลักสูตรต้องอาศัยการสนับสนุนจากฝ่ายบริหารโดยเฉพาะอย่างยิ่งอาจารย์ใหญ่ของโรงเรียน ซึ่งต้องเปิดใจกว้าง จริงใจ และเห็นความสำคัญของการศึกษาที่สัมพันธ์กับวิถีชีวิตของชุมชน เพื่อร่วมกันสร้างสรรค์ความสัมพันธ์ระหว่างครูกับนักเรียนในทางที่จะเอื้อต่อประสิทธิภาพและบรรลุเป้าหมายของการจัดการศึกษาในระดับโรงเรียน

EXECUTIVE SUMMARY
The Changes in Relationships Between Teachers and Students: The Impact on Education and Society

In striving to achieve the goals of the primary education curriculum, the most important factor is the relationship between teachers and students. With rapid economic and social change in recent decades, this relationship has undergone fundamental strain. No longer are teachers necessarily the "second parents" of primary school-age children. Often now teachers do not live in the community. Many bus in to work and leave in the evening. This is particularly true for newly-settled migrant villages and remote rural areas.

Case studies find that where the relationship is weakened, there can be negative effects on student performance and achievement. While it is unlikely that the impact of economic and social change can be mitigated, the burden falls on educators to take measures to improve the relationship in ways that produce or sustain positive achievement levels among primary school pupils.

At least three factors were found to affect relations between teachers and students. First were managerial components within the school. Here the quality of the principal was a key ingredient. Principals who gave priority to academic versus administrative factors in their approach had the most positive impact on curriculum application in the classroom. Acting as a positive role model and displaying good interpersonal communication with teachers were also important. Above all, the BRIDGES study found that principal supervision of teachers made the greatest impact on positive teacher performance and hence student achievement. Such supervision should be strengthened.

Second are relations between the school and the community. Schools that involved parents in school activities, nurtured relations with the temple or local abbot, and got teachers involved in community activities reduced absenteeism and strengthened relations between students and teachers. This, too, depended on support from the principal.

These factors were necessary but not sufficient conditions to improve relations between teachers and students. Third and most important was the teachers' own outlook and approach to teaching. In addition to qualification criteria, skills, and enthusiasm, the teachers' sincere application of the curriculum and *willingness to innovate with new teaching methods* were found to be the crucial factors that had positive or negative effects on student achievement. The most important problems identified in the case studies were teachers' lack of knowledge regarding the curriculum, and their unwillingness to depart from the "chalk-and-talk" style of lecturing and promoting memorization. Teachers must adopt methods rather that encourage pupils to ask "how and why".

Innovation in methods and curriculum application need to be supported by improved school management, which depends largely on the principal, and by more sincere involvement of educators in community life. All of these contribute to stronger relations between teachers and students, contributing to higher achievement.

TABLE OF CONTENTS

THE CHANGES IN RELATIONSHIPS BETWEEN TEACHERS AND STUDENTS: THE IMPACT ON EDUCATION AND SOCIETY

1. INTRODUCTION

This paper is aimed at presenting the relationships between teachers and students and the consequences in terms of academic achievement, ethical values and the impact upon the development of human resources, i.e., possession of necessary skills for work, appropriate attitudes toward jobs, and the ability to become good citizens.

Most of the information reported here was retrieved from the research studies conducted by the Office of the National Education Commission (NEC), especially from the latest research project titled BRIDGES (Basic Research and Implementation in Developing Education Systems). The project was a cooperative work between the NEC and Michigan State University and was conducted during 1986-1990. The project focused on the factors that influence the quality of primary school education.

Since the relationship between teachers and students does not occur in isolation from antecedent and concomitant factors, it is influenced primarily by the environment within the school. It is also influenced, to a large extent, by the impact of rapid change in society. Therefore, the presentation will begin at the macro level by illustrating the relationships among variables from various components related to the educational system, e.g., school input variables, school management variables, teaching-learning variables, and student achievement. The illustration will reflect the school environment, activities within a classroom, the relationships between teachers and students, the relationships between teachers and a school principal, the relationships between teachers and people in the community and so forth. These relationships will then be enhanced by presenting results from various case studies with more specific details of what actually happened at the school level. The crucial part is to describe teachers' behavior which reflects attitudes and dedication to the betterment of a school and the improvement of the quality of life of the

community. Most important is the dedication to improve teaching-learning activities for developing student characteristics according to the curriculum and the expectations of society.

In determining factors that influence the quality of primary schools, there are two major components, namely, the teaching-learning component, and the management component. The problems related to the teaching-learning component could be detected quantitatively through student achievement in each subject area and the rate of repetition. These problems are not solely caused by the quality of teaching, but they depend on students' backgrounds, such as their readiness to learn, or their health and nutrition. The management aspect includes the planning system, monitoring, and supervision. The management is therefore a strategy to correct the imbalance within the educational system with regard to the distribution of personnel, in-service training, budgeting and resource allocation, incentives and the welfare of teachers. In the past there were several measures to improve the management aspect including in-service training for teachers, but little follow-up activities were done to see the impact especially on changes in teachers' behavior.

The quality of primary education depends primarily on a school principal and the teachers. A school principal is responsible for organizing environmental and support systems to promote teaching-learning activities in accordance with policies from the central authorities. Teachers are a key factor who transform curriculum objectives into teaching-learning activities to develop student's cognitive abilities, ethical values, self-conduct, and other characteristics expected by the society.

It is fortunate for Thailand to have a vast teaching force. The average ratio of students to teachers of about 20:1 could be considered a luxury compared to other developing countries. This very fact indicates that the improvement of teachers is one of the most viable solutions for improving the quality of primary education in Thailand.

Variables for evaluating primary school quality are classified by two factors: the teaching-learning factor and the school management factor. Within these two factors,

variables are further classified according to the components of the educational system, namely, the input component, the process component, and the output component.

The input component includes, first, the need for educational provision as stated in official documents which articulate Thai educational philosophy, curriculum, and broad educational policies. The second type of input is the school-age population which sets the quantitative demand of education. The third type of input includes the educational resources to be used for education provision, such as personnel, school buildings, materials, equipment, and budget. The input variables actually set the pre-conditions for the administrators to organize educational activities using the available resources in order to achieve the objectives.

For the process component, it is more difficult to explain in a quantifiable fashion, because the teaching-learning process and the management process are highly complex. They include interaction among administrators, teachers, students and parents. Therefore, interview techniques and observations have to be introduced to enrich the information base. The goal of collecting process information is to assess the efficiency of both the teaching-learning activities and the management process. For the output component, both quantitative and qualitative outcomes were considered. Quantitative outcomes include achievement in every subject area and school efficiency regarding completion, drop-out, and repetition rates. Considering school efficiency as well as quality will aid interpretation of the research findings and will make policy recommendations more viable. Qualitative outcomes include the moral and ethical development of the students, and the skills they need for work and community participation.

2. THE INPUT COMPONENT

This section will describe briefly the Thai philosophy of education, the primary education curriculum objectives which reflect the roles of teachers and students. Thereafter it will present information about school principals, teachers and students for illustrating existing factors that promote or hinder the success of the curriculum.

2.1 Philosophy of Education

Philosophy of education reflects the goals that we want education to be able to provide. It is derived from discussions of what is valuable and necessary for people as members of the society (Wittawate, 1980). Education is only a subsystem of a complex society which has activities related to economic and social dimensions. Therefore, the state or the society has to develop an educational scheme consistent with a curriculum that promotes desirable characteristics for Thai children.

2.1.1 Educational Scheme and Curriculum Objectives

The 1977 National Education Scheme, Article 31, with regard to primary education states:

> "Primary education aims to develop learners in basic knowledge and skills, to maintain literacy and mathematics skills, to enable learners to earn their living according to age and ability, to develop citizenship characteristics under the democratic system within the constitutional monarchy."

Primary education is to be provided continuously for a period of 6 years. Having completed compulsory education, a learner is expected to become literate with regard to arithmetic and language skills which enable him/her to earn a living appropriate to his/her age and to become a good citizen with ethical behavior. Such desirable characteristics must be cultivated throughout the learner's 6-year period in a school. In so doing, the 1978 primary education curriculum states:

> "The guidelines for primary education should be geared towards improving the quality of life; cultivating an awareness of being a Thai: developing concept of self-reliance, creativity, self-adjustment in society with an emphasis on diligence, honesty, frugality, endurance and discipline."

2.1.2 Curriculum Objectives

Since 1978, the year that the primary education curriculum came into effect, there have been several organizations conducting follow-up and evaluative programs. The findings reveal that the 1978 curriculum could not fully respond to the rapid changes in the society, economy, science, and technology. Experiences provided in a school could not develop learners to have adequate knowledge, be self-reliant, and be able to apply knowledge in everyday living. In 1990, the Department of Curriculum Development, therefore, revised the curriculum in order to cure the problems. The revised curriculum (version 1990) maintains the structure of the 1978 curriculum, but with more emphasis on the learning process. The purpose of revision was to help students internalize the concept and be able to apply knowledge in problem-solving. This approach is believed to help students appreciate the value of learning and see its relevance to leading a happy and peaceful life. The structure of the revised curriculum is still composed of 5 groups of learning areas:

a) Basic skills, comprising Thai language and mathematics;
b) Life-experiences, including sciences, social sciences and health education;
c) Character development, including ethics, physical education, arts, music, drama, boy scouts and girl guides, etc;
d) Work-oriented experiences, involving practical work and establishment of a vocational foundation in areas such as agricultural work, housework, mechanics, handicrafts and other electives which are the main local occupations;
e) Special experiences, comprising electives for 5th grade and 6th grade children including English and basic vocational courses.

Regarding the activities arranged for the area of special experiences, each school could choose a wide range of activities to promote any of the first four curriculum areas according to the students' interest. In order to achieve the goals of the revised curriculum, it is specified in the guidelines that a school should consider teaching-learning activities appropriate to the local context and help develop students according to their potentials. The teaching-learning process should be organized in an integrated approach, i.e., there should be linkages between different areas of the curriculum. Students should be

encouraged to participate in the learning process and have opportunities to experiment in order to trigger creative thinking. Besides, the transmission of moral and ethical values should emerge readily in all subject areas to promote desirable characteristics, such as, diligence, honesty, frugality, endurance, and discipline.

In striving to achieve the goals of the primary education curriculum, the prime factor is the relationship between teacher and students. A teacher is supposed to provide learning opportunities to students by challenging, encouraging and utilizing various methods to arouse students to perform activities. The result is that certain kinds of knowledge and behavior are achieved. Students, on the other hand, are recipients of learning opportunities and are supposed to use these opportunities to develop themselves in all aspects to become good members of the society.

2.2 School Principal

Among all of the factors influencing the quality of primary education, a school principal is the most important one, since a school principal is a person who arranges the school environment and creates a working atmosphere which can lead to the success of a school.

At the beginning of the 1980s school principals typically spent little time on academic affairs. Their time was consumed by routine paperwork, checking to see that regulations were being followed, attending meetings away from the school, and pursing their own interests with the community (often involving financial or business dealings).

During 1985-1988 all principals in Thailand participated in an in-service program funded by the World Bank. The training had four phases and was conducted in an atmosphere designed to encourage them to take it seriously. Concurrent with this initiative were a number of changes in the regulations governing the requirements to become a principal. Teachers can no longer simply move into the ranks of administration. Minimum qualifications are required, district and provincial approval is needed, and all candidates must complete a training program in educational administration. Once in a position, the

principal's attention to the academic purpose of schooling is reinforced by the increasing emphasis given to testing at all levels of administration.

Policy changes were necessary but not sufficient. All these changes took place within a cultural context that provides strong support for leadership. In Thailand, the authority of leadership is assumed, the right to exercise it is expected, and, within wide bounds, that right is tolerated and accepted. In the absence of leadership, group life often degenerates into individual conflicts as those on similar levels of authority demonstrate their reluctance to accept decisions from equals (Xuto, 1987; Hanks, 1975).

These policies and the cultural context in which they were implemented help to explain results from both the BRIDGES survey and those of case studies which showed the principal plays an especially important role at the school level in creating a context for more effective classroom instruction.

BRIDGES survey results, for example, showed that internal supervision is related to higher student achievement. In particular, internal supervision reduces disparities in achievement among students. This means that poor students were given more attention as a result of internal supervision by teachers. Furthermore, supervision improved teacher effectiveness and supervised teachers felt more efficacious in their teaching. They used materials more effectively, engaged students more actively in class activities, and were perceived as more effective instructors by students (Raudenbush, Bhumirat and Kamali, forthcoming; Bhumirat, et al., 1989). Finally, more active principals were able to raise more local resources (cash and in kind) from their communities than inactive principals. These resources could then be used in various ways to improve the quality of instruction (Tsang and Kidchanapanish, forthcoming; Tsang and Wheeler, 1990).

The survey also provided evidence that in-service training of principals improved principal instructional leadership and teacher effectiveness. Specifically, principals receiving in-service training were significantly more likely to provide teacher supervision than principals who did not receive training (Raudenbush, Bhumirat and Kamali, forthcoming; Bhumirat, et al., 1989).

The case study of Singh Buri Province carried out as part of the BRIDGES research in Thailand was able to show the characteristics of the school principals who possessed leadership. The characteristics can be explained in two dimensions.

A. School Management

1) The emphasis on academics. A good school principal usually put academic work as first priority. He/she would supervise teachers by making observations and providing feedback about teaching performance. This could occur in a formal or informal way. A good principal spent most of the time working in the school to make sure that teachers come to work regularly and utilize time efficiently. A good principal provided opportunities for teachers to gain knowledge by sending them to participate in an in-service training program, and share what they had learned with other teachers. Besides, an effective principal used student academic performance to urge teachers to improve their efforts. The professional climate could be observed within an effective school, e.g., conversations during the lunch hours related to student learning; meeting with teachers regularly and discussing about teaching-learning problems; and encouraging teachers to use teaching materials more effectively and to provide remedial teaching for students.

2) Appropriate management strategies. An effective principal would share work and responsibilities with teachers. He/she would assign responsibilities according to the interest and skills of individual teachers. After assigning duties, the principal would follow-up and provide assistance in solving the problems. A good principal always updated information about the school and made decisions based on the information at hand. The promotion system that was used in a school was accepted by the teachers. Therefore, there was no tension between teachers and the principal. In regard to teaching assignments, a principal would assign teachers according to their expertise and experience. When a teacher was absent, a principal would assign another teacher to fill-in.

3) A role model. An effective principal would dedicate time and efforts to the school. This, in effect, improved teachers' morale and actually changed their behavior by making them more responsible and willing to improve their performance. Furthermore, an

effective principal was able to demonstrate good teaching techniques. The pedagogical ability is as important as the managing ability, because it could win the faith from teachers. We found that a principal who had the ability to teach well was more accepted by teachers. Besides, in a small school where there was no extra teacher, when a teacher was absent, a principal could fill-in.

4) Interpersonal skills. An effective principal had good relationships with colleagues. This ability enabled teachers to benefit from feedback and suggestions rather than feeling defensive or worthless. As a result, teachers gained more knowledge about teaching and their dedication rose. There was evidence that when relationships between a principal and teachers were warm and friendly, the teachers were more sensitive to students' needs.

B. Relationships between School, Community and Temple

1) Parent participation in school activities. An effective principal allowed parents and people in the community to decide on school projects and discuss strategies to pool resources together and to raise funds for implementation. Besides, parents were encouraged to provide suggestions related to academic improvement or sometimes were invited to teach according to their knowledge and experience.

2) Involvement in community. An effective principal was involved in community activities on a regular basis, such as attending local ceremonies, or helping villagers plan and implement local projects. Having good relationships with the community, a principal could request cooperation from parents to send children to school regularly to increase student achievement.

3) Relationship with the temple. Most primary schools in Thailand are located near temples. An effective principal developed a close tie with the nearby temple by consulting with the abbot regarding school activities. On some occasions, a school invited an abbot or a monk to teach on an ethical subject, brought students to tidy the temple

grounds, or cooperated in religious ceremonies.

4) Teacher participation. An effective principal encouraged teachers to be involved in community projects. The BRIDGES survey results indicated that when schools had activities with the communities, teacher dedication increased.

2.3 Teachers

2.3.1 Teacher backgrounds

From the BRIDGES survey conducted in 1988, there were more female than male teachers by a ratio of 2:1. The average age of teachers was about 34 years, and their average experience was 12 years. About 40 percent of teachers had difficulties in surviving on their monthly incomes, and around 80 percent did not have other sources of income. Considering a teacher's qualifications, almost 60 percent of teachers had a bachelor's degree. However, a measure of teacher understanding of the curriculum showed an average score of only 51 percent. Regarding time utilization, teachers participated in community activities only occasionally. This is an indication that the relationship between teachers and the community was not as intimate as the way it once was. An explanation of this phenomenon is that more and more teachers were not living in the community. Rather, they came in to teach from other places, mostly from urban areas, and left in the evening. More details about teachers' daily activities will be presented later.

Considering the impact of teacher qualifications, the survey results showed that teachers in schools with a higher percentage of teachers holding a bachelor's degree scored higher on the measure of curriculum understanding, and teachers in these schools dedicated more time to participate in school development projects and in community activities. However, in the near future teacher qualifications may not differentiate between good and poor schools due to the fact that the majority of teachers are getting a bachelor's degree. In 1983 there were 27 percent of primary school teachers holding a bachelor's degree. This figure jumped to 41 percent in 1985, and 54 percent in 1987.

Looking from a different angle, teachers with a bachelor's degree may not contribute to student learning (Thias and Carnoy, 1969). They tend to move from small schools in rural areas to larger schools in urban areas or sometimes they even shift to teach in the secondary schools. Perhaps the more important teacher variables were diligence and responsibility.

Teacher attitudes toward their profession was another important variable, because it related to teacher behavior and responsibility. From the case study of primary schools in the rural areas (Office of the National Education Commission, 1988), the majority of teachers did not enter this profession as their first choice. There was only one exception: teachers who chose this profession because they enjoy being surrounded by children. This particular teacher was the most popular one in the school. Students and parents appreciated the patience and politeness of this teacher. There were some other teachers who changed their attitudes after teaching for a few years and evaluating their progress. When children were grown up and still living in the community, they still paid respect to teachers when they met.

2.3.2 Teacher responsibility

Primary school teachers had to be fully responsible at least for one classroom and taught every subject area. Specialized teachers were assigned to the 5th and 6th grades if there were enough teachers in a school. Teachers had to develop lesson plans and prepare teaching materials in advance and provide remedial teaching to slow learners. Besides, a classroom teacher had a few more responsibilities, such as clerical work, keeping student rosters, academic and health records, etc. Regarding the school cluster activities, some teachers had to participate in developing the tests to be used in the school cluster. There were other school assignments for teachers, such as first aid, library, physical and sports training, and organizing children's day. Furthermore, primary schools had to serve the communities in non-educational activities like organizing a public campaign and looking after voting stations. These many responsibilities could extract the time and dedication of

teachers and could definitely affect teaching behavior.

2.3.3 Teaching skills

Before the curriculum reform in 1978, ineffective teachers were not able to draw attention from students because they stuck to a "chalk-and-talk" technique and did not utilize other teaching materials. When the new curriculum was introduced in 1978, the in-service training was done in a hurry and teachers did not gain enough insight to apply new methods effectively in the classroom. Many senior teachers simply ignored the new curriculum and taught the old content, emphasizing Thai subjects and integrating these only minimally with other areas. The younger generation of teachers received additional training from a teachers college and thus appreciated the use of curriculum handbooks to improve their teaching styles. They found that the activities recommended in the handbooks made it easier to decide on teaching materials, and the teaching-learning became more fun to both students and teachers.

2.3.4 Teacher shortage

Even though statistics of the number of schools having teacher shortages declined, this problem was hidden under the surface. It was particularly true for the primary schools in rural areas, as these schools were not desirable for teachers from outside the locality. These teachers usually requested a temporary transfer from the district or provincial offices, which could be easily approved, but their names were still registered in the rural schools. This is why the rural schools could not recruit new teachers to replace the missing ones. The problem of teacher shortages, therefore, still existed to a large extent.

2.4 Students

In determining student backgrounds that related to achievement, the BRIDGES survey revealed three most crucial variables, namely, pre-primary education, dialect spoken at home, and homework assistance. More specifically, students who received pre-primary

education for one or two years achieved more than those who did not. Considering dialect spoken at home, students who spoke central dialect at home caused less problems in the teaching-learning process and achieved higher marks than students who spoke other dialects. Regarding homework assistance, it had similar effects as the dialect spoken at home. Students who had someone to advise on homework had less learning problems in schools and performed significantly better than students who did not have any kind of assistance at home.

3. THE PROCESS COMPONENT

The process component covers the utilization of the curriculum, the school management, the teaching-learning activities, and relationships between schools and communities. The interaction among different levels of administration and between school and its surrounding environment are interrelated and will be presented in the following discussion.

3.1 Utilization of Curriculum

The 1978 primary education curriculum specified objectives in more concrete terms. However, there were so many behavioral objectives to cover. In practice, teachers were not able to complete every specified activity. There were curriculum handbooks and numerous supplement documents which caused problems, because handbooks for some subject areas were 300 to 400 pages long and contained many details about content and teaching-learning activities which teachers were unable to fulfill. Many teachers ended up teaching subject matter purely from the textbooks.

The follow-up study on the utilization of the curriculum conducted by the Department of Curriculum Development found that there were a lot of problems. Many schools were not able to organize teaching-learning activities according to the curriculum, especially in work-oriented subjects. Teachers felt that work-oriented subjects were very difficult to organize due to the lack of school facilities, students interest, and parents' support for this subject. Traditional social values placed more importance on academic

study than vocational study. Thus, parents did not care to support the work-oriented subjects organized by schools. Besides, teachers were not able to develop students according to the expected characteristics in the curriculum, such as being able to think critically, to perform adequately, and to have characteristics of good citizens.

3.2 Management System

The BRIDGES project confirmed the importance of the management system for the quality of education. More specifically the management at the provincial level was a key to set the direction for subordinates to follow. In one province the management was called "The Complete Cycle of Strategies to Improve Quality". The strategies consisted of school preparation, management of information folders, systematic teaching, internal supervision and remedial teaching. We found that provincial-level guidance helped every official from the district level to the school level know their roles and responsibilities. The actual practices were as follows:

3.2.1 School preparation

Each school had to get ready two weeks prior to the beginning of school term. The preparation was made about the school buildings, teaching assignments, teachers' preparation of lesson plans evaluation forms, etc. After the preparation period, each school was evaluated by provincial and district supervisors.

3.2.2 Management of information folders

In order to increase the efficiency of supervision, it was necessary to maintain sufficient information. Each classroom teacher must produce information about students' academic records which could be used to diagnose students' learning problems. In addition, a school principal could follow-up on each classroom's progress. Each school must produce school-level information for district and provincial supervisors for follow-up.

3.2.3 Systematic teaching

This strategy was introduced to encourage teachers to do lesson plans regularly, utilize more teaching materials, and evaluate students according to specified objectives. This systematic way of teaching helped a principal to supervise and provide feedback more effectively. Actually every teacher was trained about these methods in teacher training courses, but in practice very few teachers applied them because they thought they were a burden. However, when the province set this guideline for all teachers, nobody could complain because it was fair to everyone. After a few months, teachers got used to it and good consequences began to show. Teachers knew exactly about the objectives of each lesson and how to evaluate them. Furthermore, students' learning problems could be effectively pinpointed and remedial teaching could be provided according to students' needs.

3.2.4 Internal supervision

This activity was a key to improve teaching performance. However, many school principals especially those of the older generation, were not well-versed on supervising techniques, and in-service training had to be provided. The objective was to make school principals be to observe the teaching-learning process and provide feedback to teachers for improvement. The training activities took about one school term to cover every school in the province.

From the BRIDGES survey, internal supervision contributed to the reduction of disparities in achievement levels among students. In other words, for schools that had more internal supervision, the range of achievement scores between good and poor students tended to be closer. This implied that internal supervision forced teachers to pay more attention to individual students. Therefore, the weak students were monitored closely. When students' learning problems were corrected, the achievement scores become more homogeneous.

3.2.5 Remedial teaching

This is the end of the systematic teaching cycle, when teachers provided remedial teaching for students who had difficulties in learning any particular lessons. After this strategy was carried out for a certain period, satisfactory results were reported because 70 percent of slow learners had improved.

3.3 Teaching-learning Process

The BRIDGES research in Thailand provides information on the components of effective instruction and the contextual factors which support such instruction.

At the classroom level both the survey and the case studies identified key dimensions of instruction which led to high total achievement and reflected student perceptions of highly effective instruction. Effective teachers tended to actively engage their students by encouraging them to present their ideas in class and to ask questions when they were unclear. Effective teachers skillfully used instructional materials rather than simply lecturing or writing on the blackboard. And effective teachers consistently monitored student learning by providing practice exercises, testing students at the end of an instructional unit, explaining exercise and test results, and providing remedial teaching when needed. (Raudenbush, Bhumirat and Kamali, forthcoming; Bhumirat, et al., 1989; Wheeler, et al., in process).

These teaching practices did not occur in isolation, rather, they were directly related to certain teacher characteristics: knowledge, commitment and sense of efficacy. Thus empirical results indicated that effective teachers were highly knowledgeable about the objectives of the 1978 curriculum and about appropriate pedagogical practices. Also, such teachers were rated as strongly dedicated to their profession. Finally, teachers rated as knowledgeable and dedicated felt efficacious in their teaching, reporting comparatively few obstacles to effective instruction in their classrooms. The interaction of these factors led these teachers to engage in the teaching practice described above.

Activities at higher administrative levels (school, school clusters, district, provincial or the national levels) in turn influence teacher knowledge, commitment and sense of efficacy. For example, teachers with a bachelor's degree in education were more knowledgeable about the 1978 curriculum and more effective as instructors than were teachers with less education. But the results showed that pre-service education was not sufficient to produce effective teaching. Teachers who consistently received supervision within the school felt more efficacious than other teachers and were seen to be more effective as instructors. Receiving in-service training was also associated with more effective instruction. And teachers working in communities which strongly supported education felt more efficacious in their teaching than did other teachers. Diagram 1 below shows this model of teacher effectiveness.

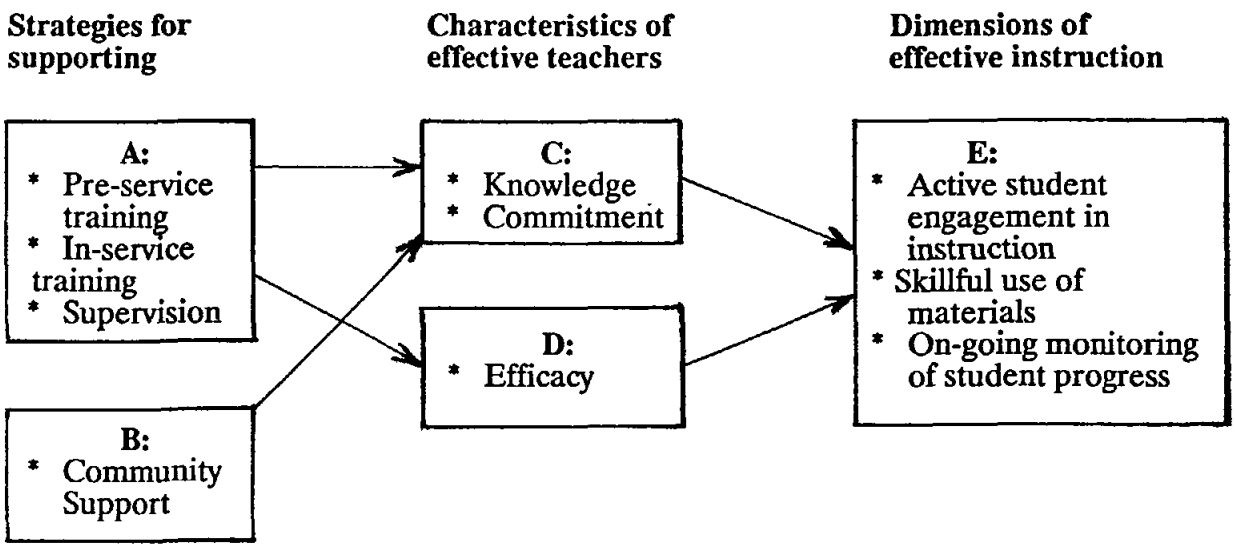

Diagram 1: A Model of Teacher Effectiveness in Thailand

A crucial problem for effective instruction was the lack of knowledge about the curriculum. It is a pity that the curriculum had been used for more than ten years and several in-service training programs had been provided, but most teachers still did not have insights about what they should teach. Teachers simply set instructional objectives according to their own interpretations, used traditional teaching methods, and evaluated

students just for the sake of having it done. Education is a long process which makes it possible for irresponsible teachers to hide their weakness. When students got out of schools with inadequate knowledge, no one could pinpoint that it was because of these irresponsible teachers. Instead, parents would put the blame on the school or the education system as a whole.

Regarding the use of teaching materials, many teachers rarely utilized any kind of teaching materials and gave an excuse that they had no time to produce them. But in fact in those schools there were many items, such as, a globe, posters, maps, scientific apparatus, and so on. Besides, it only made sense that teachers could use materials only when they were well prepared, but this required more time and they were not willing to comply. Therefore, the provision of teaching materials may not guarantee the change in teaching methods which could lead to more effective learning.

The most common teaching method was the traditional one, i.e., lecturing or chalk-and-talk. The teacher was the center of instruction. This method, however, did not arouse children to respond. Most questions raised by the teacher were 'yes or no' type of questions, while the 'why and how' type of question was rarely used. There were a few exceptions. In one case study (Sye Ngam School), teachers tried to encourage student-centered instruction. More student involvement and more group activities allowed students to participate and perform better to their abilities.

Another dimension which encompasses effective instruction is time spent on teachers' tasks. We found that this aspect of management was problematic. According to the requirements, each school has to operate 200 school days in one academic year. But in practice we found schools were able to operate between the range of 85.4 to 93.5 percent of this requirement. Furthermore, during the school day some teachers were busy on other errands instead of teaching, such as doing study assignments for those who went to attend an evening class at a nearby college, reading magazines, feeding a baby, or even sleeping. These distractions occurred because of the lack of responsibility and the lack of control from the management.

On the positive side, we found some good cases. When a teacher was absent, another teacher would automatically fill-in. In some communities, a group of housewives got together to prepare lunch for children so teachers could coneentrate on teaching. In many cases we found that teachers utilized lunch hours or evening hours or holidays to provide remedial teaching for slow learners.

3.4 School-community-temple Relations

Effective schools obtain substantial support from local communities. Local people view these schools as transmitting skills and values which young people need. Although schools represent a modernizing influence which may at times challenge traditional customs, local people support effective schools because those schools respect their values and provide tangible benefits.

In contrast, if a school is not able to get along with the community or the nearby temple, that school would lose support and cooperation in various activities. This, in effect, reduces teachers' morale and enthusiasm and surely affects their performance in the classrooms. The results from BRIDGES survey and case studies compliment each other on this issue. Our survey shows that for schools which had more joint activities with the communities, teachers devoted more time for the communities. Furthermore, these communities set higher expectations for the schools, and thus teachers had to work harder. It is reasonable to conclude that the relationship between the school and community is a strong influence on teacher behavior.

To put various aspects of the 'process component' in perspective, we would like to present case study information of two primary schools to reflect the influence of contextual variables on the relationships between teachers and students. These two schools are located in the central region of Thailand, near the sea in an area officially designated for industrial development. While the central region is the origin of the current modern state of Thailand, many of the inhabitants of the particular area we studied emigrated to this area within the past 30 years or so from the Northeast in response to a government

program to encourage land settlement. Recently, in response to the forces of industrialization, vast tracts of land are being purchased from peasants for speculative purposes. In addition to rice, which is the major crop in this area, pineapples, sugar cane and rubber trees are the major sources of income for the local inhabitants.

THE FIRST SCHOOL

This school which serves 80 students (plus 10 children who sit in the 1st grade classroom and receive pre-primary instruction) is called the Plantation School because it is exactly that. One turns off the two lane blacktop road onto a dirt road which leads to directly to a mansion set on a small knoll with a lake in front. A cinderblock wall, about three feet high, with iron grating extending another six feet, encloses the entire compound. Just before reaching the entrance way, the dirt road forks, with one part entering the compound and the second, smaller fork skirting the left edge of the wall. Along the side of the road is the first "village" served by this small primary school. Three rows of cinderblock dwellings house approximately 20 families. Each row accommodates about 6 families. While the dwellings are shaded by trees, there is no grass or plant life next to the buildings because of the heavy traffic from small children and parents who watch them. Most of these inhabitants are from the Northeast, having migrated here for work as much as six years ago. There is no official spokesperson for this group; they rely instead on the headman from a neighboring village down the road to represent their interests. The people in this village work long hours in the fields of "the rich man", as the owner of the mansion is called. (To be accurate, the owner died a few years ago. The plantation is now in the hands of his two sons, but his legacy lives on). Each is paid 40 baht a day, when there is work. During the rainy season, some of the men are allowed to return to their home villages long enough to plant rice and then return.

Farther down the road, around a small bend, lies the next village. 65 permanent families reside here in houses which are a vast improvement over the cinderblock dwellings down the road. Four of the houses are large, spacious, and of high quality construction. The largest belongs to the cousin of the "rich man", and this person, who is also the official headman of the village, plays a major role in decisions, such as what work is to be done in

the fields and by whom. Two of the houses also contain small stores on the first floor. The other houses are smaller but well maintained. Some of the inhabitants own small parcels of land in the area, but most rent land from the sons of the "rich man" for their own needs and work for the "rich man". The houses in this village are on both sides of the dirt road which broadens considerably as one enters this village to become a square. This is one of the major stops of the local bus, which is owned by the sons of the "rich man" and two members of this community, including the assistant village headman. Many of the people in this community are of Chinese descent. Chinese characters decorate the sides of one building on the outskirts of the village.

In contrast to the parents who live in the cinderblock dwellings and several smaller, scattered communities, 5-7 kilometers away, most parents in this village do not send their children to this school. They prefer, instead, to pay tuition to send them to a private school in town, kilometers away. The reason they give relates to the poor quality of instruction in the local school. A second reason, unarticulated but evident in the general tone of the conversation, is the assumption (help by a number of parents in rural areas with above average income) that quality is lower in public schools in rural areas than private schools in urban areas. Since the village headman and assistant headman play key roles on the school committee of this local school, this decision has ramifications for the amount of involvement the community has in school life. In fact, the school committee rarely meets. If the school wants help, individual teachers will approach a village leader, for example, to get transportation for a field trip.

Both the village headman and the assistant headman openly express criticism of the school, its teachers (most of whom live outside the community and commute by bus), and the principal. These teachers do not know the community, they argue, and are not committed to teaching. They arrive late, leave early, and do not teach the children. The principal used to be more active in community affairs, but after a motorcycle accident two years ago, he seldom comes to the community any more.

Behind this village, on the side where the mansion is located is a large grove of rubber trees. In front of the village, off in the distance are fields of pineapples, stretching

as far as the eye can see. To the right, again in the distance, is a large field of sugar cane. Nearly all this belongs to the "rich man" and it is here that most of the villagers work, or in some cases, supervise those who work.

Three of four other groups of families are served by this school, but they are located 5-7 kilometers away and are scattered and small in number. The children of these families walk to school, which explains their poor attendance. Their parents also work in the fields of the "rich man". Most are also recent immigrants, like those who live in the cinderblock dwellings.

Community involvement in school life is seriously affected by the long hours the parents work. Most leave for the fields before the students go to school and return in the evening. Exhaustion and reluctance to walk long distances in the evening mean there are few who are willing or able to contribute time to school affairs.

Unlike the other schools in our study, there is no temple in the immediate area to serve the communities that attend this school. The nearest temple is 6 kilometers away along the paved two-laned road. It is a large structure with several buildings and serves as a center for Buddhist studies, with 22 monks in residence. A primary school with 300-400 students lies across a field. It is this school which gets the most attention from this temple. In fact, until six years ago, the primary school we studied was actually an annex of this larger school, until it was officially granted separate status by ONPEC (Office of the National Primary Education Commission). According to the abbot, relations with this school have always been cool because, as it was initially founded as a private school by the "rich man", monks were not allowed on the property of the mansion which included the school. While this has since changed, a lingering suspicion still prevails which means that religious involvement or contact is almost nonexistent.

Turning into the school yard, one is struck by the poor upkeep of the playing field in front of the three buildings that comprise this school. Tall grass and a generally run-down atmosphere make it impossible to play any organized game of soccer. The two buildings, both one story, which house the classrooms (1-3 and 4-6 grades) are both in need

of repainting. There are no offices for the teachers and the principal has created a small workroom alongside the kitchen (for the lunch program) in the third building, an open structure. Several tables with chairs are located in this structure. The children, however, do not use it for a lunchroom, taking their food instead back to their classrooms where they eat in front in small groups. There is no room for a library, just a small corner in the 5th grade classroom for a shelf of books. There is no separate room for children who might get sick during the day, just a bed in the corner of the 6th grade classroom. The uniforms of many students are worn and dirty and some students suffer from head-lice.

School Life. Of the 6 teachers in this school (plus the principal), the 1st and 2nd grade teachers carry this school both in terms of teaching and administration. The second grade teacher actively engages the 12 students in his class through wit and charm. By asking such questions as, "I don't know about this, can you explain this to me?" he gets students involved in the content. During his teaching he integrates moral ethics with content, reflecting his belief that content from the curriculum should be integrated and the students need to learn the values of honesty and diligence. He modifies parts of the curriculum to draw on local student knowledge, for example in science, by encouraging students to show how charcoal is made and in the process to illustrate certain scientific concepts. He also cares deeply about his students. For example, at the beginning of the year, one student was repeatedly absent. When he came, he had no books. The teacher asked his parents to come to school and meet with him. After learning that they had no money for textbooks, he hired them for 50 baht each to cut weeds around the school yard, the amount needed to purchase a set of textbooks. The parents' gratitude translated into regular attendance by their child from then on.

Such teaching reflects a change in his views over the last 4-5 years. Known earlier as a "womanizer", he often devoted more efforts to his social life than to his profession. He decided to change his ways and last year and now lives in one of the two houses at the school. His wife is expecting a child soon. Since he lives at the school, he cares for the school garden and raises chickens, which he sells for extra income.

His major problem, however, is that while he is capable of inspired teaching, he

only evidences such teaching in spurts. He can often be seen leaving his classroom, to attend to other matters, with the result that the overall effect of his contribution is less than what it otherwise might be if he taught the entire hour, throughout the day.

The 1st grade teacher shows the same caring quality about her students as the 2nd grade teacher. She reminded the students that if they had no lunch from home or no money for the school lunch, they should tell her and she would find something for them to eat. Her greatest contribution to the school lies in the administrative functions she performs. Since she lives in the community, she is always at the school early, overseeing the morning opening activities, and staying at the school until all the students leave in the afternoon, overseeing the closing activities.

While technically the responsibility of the principal, she performs these duties because the principal and the teachers in grades 3, 4, 5 and 6 commute to the school and often arrive late. The teachers in grades 3, 4 and 5 all ride the same local bus to and from work. The schedule is not compatible with the opening and closing time of the school, although the ride is free (a donation from the local bus owners to the school). The result is that these teachers regularly miss opening and closing activities and arrive late to their first hour. While school is officially over at 3:30 P.M., the bus comes at 3:20 P.M., necessitating an early exit. The principal asked the local owners if they could change the schedule, but his request was turned down.

Teachers in grades 4 and 6 rely on "chalk and talk" instruction, with little, if any, use of instructional materials. Content is presented in the first 20 minutes, which is then followed by seat-work assignments, not only in these classes, but in grades 1 and 3 as well. The 6th grade teacher, moreover, has difficulty spelling works he puts on the blackboard. Because his English skills are so weak, he trades with the 5th grade teacher so he can teach mathematics to both classes while she teaches English to both, even though his math knowledge is nearly as weak as his English.

While instruction is poor in nearly every classroom, what characterizes this school is the amount of wastage in terms of using available instructional time. Most teachers

come late and leave early. While in residence they leave their classrooms often to talk with each other, they start their classes late after lunch, and they begin dismissing their students for play by 2 o'clock in the afternoon.

There is, finally, a simmering feud between the 2nd and 3rd grade teachers over an incident in which the 3rd grade teacher allowed her students to climb some of the trees behind the school. Several branches were broken, which angered the 2nd grade teacher who cares for the trees. Words were exchanged and, while the incident occurred over a year ago, the 2nd grade teacher still resents the damage. The result is little contact between this teacher and the teachers in grades 3, 4 and 5 since they are all friends.

It is, in fact, this group of teachers, who make school policy. In the absence of any leadership by the principal, these teachers discuss issues and then seek concurrence from the other teachers. Then they present their idea to the principal, who ratifies it. This past year, for example, they suggested that teachers be assigned to grades by lot, which was done. The 2nd grade teacher felt this was academically indefensible, but did not voice a serious objection to the group when they approached him, or to the principal, once he agreed.

The principal took over this school 6 years ago when it moved from branch status to primary school. He had no formal training to be a principal. His only teaching experience was at the secondary level in math and science. He began experiencing voice trouble and thought that becoming an elementary principal would be an easier job. A man in his late 40s or early 50s, he is reticent to bother either the teachers or members of the community, including the sons of the "rice man". He does no internal supervision, does not assign teachers to carry out responsibilities in the six work areas, and does no teaching. Nearly all his time is spent in his office, pouring over paperwork from the district office. He eats lunch in his office and seldom socializes with the staff. Teachers in this school are allowed to go their own way, which helps to explain the variation in teaching and the low overall "time on task" in the building. He is aware of the importance of supervision for improving school quality, but feels he lacks the knowledge to do it effectively.

In summary, this school operates within a number of limiting constraints: a community divided geographically and economically; parents who have little or no time (or energy) to be involved in school affairs; a principal who allows teachers to set their own levels of attention to academics and performance; and a power structure which sends its children to a private school or is so distant and powerful as to be intimidating. The result is little or no learning by the students in this school.

THE SECOND SCHOOL

This school is located 30 kilometers from an urban area, serves 149 students from the surrounding village, comprised of 85 households. There are seven teachers and one principal in this school. The largest of three buildings looks brand new, although it is over 15 years old. A large, two story structure, it has a new roof and its dark brown wooden siding is freshly stained, which makes for striking contrast to the newly painted white concrete base. Set in a cove of tall trees, with smaller trees, plants and a Buddhist shrine in front, the main building can only be described as beautiful. Next to this structure is a small multipurpose room, which at the present time is filled with lumber and other materials. A local politician recently donated 30,000 baht to help defray the costs of changing this building into a library and linking it directly to the main structure. The community plans to donate the labor and the local abbot has promised to provide any additional needed resources. The third building is a small open structure which is used for the lunch program.

The corridors and every classrooms are colorfully decorated, creating a warm and comfortable environment. Along the main hallway, three new motorcycles are parked, which provide transportation for teachers who live in the larger city, kilometers away (motorcycles for two other teachers are parked around the back). Two large multicolored umbrellas lie open on the floor of the corridor, suggesting that rain has fallen earlier that morning.

Behind the school, three rows of neatly planted trees provide shade for a play area which includes a slide. Farther to the back lie large fields planted with pineapples, the

major crop in this community. Along the sides of the school are two wooden houses for teachers, part of ONPEC's policy to provide housing for teachers in rural areas. The fish-pond is no longer used by the school because last summer someone came and caught all the fish (i.e., they were stolen).

Across the large playing field in the front of the school is a complex of buildings with orange roofs which house the temple. These buildings were built at the same time as the school. Originally the temple was located on the spot of the current school. Children from the village attended school in the temple.

After ONPEC approval was granted for a new school, the temple donated the land and moved to its current site (part of the "package deal" also included community participation in the building of the new school. Community donations also played a role in constructing several of the new buildings for the temple). This temple serves as a local center for Buddhist studies, which explains its size and the number of buildings (six) in the complex. Currently 26 monks are in residence for varying periods of training and study.

The abbot, a large, heavy set man, has been in charge of the temple for 23 years. Originally from Bangkok, he was in the military before entering the priesthood. He is a strong supporter of the school and was one of the key forces behind the decision to donate land for the new school. While the temple provides support to the school in many ways, his ability to donate funds to this particular school has become more limited in recent years, owing to an ongoing dispute with the local village headman, who would like a crematorium built. The abbot opposes this proposal. Donations from this village to the temple have suffered as a result. Since this community has always contributed less than other communities served by this temple, owing to its low economic standing, it is difficult for the abbot to convince the community board to allocate funds to this school, since donors from the other communities feel that available funds should go to their schools. This explains the principal's view that he only approaches the abbot with financial requests for large, serious needs.

The abbot participates in ceremonies at the school but does little formal

instruction, noting that students at the higher grades pay more attention to his ideas than the students in the lower grades, owing to their complexity. Over and over again he stresses the need for the school to teach students to respect their teachers and parents, to be grateful to those who help them, to be loyal and to do one's duty, reflecting his concern about the decline in deference which characterizes some of the youth in this area. This concern is shared by the principal, which is probably one reason why the observer sees students showing respect to adults when they encounter them on the school grounds or in the community.

The abbot praises the current principal's efforts to improve the academic environment, pointing out that the past principal cared little about academic quality and students, who often skipped school, created problems by spending time at the temple instead of attending class. He feels the teachers are more on task now than was the case under the previous principal. They come to work regularly and actually instruct. He credits the current principal with these changes, since staff continuity has been good at this school.

The layout of the village provides a sharp contrast to what is typical in Thailand. Instead of houses grouped together with paths in front, vast rice fields surrounding the village, and a small dirt road connecting the village with its neighbors and the outside world, each house is separate, surrounded by a field of pineapple plants and small dirt paths or roads, reflecting the impact of the local economy. The houses are attractive and well maintained, alternating between concrete with tin roofs and larger wooden structures resting on concrete foundations or pillars.

The community is divided into "old families" (those who have been there for generations) and "new immigrant families" (those who came within the past two decades in response to the government's initiative to encourage local development in this area). According to one of the teachers who grew up in the village and now resides there, the "newer" families (who make up about 60 percent of the village) take better care of their children. The "older" families tend to take it easy, drinking and gambling. Both groups, however, are under considerable pressure to sell their land to people from outside the area,

principally Bangkok, who are engaging in land-speculation. According to the principal, nearly 40 percent have already sold all or portions of their land and now rent the property they used to own. With the proceeds, they built new houses or repaired the ones they had, bought various consumer goods, including a motorcycle or pickup truck, and, in some cases, purchased land in more remote areas. Some continue to raise pineapples, while others now work in factories in the larger city, kilometers away.

The principal gets along well with the community, participating in community events and giving donations for funerals and weddings. He stops and chats easily and comfortably with resident after resident during a visit to the village and the temple. In turn the community provides resources and labor when needed. For example, two years ago a tree fell on the school, damaging the roof. The principal got tired of waiting for ONPEC to approve funds, so he asked the community and the abbot for assistance. The abbot donated 5,000 baht for materials and the community turned out to rebuild the roof. Two years later, when ONPEC funds finally arrived, the principal used the money to buy paint for the school. Again the community turned out to provide the labor.

School Life. Students receive academic instruction through out the day, both morning and afternoon. If students leave their rooms, it is for a purpose: an experiment, a class in agriculture, or a physical education class. Teachers come to work on time and remain in their classrooms, teaching. The amount of "time on task" in this school is considerable, especially when compared with the amount of time wasted in the first school, discussed above.

While overall "time on task" is much greater in this school, the quality of instruction, except in the class taught by the principal, is not much different from the first school. Teacher-centered instruction, with some use of materials and some involvement of the students in the lesson, exists side by side with instruction dominated entirely by the teacher. The emphasis is still on learning factual knowledge. In some cases, even the factual material, for example in mathematics, is presented in a confusing manner. In contrast, the principal's 5-6 math class is oriented towards conceptual understanding of math. Students are actively engaged in the lessons through questions, example, and

support.

The existence of an academic focus where teachers are in their classrooms teaching content throughout the day (high overall time on task) with teachers who use predominantly one method of instruction and emphasize rote learning of facts reflects a deep tension within this school between the principal and most of the teachers. Brought in under circumstances unrelated to academic performance, the principal set about to improve the quality of learning in the school. During his four years there, academic achievement has dramatically improved, at least in terms of test scores: in 1984, the school's composite rankings on school cluster tests was 53 percent; by 1988 it had risen to 74 percent.

He accomplished this feat in the following way. He immediately addressed a major problem, student and teacher absenteeism, by working with parents to search the bushes surrounding the school yard and jointly deciding punishments on the spot. He also verbally confronted teachers who were the most serious offenders, and denying one of them, the current third grade teacher, candidacy for a double promotion, which he would have received under the former principal's rotation system. Because scores were lowest in math, the principal took over this subject for 5th and 6th graders, since he was a math teacher before he became a principal. After a year of co-teaching with one teacher, he demoted him to the third grade because of his poor pedagogical skills and seeming unwillingness to improve. He put great emphasis on supervision as a way to improve instruction and did not hesitate to offer suggestions to teachers on how they could improve their teaching. He breathed life into student involvement in the school by improving the school democracy program, which had been nearly moribund, given student absenteeism. He devoted considerable energy to developing a working relationship with the community, including the abbot.

Teachers in the building agree that the school has improved significantly under his leadership. However, except his wife who teaches pre-primary and the 5th grade teacher, they all maintain that the way he has interacted with the staff to create such improvement has created an intolerable work environment. According to them, he is unable to give

constructive feedback: he "cracks the face" of the teachers by his aggressive style of pointing out areas he feels are in need of improvement in front of others, a style which embarrasses the teachers profoundly. As a result, teachers distance themselves from him, preferring not to ask for advice or even to interact any more than necessary. They respect, however, his authority and the model of hard work he provides. They see him as fair in terms of decisions such as double promotions, but the highest praise they will give him is that "he does his duty".

The principal recognizes that his aggressive way of dealing with teachers has created problems. He claims to be working on his interpersonal skills. He points out, however, that most of the opposition comes form the current third grade teacher, whose teaching skills and commitment level to teaching, according to him, were (and continue to be) so low that he had to move him from the 6th grade to a lower grade. This is also one of the teachers in the building with the greatest reputation for absenteeism and tardiness.

The principal monitors the work he has assigned to teachers regularly. He wants to make sure that progress is being made, and, if not, or not soon enough to suit him, he feels he has to complete the task himself. This attitude is interpreted by other teachers as demonstrating a lack of trust in their willingness to complete tasks assigned to them, which in turn reduces, according to them, their interest in carrying out such assignments.

In summary, this school suggests that tighter coupling between the administrative arena and classroom teaching can, indeed, lead to improvement in what is learned by students (as measured by test scores). But the process by which such tighter coupling takes place, the willingness of the staff to act on the need to improve test scores and the kind of assistance available for them to actually improve, all interact in this school to create a tension between the principal and most of the teachers in this building. Both the community and the local temple support the school, but their leaders are aware of the problems in the school and face their own set of constraints in providing further assistance to solving these problems.

4. THE OUTPUT COMPONENT

In this section the educational outcomes will be presented in terms of student achievement, the applications of knowledge and skills, and the parents' satisfaction.

4.1 Student achievement

The data were collected as part of the national evaluation program in 1988 academic year. The sample was a population representative of the 6th grade students all over the country comprising 9,768 students.

The average score for Thai subjects was 57 percent which covers the abilities in listening comprehension, reading, writing, and grammar. Among these abilities, listening comprehension was the lowest with the average score of 43 percent.

In mathematics, the average score was 49 percent, reflecting understanding of concepts, mathematical skills, and problem-solving. The lowest ability was in problem-solving with the average score of 40 percent.

For life-experience subjects, students had an average score of 53 percent which covered six areas, namely, (a) health and hygiene, (b) the Thai nation, (c) democracy in Thailand, (d) economics, (e) science and technology, (f) scientific methods. Among all six areas, (a), (b), (c) and (d) had average scores at least 56 percent, while (e) and (f) each averaged about 50 percent.

For work-oriented subjects, students were measured on their basic knowledge for work. The average score was only about 45 percent. The last subject area was character development. Students obtained an average score of 74 percent. This subject covered discipline, cooperative abilities, diligence, frugality, honesty, nationalism, and appreciation of national treasures. Every area except cooperative ability had an average score above 70 percent, while the cooperative ability had an average score of 66 percent.

4.2 Student Characteristics

According to the 1978 primary education curriculum, students should develop certain characteristics such as diligence, endurance, honesty, frugality, and self-discipline. However, from research observation, schools emphasized obedience, diligence, and good manners. All of the characteristics that schools emphasized also reflected parents' expectations, but the parents had the additional expectation of being religious.

Regarding operational skills in various subject areas, there were many specific skills mentioned in the curriculum. However, in practice teachers were not so strict in meeting the criteria, because they felt it was almost impossible to do so. Parents and laymen had even more general expectations about the skills that students should be able to read, write, and do basic mathematics calculations. In terms of students' attitudes, most students in rural areas had good attitudes about farming and preferred living in rural areas to urban areas. It was not clear whether schools had any influence on these attitudes. But one clear observation was students who went through schooling possessed some characteristics of the middle class, such as cleanliness in dressing, being respectful, using polite words, and using sanitary toilets. Children who possessed middle class characteristics were more popular, while those who were impolite were friendless.

5. CONCLUSIONS

As mentioned at the beginning of this document, an important objective of education, regardless of level and type of education, is to develop members of the society to have adequate knowledge and desirable characteristics. But education is only a sub-system of the society. Therefore, social changes have an impact on education. During the past decade there have been radical changes in the economy and society more broadly, and the education system is definitely affected by this.

From the past to present, education in Thailand has tried to serve or fulfill the demands of society and had to adjust itself to suit the circumstances. The adjustments were

reflected in the educational scheme, educational policies, curriculum, etc. But in order to achieve the goals specified in the official documents, it takes all parties' involvement, especially teachers.

Our research studies indicated that teachers are not living the same life-style they once did. Fifteen to twenty years ago when infrastructure was not quite abundant, most teachers were living inside the communities. But that was a thing of the past. More and more teachers are living in urban areas, travel to schools to teach every morning, and leave in the evening. This in effect, reduces the roles of teachers and, inevitably, the influence of teachers on students and people in the communities. Teaching has become merely a tutoring profession where teachers focus on covering the content. The relationships between teachers and students, therefore, are not as close as in the past when teachers were regarded as the second parents. Therefore, educational planners, administrators, and academics should take this phenomenon in consideration when setting a human resource development plan relying heavily on the roles of teachers.

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EDUCATIONAL MANAGEMENT: PUBLIC AND PRIVATE SECTOR ROLES IN THE PROVISION OF EDUCATION

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สรุปสำหรับผู้บริหาร

การจัดการศึกษา: บทบาทของรัฐและเอกชน

รายงานฉบับนี้มีวัตถุประสงค์เพื่อที่จะศึกษาการจัดการศึกษาของรัฐและเอกชน โดยเน้นในเรื่องการพัฒนาการศึกษาของเอกชน นโยบายของรัฐที่เกี่ยวกับการศึกษาเอกชน ประสิทธิภาพและความเป็นธรรมของการศึกษาที่จัดโดยรัฐและเอกชน ตลอดจนบทบาทที่พึงปรารถนาในการจัดการศึกษาของรัฐและเอกชนในอนาคต

ข้อค้นพบจากการศึกษาในครั้งนี้ชี้ให้เห็นว่า ในอดีตการศึกษาเอกชนมีบทบาทสำคัญในการช่วยทำให้การขยายการศึกษาในส่วนรวมแพร่กระจายออกไปอย่างรวดเร็ว แต่ในปัจจุบันบทบาทของการศึกษาเอกชนในเกือบทุกระดับการศึกษาลดลงอย่างเห็นได้ชัด ยกเว้นการจัดการศึกษาของเอกชนในระดับอุดมศึกษา

สาเหตุของการลดลงของการศึกษาเอกชนดังกล่าว ส่วนหนึ่งเนื่องมาจากนโยบายของรัฐที่เกี่ยวกับการศึกษาเอกชน โดยเฉพาะอย่างยิ่งการควบคุมค่าเล่าเรียนและค่าธรรมเนียมการเรียน นโยบายการให้เงินอุดหนุนแบบเลือกสรรที่ควบคู่ไปกับการควบคุมค่าเล่าเรียนและค่าธรรมเนียมการเรียน ส่งผลในทางลบต่ออุปทานของการศึกษาเอกชนและการปรับปรุงคุณภาพการศึกษาทั้งของรัฐและเอกชน

การเปรียบประสิทธิภาพการจัดการศึกษาของรัฐและเอกชน ในแง่ของผลสัมฤทธิ์ทางการเรียนในด้านวิชาการและที่มิใช่วิชาการ ต้นทุนต่อหน่วย และความสำเร็จที่เกี่ยวกับการจ้างงาน ยืนยันว่าผู้ที่จบการศึกษาจากสถาบันการศึกษาของเอกชนมีประสิทธิภาพที่ไม่ยิ่งหย่อนไปกว่าผู้ที่จบการศึกษาจากสถาบันการศึกษาของรัฐ ในส่วนที่เกี่ยวกับความเป็นธรรมในเรื่องของโอกาสที่จะศึกษาต่อในระดับที่สูงกว่าการศึกษาภาคบังคับนั้น เป็นปัญหาที่เกิดขึ้นทั้งการศึกษาเอกชนและการศึกษาของรัฐ

ดังนั้นการส่งเสริมให้เอกชนมีบทบาททางด้านการให้บริการการศึกษามากขึ้นเป็นสิ่งที่ควรสนับสนุน อย่างไรก็ตามการให้การอุดหนุนนั้นจะต้องเปลี่ยนวิธีจากการอุดหนุนโรงเรียน เป็นการอุดหนุนนักเรียนในรูปของการให้คูปองการศึกษา (voucher) ซึ่งมูลค่าที่ให้จะต้องพอ ๆ กับต้นทุนต่อหน่วยของโรงเรียนรัฐบาล และคูปองดังกล่าวสามารถที่จะใช้จ่ายเป็นค่าเล่าเรียนทั้งโรงเรียนของรัฐและของเอกชนได้ โดยที่เด็กนักเรียนหรือครอบครัวจะสามารถเลือกเองได้ ในกรณีของเด็กที่มาจากครอบครัวที่ยากจนมาก ๆ คูปองที่ได้ควรจะควบคุมไปถึงค่าใช้จ่ายทางการศึกษาอื่น ๆ อีกด้วย สำหรับมาตรการที่สำคัญอื่น ๆ ในการส่งเสริมการศึกษาเอกชนก็ได้แก่ การยกเลิกการควบคุมเพดานค่าเล่าเรียนรวมถึง

การลดกฎเกณฑ์ของรัฐบาลในการควบคุมการศึกษาเอกชน และให้ความช่วยเหลือทางเทคนิคกับสถาบันเอกชน ในขณะเดียวกันสำหรับการให้บริการทางการศึกษาของภาครัฐควรจะพยายามให้สถาบันการศึกษาสามารถช่วยตนเอง (cost-recovery) ได้มากขึ้น โดยยังยึดหลักการช่วยผู้ด้อยโอกาสเป็นสำคัญโดยอาศัยระบบการให้คูปองการศึกษาแก่นักเรียนในระดับมัธยมศึกษาและเร่งหาทุนให้มากขึ้นในระดับอุดมศึกษา

EXECUTIVE SUMMARY
Educational Management:
Public and Private Sector Roles in the Provision of Education

In the past, private education has contributed to the educational expansion in Thailand. It also enabled the government to release some educational resources from urban area for being used in rural areas. Nevertheless, during the last decade, the shares of private education, except for the primary and university levels, considerably decreased. There are many explanations for the shrinkage in the roles of private education, but the important reasons are control on tuition and fees, and government policies on educational expansion, especially pre-primary education in rural areas. Even though there are subsidy policies for private schools, only private schools established before 1974 benefited from these policies. Since subsidies are tied up with tuition and fee controls, the low quality private schools have not improved, and the government has to bear the burden for subsidizing inefficient private schools. As a result, quality variations between the different types (public-private) and within the same type of schools did not diminish.

Research on cognitive and noncognitive achievement (in terms of value added) has shown that the quality of private education is at least no worse than that of public education in general. The labor market performances of private-school graduates are also no worse, and probably better, than that of public-school graduates, if background characteristics and abilities are controlled for. In addition, the unit costs of private education is relatively low. Also, the problem of equity of access to public schools show a similar pattern to that for private schools.

Thus, it is a cost-effectiveness approach for the government to encourage more private provisions of education. However, subsidy policies to private schools should be changed from producer subsidies to consumer subsidies, in the form of vouchers whose value equals the unit costs of public education, and can be used as a substitute for tuition and fees in both public and private schools. In the case of children from very poor families, the value of vouchers also should cover other educational expenditures. The other key measures for promoting private education are the abolition of control on tuition and fees, the reduction in government regulations on private education, and technical assistance to private institutions. At the same time, more cost recovery in public education should be strived for, with the equity objective being served through the voucher system at the middle level and more scholarships in higher education.

TABLE OF CONTENTS

EDUCATIONAL MANAGEMENT: PUBLIC AND PRIVATE SECTOR ROLES IN THE PROVISION OF EDUCATION

1. INTRODUCTION

This paper contrasts development, equity, and efficiency of public and private schools for discussion on their desirable roles in the future.

In the next section, we review the trends of public and private education. In section 3, we examine government policies on public and private schools, and identify changes from their implementations in terms related to costs, enrollment, teachers, and student achievement. In section 4, we analyze equity and efficiency of public and private schools at the present. In section 5, government policy options concerning private provision of education. Options are proposed where investment in private education is desirable. Finally, section 6 concludes.

2. DEVELOPMENT OF PUBLIC AND PRIVATE SCHOOLS

From our point of view, the highlights of the development of public and private schools can be best summarized as follows:

Before 1918, Thai formal education introduced for the first time by the private sector still was not controlled in its implementation. From 1918 to 1937, an act of legislation was issued to regulate the provision of private education, a lot of which integrated teaching of academic substances to the inculcation of religious beliefs or doctrines. From 1937 to 1960, private education expanded very rapidly, especially at the primary level, sharing responsibilities with the public sector in the move to make primary education universal. From 1960 to 1975, private education was severely challenged, with a reduction in the market shares due to the decline of primary school enrollment. This

decline was influenced by the government, who strengthened the standards of primary education, by means of increasing the number of primary school teachers, and upgrading their quality. Thus, benefits from private education was restricted. As a result, a large number of small and medium size schools, whose standards were not acceptable, were closed down. From 1975 to today, the private sector is still searching for new directions for implementations to improve their ill conditions. Thus far, only some private schools were able to survive, by concentrating their academic performances on pre-primary education, and vocational and higher education, in fields which are in demand in the labor market. As for public pre-primary and primary schools, they have grown very rapidly, while a growth spurt is expected at the lower secondary level, in line with the policy to make lower secondary education universal.

Future development of private education will be influenced by the policy direction of the government. A review of the National Education Plan, the Seventh National Economic and Social Development Plan, laws, rules, and regulations pertaining to the implementation of public and private education reveal certain guidelines, broadly stated as follows (NEC, 1991).

(1) **Guidelines for Implementations.** The private sector is encouraged to participate in the provision of education at all levels. At the pre-primary level, the government will only assume responsibility for providing pre-primary education on a pilot basis. At the primary level, the government will take full responsibilities in the educational provision, as it is part of the national compulsory education. For lower secondary education, the government will concentrate its provision on underprivileged areas.

(2) **Guidelines for Subsidies.** For formal education, the government will continue the subsidy program committed to those private schools previously enrolled in the program before 1974. The subsidies will be based on the number of student enrollments, and at a maximum level of 40 percent of the cost per student in the public school counterparts. In addition, opportunities will be opened to private schools in sharing educational resources of the Ministry of Education on a loan basis. Also, academic trainings will be provided for private school personnels. Finally, the government will contribute to the providence fund

of each of the private school instructors, at the rate of six percent of his or her salary.

(3) **Guidelines for Tuition and Fees.** Schools in the subsidy program mentioned earlier shall not collect a tuition fee higher than 60 percent of the per head cost of their public counterparts. Other schools under the Ministry of Education must observe tuition and fee ceilings prescribed and revised by the Ministry. Tuition and fees of higher education are not controlled.

How equitable and efficient these guidelines can be in directing the education system of the country is a very important question. This section will look at the past trends concerning public and private education, which will be relevant in the discussions concerning equity and efficiency.

2.1 Costs

The budget allocated to education in total usually amounted to 15-18 percent of the total national budget, and generally was the largest or second largest item in the budget. However, there appears to be no clear indication of how priorities of different educational levels are determined, but appeared to depend mostly on the amounts proposed by each level. For example, in the Fifth Plan (1982-1986), primary education received the largest share, due to the rapid expansion of primary education, but higher education received the largest share in the Sixth Plan (1987-1991), due largely to the establishment of another five public universities.

In terms of budget per student, the data in 1989 showed the budget per head as follows: 4,269 baht/head (primary education), 5,092 baht/head (secondary education), 10,674 baht/head (vocational education/certificate level), 14,232 baht/head (vocational education/undergraduate level), 37,473 baht/head (higher education/undergraduate level, and 56,209 baht/head (higher education/graduate level).

2.2 Enrollment

Table 1 presents data on the number of students at different levels of education from 1978 to 1988. The data shows that public schools have significantly increased the enrollment share at all levels except for higher education. Most strikingly, perhaps, is the increase of the public schools' share of enrollment at the pre-primary level, increasing from 40 percent of the market share at that level in 1978 to 76 percent in 1988. While the public market shares of primary and secondary education over the same period usually accounted for over 90 percent, the public share in vocational/certificate education remained at about one half.

It is important to note that during this period of time, the number of the public pre-primary schools have increased 20 folds. On the other hand, about one third of private primary schools, and about one half of the private lower secondary schools closed down.

Moreover, when statistics of the gross enrollment ratios at different levels of education are examined, it is clear that there is only a small room left for expanding primary education (with almost universal enrollment), but fairly large room at the other levels; as indicated by the gross enrollment ratios at the pre-primary, lower and higher secondary, and vocational levels of 36 percent, 33 percent, 14 percent, and 7 percent, respectively.

When the regional variations in the public and private market shares were examined, it was found that the private market shares were greatest in Bangkok, with the private share at the pre-primary level being over 85 percent, and a private share of about a half for primary and vocational education. On the contrary, private market shares elsewhere outside Bangkok are much less. Ranging from about 28 percent for higher education, to only 6 percent for primary and academic upper secondary education (1988 data, Table 1).

2.3 Teachers

Over the years, the student to teacher ratios of both the public and private sectors have generally been improved. By 1990, the number of students per teacher of pre-primary and primary, secondary, vocational, and higher education of the public sector were 20, 17, 14, and 8 respectively, while the ratios of in the private sector were 24, 26, 22, and 8 in the same order (Table 2).

From the point of view of teacher qualification, the group of teachers in public educational institutions generally have better qualifications, as indicated by the ratios of teachers holding a master or higher degrees to teachers holding a bachelor degree to teachers holding a diploma or certificate (Table 3).

2.4 Achievement

Concerning the level of public and private school students' achievement, results of many large scaled studies have not been conclusive. For example, the findings of the determinant of primary school efficiency (Office of the National Education Commission (ONPEC), 1982) showed that the cognitive achievement of public primary-school students, measured by Thai and mathematic scores, were higher than that of private primary-school students. Similarly, a study on the efficiency of secondary education (NEC, 1987) indicated that public secondary-school students performed better than private secondary-school students in cognitive achievement. NEC (1982, 1987) found that the non-cognitive achievement of private school students at both the primary and secondary educational levels were better than that of public school students. However, Jiratatprasot (1988) found that while public secondary school students show advantages over private secondary school students, the advantages became less when the value of the following predictors of aggregate achievement are controlled for; i.e. students' socioeconomic status, teacher performance, teacher education, teacher experience, time spent preparing lessons, school facilities, and distance to and from school.

OEATS has continuously carried out national studies on the comparison of the

measurement of students' skills in terms of test scores of 6th, 9th, and 12th graders, who are candidates at each level of formal education. Most of their studies alternately found mixed results on the performances of public versus private school student achievement. The latest studies examined students' skills in eight subjects areas: Thai language, social studies, physical education, management, science, mathematics, thinking ability, and problem solving.

For the 6th graders, a sample of 106,640 students from 2,240 primary schools around the country were given exams on the eight subject areas. Results of the exams showed that none of the average scores of private school students are below the national averages, and that, excluding the demonstration schools, six out of eight average scores of the private school students are higher. The public school students scored higher, with small differences, only in physical education and thinking ability (OEATS, 1991a).

For the 9th graders, another sample of 112,00 students from 830 lower secondary schools was selected for the exams in the same subject areas. This time, results of the study divided the students into groups of "good", "average", and "below average" students. It was found that the proportions of private school students falling into the first group were significantly higher than those of the public students in all subjects. However, the proportions of public school students whose scores fell into the second group seemed to be higher in six out of the eight subject areas, leaving the proportions of public school students falling in the third group in five subject areas (OEATS, 1991b).

For the 12th graders, 144,195 students were selected to take exams on the same subject areas, excluding mathematics. This time, the results between sectors were almost the opposite to what have been found in the primary school. That is, the exam scores of the private school students were lower than those of the national averages and of the public school students in five subject areas. However, the differences in those average scores between the public and private school students are very small (OEATS, 1991c).

While, these studies indicate mixed results, a major problem with nearly all of them is that the analyses do not sufficiently control for differences in the distribution of

students who enter private and public schools. If, for example, students entering public secondary schools are on average brighter that those entering private schools, then it would not be surprising that public school students perform better on average than private school students, and this tell us relatively little about the relative performance of public versus private schools. Rather than look at the level of performances, one needs to move more towards looking at "value added" that students get from the public and private schools. This is discussed further in the next section.

3. GOVERNMENT POLICIES ON PRIVATE EDUCATION

Although it is difficult to draw a line between the provision of public and private education, it is generally believed that, as a country become more developed, the role of private education should increase, particularly at levels higher than compulsory education. Statistics in section two, however, portrayed a sharp decline in the share of private education in almost all educational levels, except for primary and higher education (Table 1). This raises the question about why the role of the private sector has been declining. Certainly, many reasons can account for this. However, one of them probably relates to government policies on private education. In this section, we try to find out whether government policies in the past did really affect the growth of private education.

Government aids to private schools have a long history dating back to 1898. Before 1961, the assistance of the government to private schools was generally in the form of subsidies per students, sending teachers to teach in private schools, supplying educational equipment, providing subsidies for school construction, and low interest loans. The amount of subsidies per primary-school, lower secondary-school, and upper secondary-school students are 4, 5 and 6 Baht respectively.

In 1961, the private school subsidy policy had been changed from one of subsidy per student to a subsidy to supplement teachers' salary. The number of teachers to be subsidized in each school was based on the number of classrooms and fee. The formula was as follows:

$$T = \frac{280xC}{550 - (300 - F)}$$

where,

T = Number of teachers to be subsidized
C = Number of classrooms
F = Fee charged by a private school per annum

The number of teachers to be subsidized varied directly with the number of classrooms, but inversely with the fee charged by private schools.

At first, this subsidy policy was applied to both new and old private schools. However, with revisions, now only private schools established prior to 1974 are eligible to apply for subsidies.

In 1975, the government aid to private schools was modified. Government assistances according to the 1975 Private Education Act can be divided into two categories:

1) Direct assistance to private schools, e.g., sending teachers to teach in schools which belong to a Buddhist temple and non-profit organizations, supplying educational equipment, and lending the properties of the Ministry of Education (MOE) to private schools; and,

2) Indirect assistance to private schools through teacher and principal aids, e.g., providing teacher training, helping pay for teachers' providence fund, and subsidizing teachers' salaries and cost of living allowances, to guarantee that private-school teachers will receive salaries no less than public-school teachers with the same qualification.

Under the 1975 subsidy policy, the number of teachers to be subsidized varied inversely with tuition and fees of private schools, and is based on student-teacher ratio, and teachers' qualification (Chutikul, 1988). Ministerial regulation related to subsidies was revised again in 1985, and 1987, but, in general, they are still similar to the 1975 subsidy policy. For more details, see Tables 4, 5, and 6.

The main purpose of private-school subsidies is to lessen the operating costs of private schools, so as to induce the private sector to invest in education and to keep tuition and fees from rising. Besides, in the earlier years, due to the policy to accelerate universal primary education, the promotion of private education was thus unavoidable. So, private-school subsidies was appropriate if private schools perform at least no worse than public schools, and when an excess demand for education existed. However, the subsidy policy is tied up with tuition and fee control.

Owing to the problem of subsidy recalculation every time the government salary scale changed, private-school subsidies, through teachers' salaries, are changed back to a system of subsidy per student in 1989.

To obtain the amount of subsidies per student, the recurrent costs per capita for the provision of public education will be first estimated, and are then multiplied by a factor of 0.40. The rest of the recurrent costs is the maximum tuition and fees that can be charged by private schools receiving subsidies. The calculated subsidies per students will be changed every two years.

Subsidies tied to particular inputs, as in the case of subsidies to supplement teachers' salaries, had to be accompanied by regulations to prevent private schools downgrading the quality of the inputs, while subsidy per student is an efficient method for increasing enrollments (James, 1987b).

The subsidy schemes mentioned above are applied to pre-primary, primary and secondary education (academic stream) only. No subsidies are given to vocational and higher education. This is probably because the private returns to education at the higher levels are greater than the social rate of return. Therefore, students or their families have to bear more of the burden of the educational costs at these levels.

Theoretically, subsidies should encourage private education to expand rather than to contract. But there are at least two reasons why the subsidy schemes fail to fulfil this

goal. First, only private schools established before 1974 are eligible for subsidies. Thus, it is unfair to the newly established schools. As shown in Table 7, during 1977-1990, the percentage of private schools being subsidized in the Bangkok Metropolis and other provinces considerably decreased from 91.8 percent to 57.4 percent. Besides, the quality of some private schools receiving subsidies remained lower than the average quality of public schools. Second, schools with and without subsidies are subject to tuition and fees controls (Tables 8 and 9). This is perhaps the major barrier to entry of the new private schools (Sussangkarn, Ashakul & Myers, 1986). Although no data on the costs of private schools are available, the ceiling tuition and fees set by the Ministry of Education (MOE) seem to be lower than the recurrent costs of public schools (Table 10). If the actual cost of private schools is higher than the ceiling on tuition and fees, the losses has to be recovered by an extra payment in the form of "tea money" or "parental donation". This is a usual practice in private schools with reputations for high quality, or university demonstration schools, since places for new students are limited, while the demand for entering these schools is overwhelming.

The control on tuition and fees is applied to pre-primary, primary, secondary, and vocational education, but the ceiling prices are different according to the level and types of education. There is also a control on tuition and fees at the university level. Private colleges are subject to the ceiling tuition and fees set by the Ministry of University Affairs (MUA). Fortunately, policies are under way to remove the ceiling on tuition and fees at the university level, and probably also at the lower educational levels. Nevertheless, private schools and universities still need approval from the MOE and the MUA respectively, before they can raise their tuition and fees.

Besides the ceiling tuition and fees, private schools and universities are controlled by some regulations such as licensing requirement, curriculum, school facilities, equipment, and the size of the classroom. However, the regulations for private universities are less, and more flexible than for other educational levels. For example, the requirement concerning the size of land for private university licensee can be relaxed, if the fields offered by the private universities will lessen the shortages of manpower in particular fields. While the price of land in urban areas skyrockets, relaxing this regulation will eliminate a

major blockage in establishing new private universities in the urban area. The time used for processing applications to set up a new private university also takes only three months.

The other reason for a decline in the share of private education is the government's expansion of public education in all educational levels, especially at the pre-primary and primary levels. Together with a decreasing population growth rate, hence a slower growing or declining student population, private schools have to compete with public schools in recruiting new students. Thus, the supply of private education is bound to contract.

Indeed, the government has tried to induce more investment in education from the private sector by exempting income tax, and import tax for some educational equipment and machines. But these incentives are not strong enough to offset the consequences of foregoing the policies.

4. EQUITY AND EFFICIENCY

Education is usually viewed as a semi-public good. It has a direct benefit to persons attending schools, and also externalities to the society. Hence, to a certain degree, it is possible to use the price mechanism to achieve an optimal allocation of education. In that case, there will be a variety of educational quality at various prices, which will offer various choices to suit individuals' needs. In addition, private schools tend to operate more efficiency than public schools. The question which remains is the problem of equity. Do children from poor families still have a chance to attend good private schools, and to enjoy high educational quality? Putting it differently, these are questions concerning equity and efficiency of private as compared to public education. In this section, we will try to present some evidence concerning the efficiency and equity of private education.

4.1 Equity

One of the drawbacks of private education is that not all children can attend a

good quality private school, because of high tuition and fees, unless scholarships are available to the disadvantaged children. Since primary education is compulsory, the inequity of access to primary schools is not a crucial problem for primary education, though the quality of education may be different according to regions and types of schools. Pre-primary education have some problems of inequity, but this educational level is not compulsory.

The inequality of access intensifies for educational levels higher than primary education. The distribution of students classified by parents' occupation will be used to evaluate the equity in access of public and private institutions. As can be seen from Tables 11 and 12, students from farmers' families find it difficult to get into both public and private schools, and the situation becomes even worse at the university level. This is because their families cannot afford educational expenditures, and the opportunity costs of going to secondary school are rather high, as they can contribute to the family income. It should be noted that the pattern of inequity of public institutions is similar to that of private institutions. Students from professional and business families have much more opportunities to attend public and private secondary schools, since their families are able to pay for the educational costs. After they finish secondary schools, most of them pursue further education at the university level.

The above evidence indicate that it is not only private education, but also public education, that displays the inequity problem. Thus, it is a duty of the government to improve the equity of access to secondary and higher education in the public system.

4.2 Efficiency

A comparison between the efficiency of public and private schools can be judged by the internal and external efficiency of these schools. There are many methods to measure the internal efficiency of private schools. For example, we may consider students' learning achievement; unit costs; and the quality of some important inputs.

In terms of learning achievement, a lot of information in the last section has shown

mixed results on the advantages of public versus private schools. However, in most of the above cited studies, there was no control for the fact that the characteristics of students entering the public and private educational institutions are likely to be different. Thus, even at the start of their period in the relevant schools, their abilities are different. A careful evaluation of the contributions of public and private to education to students' performances must attempt to control for this "selectivity bias." Thus, the concept of "value added," or how much does public or private schools adds to student achievement after entering the school is the relevant to concept to consider.

This was done in a careful study by Jimenez, Lockheed & Watanawaha (1988). They examined the relative efficiency of private and public schools, holding school selection and background variables constant, thus going some way toward measuring "value added." They found that eighth grade students in private schools obtained significantly higher achievement gains (value added) than their counterparts in public schools. They also found that the unit cost of private schools (1,762 Baht/head) were substantially lower than the unit cost of public schools (4,492 Baht/head).

A comparison of unit costs between private and public schools at the other educational levels is difficult, due to lack of data. Nonetheless, from our estimates, the recurrent costs of private universities are about one-third of the recurrent costs of public universities.

The lower unit cost of private schools can be attributed to a relative high student-teacher ratio, and a lower average qualification level of teachers, compared to public schools (Tables 2 and 3).

However, in spite of the less favorable quality of school inputs, and higher turnover rates of private-school teachers, the above study shows that the performance of students in private schools is certainly not worse, and possibly better, than that of students in public schools.

With respect to the external efficiency, not many studies attempted to investigate

the performance of the graduates in labor markets. NEC (1989b) reported that graduates from private universities had high unemployment rates, compared to the graduates from public universities. However, as in the case of students' performance comparisons, a careful evaluation has to control for "selectivity bias." This was done in a study for this conference on the impact of public and private schooling on wage rates; Behrman, Sussangkarn, Hutaserani & Wattanalee (1991). They used a special Labor Force Survey data which covered the whole kingdom, and all educational levels, and found that if there is a control over school choice and over selectivity, then private schooling gives a significant positive impact on wage rates compared to public schooling.

Thus, whether one looks at the internal or the external efficiency of private versus education, if there is careful control for the selectivity problem, then it turns out that the performance of private educational institutions (in terms of value added) tend to be better, and certainly no worse, than that of the public educational institutions.

5. PUBLIC AND PRIVATE ROLES: FUTURE OPTIONS

There are reasons which support and do not support the provision of education through private institutions. Those who believe in the sole responsibility of government in providing education to its citizen claim that the existence of private education creates inequality in the quality of education received by the public and private school students, and widen the economic inequality among society members (Pantasen, 1974). Besides, private education is to a large extent governed by the principle of profit making, which is may not be appropriate for the provision of education. However, persons who support the role of private education would argue that private education will provoke more competition in improving the quality of education in both private as well as public schools, and private schools usually operate at cheaper unit costs. Thus, a variety of quality of education at various prices will be available for consumers to choose. Without private education, a rapid educational expansion will be difficult to accomplish, because of the government budget constraint.

As we have seen above, the quality of private education is at least no worse than that of public education, and is also produced at lower costs. From this point of view, we can hardly deny the role of private education. The next questions are:

1) To what extent should the relative roles of public and private education be? and,

2) What are suitable policy measures for the promotion of private education? In this section, we try to answer these two questions.

The roles of public and private education depend on the objectives of each educational level.

Pre-primary education has significant impact on the development of intellectual ability and mentality of children. According to the findings of the Basic Research and Implementation in Developing Education Systems (BRIDGES) project conducted by the NEC and a team from Michigan State University, primary school students with one year of pre-primary education had significantly higher learning achievement than students never attending kindergarten schools. However, an increase in learning achievement in primary school for an additional year of pre-primary education is not as great.[1]

This is actually not the only reason why the demand for pre-primary education considerably increased. The other reason, which is also important in a growing economy, is a high opportunity costs for parents to disrupt their jobs in order to take care the children at home. Therefore, an expansion of pre-primary education will not only improve primary-school students' achievement, but also reduce the opportunity costs of their parents.

At present, many children from poor families in rural and slums areas still find it difficult to get into kindergarten schools. Thus, the provision of pre-primary education to

1. Myers and Sussangkarn (1991) suggests that this may be because students with two years of pre-primary education are essentially those from better socioeconomic backgrounds in the cities, and their performances at the primary level will generally be already high, even with just one year of pre-primary education, as they also get much off-school inputs from better education parents.

these target groups should be the responsibility of the government, while leaving the excess demand at this level of education in urban areas to be supplied by the private sector.

Similarly, the role of the government in primary education should be to improve the quality provided to economically disadvantaged children, and hence reducing quality variations among public primary schools generally. At the same time, the government should not impede the private sector in establishing high quality primary schools.

An expansion of secondary schools, especially at the lower secondary level, is necessary if Thailand is to avoid the middle- and high- skilled labor shortage in the future, and maintain sustained economic growth. So the government has to play a prominent role in encouraging rural people to send their children to secondary schools, and at the same time promoting the private sector to invest more in secondary education (primarily in the urban areas).

With respect to vocational education and higher education, where previous research indicate that the private rates of returns are higher than the social rates of returns, the public sector should give high priorities to the production of manpower in the fields of science and technology, as shortages are still expected into the future (particularly at the university levels), and also to fields where enrollment is likely to be small, but where there are clear social benefits, for example, in culture related disciplines, or history. Also, there should not be restrictions on the fields of study offered by private institutions (even teacher education).

To achieve these objectives, the following policies and measures are suggested:

1) Regulations on private education need to kept at a minimum. Land requirements for new private schools and universities in urban area has to be more flexible, given rapidly rising land prices. Accreditation should be a prominent role of government agencies concerning private education, but it should not be used as a new measure to control private institutions.

2) Subsidy policies to pre-primary, primary and secondary private

schools should be changed from subsidies to private school to subsidies to students (or parents) in the form of vouchers (or coupons), which will provide more choices to consumers and lead to an increase in the quality of education as a whole. The value of the vouchers has to be equivalent to the unit costs of public education, and it is important that the vouchers be useable in both public and private schools. For students from poor families, the value of vouchers should cover other educational expenditures, such as textbooks, uniform, meals, accommodation (if necessary), and transportation costs. The voucher plan will reduce the costs to poor parents of sending children to secondary schools, and hence will raise transition rates in rural area. This should start as a pilot project soon, and, if successful, be launched on a much wider scale.

3) Tuition and fee control on private education has to be lifted. This is to encourage more supply of better quality of private schooling. The form of government's aid to private institutions receiving them should be changed as indicated above. Rather, technical assistances and assistances to improve teacher qualities should be provided to the lower quality private institutions. More low interest loans can also be provided to targeted groups of private educational institutions.

4) With more wide-spread use of the voucher system, price distortion in public education higher than the compulsory level needs to eliminated. Pricing policies has to reflect the social costs, which should be borne by those who can afford to pay. The poorer groups can be subsidized through vouchers (at the middle level), and scholarship programs at the upper level. In this way, more private resources can be drawn into educational provisions. The public system should also strive for more open access to all groups based on merit.

For private education, the good sign is that moves to ease a number of restrictions on private provisions are in the process of being implemented. However, much more remain to be done as it is not only direct measures on the private system that will affect the prospects for private provisions of education, but also how the public system operates, and the way the government goes about increasing educational opportunities, especially at the secondary level.

6. SUMMARY AND CONCLUSIONS

In the past, private education has contributed to the educational expansion in Thailand. It also enabled the government to release some educational resources from urban area for being used in rural areas. Nevertheless, during the last decade, the shares of private education, except for the primary and university levels, considerably decreased. There are many explanations for the shrinkage in the roles of private education, but the important reasons are control on tuition and fees, and government policies on educational expansion, especially pre-primary education in rural areas. Even though there are subsidy policies for private schools, only private schools established before 1974 benefited from these policies. Since subsidies are tied up with tuition and fee controls, the low quality private schools have not improved, and the government has to bear the burden for subsidizing inefficient private schools. As a result, quality variations among the different types and within the same type of schools did not diminish.

Research on cognitive and noncognitive achievement (in terms of value added) has shown that the quality of private education is at least no worse than that of public education in general. The labor market performances of private-school graduates are also no worse, and probably better, than that of public-school graduates, if background characteristics and abilities are controlled for. In addition, the unit costs of private education is relatively low. Also, the problem of equity of access to public schools show a similar pattern to that for private schools.

Thus, it is a cost-effectiveness approach for the government to encourage more private provisions of education. However, subsidy policies to private schools should be changed from producer subsidies to consumer subsidies, in the form of vouchers whose value equals the unit costs of public education, and can be used as a substitute for tuition and fees in both public and private schools. In the case of children from poor families, the value of vouchers also should cover other educational expenditures. The other key measures for promoting private education are the abolition of control on tuition and fees, the reduction in government regulations on private education, and technical assistance to private institutions. At the same time, more cost recovery in public education should be

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TABLE 1 Percentage of Public- and Private-School Students in Bangkok Metropolis and Other Provinces

Level of Education	1978						1988					
	Total		BMA		Other Provinces		Total		BMA		Other Provinces	
	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private
Pre-Primary Ed.	40	60	4	96	51	49	76	24	14	86	82	18
Primary Ed.	91	9	48	52	94	6	91	9	52	48	94	6
Lower Secondary Ed.	78	22	66	34	80	20	88	12	78	22	91	9
Academic	77	23	66	34	80	20	88	12	78	22	91	9
Vocational	100	0	100	0	100	0	100	0	100	0	100	0
Upper Secondary Ed.	64	36	48	52	72	28	78	22	55	45	86	14
Academic	77	23	82	18	76	24	92	8	86	14	94	6
Vocational	51	49	28	72	67	33	57	43	28	72	71	29
Higher Ed.	81	19	76	24	93	7	64	36	60	40	72	28
Vocational	87	13	78	22	100	0	64	36	54	46	71	29
Undergraduate and Higher	78	22	75	25	85	15	65	35	63	37	73	27

SOURCE: Educational Planning Division, Office of the Permanant Secretary, Ministry of Education

TABLE 2 Student-Teacher Ratio: Public and Private Institutions, 1990

	Students			Teachers			Student/Teacher Ratio		
	Total	BMA	Other Provinces	Total	BMA	Other Provinces	Total	BMA	Other Provinces
Academic Stream									
Public									
Pre-primary and Primary Education	7,171,407	298,454	6,872,953	362,022	15,177	346,845	19.8	19.7	19.8
Secondary Education	1,672,289	255,578	1,416,711	98,969	15,599	83,370	16.9	16.4	17.0
Private	1,213,947	431,428	782,519	53,213	19,666	33,547	22.8	21.9	23.3
Vocational Education									
Public	277,872	56,996	220,876	18,599	2,938	15,661	14.9	19.4	14.1
Private	225,374	107,835	117,539	9,460	4,186	5,274	23.8	25.8	22.3
Higher Education									
Public	129,522	90,208	39,314	14,097	9,349	4,748	9.2	9.6	8.3
Private	70,839	27,383	43,456	4,112	1,704	2,408	17.2	16.1	18.0

SOURCES: Educational Planning Division, Office of the Permanent Secretary, Ministry of Education; Office of the Teacher Civil Service Commission; and Private Higher Education Institutions Division

TABLE 3 Teachers' Qualification: Public and Private Institutions, 1989

	Number of Teachers			Ratio		
	Higher than B.A.	B.A.	Lower than B.A.	Higher than B.A.	B.A.	Lower than B.A.
Pre-primary and Primary Education						
Public	1,663	237,935	130,005	0.4	64.4	35.2
Private	101	12,221	28,081	0.2	30.2	69.5
Secondary Education						
Public	3,980	85,010	11,602	4.0	84.5	11.5
Private	176	6,372	2,704	1.9	68.9	29.2
Vocational Education						
Public	1,587	14,653	2,545	8.4	78.0	13.5
Private	182	5,515	2,423	2.2	67.9	29.8
Higher Education						
Public	12,864	2,128	4	85.8	14.2	0.0
Private	1,783	1,555	66	52.4	45.7	1.9

SOURCES: Educational Planning Division, Office of the Permanent Secretary, Ministry of Education; Office of the Teacher Civil Service Commission; and Office of Private Higher Education Institutions Division

TABLE 4 Teacher-Student Ratio and Percentage by Qualification Eligible for Subsidy

Requirements	Kinder-garten	Primar	Lower Secondar	Upper Secondar
1.Teacher-student ratio	1:25	1:30	1:25	1:20
2.Percentage of teachers by qualificaton				
Bachelor degree	-	-	50	60
Teaching certificate	-	50	50	40
Dip.Ed. (higher)	40	50	-	-
Dip.Ed.	60	-	-	-
3.Additional allowance (number of additional teachers eligible for subsidy)				
Principal	+1	+1	+1	+1
Administrative assistant	+1	+1	+1	+1
Librarian	-	+1	+1	+1
Accountant	-	+1	+1	+1
Registrar	-	-	+1	+1
Counselor	-	-	-	+1

SOURCE: Chutikul (1988), p.45

TABLE 5 Percentage of Teachers Eligible for Subsidy by Fee Level and School Level

Tution Fees		Percentage of Teacher to be Subsidized		
Academic Ye 1977 (Baht)	Acadamic Year 1985 onwards (Baht)	Kindergarte & Primary (%)	Lower Secondary (%)	Upper Secondary (%)
1000	1,000-1,600	10	15	20
900	900-1,600	15	20	30
800	800-1,600	20	30	40
700	700-1,600	35	45	50
600	600-1,600	50	60	60
500	500-1,600	60	70	70
400	400-1,600	70	80	80
300	300-1,600	75	85	85
200	200-1,600	75	85	85
100	100-1,600	75	85	85

SOURCE: Chutikul (1988), p.45

TABLE 6 Subsidy by Level of Qualification

Qualification	Subsidy (Baht per month)
Bachelor Degree in Education	2,765
Teaching Certificate (Secondary)	2,485
Higher Diploma in Education (or equivalent)	2,205
Teaching Certificate (Primary)	1,950
Diploma in Education	1,780
Diploma	1,470
Higher Vocational Certificate + Teaching Certificate	2,625
Vocational Certificate (6 year curriculum)	2,625
Higher Vocational Certificate	2,485
Higher School Certificate (MS 6) or Vocational Certificate	1,950
Higher School Certificate (acadamic stream)	1,255

SOURCE: Chutikul (1988), p.45

TABLE 7 Percentage of Private Schools Receiving Subsidies

Year	Total Private Schools (Academic Stream)			No. of Private Schools Receiving Subsidy			As % of Total Private Schools		
	Total	BMA	Other Provinces	Total	BMA	Other Provinces	Total	BMA	Other Provinces
1977	2,440	871	1569	2,240	734	1,506	91.8	84.3	96.0
1978	2,486	882	1604	2,334	840	1,494	93.9	95.2	93.1
1979	2,408	856	1552	2,288	840	1,448	95.0	98.1	93.3
1980	2,414	866	1548	2,207	755	1,452	91.4	87.2	93.8
1981	2,363	869	1494	2,191	760	1,431	92.7	87.5	95.8
1982	2,340	855	1485	1,819	597	1,222	77.7	69.8	82.3
1983	2,376	870	1506	1,725	525	1,200	72.6	60.3	79.7
1984	2,472	913	1559	1,711	530	1,181	69.2	58.1	75.8
1985	2,502	896	1606	1,675	520	1,155	66.9	58.0	71.9
1986	2,544	926	1618	1,626	480	1,146	63.9	51.8	70.8
1987	2,588	937	1651	1,595	460	1,135	61.6	49.1	68.7
1988	2,627	937	1690	1,562	440	1,122	59.5	47.0	66.4
1989	2,625	933	1692	1,512	405	1,107	57.6	43.4	65.4
1990	2,606	892	1714	1,495	392	1,103	57.4	43.9	64.4

SOURCES: Office of the Private Education Commission; and Educational Planning Division, Office of the Permanent Secretary, Ministry of Education

TABLE 8 Maximum Tuition and Fees for Private Schools with Subsidies and without Subsidies: Pre-primary, Primary and Secondary Education

Level of Education	1978	1979-81	1982-88	1989-90	1991
Pre-Primary Education					
With Subsidies	1,000	1,300	1,600	1,800	2,520
Without Subsidies	1,500	1,800	2,300	3,000	4,200
	(1,300)	(1,600)			
Primary Education					
With Subsidies	1,000	1,300	1,600	1,800	2,520
Without Subsidies	1,500	1,800	2,300	3,000	4,200
	(1,300)	(1,600)			
Lower Secondary Education					
With Subsidies	1,000	1,300	1,600	2,340	3,360
Without Subsidies	1,500	2,200	2,800	3,900	5,600
	(1,300)	(1,600)			
Upper Secondary Education					
With Subsidies	1,000	1,300	1,600	2,580	3,600
Without Subsidies	2,000	2,500	3,200	4,300	6,000
	(1,300)	(1,600)			

SOURCES: Office of the Private Education Commission; and Office of the National Education Commission

NOTE: Figures in parentheses are the maximum tuition and fees for the second and third class private schools

TABLE 9 Maximum Tuition and Fees for Vocational Private Schools

Type of Education	1975-81	1982-88	1989-90	1991
Vocational Certificate				
Home Economics	3,500	4,500	5,310	6,700
Agriculture	4,500	6,000	7,080	8,900
Arts & Craft	4,500	5,800	6,840	8,600
Commerce	5,000	5,500	6,410	8,200
Industrial Craftman	6,000	7,000	8,260	10,400
Technical Diploma				
Home Economics	-	4,500	5,310	6,700
Agriculture	-	7,500	8,850	11,100
Arts & Craft	-	5,800	6,840	8,600
Commerce	-	5,500	6,490	8,200
Industrial Craftman	-	9,000	10,620	13,300
Vocational Diploma				
Home Economics	-	4,500	5,310	6,700
Agriculture	-	7,500	8,850	11,100
Arts & Craft	-	5,800	6,840	8,600
Commerce	5,000	5,500	6,490	8,200
Industrial Craftman	8,000	9,000	10,620	13,300

SOURCES: Office of the Private Education Commission; and Office of the National Education Commission

TABLE 10 Tuition and Fees, and Recurrent Cost per capita of Public and Private Institution, 1984.

Level of Education	Tuition and Fees		Recurrent Costs per capita	
	Public	Private	Public	Private
Pre-Primary Education	132-432	2,300 (1,600)	2,843	n.a.
Primary Education	-	2,300 (1,600)	2,883	n.a.
Lower Secondary Education	370-690	2,800 (1,600)	3,088	n.a.
Upper Secondary Education	678-1,053	3,200 (1,600)	3,508	n.a.
Vocational Education				
Vocational Certificate	1,443-2,245	4,500-7,000	6,104-10,411	n.a.
Technical Diploma	3,352	4,500-9,000	6,104-10,411	n.a.
Vocational Diploma	1,490-1,640	4,500-9,000	6,104-10,411	n.a.
Higher Education				
MOE	1,545-1,705	-	9,816-9,435	-
MUA (Closed Univ.)	985-2,550	9,374	25,940	7,452

SOURCES: Office of the National Education Commission; Office of the Private Education Commission; and Private Higher Education Institutions Division

TABLE 11 Distribution of Public and Private Secondary-School Students by Parents' Occupation

	Population Distribution (%)	Student Distribution (%)			Student/Population Ratio			Selectivity Index (Farmer = 1.0)		
		Total	Public	Private	Total	Public	Private	Total	Public	Private
Professional	3.3	25.4	26.5	19.1	7.7	8.0	5.8	14.3	14.3	14.0
Commerce	9.5	20.0	20.0	19.7	2.1	2.1	2.1	3.9	3.8	5.0
Farmers	65.9	35.5	36.9	27.3	0.5	0.6	0.4	1.0	1.0	1.0
Production Workers	11.6	4.7	2.8	15.1	0.4	0.2	1.3	0.7	0.4	3.1
Others	9.7	14.4	13.8	18.8	1.5	1.4	1.9	2.8	2.5	4.7

SOURCE: Office of the National Education Commission

TABLE 12 Distribution of Public- and Private-University Students by Parents' Occupation

	Population Distribution (%)	Student Distribution (%)			Student/Population Ratio			Selectivity Index (Farmer = 1.0)		
		Total	Public	Private	Total	Public	Private	Total	Public	Private
Professional	3.1	26.6	27.4	24.6	8.7	9.0	8.1	54.3	55.1	52.6
Commerce	9.0	47.2	45.4	52.3	5.3	5.0	5.8	32.7	31.0	38.0
Farmers	68.5	11.0	11.2	10.5	0.2	0.2	0.2	1.0	1.0	1.0
Production Workers	10.4	1.2	1.3	0.7	0.1	0.1	0.1	0.7	0.8	0.4
Others	9.0	14.0	14.7	11.9	1.6	1.6	1.3	9.7	10.0	8.6

SOURCE: Office of the National Education Commission

TABLE 13 Number of Public- and Private-School Students in Bangkok Metropolis and Other Provinces

unit: thousand

Level of Education	1978						1988					
	Total		BMA		Other Provinces		Total		BMA		Other Provinces	
	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private
Pre-Primary Ed.	111	167	3	62	108	105	948	300	14	90	934	210
Primary Ed.	6,218	630	256	280	5,962	351	6,346	664	291	269	6,055	395
Lower Secondary Ed.	990	288	167	86	824	202	1,079	142	174	50	906	93
Academic	989	288	166	86	823	202	1,077	142	173	50	904	93
Vocational	2	0	1	0	1	0	3	0	1	0	2	0
Upper Secondary Ed.	280	157	71	75	209	82	676	186	115	94	562	92
Academic	168	49	45	10	123	39	486	40	83	13	403	27
Vocational	112	108	25	65	87	42	190	146	32	81	158	65
Higher Ed.	97	22	63	20	34	3	196	108	113	75	83	33
Vocational	40	6	21	6	19	0	88	49	29	25	59	24
Undergraduate and Higher	57	16	42	14	15	3	108	59	84	50	24	9

SOURCE: Educational Planning Division, Office of the Permanant Secretary, Ministry of Education

TABLE 14 Private-School Subsidies: 1977-1991

Year	No. of Private Schools Receiving Subsidy			No. of Teachers			No. of Students			Total Subsidies (Million Baht)		
	Total	BMA	Other Provinces	Total	BMA	Other Provinces	Total	BMA	Other Provinces	Total	BMA	Other Provinces
1977	2,240	734	1,506	50,881	19,680	31,201				339.1	88.3	250.8
1978	2,334	840	1,494	46,191	16,813	29,378				327.4	85.7	241.7
1979	2,288	840	1,448	43,651	15,889	27,762				366.3	123.6	242.7
1980	2,207	755	1,452	47,689	16,691	30,998				474.7	157.1	317.6
1981	2,191	760	1,431	44,534	16,149	28,385				535.6	169.5	366.1
1982	1,819	597	1,222	39,037	14,453	24,584				569.3	149.3	420.0
1983	1,725	525	1,200	38,251	14,080	24,171				615.4	173.1	442.3
1984	1,711	530	1,181	36,962	12,025	24,937				582.6	128.9	453.7
1985	1,675	520	1,155	34,681	9,460	25,221	827,605	-	-	603.1	167.9	435.3
1986	1,626	480	1,146	38,842	9,824	29,018	793,404	-	-	603.9	171.0	432.9
1987	1,595	460	1,135	34,952	9,599	25,353	808,082	244,891	563,191	606.8	169.9	436.9
1988	1,562	440	1,122	33,516	8,897	24,619	755,756	199,632	556,124	606.4	162.3	444.2
1989	1,512	405	1,107	33,713	8,633	25,080	762,992	195,663	567,329	603.4	172.6	430.9
1990	1,495	392	1,103	32,885	8,381	24,504	755,850	188,154	567,696	965.8	302.1	663.7
1991	1,465	375	1,090	27,741	7,530	20,211	797,273	184,745	612,528	1,340.9	327.8	1,013.1

SOURCE: Office of the Private Education Commission

PRIVATE VERSUS PUBLIC SCHOOLING IMPACT ON WAGE RATES

by

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สรุปสำหรับผู้บริหาร

ผลกระทบที่มีต่อค่าจ้างระหว่างผู้เรียนจบจากโรงเรียนราษฎร์และโรงเรียนรัฐบาล

เป็นที่กล่าวขวัญถึงกันอยู่เสมอในประเทศไทยและประเทศอื่น ๆ ก็คือ ใครควรจะเป็นผู้จัดหาบริการทางการศึกษาได้เหมาะสมกว่ากันระหว่างรัฐกับเอกชน สิ่งหนึ่งที่ได้มีการเสนอแนะให้พิจารณาก็คือ ข้อได้เปรียบและเสียเปรียบระหว่าง โรงเรียนราษฎร์กับโรงเรียนรัฐบาล ซึ่งมีการอ้างถึงความได้เปรียบเสียเปรียบของแต่ละระบบอยู่มากครั้ง แต่ก็ยังไม่สามารถที่จะหาข้อยุติจากการวิเคราะห์อย่างมีระบบมายืนยันให้ชัดเจน ถ้าเราไม่มีการควบคุมในข้อเท็จจริงที่ว่าโดยเฉลี่ยแล้วนักเรียนที่เรียนโรงเรียนเอกชนมีภูมิหลังที่แตกต่างจากนักเรียนที่เรียนโรงเรียนรัฐบาล ก็เป็นไปไม่ได้ที่จะทำให้ความสับสนของผลกระทบในการเข้าศึกษาในโรงเรียนแต่ละประเภทคลี่คลายไปได้

การศึกษาในอดีตซึ่งมีอยู่เป็นจำนวนไม่มากนักได้ใช้ความพยายามในการควบคุมทางเลือกในการเข้าเรียนในโรงเรียนแต่ละประเภทในประเทศไทย เช่น Jimenez, Lockheed และ Watanawaha (1988) ได้ทำการเปรียบเทียบผลกระทบของการศึกษาในโรงเรียนราษฎร์กับโรงเรียนของรัฐบาลที่มีต่อการยกระดับคะแนนในวิชาคณิตศาสตร์ของเด็กนักเรียนในระดับมัธยมศึกษาปีที่ 2 ผลการศึกษาพบว่านักเรียนในโรงเรียนเอกชนสามารถเพิ่มคะแนนโดยเฉลี่ยได้ดีกว่านักเรียนจากโรงเรียนรัฐบาลถึงร้อยละ 163 โดยใช้ข้อสอบคณิตศาสตร์มาตรฐานที่ได้จัดทำขึ้น และได้ควบคุมสิ่งแวดล้อมหรือภูมิหลังของนักเรียนที่ค่อนข้างจะได้เปรียบกว่าของโรงเรียนราษฎร์ นอกจากนั้นยังได้ประเมินต้นทุนต่อหน่วยของโรงเรียนราษฎร์ ซึ่งมีค่าใช้จ่ายเพียงร้อยละ 39 ของการให้บริการการศึกษาในโรงเรียนของรัฐบาล ดังนั้นจึงทำให้การกะประมาณต้นทุนต่อหน่วยของผลสัมฤทธิ์จากการศึกษาวิชาคณิตศาสตร์ในโรงเรียนเอกชนจึงเป็นเพียงร้อยละ 15 ของการให้บริการในลักษณะเดียวกับในโรงเรียนของรัฐบาล อย่างไรก็ตามผลที่ได้นี้ที่แท้จริงแล้วค่อนข้างจะท้าทาย เนื่องจากได้เสนอแนะให้รัฐบาลไทยควรจะได้มีการทบทวนนโยบายของรัฐที่ไม่ค่อยจะให้การสนับสนุนโรงเรียนราษฎร์เท่าที่ควร (เช่น การให้การอุดหนุนโรงเรียนใน สังกัดของรัฐบาลมากกว่าโรงเรียนราษฎร์เป็นต้น) นอกจากนั้นยังได้เสนอแนะให้มีการนำเอาวิธีการในทางปฏิบัติในการสอนนักเรียนและการบริหารจากโรงเรียนราษฎร์ไปใช้กับโรงเรียนรัฐบาล อย่างไรก็ตามการศึกษาในครั้งนั้นยังจำกัดอยู่แต่เพียงการศึกษาเกี่ยวกับผลสัมฤทธิ์ของการจัดการสอนวิชาคณิตศาสตร์ สำหรับนักเรียนมัธยมศึกษาปีที่ 2 เท่านั้น นอกจากนั้นยังมีคำถามในทางเทคนิคเกี่ยวกับการเลือกตัดสินใจเข้าศึกษาในสถานศึกษาทั้งสองแห่งที่แตกต่างกันอยู่

ในการศึกษาครั้งนี้ได้พยายามศึกษาในขอบเขตที่กว้างกว่าที่เคยจัดทำมาแล้วในอดีต ในการวัดผลกระทบของโรงเรียนราษฎร์และโรงเรียนรัฐบาลในประเทศไทย ที่มีต่อค่าจ้างของผู้ที่ออกจากระบบโรงเรียนแล้ว โดยได้ครอบคลุมมากกว่าการศึกษาในระดับมัธยมศึกษาตอนต้นที่ได้กล่าวมาแล้ว โดยใช้ข้อมูลจากการสำรวจแรงงานในปี ค.ศ. 1989 จากสำนักงานสถิติแห่งชาติ ซึ่งได้ชี้ให้เห็นว่าอัตราค่าจ้างของผู้ที่จบการศึกษาจากโรงเรียนราษฎร์นั้นสูงกว่าผู้ที่จบการศึกษาจากโรงเรียนรัฐบาล ถ้ายังไม่ได้ควบคุมภูมิหลังของผู้ที่จบการศึกษาจากสถานศึกษาแต่ละแห่ง แต่ผลการศึกษาดังกล่าวนั้นได้สะท้อนให้เห็นภาพจากข้อเท็จจริงที่ว่านักเรียนเหล่านั้น ได้รับการศึกษาจากโรงเรียนราษฎร์เป็นจำนวนปี โดยเฉลี่ยแล้วมากกว่านักเรียนที่เข้าศึกษาจากโรงเรียนของรัฐบาลถึง 4 ปี และเมื่อได้ควบคุมจำนวนปีที่ศึกษาที่แตกต่างกันของสถานศึกษาทั้งสองประเภทแล้ว แต่ยังไม่ได้ควบคุมภูมิหลังของนักเรียนแต่ละคน พบว่าการเลือกเข้าศึกษาในสถานศึกษาของรัฐหรือเอกชนมิได้มีผลกระทบอย่างมีนัยสำคัญต่ออัตราค่าจ้างของผู้จบการศึกษาแล้วแต่อย่างใด

อย่างไรก็ตาม เนื่องจากมีข้อมูลเสริมจากการสำรวจแรงงานในปี ค.ศ. 1989 ช่วยให้ทราบจำนวนบุตรของหัวหน้าครัวแต่ละคน ซึ่งมิได้อาศัยอยู่ด้วยกับครัวเรือน ทำให้สามารถศึกษาผลกระทบของทางเลือกในการเข้าเรียนในสถานศึกษาทั้งสองกลุ่มที่มีต่ออัตราค่าจ้างได้ ภายใต้การควบคุมลักษณะที่ไม่ปรากฏชัดเจน (Unobserved) ของภูมิหลังของนักเรียน ของครัวเรือน และของชุมชน (ตัวอย่างเช่น "ความสามารถ" และ "บทบาท" ตลอดจน "ผลตอบแทนที่คาดว่าจะได้รับจากทัศนะของครอบครัวและชุมชน") ที่จะเป็นตัวกำหนดช่วงเวลาในการเรียนและประเภทของโรงเรียนที่ให้การศึกษา การควบคุมที่กล่าวมานี้ขึ้นกับตัวแปร เช่น จำนวนนักเรียนที่มีประสบการณ์จากครัวเรือนประเภทเดียวกัน และมีลักษณะที่ไม่ปรากฏเด่นชัดของครัวเรือนและชุมชนประเภทเดียวกัน ผลการวิเคราะห์ตัวแปรที่กำหนดจำนวนปีที่เรียนหนังสือ และทางเลือกตัดสินใจระหว่างโรงเรียนรัฐบาลกับโรงเรียนราษฎร์ ชี้ให้เห็นข้อเท็จจริงที่ว่าปัจจัยด้านลักษณะของสิ่งแวดล้อมของชุมชน และลักษณะของครอบครัวที่ไม่ปรากฏเด่นชัด เป็นตัวแปรที่สำคัญกว่าตัวแปรที่แสดงลักษณะของชุมชนและครอบครัวที่เราสังเกตได้ตามปกติ (Observed) เช่น การศึกษาของพ่อแม่ ความมั่นคงและจำนวนครูต่อนักเรียนในระดับประถมศึกษาในท้องถิ่น ในการกำหนดการเข้าเรียนของนักเรียน ซึ่งเป็นการค้นพบที่สำคัญอย่างหนึ่งของการศึกษาครั้งนี้

แต่ที่จริงแล้วผลการศึกษาที่สำคัญที่สุดของการศึกษาในครั้งนี้ก็คือ การวัดผลกระทบของการเข้าเรียนในโรงเรียนราษฎร์และโรงเรียนรัฐบาลที่มีต่ออัตราค่าจ้าง ซึ่งได้ควบคุมปัจจัยในส่วนของลักษณะของปัจเจกบุคคลของชุมชนและของครอบครัวที่ไม่ปรากฏชัดเจน โดยได้กะประมาณจาก

จำนวนปีที่เข้าเรียนและทางเลือกในการเข้าเรียนจากโรงเรียนทั้งสองประเภท ลักษณะที่ไม่สามารถกำหนดได้ชัดเจน เหล่านี้ได้มีบทบาทอย่างมีนัยสำคัญในการกำหนดอัตราค่าจ้างของเด็กที่ได้จบการศึกษาไปแล้ว เพราะเมื่อได้ควบคุมปัจจัยต่าง ๆ ดังกล่าวมาแล้วทำให้เกิดความแตกต่างเป็นอย่างมากในการกะประมาณผลกระทบที่มีต่ออัตราค่าจ้าง หลังจากที่นักเรียนได้จบจากโรงเรียนราษฎร์และโรงเรียนรัฐบาลไปแล้ว ถึงแม้ว่าจะไม่มีความแตกต่างอย่างมีนัยสำคัญในการประมาณผลกระทบของจำนวนปีที่ศึกษาก็ตาม นั่นคือผลกระทบของการกะประมาณอัตราค่าจ้างจากนักเรียนที่เคยเข้าเรียนในโรงเรียนราษฎร์ เมื่อได้ควบคุมลักษณะต่าง ๆ ที่ได้กล่าวมาแล้วจะมีค่าสูงกว่ากรณีที่ไม่ได้ควบคุมปัจจัยต่าง ๆ ดังกล่าว (อย่างมีนัยสำคัญทางสถิติ) ถึง 30 เท่า

ดังนั้นเมื่อได้ควบคุมปัจจัยเกี่ยวกับทางเลือกในการตัดสินใจเข้าเรียนและมิติเกี่ยวกับการเจาะจงเลือก (Selectivity) อัตราค่าจ้างในตัวอย่างที่ศึกษาก่อให้เกิดผลกระทบเป็นอย่างมากต่อการกะประมาณผลกระทบของโรงเรียนเอกชนที่มีต่อค่าจ้าง ผลการกะประมาณที่ได้เลือกแล้วชี้ให้เห็นว่าการศึกษาในโรงเรียนเอกชนมีผลอย่างสำคัญยิ่งต่ออัตราค่าจ้างที่เพิ่มขึ้นเป็นอย่างมาก ซึ่งผลที่ได้นี้อาจจะไม่ชัดเจนถ้าไม่ทำการควบคุมปัจจัยต่าง ๆ ที่ได้กล่าวมาแล้ว ผลการศึกษาครั้งนี้จึงมีความสอดคล้องกับการศึกษาเกี่ยวกับผลของความสัมฤทธิ์ผลของการศึกษาวิชาคณิตศาสตร์ที่ได้เคยทำการศึกษามาแล้ว โดย Jiminez, Lockheed, และ Watanawaha (1988) ในแง่ที่ว่าโรงเรียนเอกชนนั้นมีประสิทธิภาพมากกว่าโรงเรียนของรัฐบาล ในการวัดผลสัมฤทธิ์ของนักเรียนที่เรียนวิชาคณิตศาสตร์ในชั้นมัธยมศึกษาปีที่ 2

จากการศึกษาครั้งนี้จึงได้ให้ข้อเสนอแนะว่าการที่จะปรับปรุงประสิทธิภาพทางเศรษฐกิจ (โดยวัดจากอัตราค่าจ้าง) โดยการกำหนดนโยบายในลักษณะต่าง ๆ ที่เอื้ออำนวยต่อการขยายตัวของโรงเรียนรัฐบาลมากกว่าโรงเรียนราษฎร์ เช่นการให้การอุดหนุนต่อโรงเรียนรัฐบาลค่อนข้างสูงเป็นต้น จึงถือได้ว่าเป็นนโยบายที่ค่อนข้างจะบิดเบือนจากข้อเท็จจริง นอกจากนั้นแล้วจากผลการศึกษายังให้ข้อเสนอแนะว่าถ้าได้อาศัยประสบการณ์ในอดีตที่เอกชนได้จัดบริการการศึกษาจนประสบผลสำเร็จมาแล้ว มาใช้ในการจัดระบบการศึกษากับโรงเรียนในสังกัดของรัฐบาลบ้าง โดยเลือกเฉพาะส่วนที่ดีและมีประโยชน์ก็จะสามารถเพิ่มประสิทธิภาพให้กับโรงเรียนรัฐบาลได้อีกมาก

EXECUTIVE SUMMARY
Private Versus Public Schooling Impact on Wage Rates

An ongoing debate in Thailand and in many other countries is how to organize the provision of schooling. One dimension of this debate concerns the relative advantages of private versus public schools. There have been numerous claims about the relative merits of each, but almost no systematic analysis that controls for the choice element regarding private versus public schools. If there is not control for the fact that, on the average, students who attend private schools have different backgrounds than those who attend public schools, it is not possible to disentangle the impact of the type of school that a student attended from the background of that student.

One of the few previous studies that does attempt to control for the private versus public school choice is for Thailand. Jimenez, Lockheed, and Watanawaha (1988) compare the impact of private versus public schools on improvements in mathematics scores by Thai eighth graders. They find that private school students have 163 per cent greater gains on standardized math examinations, even with control for the more advantaged backgrounds of private school students. They also estimate that unit costs of private schools are only 39 per cent of those of the public schools. Therefore the cost per unit gain in mathematics achievement scores in private schools is only 15 per cent of that for public schools. These results are provocative indeed. They suggest that the Thai government should reconsider policies that discriminate against private schools (including greater subsidies to public than to private schools) and explore whether useful practices for teaching and administration can be adopted from private schools for use in public schools. However this study is limited to gains in mathematics scores for the eighth grade, and there is a technical, but possibly important, question regarding their control for selectivity into private versus public schools.

The present study investigates the impact of private versus public schools in Thailand on a much broader and more important outcome than eighth grade math scores: post schooling wage rates. The 1989 Labor Force Survey that is used indicates that wage rates are higher for private school graduates than for public school graduates if there is no control for backgrounds of students, but this difference appears to reflect in substantial part the fact that students who attended private schools averaged about four more years of schooling than did students who attended public schools. Estimation of a wage relation which controls for the number of years of school, but not for the students' background, suggests that there is no significant impact of the private versus public school choice on adult wage rates.

However, the supplementary information in the 1989 Labor Force Survey on children of the household head who are not co-resident with the household head permits exploration of the impact of the private-public school choice on wage rates with control for the unobserved individual, household and community characteristics (e.g., "abilities," "role models," "expected returns based on family or local community experience") that determine the length and type of schooling. These controls are based on the observation, for example, that all of the children in the same family experience the same unobserved family and

community characteristics. Estimates of the determinants of years of schooling and of the public-private school choice, in fact, indicate that unobserved community and family characteristics are more important in determining children's schooling than are the usually observed family and community characteristics such as parental schooling and wealth and teachers per student in local primary schools. This is one important result of the present study.

But the most important result of the present study concerns what happens to the estimated impact of public versus private schooling on wage rates with control for unobserved individual, family, and community characteristics estimated from the years of schooling and private-public school choices. These unobserved characteristics have significant roles in the determination of post-schooling adult wage rates. Control for such features makes a substantial difference in the estimated wage impact of the private-public school choice, though not a significant difference in the estimated impact of years of schooling. With the control for these factors, the estimated impact of private schools on wage rates is about 30 times larger than without such control, and is highly significant statistically.

Thus control for the choice element in the schooling decision and the selectivity dimension regarding observing wage rates in our sample has a large impact on the estimated impact of private schooling on wage rates. The preferred estimates suggest that private schools have an important and substantial positive effect on wage rates that is obscured if there is not such control. This large impact reinforces the much more narrow results of Jimenez, Lockheed, and Watanawaha (1988) regarding the greater effectiveness of private than of public Thai schools in increasing eighth grade mathematics scores. It suggests that there is not an efficiency justification in terms of subsequent economic productivity as measured by adult wage ares of favoring public over private schools by various policies, as now is the case, for example in the distribution of subsidies. They also suggest that important lessons regarding the organization of schooling and the supply of schooling services might be learned for the public school system by more careful investigation and emulation of the private schools.

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PRIVATE VERSUS PUBLIC SCHOOLING IMPACT ON WAGE RATES

1. INTRODUCTION

An ongoing debate in Thailand and in many other countries is how to organize the provision of schooling.[1] One dimension of this debate concerns the relative advantages of private versus public schools. There have been numerous claims about the relative merits of each, but almost no systematic analysis that controls for the choice element regarding private versus public schools.

One of the few studies of which we are aware that does attempt to control for the private versus public school choice is for Thailand. Jimenez, Lockheed, and Watanawaha (1988)[2] explore the relative efficiency of private and public schools in Thailand with regard to the effect on improvements in mathematics scores by eighth graders. They find that private school students tend to have 163 per cent greater gains on standardized math examinations, even with control for the fact that private school students come from more advantaged backgrounds than the public school students.[3] Their preliminary evidence suggests, further, than unit costs of private schools are only 39 per cent of those of the

1. For recent broader surveys of this debate in developing countries, see Haddad, Carnoy, Rinaldi and Regel (1990), Hanushek and Harbison (1990), Jimenez (1990), King and Hill (1991), and Lockheed and Verspoor (1991).
2. This study is also summarized in Jimenez, Lockheed, and Paqueo (1991), together with four other similar studies for developing countries.
3. However it appears that their control for selectivity regarding the type of school depends on exactly the same variables that are in their estimated relation, which means that it is identified only by functional form, which is not very satisfactory.

public schools. The greater productivity and lower unit costs of private schools together imply that the cost per unit gain in achievement scores is only 15 per cent of that for public schools. Their data permit the comparisons of some teacher and student characteristics; in private schools teachers have lower initial qualifications for teaching math, but spend more time in in-service training, teaching enriched math classes, maintaining order, and on tests, and students per class are about five per cent larger.

These results are provocative indeed. They suggest that the Thai government (as well as other governments) should reconsider policies that discriminate against private provision of schooling (including greater subsidies to public than to private schools) and explore whether useful practices for teaching and administration can be adopted from private schools for use in public schools. However, their study is limited to gains in mathematics scores for the eighth grade, and there is a technical, but possibly important, question regarding their control for selectivity into private versus public schools.[4] They also do not provide direct information on the relative merits of private versus public schools with regard to broader and more important outcomes, such as wages or other measures of productivity.[5] Therefore, while this study is provocative, it is hardly conclusive.

Estimated wage functions for Thailand and for other countries typically treat schooling and related variables, such as private versus public schooling, as predetermined. But the logic of the human capital model, as well as casual observations regarding real-life behavior, suggests that such schooling decisions are made simultaneously with expected wages in light of individual characteristics, such as ability and motivation (and expected labor market conditions and other factors).

Most data sets do not permit treatment of the determinants of duration and type of

4. See the previous note.

5. Ammar Siamwalla, for example, suggested in a private conversation that private schools in Thailand have a reputation for being relatively focused on rote learning of a type that may lead to relatively great improvements on the mathematics tests that are given, but that may not be reflected in similar gains in other dimensions of learning.

schooling as being dependent on expected labor market effects of those choices because they do not have data on childhood situations, including family background. A few studies do instrument schooling with variables such as parental education and occupation, but that does not eliminate the problem of controlling for individual ability, and we are not aware of any such studies that investigate the effects of private versus public schools.

Very few studies attempt to control for such usually unobserved (by researchers) characteristics as ability and motivation using latent variable representations (e.g., Behrman, Hrubec, Taubman, and Wales 1980; Chamberlain and Griliches 1975, 1977; and only Behrman and Wolfe 1987a and 1991 for developing countries to our knowledge), adult sibling data to control for shared childhood background (Olneck 1987; only Behrman and Wolfe 1984, 1987b, 1989 and Wolfe and Behrman 1986, 1987 to our knowledge for developing countries), or with some measures of ability (only Boissiere, Knight, and Sabot 1985, Glewwe 1990, and Behrman, Ross, Sabot, and Tropp 1991 to our knowledge for developing countries). Most of these studies suggest that such controls make a great deal of difference in the estimated impact of schooling on wages (though not so much in Chamberlain and Griliches, perhaps because of the somewhat peculiar samples that they use). But to our knowledge, no studies of wage determination in Thailand or elsewhere control for the simultaneity of the private versus public school choice.

The primary contribution of this study is to investigate the impact of schooling and of the private-public choice on wages with control for the unobserved individual, household and community characteristics (e.g., "abilities," "role models," "expected returns based on family or local community experience") that are part of the determinants of the length and type of schooling. Comparison with standard estimates (i.e., without such controls) indicates to what extent the standard estimates may be biased with regard to their implications for the impact of schooling and private versus public schooling on wage rates.

There is also a considerable literature on the determinants of schooling itself, which tends to find that parental characteristics such as education and income are significant factors, sometimes with quite large effects (e.g., Birdsall 1980, 1985; Behrman and Wolfe 1984b; King and Lillard 1987; Knight and Sabot 1990 are but a few examples for

other developing countries, with Behrman and Sussangkarn 1989 and Sussangkarn et al 1991 being examples for Thailand). Such results are interpreted to mean intergenerational mobility is low since parental background plays a big role. They also are interpreted to mean that one important impact of parental (particularly maternal) schooling is to increase child schooling (with an interesting intra gender, intergenerational effect found in some societies by King and Lillard 1987 and King and Bellew 1988). There are relatively few studies that estimate the determinants of schooling with control for ability through latent variables (e.g., Behrman, Hrubec, Taubman, and Wales 1980), sibling differences (e.g., Wolfe and Behrman 1986, Olneck 1977, with the former for a developing country), or test scores for ability (Alderman, Behrman, Ross, and Sabot 1991; Behrman and Lavy 1991, and Glewwe and Jacoby 1991 for developing countries). We know of no studies beyond the five that are summarized in Jimenez, Lockheed, and Paqueo (1991) that investigate the determinants of the private-public choice for developing countries.

A second contribution of this study is to estimate the determinants of schooling and of the private-public choice with control for unobserved (by researchers) family and community factors related to such variables as ability, motivation, and the extent to which home and community environments are supportive of schooling investments. Comparisons with the standard estimates (i.e., without such controls) are illuminating regarding how important are the effects of such unobserved family and community factors in comparison with the effects of observed variables such as parental schooling and assets and community teachers per student.

To explore these issues, we undertake individual, family and community estimates with a special data set, the 1989 Thai Labor Force Survey with its supplementary information on all children of the household head living outside of the household and on household assets. This data set permits us to develop and to implement a procedure for controlling for unobserved family and community characteristics in schooling choices, and for unobserved individual, family, and community characteristics in wage determination. Since our estimation procedure relies heavily on these special data, we first describe the data, then present our model, and finally present and interpret our results.

2. DATA

The Thai Labor Force Survey (LFS) normally asks fairly standard questions related to labor market behavior and outcomes for all household members older than 10 resident in sample households. For the first round of the 1989 survey, TDRI co-operated with National Statistical Office in the collection of a set of supplementary questions. These include a complete fertility roster for women of childbearing ages; information on the schooling, location, occupation, and remittances for children who are not residing in the household; and measures of household assets for the sample households. The special data on children who are not resident in the household are essential for our analysis in this study because we focus on the children of household heads, and those adult children who live with their parents may be a selected sample, despite the relative frequency of such living arrangements for young adults in Thailand in comparison with societies such as that in the United States.

The sample for the estimation of all but the wage relations is all households in the 1989 first round LFS in which there are two or more children of the household head who have completed school (as is indicated by not being in school any longer at the time of the survey). There are 4,216 households with 14,215 children with usable data in this sample, with an average age of 25 years for the included children.[6] We use this sample to estimate the determinants of years of schooling, private versus public schooling, and unobserved individual, family, and community fixed effects. Since this sample includes children, whether or not they are co-resident with their parents, there is not a selectivity bias in these estimates due to the decision regarding co-residence with their parents.

For the wage relation, the sample is the subset of this sample for whom wages are reported (which means children who still live in the household of their parents and who are employees, given that the LFS collected wages only for residents of the sample households). This subsample includes 1,884 children. This subsample presumably is selected on the bases of unobserved individual, family and community characteristics that

6. As we indicate in Tables 2-4, for some of our estimates there are slightly fewer observations because of a relatively small number of missing observations for some included variable(s).

led to some adult children living in their parents' household and receiving wages. However, by using the unobserved individual, family, and community fixed effects estimated from the schooling determination relations, we can control for this selectivity, as well as the selectivity involved from using households that have at least two children who have completed schooling (see Section 3 below for further discussion).

We now turn to the sample characteristics of the basic data that we use for our analysis. Table 1 gives basic statistics for our sample, with the top part referring to all individuals in the sample and the second part referring to those in the wage subsample. All the statistics in this table, as well as in the regressions presented in the tables below, are weighted with the weights given in the LFS. We discuss first our dependent variables, and then the right-side variables.

The first dependent variable for our full sample is years of completed schooling, which has a sample mean of 6.4 years, with considerable variance. For the wage subsample, the mean is 7.4, suggesting selectivity into this sample on the basis of observed schooling. Though Thailand long has had a relatively literate population, in comparison with the international experience, its recent schooling enrollment rates have been relatively low at the primary and the secondary levels (though not recently at the tertiary level).[7] For this reason, Sussangkarn (1990) and other commentators have been concerned about the

7. Behrman and Schneider (1991) compare the Thai values for expected years of schooling for synthetic cohorts and for enrollment rates with the international experience for 1965 and 1987 and for the changes between those two years. The right-side variables in the regressions that are used to characterize the cross-country experience are nonlinear functions in income and the adult male and female literacy rates (which can be given an interpretation of representing inversely the relative price of school staff). The regressions for 1965 suggest that Thailand had relatively low school enrollment rates and expected years of schooling for a synthetic cohort if the adult literacy rates are included in addition to income because it had relatively high stocks of literate adults and therefore low prices of skilled labor to staff schools. If only income (and not adult literacy rates) is controlled, however, Thailand had relatively high primary and secondary (though not tertiary) enrollment rates and expected years of schooling. The primary enrollment rates and therefore the expected years of schooling were relatively high for females, so the gender gap was relatively small. The regressions for 1987 suggest that Thailand was below the cross-country primary and secondary enrollment and expected years of schooling experience, though above for tertiary enrollments. With regard to the changes between 1965 and 1987, Thailand was above the cross-country experience for primary and (especially) tertiary enrollment rates, but below the cross-country experience for secondary enrollments and expected years of school. Thus, in comparison with the cross-country experience in these two decades, Thailand had small total increases in schooling investment and a shift towards tertiary and away from secondary investments.

possibility that the limited schooling of the Thai population, particularly at the secondary level, may be a severe constraint on the ongoing transformation of the Thai economy.

The second dependent variable for our full sample refers to the public-private school choice. Within our full sample, 5 percent completed their schooling in private schools. Within the sample with wages, the percentage is 8.7, again suggesting selectivity with regard to this aspect of schooling characteristics in this subsample. On the average, those who attended private schools have more years of school (11.2 versus 7.1 years in the wage subsample).

The third dependent variable is the wage rate, which is available only for a subsample as we discussed above. This variable includes both wages in money and in kind, adjusted on a monthly basis to avoid confusing hours worked with the wage rate per hour. The mean monthly wage in Baht for those attending private schools is 2,984, as compared with 1,798 for those attending public schools, with considerable variance for both. This comparison may suggest that private schools are more effective in producing higher wage graduates. But, of course, it does not control for the substantially greater years of schooling on the average for those who attended private schools (noted above), nor for the choice elements in attending private versus public schools and in having wages reported in the data set.

The right-side variables include individual, family, and community variables.

The individual variables are sex and age. In the overall sample, 48 per cent are males, as compared with 59 per cent in the wage subsample. This suggests selectivity on sex for co-residing with parents and participating in the wage labor force. In the overall sample, the mean age is 24.7 years, as compared with 22.9 years in the wage subsample. Therefore, there apparently is selectivity with regard to age for the latter subsample, probably because of the inverse association of co-residence with age.

There are nine household variables. Mean years of schooling for fathers and mothers are 3.7 and 3.0 years, suggesting higher enrollments for males than females in the

relevant time periods (though the estimates in Behrman and Schneider 1991 suggest a relatively small gender gap in Thai school enrollments in comparison with the international experience). Mean ages of fathers and mothers at the time that the child was 12 are 43.5 and 40.4 years. At the time of the 1989 LFS, 28 percent of fathers and 2 percent of mothers were not present in the household, 29 percent of households were female headed,[8] and 59 per cent of household heads received their income primarily from agriculture. The household asset variable averaged 43,000 Baht, with substantial variance. This variable is based on the total value of assets owned by the household as reported in the survey.[9]

There are two community variables. The first is the parental household residing in a municipality. The vast majority -- 89 percent -- do not, reflecting the still dominantly rural distribution of the Thai population, despite rapid population growth in recent years in the Bangkok region. The second community variable is the ratio of teachers to students in public primary schools at the time that the individual child was 12 years old.[10] Once again, there is considerable variance within the sample. The source for this variable is unpublished data from the Ministry of Education which we matched with household location for the year when the child was 12.

8. If the male in the couple that heads the household is present and not disabled, the convention in the LFS is that he is listed as the household head. Therefore almost all female-headed households do not have male spouses present (less than three per cent of them do in the LFS).

9. These data are for the time of the survey, which is after the time that marginal schooling decisions were made by varying numbers of years depending on the ages of individual children. Therefore, we explored the relation between household assets and ages of the household head and the spouse, and whether the household is female-headed, with the intent of deriving adjustments for life-cycle and marital status changes that occurred since the children were of school age. However, we found virtually no significant patterns (e.g., the unadjusted R^2 is less than 0.01), so we did not undertake such adjustments.

10. Thus, though this is a community variable, it also is related to individual characteristics since it depends on when the child was 12 years old.

3. MODEL

Of primary interest in this study is the estimation of the impact of private versus public schooling on wage rates. That is, we wish to estimate the coefficient of the variable "PRIVATE" in a ln wage relation such as:[11]

$$(1)\ \ln W = a_0 + a_1 S + a_2 \text{PRIVATE} + a_3 I^o + a_4 I^u + a_5 F^u + a_6 C^u + v,$$

where
W is the wage rate;
S is the years of schooling;
PRIVATE is a dichotomous variable with a value of one if school was private and zero if it was public;
I^o is a vector of observed individual characteristics, in particular sex and a quadratic in age;
I^u represents unobserved individual characteristics, such as ability and motivation, that differ from mean unobserved family characteristics;
F^u represents unobserved family characteristics related to ability and motivation;
C^u represents unobserved community characteristics related to ability and motivation; and
v is a disturbance term that is distributed independently of the right-side variables in this relation.

This specification starts with the standard variables for such relations. Schooling enters in linearly in the ln wage relation; its coefficient can be manipulated to obtain an estimate of the private rate of return to time spent in school under Mincerian (1974) assumptions. The quadratic in age (or in a post-schooling variable calculated by subtracting years of schooling plus pre-schooling years from current age) is standard in such relations because of life cycle patterns in wage rates due in part to patterns of on the job training (also see Mincer 1974). The dichotomous variable for the sex of the individual allows for the possibility that the wage rate differs proportionately by sex,[12] a result found for a number of societies (e.g., Birdsall and Sabot 1991, Oaxaca 1973). The private school variable is included to explore whether there is an effect of attending private versus public

11. We actually estimate other specifications as well, in which PRIVATE interacts with years of schooling and a quadratic in age, but the basic point remains the same as in this simpler specification.
12. A linear shift in the ln wage relation implies a proportion shift in the wage.

schools. We include it in relation (1) so that this effect shifts the wage proportionately, but we also explore interactions with years of schooling and with the quadratic in age.

The other variables that are indicated on the right side of relation (1) typically are unobserved and are not included in actual estimates of this relation (though there are some exceptions to this statement, particularly with regard to indicators of ability, noted in the introduction). They pertain to unobserved (by researchers and policymakers) individual, family and community characteristics, such as ability and motivation, that would seem to affect productivity and wage rates, as well as selectivity regarding for whom wage rates are observed.

Our primary interest in this study is in obtaining an unbiased estimate of the impact of private schooling on wage rates. However the usual estimation of relation (1) by ordinary least squares (OLS) procedures is not likely to yield unbiased estimates of the impact of private schooling on wage rates -- nor, for that matter, of the impact of years of schooling on wage rates. The problem is that the unobserved individual, family and community characteristics that enter into the right side of relation (1) are likely to be correlated with years of school and with the private-public school choice since they are likely to be among the determinants of those outcomes (see relation 2 below), and of the selectivity regarding wages being in the sample. These unobserved characteristics are not controlled in OLS estimates. Therefore, the disturbance term for such estimates is $a_4 I^u + a_5 F^u + a_6 C^u + v$, which is not independent of schooling and the private-public schooling choice. Thus the basic assumptions for OLS estimates to be unbiased are violated. In OLS estimates, the schooling and the private versus public schooling choice variables have biased coefficient estimates since these variables effectively partially proxy for the omitted unobserved individual, family and community variables due to selectivity and simultaneity.

In this study, we develop a procedure to use the data that are described in Section 2 to obtain unbiased estimates of the impact of the private versus public school choice and years of school, as well as of the unobserved individual, family and community characteristics, on the wage rate. To do so, we need to begin with relations that determine the years of schooling and the private-public school choice. Consider a set of reduced-form

relations of the following form:

$$(2)\quad Y = b\,F^{O} + c\,I^{O} + d\,C^{O} + f\,F^{U} + g\,I^{U} + h\,C^{U} + e,$$

where Y is a vector of two endogenous observed outcomes: schooling attainment (S) and private or public schooling (PRIVATE);
F^{O} is a vector of observed family background variables, such as schooling, parental age when the child was 12, whether the household is agricultural, and household assets;[13]
C^{O} is a vector of observed community characteristics for the community in which the child of interest was of school age, such as whether it was a municipality and teachers/students in public primary schools;
e is a vector of random disturbances with the usual desirable characteristics; and
b-h are parameter vectors to be estimated.

These relations basically imply that a set of predetermined individual, family and community characteristics determine, at a first approximation in a linear relation, the years of schooling and the private-public schooling choice.

Our estimation procedure involves the following steps. First, we estimate alternative versions of relation (2) for the determination of years of schooling and of the private-public schooling choice:[14]

i) Family deviation estimates: Family deviation estimates use the deviation of family

13. Some might be tempted to include number of siblings or birth order in this relation. But the former raises another question of endogeneity if the parents made a quality-quantity choice when they decided how many children to have, and what schooling they should have. And the birth order observed for any individual is mechanically related to number of siblings, so it suffers from the same problem.

14. The private-public choice in the individual estimates is a dichotomous variable. In the family deviation and the community deviation estimates it may take on a number of values between one and minus one. Therefore, OLS estimates for the coefficient estimates in the private-public choice probably are inefficient because of the nature of the distribution of the dependent variable, but they are consistent. We have estimated logits for the individuals estimates, and they are quite similar to the linear probability model estimates.

means from community means for all of the variables where the community of parental household residence is the relevant community. The unobserved individual components are averaged out to obtain the family means. The subtraction of community means eliminates unobserved community characteristics. Therefore, these estimates control for unobserved individual and community characteristics. The residuals from these estimates are estimates of the unobserved family effects.

ii) Community mean estimates: The community mean estimates use community means for all the variables. Both the unobserved individual and the unobserved family components are averaged out to obtain the community means. Therefore, these estimates control for unobserved individual and family characteristics. The residuals from these estimates are estimates of the unobserved community effects.

iii) Individual estimates with control for estimated unobserved family and community characteristics: These estimates use the unobserved family and community characteristics from steps (i) and (ii) to control for these factors in the individual estimates. The residuals from the estimated relations in this step are estimates of the unobserved individual effects. The estimates in this step also give the decomposition in observed schooling attainment and private-public choices among observed and unobserved individual, family and community characteristics.

iv) Standard individual estimates: These estimates can be compared with those in step (iii) to address the second major concern in the introduction above: How important are family and community backgrounds in the variances in schooling attainment and the private-public school choice if there is control for unobserved as well as observed family and community characteristics?

Next we estimate variants of the wage determination relation (1):

i) Standard estimates: These estimates can be compared with the ln wage estimates in steps (ii) and (iii) below to address our primary concern regarding whether control for the choice element of schooling attainment and of private versus public schooling and for

selectivity in having wages reported in the sample affects substantially the estimated impact of these schooling variables on wage rates.

ii) Control for unobserved individual, family and community factors: These estimates use the estimated unobserved family, community and individual characteristics from steps (i) - (iii) of the estimates of relation (2) for schooling attainment and the private-public schooling choice to control for these factors in the wage rate regression. This estimated relation gives the estimated impact of schooling attainment and of private schools without biases due to unobserved individual, family and community effects in the disturbance term. Such estimates address our primary concern about what is the effect of private schooling on wage rates with control for the endogenous nature of that choice, including the selection processes for being included in the subsample for which wages are observed.[15] They also provide the bases for decomposing the variance in observed ln wages among observed variables such as schooling attainment and private schools and unobserved individual, family and community characteristics.

iii) Control by using simultaneous estimates: These estimates use the predicted values from the estimates of relation (2) in alternative (iv) as the right-side variables in the estimation of relation (1) for fairly standard simultaneous estimates. As we discuss in Section 4.3 below, the LFS does not provide information to permit standard selectivity control estimates.

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15. This observation that fixed effects procedures may control for selectivity has been made by others. For example, Heckman and Macurdy (1980) state: "The similarity of the estimated fixed effects and the structural coefficients for the unconditioned and the conditioned systems suggest that the sample selection bias that might arise in estimating equations on samples of women who have worked at least once does not appear to be an empirically important phenomenon in hours of work and wage functions once fixed effects are introduced into labor supply and wage equations." For another example, Pitt and Rosenzweig (1990) state: "A second advantage (in addition to reducing the number of parameters that they estimate in their model) of a fixed effects procedure is that differencing eliminates the sample selection problem. Given a selection rule, the residuals ... can be rewritten as the sum of residuals having zero mean and another term which adjusts for the truncation of the distribution of behaviors. As is well known, in the case of normality, this term is proportional to the Mills ratio.... The important point is that the term which adjusts the residual for its truncation is household-specific.... These additive adjustment terms vanish when household member type equations are differenced...."

4. ESTIMATES AND INTERPRETATION

We discuss in turn our estimates of the determinants of years of schooling, the private-public schooling choice, and wage rates.

4.1 Years of Schooling

Table 2 gives the four alternative estimates of the determinants of years of schooling that are discussed in Section 3. The first two estimates enable us to obtain residual estimates of unobserved family and community effects, respectively. These then are included in our preferred individual estimates, as presented in the third column. For comparison, the fourth column gives standard individual estimates without the residual measures of unobserved family and community effects. We consider the estimated impact of the three groups of right-side variables, with emphasis on the preferred estimates in the third column.[16]

Individual characteristics: Age has a small significantly negative impact on years of schooling[17] -- the estimates imply that a 20 year age differential accounts for a difference of a tenth of a year of completed schooling. This variable presumably is representing dimensions of the secular increase in Thai schooling that are not represented by other observed variables, such as parental schooling, assets, and movements out of agriculture and into municipalities. Being female is associated with about a half year less completed schooling for individuals. It also is interesting to note that the effect is of the same order of magnitude for families within communities that have relatively high proportions of females

16. The procedure for calculating the family and community unobserved effects assumes that such effects are orthogonal to the observed family and community characteristics, respectively. Therefore, their inclusion in the individual estimates does not change significantly the estimated impact of the observed family and community variables from what they are in column four without controls for the family and community unobserved effects.
17. But note that in the mean community estimates, age has a significantly positive coefficient estimate. This probably reflects that communities with higher levels of development including more and better schools have had faster population decline and therefore have an older age distribution of children.

among their children. That is, the estimates suggest such an effect on female schooling independent of the sex composition of siblings, so this is not just an effect of shifting resources from daughters to sons in families that have both.

Family characteristics: Both father's and mother's schooling have significantly positive effects on the individual's schooling, implying about a quarter to a third more child schooling for every additional year of schooling of either parent. These effects are of the same order of magnitude. But, in contrast to substantial literature that claims that mother's schooling is more important in determining child outcomes than father's schooling,[18] the estimated effect of father's schooling is significantly larger (33 percent larger, with $t = 5.8$ for the difference). Both father's and mother's age when the child was 12 have significantly positive effects on the child's years of schooling, with a 10 year older father implying about an additional third of a year of schooling (and about half that much for mother's age). These results probably reflect the combination of additional parental maturity and of increasing income over the first decades of the adult life cycle, together with liquidity constraints.[19] The impact of the father's characteristics, once again, is greater (with a significant difference, $t = 4.2$) than that of the mother's.

Among the three variables referring to father and mother being present and the household being female-headed at the time of the 1989 LFS, both father present and mother present have significantly nonzero coefficient estimates. Since these two variables basically adjust for the mean years of schooling and parental ages when the child was 12 for

18. Recent surveys of this literature are provided in Behrman (1990c, 1991), King (1990), King and Hill (1991), and Schultz (1989, 1990b, 1991).

19. This interpretation is clearer for father's than for mother's age when the child was 12 in light of the estimates in the first column for family deviations from community means. In the first column, the estimate for father's age is basically the same as in the individual estimate. But that for mother's age is twice the magnitude and opposite in sign. This suggests that, in the individual estimates, mother's age is partly representing that mothers who are older at the birth of their children tend to be in communities in which the incentives and the options for schooling investments are greater.

missing parents, the negative effects are to be expected. That the effect is significantly greater for father's presence (t = 4.8) is consistent with there being a significantly greater impact of father's schooling and age, as discussed above.

Families with agriculture as the primary source of income average about three-fifths of a year less for the completed schooling of their children. This probably reflects a combination of less schooling being available and the opportunity cost of children not working in order to attend school being higher.

Family assets have a significantly positive effect on children's schooling. This suggests that there are capital market imperfections associated with family income that affect schooling investment,[20] or in part schooling satisfies consumption rather than investment demands. This effect, however, is not very large. For example, it implies that doubling household assets at the sample mean would increase the children's schooling by only a fifth of a year.

Thus a number of family characteristics that are observed in the Thai 1989 LFS have important effects that seem plausible on their children's years of schooling. But what may be the most striking part of the estimates in column three is the much larger role played by unobserved family characteristics. The estimates in column three are consistent with over three times as much of the variance in years of schooling among children than are those in column four, primarily because of the important role of unobserved family factors (though partly because of the much smaller role of unobserved community factors). A one standard deviation in these unobserved family factors is estimated to increase the children's years of schooling by 2.3 years. Thus, there are important intergenerational links within the family that go far beyond the positive associations with variables that usually are observed, such as parental schooling, age, and assets.[21]

20. If schooling were purely an investment, family income would not affect schooling unless access to credit or the cost of credit is related to family income.
21. For similar results for the United States, see Behrman and Taubman (1989).

Community characteristics: Being in a municipality in one's childhood increased schooling by 2.4 years, presumably because of the combination of greater school availability, higher quality schools, higher expected returns to schooling, and lower opportunity costs of schooling. These basically unobserved factors are reinforced by the unobserved community effects estimated from the relation in column two. A one standard deviation increase in these unobserved community effects is estimated to increase years of schooling by a third of a year. In addition to basically unobserved community determinants, the ratio of teachers to students in the local public schools has a significantly positive, though small, effect on years of schooling. At the point of sample means, the estimated elasticity is 0.03.

4.2 Private versus Public Schooling Choice

Table 3 presents a parallel set of four estimates for attending private schools.[22]

Individual characteristics: Neither age nor sex affect the probability of attending private schools in the individual estimates. The only significant coefficient estimate for age is the positive one for the community mean estimates. This probably reflects the association between older children on average with the availability of private school options, since both tend to occur in more urbanized areas. The only significant coefficient estimate for being female is the negative one in the family deviation estimates. This suggests that, although there is not a significantly lower probability of a female selected at random being sent to private school than of a male selected at random, there is a significantly lower probability of a daughter from a family that has mostly daughters being sent to a private school.

Household characteristics: Father's schooling has a positive, though small, effect on the probability of children having attended private schools. The estimates imply that

22. We report that among the alternatives that we explored was a logit for the individual estimates without the family and community residuals. In this estimate exactly the same coefficient estimates appear to be significant with exactly the same sign pattern and the same relative magnitudes as in the linear probability model estimates in the fourth column of Table 3.

the probability goes up by about 0.01 for every additional four years of father's schooling. Mother's schooling has an estimated effect that is not significantly different from that of father's schooling, though it is significantly nonzero only at the 10 per cent level. Being a female-headed household is associated with a 0.054 greater probability of the children having attended private schools. However, the other estimates suggest that this result reflects associations with other community characteristics. The family deviation estimates in column one suggest no significant impact within communities; the community mean estimates in column two suggest that this basically is a community effect, probably reflecting that there are more female-headed households in the more urban areas where private schools are more available.

Being an agricultural household is associated with a 0.027 lower probability of attending private schools, presumably in part because of the limited proximity of such schools for most agricultural households. Family assets have a significantly positive, though small, effect; a doubling of assets implies an increase of 0.006 in the probability of attending private school.

Finally, the unobserved family effect, as estimated from column one, has a significant, but not very large, positive impact on the probability of attending private schools. A one standard deviation increase in this variable implies an increase of 0.02 in this probability. While this variable is not as important in the variance of the private-public school choice as in the years of schooling choice, its inclusion in the individual estimates, together with the unobserved community variable, increases the consistency of the estimated relation with the sample variance by over 50 per cent.

Community characteristics: The combination of factors represented by being in a municipal area have a large positive impact on attending private schools, increasing that probability by 0.14, which is more than double the mean probability. The unobserved community factors, estimated from the relation in the second column, has an additional positive effect, with a one standard deviation increase implying a 0.10 increase in the probability. The observed ratio of teachers to students in local public schools has a negative coefficient estimate, apparently since more teachers per student (or perhaps some

correlated school characteristics) makes the public schools more attractive. A one standard deviation increase in the local public school teacher to student ratio reduces the probability of attending private schools by 0.1.

4.3 Wage Relations

Table 4 gives three estimated ln wage relations. In terms of the usual observed variables, all of these relations are the same, with linear terms in years of schooling, sex, and private schooling and a quadratic in age. Explorations with other nonlinearities and interactions did not reveal any that are statistically significant, so these other results are not presented here. We discuss each of these estimates in turn.

OLS estimates: These estimates imply that the wage rate increases 8.9 per cent for every additional year of schooling.[23] The coefficient estimate for having attended private schools is 0.048, but is not significantly nonzero even at the 10 percent level. Being female is reflected in a reduction of about 7 percent in the ln wage, which is a small gender differential as compared with most societies, especially since we are not able to control for possibly greater interruptions of labor force experience by females than by males due to child birth and care. The quadratic in age indicates the standard positive effect of age at a diminishing rate over the initial stages of the life cycle. These estimates imply, in fact, that the wage rate basically increases over the adult work life since they imply a maximum at age 74.

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23. This implies a private rate of return of 14.7 per cent to the time spent in schooling under a Mincerian (1974) interpretation. To obtain this rate of return, the estimate of schooling has to be adjusted to reflect that age, not post-schooling experience, is used in the estimates (this choice was made for estimation since post-schooling experience reflects the schooling choice). To illustrate, the Mincerian formulation (using post-schooling age to represent experience and assuming that schooling begins at age six) is:

$$\ln W = r S + h (A - S - 6) - k (A - S - 6)^2 + ...$$

This can be rewritten approximately as:

$$\ln W = (r - h + 2k) S + h A - k A^2 + ...,$$

which is what we estimate. Solving for r with our estimates yields 0.147.

Estimates with control for unobserved individual, family and community factors: We argue that if there is no control for unobserved individual, family and community factors, the estimates may be biased due to the simultaneity of the schooling decision with anticipated labor market outcomes and selectivity regarding for whom wage rates are observed. A likelihood ratio test rejects restricting the coefficients on these factors in the second column in Table 4 to be zero so that the relation reduces to that in the first column (chi^2 = 274.8, with the critical value at the 0.5 per cent level equal to 7.9). Thus these individual, family, and community factors are important in a statistical sense.

If the estimated coefficients of these factors are interpreted as reflecting primarily selectivity considerations regarding who is in the subsample for whom wages are reported,[24] the signs of the coefficient estimates tell us the nature of the selectivity. The negative signs suggest that more able individuals with better family backgrounds (both defined with regard to schooling performance) select themselves out of this subsample. This probably reflects two factors. First, in Thailand, as in some other developing countries, there may be selectivity of those who are more capable out of the wage market into own enterprise.[25] Second, there may be an added selectivity out of the present wage subsample if more capable children are likely to move out of their parental household, so that wage rates were not collected for them, given the design of the LFS. Table 5 presents estimates from the full sample for linear probability models for children not co-residing with their parents and for children having a work status of employees, in both cases with

24. Apparently they are representing in part such selectivity, as evidenced by the fact that the mean values of the residuals used to represent the unobserved factors in the ln wage relations all are different from zero for the wage subsample, even though they are by construction equal to zero in the full sample relations from which they were constructed.

25. For example, see Behrman, Birdsall, and Deolalikar (1991) for some Indian estimates, Behrman and Deolalikar (1990, 1992) for some Indonesian estimates, Blau (1986) for some Malaysian estimates, and Schultz (1990) for some Thai estimates.

both OLS estimates and with control for unobserved fixed effects as in Table 4. These estimates suggest some support for the conjecture that more capable children from better family backgrounds, in terms of the unobserved variables, are more likely to move out of their parental households, though there is some ambiguity about the community effects.[26] They also provide somewhat less support for the conjecture that individuals who are more capable are less likely to be employees in the negative coefficient estimates for individual and family unobserved effects related to private school attendance, though the significant positive coefficient estimate for the individual unobserved effect from the years of schooling relation works in the opposite direction.[27]

In contrast to the apparent selection out of the wage subsample of more capable individuals from better family backgrounds, those exposed to unobserved community endowments more conducive to schooling in general and to private schools in particular select themselves into the sample. That is, once there is control for individual differences from mean family schooling experiences and for family differences from mean community schooling experiences, those whose childhood was in communities more conducive to more schooling investments and to attending private schools, are more likely to be in wage employment. Of course, to a substantial extent, this means individuals who spent their childhood in more urbanized and more commercialized areas. In such areas, schooling, including private schooling, is more readily available, the opportunity costs of children time is likely to be lower (at least than in agricultural households), and the expected economic returns to schooling are likely to be more obvious from observations of local experience.

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26. There are some other features of these estimates with regard to the observed characteristics that also are of interest. The preferred estimates in column two indicate that years of schooling does not have a significant effect, but private schooling increases the probability of co-residence with parents (perhaps children whose parents incur the additional costs of private schooling incur additional obligations to stay with their parents and to help them). There is a strong quadratic in age, and daughters are significantly more likely to stay in their parents' household than sons. Also note that the estimated effects of being female and of private schools both are not significant in the OLS estimates.

27. The observed variables indicate a strong positive effect of years of schooling, being male, and the quadratic in age, and a weaker positive effect of having attended private schools. Among these, the private school effect appears significantly only if there is control for the unobserved individual, family, and community effects.

Of course the question of primary interest to us is: How does control for the unobserved individual, family, and community factors affect the estimated ln wage relation? The answer is that, with one exception, none of the point estimates are changed significantly.[28] The exception, however, is the variable of primary interest in this study -- private school. The point estimate is almost 30 times bigger than in column one, and the t value indicates significance at the 0.05 percent level, in contrast to the lack of statistical significance in column one. The estimates in column two, which we argue are preferred because of their control for simultaneity and selectivity with the estimated unobserved factors, indicate that private schooling has a powerful effect on wage rates.

Simultaneous estimates: We argue that our preferred estimates in column two control for selectivity and simultaneity through the inclusion of the estimated unobserved individual, family, and community factors. Of course, there are other means of controlling for selectivity and for simultaneity that have been used extensively in the economic literature.

The procedures for controlling for selectivity in regard to reporting wage rates typically depend on other observed household characteristics, such as unearned income, demographic composition, and schooling of other adults, to identify the selectivity regarding reporting wages.[29] Unfortunately, the LFS does not have such information. There is some information about the households in which the children who are co-resident with their parents live, but almost no information about the current households of children who do not live in their parents' households. Therefore, we are not able to present

28. The standard deviation of the estimate for years of school also is much larger, apparently due to multi-collinearity between years of school and the representations of the unobserved variables.
29. Though there are doubts whether some of these variables are in fact predetermined. For example, the household demographic composition is likely to reflect fertility and mortality outcomes that are made simultaneously with labor force participation decisions. And unearned income may reflect past labor force decisions if it is from savings from past labor force earnings.

standard selectivity control estimates for comparison with our preferred estimates in the second column of Table 4.

However, we can -- and do -- undertake estimates that control for simultaneity by using the predicted years of schooling and private school probabilities from the relations in the fourth columns of Tables 2 and 3 for the full sample as first-stage estimates. These predicted values depend on the observed individual, family, and community characteristics that are indicated in those tables.

The third column in Table 4 gives our simultaneous estimates based on these predictions. The coefficient estimates for being female and for the quadratic in age do not differ significantly from those in the previous two columns, though the point estimate for being female has a relatively much larger standard deviation. The coefficient estimate for years of schooling, however, is significantly smaller, as is its t value. The coefficient estimate for private school, in contrast, is larger ($t = 1.9$) and has a larger t value. These estimates thus suggest an even stronger effect of private school on adult wage rates than do the ones in column two. We prefer the estimates in column two on a priori grounds, however, because of the control for selectivity in addition to simultaneity.

5. CONCLUSIONS

In this study we develop a procedure for using the special characteristics of the 1989 Thai Labor Force Survey, with its information on schooling of adult children of household heads who no longer are co-resident with their parents (as well as more information on the children who are co-resident), to estimate the impact of unobserved family and community factors on child schooling and of unobserved individual, family and community factors on adult wage rates. We apply this procedure to the 1989 Thai LFS, with special emphasis on investigating the impact of private schooling on adult wage rates.

Our estimates suggest that unobserved family background characteristics play an important role in the determination of years of schooling. Such characteristics, together

with unobserved community characteristics, increase the consistency with the sample variance in years of schooling of our estimates by a factor greater than three. These unobserved family and community characteristics also have an important role, though not relatively so strong, in the private-public school choice -- increasing the consistency of our estimated relation by more than half. Thus family background, and communities chosen by families, have much more important roles in determining schooling outcomes than the estimated impact of the usual observed variables (e.g., parental schooling, assets, occupation, age, urban-rural location) alone suggest.

Unobserved individual, family, and community characteristics estimated from the years of schooling and private-public school choices, in turn, have significant roles in the determination of post-schooling adult wage rates. The estimates suggest that unobserved community characteristics related to schooling choices select positively regarding the observation of wage rates for individuals in our sample, but unobserved individual and family characteristics select negatively. More important, they indicate that controlling for such features makes a substantial difference in the estimated wage impact of the private-public school choice, though not a significant difference in the estimated impact of years of schooling. If there is no control for such factors, the estimated coefficient of private schools in the ln wage relation is 0.048 and not significantly different from zero even at the 10 percent level. With the control for the unobserved individual, family, and community factors estimated from the schooling determination relations, the estimated coefficient of private schools in the ln wage relation is about 30 times larger, and is significantly nonzero at the 0.05 percent level.

Thus, control for the choice element in the schooling decision and the selectivity dimension regarding observing wage rates in our sample has a large impact on the estimated impact of private schooling on wage rates. And our preferred estimates suggest that private schools have an important and substantial positive effect on wage rates that is obscured if there is no control for the private school choice and for selectivity in observing wages in the sample. This large impact reinforces the much more narrow results of Jimenez, Lockheed, and Watanawaha (1988) regarding the greater effectiveness of private than of public Thai schools in increasing eighth grade mathematics scores. It suggests that

there is not an efficiency justification in terms of subsequent economic productivity, as measured by adult wage rates, of favoring public over private schools by various policies, as now is the case, for example in the distribution of subsidies. They also suggest that important lessons regarding the organization of schooling and the supply of schooling services might be learned for the public school system by more careful investigation and emulation of the private schools.

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Table 1. Basic Statistics for Variables Used in the Analysis, Thai 1989 LFS[a]

Sample and Variables	Means	Standard Deviations	Number of Observations
FULL SAMPLE			
Dependent Variables			
Years of Completed Schooling	6.4	3.1	14,215
Private Schooling[b]	0.05	0.21	14,202
Individual			
Age in Years	24.7	8.3	14,215
Sex Female[b]	0.52	0.50	14,215
Family			
Father's Schooling in Years[c]	3.7	2.1	10,235
Mother's Schooling in Years[c]	3.0	1.9	13,931
Father's Age when Child 12[c]	43.5	7.4	10,235
Mother's Age when Child 12[c]	40.4	7.0	13,931
Father Present[b]	0.72	0.45	14,215
Mother Present[b]	0.98	0.14	14,215
Female-Headed[b]	0.29	0.45	14,215
Agriculture Major Income[b]	0.59	0.49	14,215
Assets (10^6 Baht)	0.043	0.097	14,215
Community			
Teachers/Student in Public Schools[d]	0.04	0.01	14,215
Municipal[b]	0.11	0.32	14,215
WAGE REPORTED			
Dependent Variable			
Ln Monthly wage rate (Baht)	7.3	0.69	1,884
Right-Side Variables			
Years of Completed Schooling	7.4	3.6	1,884
Private Schooling[b]	0.8	0.27	1,884
Age in Years	22.9	6.2	1,884
Sex Female[a]	0.41	0.49	1,884

[a]The full sample is for all children of household head, co-resident or not, who have completed school, and who are in households in which there are at least two children with such characteristics. All means and standard deviations are weighted, using weights given by the LFS.
[b]Dichotomous variable with higher value in indicated state.
[c]The mean and standard deviation for this variable refer only to parents who are present.
[d]These data are from unpublished data of the Ministry of Education.

Table 2. Full Sample Estimates for Years of Schooling Choice, Thailand LFS 1989: Family Deviation, Community Mean, and Individual Estimates with and without Fixed Effects[a]

Dependent and Right-Side Variables	Family Deviations from Community Means		Community Means		Individual with Fixed Effects		Individual without Fixed Effects	
	(1)		(2)		(3)		(4)	
Individual								
Age	1.8E-3	(0.2)	0.10	(3.3)	-5.5E-3	(2.0)	-8.1E-3	(2.1)
Sex Female[b]	-0.52	(3.6)	-1.1	(1.1)	-0.48	(14.9)	-0.44	(9.4)
Family								
Father's Schooling	0.31	(15.1)	0.39	(2.8)	0.32	(32.6)	0.31	(22.0)
Mother's Schooling	0.27	(12.6)	0.36	(3.7)	0.24	(24.5)	0.23	(16.4)
Father's Age[c]	0.033	(4.0)	0.039	(0.6)	0.035	(10.7)	0.035	(7.4)
Mother's Age[c]	-0.033	(3.9)	-0.041	(0.6)	0.016	(5.1)	8.3E-3	(1.8)
Father Present[b]	-2.8	(5.4)	2.1	(0.6)	-2.5	(11.2)	-2.5	(7.8)
Mother Present[b]	0.80	(1.8)	1.9	(0.6)	-1.1	(6.0)	-0.90	(3.5)
Female-Headed[b]	-0.55	(1.6)	4.5	(2.3)	-0.082	(0.5)	-0.022	(0.1)
Agriculture[b]	-0.32	(3.8)	-1.7	(3.3)	-0.58	(15.4)	-0.57	(10.3)
Assets[d]	3.5	(9.7)	5.2	(2.6)	3.8	(22.6)	3.9	(15.7)
Family Effect[f]					0.95	(129.1)		
Community								
Teachers/Student	-21	(3.0)	4.9	(0.8)	5.4	(3.8)	4.7	(2.2)
Municipal[b]	e		1.2	(4.3)	2.4	(44.0)	2.5	(30.4)
Community Effect[g]					0.60	(4.5)		
Constant	-0.28	(7.9)	-5.0	(1.0)	6.4	(18.2)	6.7	(13.2)
R^2	0.17		0.81		0.63		0.19	
Standard Error	2.21		0.53		1.91		2.84	
F	72.4		48.4		1,610		271	
Sample Size	4,216		145		14,215		14,801	

[a]Absolute t values are to the right of point estimates in parentheses. All regressions are weighted regressions using the weights given in the LFS.
[b]Dichotomous variable with higher value in indicated state.
[c]Parental age when child was 12 years old.
[d]Assets measured in millions of baht.
[e]By definition, this variable is uniformally zero in family deviation from community mean estimates.
[f]Unobserved family effect, as estimated from the residuals in the estimated relation in column one.
[g]Unobserved community effect, as estimated from the residuals in the estimated relation in column two.

Table 3. **Full Sample Estimates for Private-Public School Choice, Thailand LFS 1989: Family Deviation, Community Mean, and Individual Estimates with and without Fixed Effects**[a]

Dependent and Right-Side Variables	Family Deviations from Community Means		Community Means		Individual with Fixed Effects		Individual without Fixed Effects	
	(1)		(2)		(3)		(4)	
Individual								
Age	-2.2E-4	(0.4)	4.7E-3	(2.1)	2.0E-4	(0.7)	2.1E-4	(0.8)
Sex Female[b]	-0.21	(2.2)	-0.038	(0.5)	-4.5E-3	(1.3)	-4.5E-3	(1.3)
Family								
Father's Schooling	1.3E-3	(1.0)	6.1E-3	(0.6)	2.3E-3	(2.3)	2.5E-3	(2.4)
Mother's Schooling	2.2E-3	(1.6)	3.3E-3	(0.5)	1.8E-3	(1.8)	1.5E-3	(1.5)
Father's Age[c]	-1.9E-4	(0.3)	4.9E-3	(1.0)	3.6E-4	(1.0)	3.9E-4	(1.1)
Mother's Age[c]	4.8E-4	(0.8)	-0.012	(2.5)	1.1E-5	(0.0)	-9.5E-5	(0.3)
Father Present[b]	0.038	(1.1)	0.15	(0.5)	0.039	(1.7)	0.032	(1.4)
Mother Present[b]	-2.8E-3	(0.1)	0.24	(1.0)	0.014	(0.8)	8.5E-3	(0.5)
Female-Headed[b]	0.019	(0.8)	0.37	(2.5)	0.054	(3.3)	0.052	(3.2)
Agriculture[b]	0.023	(4.3)	-0.067	(1.7)	-0.027	(6.9)	-0.028	(7.1)
Assets	0.13	(5.5)	1.1E-3	(0.0)	0.13	(7.4)	0.13	(7.5)
Family Effect[f]					0.018	(23.9)		
Community								
Teachers/Student	-0.59	(1.3)	-0.67	(1.6)	-0.50	(3.4)	-0.50	(3.3)
Municipal[b]	e		0.083	(4.1)	0.14	(24.4)	0.14	(23.4)
Community Effect[g]					2.6	(1.9)		
Constant	-7.9E-3	(3.4)	-0.48	(1.2)	-0.074	(2.0)	-0.053	(1.4)
R^2	0.015		0.69		0.109		0.069	
Standard Error	0.145		0.039		0.200		0.205	
F	6.4		26.5		117		85.5	
Sample Size	4,187		145		14,202		14,801	

[a]Absolute t values are in parentheses to the right of the point estimates. Private school has an indicator value that is greater than for public school. All regressions are weighted regressions, using the weights from the LFS.
[b]Dichotomous variable with higher value in indicated state.
[c]Parental age when child was 12 years old.
[d]Assets measured in millions of baht.
[e]By definition, this variable is uniformally zero in family deviation from community mean estimates.
[f]Unobserved family effect, as estimated from the residuals in the estimated relation in column one.
[g]Unobserved community effect, as estimated from the residuals in the estimated relation in column two.

Table 4. Estimates for Ln Wage Relations, Thailand LFS 1989: Standard Estimates, Control for Fixed Effects, and Simultaneous Estimates[a]

Right-Side Variables	OLS Estimates		Control for Fixed Effects[b]		Simultaneous Estimates[c]	
	(1)		(2)		(3)	
Schooling (Years)	0.089	(24.1)	0.094	(6.8)	0.038	(4.5)
Private School[d]	0.048	(1.0)	1.43	(4.4)	2.41	(8.3)
Sex Female[d]	-0.072	(2.9)	-0.086	(3.5)	-0.046	(1.8)
Age	0.059	(5.3)	0.054	(5.0)	0.061	(5.5)
Age Squared	-4.0E-4	(1.9)	-3.9E-4	(1.9)	-5.1E-4	(2.5)
Unobserved Years of Schooling Effects						
Individual			-0.021	(1.4)		
Family			-0.042	(4.0)		
Community			0.032	(3.0)		
Unobserved Private School Choice Effects						
Individual			-1.4	(4.2)		
Family			-0.21	(2.4)		
Community			0.22	(1.8)		
Constant	5.6	(38.1)	5.6	(33.0)	5.8	(36.9)
R^2	0.42		0.47		0.41	
Standard Error	0.53		0.50		0.53	
F	272		146		254	
Sample Size	1,884		1,823		18,23	

[a]Absolute t values are in parentheses to the right of the point estimates. All regressions are weighted regressions using the weights given in the LFS.
[b]These estimates include unobserved family, community, and individual fixed effects estimated from the relations in columns one, two, and three of Table 2 (for the fixed effects for years of schooling) and of Table 3 (for the fixed effects for the private school choice), respectively.
[c]The first-stage estimates are from the fourth column of Tables 2 (for years of schooling) and 3 (for the private school choice).
[d]Dichotomous variable with value of one in indicated state, otherwise zero.

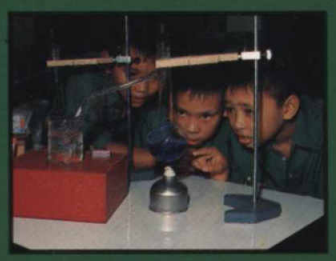
Table 5. Estimates for Children Co-Residing with Their Parents and for being Employees in Full Sample, Thailand LFS 1989: Standard Estimates and Control for Fixed Effects[a]

	Children Not Co-Residing				Children Employees			
Right-Side Variables	OLS Estimates		Control for Fixed Effects[b]		OLS Estimates Estimates		Control for Fixed Effects[b]	
	(1)		(2)		(3)		(4)	
Schooling (Years)	1.8E-3	(1.5)	3.3E-3	(0.7)	0.033	(25.0)	0.023	(4.9)
Private School[c]	-0.028	(1.6)	-0.75	(7.1)	5.8E-3	(0.3)	0.21	(1.9)
Sex Female[c]	7.7E-3	(1.0)	-0.029	(3.6)	-0.068	(8.6)	-0.095	(11.6)
Age	0.050	(22.0)	0.053	(23.3)	0.026	(11.1)	0.018	(7.8)
Age Squared	-4.7E-4	(12.4)	-5.4E-4	(15.0)	-4.4E-4	(11.2)	-3.5E-4	(9.2)
Unobserved Years of Schooling Effects								
Individual			1.1	(0.2)			0.016	(3.3)
Family			0.013	(3.9)			1.0E-3	(0.3)
Community			7.6E-3	(2.2)			-9.8E-4	(0.3)
Unobserved Private School Choice Effects								
Individual			0.74	(6.9)			-0.18	(1.6)
Family			-0.020	(0.7)			-0.081	(2.5)
Community			-0.078	(2.0)			0.029	(0.7)
Constant	-0.49	(14.4)	-0.37	(8.0)	-0.036	(1.0)	0.23	(4.7)
R^2	0.15		0.13		0.063		0.080	
Standard Error	0.46		0.46		0.48		0.48	
F	525		201		200		113	
Sample Size	14,801		14,202		14,801		14,202	

[a]Absolute t values are in parentheses to the right of the point estimates. All regressions are weighted regressions, using the weights given in the LFS.

[b]These estimates include unobserved family, community, and individual fixed effects estimated from the relations in columns one, two, and three of Table 2 (for the fixed effects for years of schooling) and of Table 3 (for the fixed effects for the private school choice), respectively.

[c]Dichotomous variable with value of one in indicated state, otherwise zero.



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