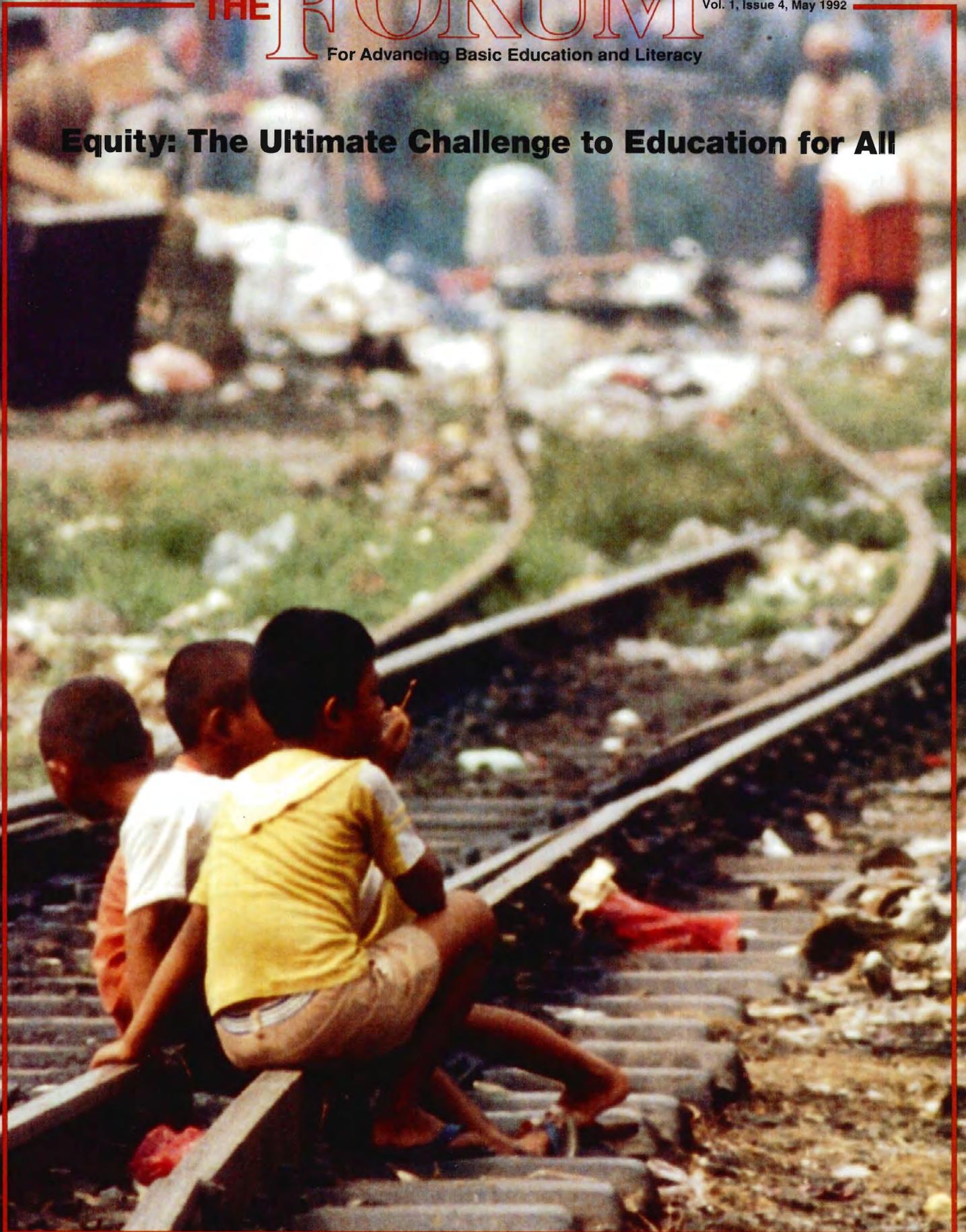


THE FORUM

For Advancing Basic Education and Literacy

Vol. 1, Issue 4, May 1992

Equity: The Ultimate Challenge to Education for All



To Our Readers

On Equity and Schools of Fish

The system should operate with and upon differences.

—Gregory Bateson

In order to treat some persons equally, we must treat them differently.

—Justice Harry Blackmun



“For many years our education system was like a train that sat on the railroad tracks. People sat inside the train with the window shades pulled down and pretended that the train was moving, but it was not. Occasionally someone would step out of the train to push it; another would pull the train, but it would not move.”

This description was given by Elena Lenskaya, Counsellor to the Minister of Education of Russia, at a conference held in Washington, D.C. last November by the U.S. Coalition for Education for All called “Learning for All: Bridging Domestic and International Education.” Although Lenskaya was speaking about the Russian education system, the same metaphor could be used to describe many other education systems.

In the case of the cover photo, we can see train tracks but where is the train? Are the children sitting on the track waiting for a train that will never arrive, or has it already passed by? Did the train stop in this community and if it did, why didn't these children step on board? Are they too poor to buy a ticket? Did ethnicity, race, or religion prevent them from boarding? Where are the girls? Are these children refugees who arrived too late to board or were they prevented because of physical or mental disabilities? A short way up the line there is a man sorting through refuse on the side of the track. Is this as far as the train would have taken them?

A fish farmer's description of a pond illustrates how the dynamics of diversity can be used as another metaphor for education. A healthy pond will produce many different fish food organisms. However, most fish are selective in their diet. Thus stocking a single species wastes not only space but food. To increase efficiency, a fish farmer includes several different types of fish. Some prefer phytoplankton as food, others prefer zooplankton; another fish feeds mainly on aquatic plants, while another feeds off of organisms found at the edges of the pond. Because the different fish are constantly swimming about, the food that each species requires is found throughout the pond, and this prevents stratification of levels, or segregation. The processing of nutrients by the different

species improves distribution among all species of fish. Diversity improves access through synergy—the action of two or more organisms to achieve an effect of which each is individually incapable.

Applying principles of the science of ecology, this polyculture method, based on the practical experience of some 10,000 years of fish culture, recognizes that a body of water is a three-dimensional growing space. To treat it like a field, by planting one kind of crop as in the monoculture of food production, will result in wasting most of the space. The pond is a dynamic environment in which the diversity of species is honored. In other words, the pond system operates “with and upon differences,” to use the words of ecologist Gregory Bateson. In order to encourage the diversity of life upon which the system depends, different food must be available for the different fish.

This ecological metaphor translates in legal terms to the words of U.S. Supreme Court Justice Blackmun when he said “in order to treat some persons equally, we must treat them differently.” Like the ecosystem, our social systems should operate with and upon differences. Equity in the distribution of knowledge (food for thought) through our educational systems must also operate with and upon the differences that exist in every nation according to factors such as income, gender, geographic location, ethnicity, race, religion, and the ability of each individual.

Acknowledging the principle of diversity in this way fundamentally challenges the meaning of equal education. A synonym for the word equal is the word same: to have the same capability, quantity, or effect as another. Our education systems often have been based on sameness. Like the fish pond, a monoculture method proves inefficient when education systems are designed as if there is only one way and time to learn, using a specific place that looks a specific way. To enjoy equal rights often has meant that one is ensured access to a system only to find that it is defined by one group for all other groups.

The word equity means the state or ideal or quality of being just and fair. If we agree that there are many ways of knowing and learning for different groups of people, then an equitable education system will need to develop synergistic combinations of policy options. This is the ultimate challenge to education for all.

This issue of The Forum completes the first volume of the magazine's publication.

Thank you for your articles and your interest and please continue to send your comments, suggestions, and photographs for future issues.

—The Editor

Note: We have received many requests for the article entitled “Designing Education for the 21st Century: The Korean Experience” by Unna Huh (Vol. 1, Issue 3). Please note that this paper, and others presented at the above mentioned conference entitled “Learning for All: Bridging Domestic and International Education,” is available from the U.S. Coalition for Education for All, 1616 North Fort Myer Drive, 11th Floor, Arlington, VA 22209 USA.

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Identifying Disadvantaged Groups for Equity Policy Initiatives

Equity is a precondition for achieving the goal of education for all. In order to increase basic education and literacy equitably, planners and policymakers must begin by acknowledging different population groups. Achievement of equity goals requires specific interventions among the different population groups as well as an acceptance that in the short run compensatory resources and measures may be necessary to offset their disadvantages in access to, completion of, and achievement in primary education.

Identifying Disadvantaged Groups

Inequities are most commonly related to socioeconomic differences, gender, location, religious, linguistic or ethnic identification, and physical or mental differences.

Socioeconomic Differences. Socioeconomic differences create inequities in learning in many ways. They are correlated with low educational achievement of parents, poor nutrition and health care, inadequate intellectual stimulation for young children, a paucity of local nonschool learning opportunities, a reduced motivation for and benefit from schooling, and difficulty in paying for learning expenses whether they be explicit fees or implicit opportunity costs. Poverty affects both the ability of the family to support schooling and its willingness to bear the costs.

Gender. Girls suffer from the negative attitudes of teachers who underestimate their competence as well as from family and community perceptions of the "appropriate" levels of education for women. Assignment policies that concentrate women teachers in urban and economically advantaged areas prevent many female pupils in other areas from having positive role models.

An immediate goal of primary education must be to minimize the gender differences in achievement as much as possible. Because of the special role of women in the intergenerational transfer of knowledge, attitudes, and behavior, raising learning achievement enhances the efficiency of overall learning in society.

home, and long distances between the home and the school. These disadvantages translate into differences in learning achievement, with pupils in urban schools scoring consistently higher except when the increased age or more frequent repetition of pupils in a rural or other disadvantaged area has an equalizing effect on measured achievement.

Ethnicity, race, and religion. Discrimination can operate either through formal practices favoring a privileged group or more informal biases in employment networks. Whether or not the discrimination is explicit, the negative effects are: discrimination reduces the incentives for disadvantaged children to participate in and benefit from the primary schooling system. Again, the immediate sacrifice of equity causes longer-term losses to society.

Language. Many languages are spoken among ethnically diverse population groups. Linguistic differences among groups of people require national education systems to offer schooling in more than one language. Because children learn faster and perform better when they are taught in the mother tongue, no national system can afford to be exclusively monolingual in schooling its people.

Ability. Differently abled children and adults experience inequity due to their physical or mental differences. The needs of many disabled people can be met within existing services, as long as they are augmented by appropriate arrangements to support the special requirements of the child and the family. There is a need to demystify educational provisions for differently abled persons; the main barriers continue to be misinformation about their capacities. This misinformation leads to a gross underestimation of their potential to benefit from education

	1980			1990		
	No.	Rates	Fem.	No.	Rates	Fem.
World Total	824	29	60	882	25	60
Industrial Countries	23	3	61	17	2	64
Lower Income Countries	801	40	60	865	34	60
Africa	156	60	60	165	48	62
Asia	604	38	60	659	32	60
Latin America & the Caribbean	44	20	57	42	15	57
Lowest Income Countries	110	73	57	25	62	60

Note: No. denotes number of illiterates of both sexes, aged 15+ (in millions)
 Rates denotes rates of illiteracy among both sexes, aged 15+ (in percentages)
 Fem. denotes females as a percentage of total illiterates aged 15+

Source: UNESCO

Location. Regional differences (urban rural and urban marginal) in the quality of primary schooling in many countries cause inequities. According to one estimate, only half the rural children in most countries (and as few as 10 % in some others) have the opportunity to complete four years or more of schooling. The barriers to learning in rural areas include the limited quantity and poor quality of schools, poor reinforcement from the community, irrelevance of the curriculum, high opportunity costs for children whose labor is needed at

of all kinds. Even though many developing countries face shortages of financial and human resources, education for all means that all groups, including the differently abled, are entitled to a fair share of resources.

Dislocation. Refugee populations suffer from the dislocation and deprivation inherent in their situation, and often face inequities because of other conditions. Refugees are usually poor; a majority are females; they often are located where self-sufficiency in agriculture or other employment is least probable; and their religious and ethnic origins may differ from those of the host population.

Once a disadvantaged population group is identified, policymakers can select policies of "positive discrimination," explicitly designed to reach the particular group of disadvantaged children.

The articles in this issue of *The Forum* demonstrate policy research and interventions that have taken place at national and local levels to address educational needs of disadvantaged groups. Because gender disparities are present among all disadvantaged groups, several articles are offered to illustrate their effects. Maria Floro and Joyce Wolf describe the economic and social impacts of girls' primary education. Elizabeth King's analysis of data from nearly 200 countries dramatically shows the impact that equity has on increasing the standard of living and quality of life. Jean Davison and Martin Kanyuka's ethnographic study shows how qualitative research can help policymakers identify the reasons for the low level of participation of girls in southern Malawi. Lynn Davies' article discusses gender issues in management—another area within our education systems where female participation has been limited.

Inequities in rural areas among ethnic minorities are addressed by H. Dean Nielsen in an article about the frontiers of education for all where he suggests a new model for educators to consider; inequities among urban poor are addressed in a nonformal education program described by Susan Gunn.



Kingmond Young

Multicultural education issues are addressed in the work of educational innovator, Jesus Salinas, a linguist and Nahnu Indian as he works to preserve the languages of indigenous peoples in Mexico.

Policymakers who need to convince others of the social and economic impacts of educational investment will be pleased to know about the Educational Impacts Model (EIM) described by Luis Crouch, Jennifer Spratt and Luis Cubeddu. ❖

Gender Equity Increases a Country's Development

by Elizabeth King

A World Bank study of about 200 low-income countries shows that nations that have achieved gender equity in basic education have attained higher standards of living than others by decreasing the gender gap. A gender gap is measured as the ratio between male and female enrollment rates. A country with a large gender gap will have lower

economic production than another country with the same capital stock and labor force but a smaller gender gap. In addition, between two countries with similar per capita in-

come and patterns of expenditures in the social sectors, the country with the larger gender gap will experience worse indicators of social welfare. An implication of this finding is that a country with a wide gender gap will have to raise per capita income more than a country with a small gap will, in order to achieve similar levels of social well-being.

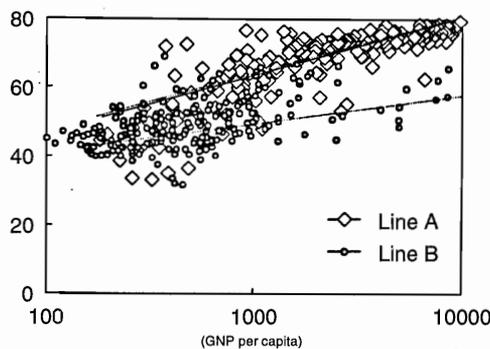
The figures below show GNP per capita plotted against three social indicators—female life expectancy, infant mortality and fertility. Further, the figures differentiate countries that have a wide education gender gap from countries with a small gap. Line A

plots the small-gap countries, line B those with wide gaps. The upward slope of these lines means that countries that are economically better off also usually have longer life expectancy and lower fertility and infant mortality than poorer countries. However, some poorer countries with a narrow education gender gap (notably Sri Lanka) achieve levels of social well-being comparable to those of some richer countries with a larger gender gap. ♦

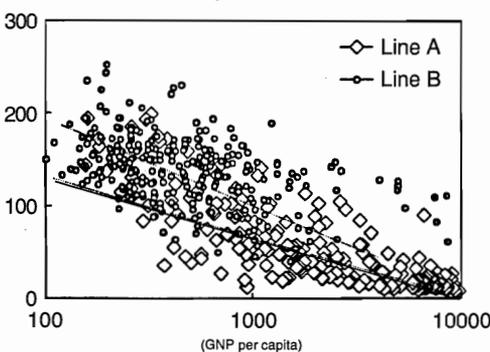
To obtain a copy of the manuscript, "Educating Girls and Women: Investing in Development" by Elizabeth King, write to The World Bank, Washington, DC.

Key:
 ◇ Line A: Countries with a small gender gap
 ● Line B: Countries with a large gender gap

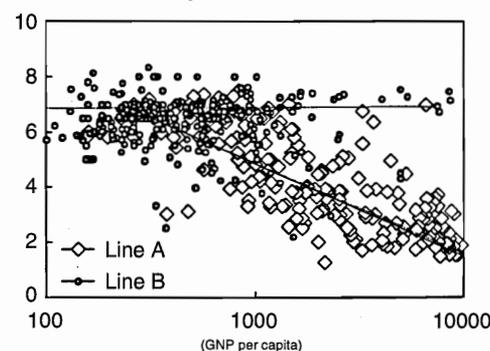
Life Expectancy



Infant Mortality



Total Fertility Rate



The Economic and Social Impacts of Girls' Primary Education

by Maria Floro and Joyce M. Wolf

All evidence shows that the education of women has a strong impact on social and economic development. However, the degree to which the basic skills and attitude changes produced by education enhance social and economic development depends on several factors including age, type of economic policies, distribution of resources, (especially land and credit), gender discrimination, cultural and social norms, and socioeconomic background.

These are the results of a research review which was conducted to explore the evidence on the effects of girls' primary education. Girls' primary education has the following impacts:

- More active participation by women in the labor force, in rural and urban areas. The level of participation, however, is influenced by age, culture, type of industrialization, gender discrimination, and access to complementary resources, such as land, capital, and technical training.
- Better skills, increasing women's ability to learn new methods of operation that in turn make them more productive members of the labor force. However, women's potential is realized only if the employment opportunities exist. These opportunities are afforded if gender discrimination in hiring is addressed, especially in semi-skilled and skilled jobs. Moreover, the type of industry promotion—whether labor-intensive or not, sex-stratified or not, sustainable or not—and the type of working conditions, i.e., the presence or absence of sex discrimination in pro-

motions, health factors, and the safety of the work environment, determine whether employment leads to higher wage earnings and to a longer productive life.

- Higher profits in self-employed and informal sector activities, which are more demanding in literacy, numeracy, and problem-solving skills.
- Increased production of nonmarketed goods, leading to improved child rearing practices, better family health, greater consumer choice efficiency, and lower fertility.
- Variable impacts on girls of different socioeconomic backgrounds. High- and middle-class girls show more beneficial consequences, especially in terms of securing jobs and increasing income, but the actual relative power and status changes in their lives may, in fact, be less than those experienced by working-class women.
- When traditional cultural patterns include female control of resources and activities in the public sphere, then only access to education and opportunities to earn an independent income appear to be necessary for women to increase their status and have a social impact. ♦

Complete copies of this report are available in English and French from Creative Associates International, Inc., 5301 Wisconsin Avenue, N.W., Suite 700, Washington, D.C. 20015 USA.

Factors Affecting the Education of Girls in Southern Malawi

by Jean Davison and Martin Kanyuka

Cultural traditions and questions about the relevance of basic education exacerbate the equity problem in Zomba.

An ethnographic study of teacher/student interactions in the classroom and school, and at the homesteads of 80 pupils, shows that economic constraints in the home force parents to make a choice between sending a boy or a girl to school. The study was conducted in the Zomba district where the participation rates of girls are the lowest and the dropout rates the highest in Malawi. In the 1981/2 and 1985/6 academic years the primary schools in the district registered only a 1.54% increase in enrollment in comparison with a national increase of 13.25%. The total enrollments in 1988 were 23,400 for boys and 18,784 for girls. The Zomba area, with a dropout rate of 26.24%, was the highest in the southern region. The greatest number of

girls repeat in Standards 1 and 2 while boys' repetition is higher in Standards 1 and 8.

The study explains that gender structuring as a sociocultural process determines gender relations in the home, which are reinforced by teachers in school. Case studies describe how situations at school and at home influence pupils' perceptions about themselves and shape the decisions they make about school.

Economic Factors

One of the primary causes cited by pupils and parents for the high dropout rate between Standard 1 and 2 was the lack of money to pay school fees and to purchase school uniforms. Female pupils and their

mothers were more concerned about lack of funds for uniforms than were their male counterparts. A girl's uniform costs twice as much as a boy's and she is perceived by her parents to be less of an economic investment than a boy, whose education directly enhances the economic well-being of the family. The economic burden of providing school fees and materials particularly affects the resource-poor female-headed households. Of the 32 families who had children who had dropped out of school, 14 were female-headed households. Several pupils mentioned hunger as being a cause for dropping out in the lower grades, a cause which their parents overlooked or did not know about.

The data demonstrates that not only is there bias about who should go to school, but there is a difference in parents' opinions about their children's intelligence. Sixty eight percent of fathers and 70.3% of mothers stated that boys are more intelligent. An even stronger bias emerges in their opinions about the level of education that is ideal for males in comparison to females. Five percent of mothers thought that Standard 8 was an optimal level of education for girls; only 3.5% of fathers agreed. Twice as many fathers (8.8%) as mothers (4.1%) think that girls should attain a Form 2 education.

Mothers have a great influence on their daughters in their expressed attitudes toward education and homework, and in the de-

Education of Girls in Malawi
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UNESCO / A. Tessore

mands they make on their daughter's time. In a question related to academic achievement, several female pupils stated that the reason boys are more intelligent than girls is because they have more time to study after school while girls are burdened by domestic tasks. Girls on average spend more time on domestic chores (30.5 minutes out of an hour) than boys (11.9 minutes); these tasks include food processing, food preparation, cooking, and cleaning. Girls also haul water and firewood. Boys' chores are limited to carrying and loading crops, feeding animals, collecting stones for construction, sweeping the compound, and hauling water.

Teachers' Attitudes Towards Girls' Education

Students are influenced by their teachers. In key subjects such as English and science, boys are called upon to answer questions more often than girls are. In terms of overall academic achievement, 90% of the teachers interviewed thought that boys perform better than girls in class. Girls' lack of ambition and lack of spirit were cited as reasons for their poor performance. Sixty percent of the teachers contended that girls lacked ambition because they were lazy. The teachers' negative attitudes toward girls' academic ability not only reflect the teachers' biases and stereotypes about girls' performance in class but also successfully thwart any academic ambitions girls may have. Teacher biases are also reflected in ideas concerning the most important subjects for boys and girls to enroll in at school. Seventy percent of teachers interviewed mentioned needlecraft, home economics, and health education as the three most important subjects for girls. For boys, English and math were mentioned by 70% of the teachers, while only 20% mentioned agriculture. ❖

Jean Davison and Martin Kanyuka are professors at the University of Malawi in Zomba. For a complete copy of the report upon which this article was based, please write to Project ABEL, The Academy for Educational Development, 1255 23rd Street, N.W., Washington, D.C. 20037 USA.

Msalabani Primary School

Msalabani Primary School is north of Zomba district on the border. One of the oldest schools in the area, it was built by the Anglican mission around 1940 and was originally the focal point for converting young Muslims to Christianity. Classrooms in Msalabani Primary School are crowded, and groups of children, particularly at the early grade levels, cluster in reading or study groups under trees. Children in the lower grades to Standard 7 do not have desks. All classrooms are gender segregated, with boys on one side and girls on the other.

With a total enrollment of 1,132 pupils and 16 teachers (3 women and 13 men) the school has a teacher/pupil ratio of 1 teacher to 85 pupils. Standard 5 has an enrollment rate of 46 girls and 40 boys; Standard 8 has only 20 girls to 42 boys. No girls passed the Primary School Leaving Certificate (PSLC) from 1985 through 1989. During the same period only 6 boys passed the PSLC and none were selected for secondary school.

The major ethnic group are the Yao, most of whom are matrilineal and Muslim. Yao is the predominant language. Sixty percent of the students are from Muslim families and 40% are Christian. Half of the children were from subsistence level households. Pupils walk an average of 2.3 kilometers to get to school but some lived as far away as 9 or 10 kilometers.

Pupils are asked to contribute to the school by bringing grass for thatching teacher's houses or latrines, and tools for construction. Much of the punishment meted out for tardiness is in the form of labor. For example, girls haul water for mixing with mud to make bricks, cut down tree stumps, or dig refuse pits during periods when classes are in session. The result is that girls miss whole lessons. Girls also carried out a major portion of maintenance tasks, sweeping classrooms and school yards, or hauling water, which often kept them out of class. ❖

The Impact of Gender Structuring

The case study cited below provides insights about the psychosocial factors that influence girls' participation in school and career choices.

It is 7:15 a.m. and Amina Ndula has just arrived at school. She is fourteen years old and in Standard 5. She has walked 2 kilometers from home and is about 10 minutes late for the opening of school. She enters the classroom quietly, noting that her girlfriends are already busy sweeping the veranda outside the Standard 6 and 7 classrooms. Mr. Ntoka the Standard 5 teacher is displeased. He confronts Amina with her tardiness and tells her to hold out her hands, palms up. She does as she is directed with her head lowered, eyes on the floor. She tries not to wince as the teacher beats her outstretched palms with a ruler. Then he tells her to go and sweep out the girls' toilet as further punishment. Amina walks slowly off to the latrine with a sad expression on her face while the rest of her classmates hurry to the morning assembly.

Amina comes from a Yao Muslim family. Her mother has had no formal schooling and her father dropped out at Standard 1. She has an older brother, aged 21, who dropped out of school after Standard 6 because he was more interested in playing. Amina would like to complete a Form 4 and become a teacher. She knows that it is more difficult for girls to do well in school because they have too many household chores after school. What Amina likes best about school are the English lessons and meeting her friends. Amina's parents are subsistence farmers. They barely have enough cash each year from selling rice to pay for Amina's school fees and exercise books. Amina wears a white dress with green dots to school today because her parents cannot afford to purchase the materials and pay a tailor to make her a uniform. ❖

Working on the Last Frontiers of Education for All

by H. Dean Nielsen

Those who live in remote areas, ethnic minorities, girls, and marginal and nomadic populations have usually been the last to receive educational services. Providing education to these groups means abandoning conventional schooling for new concepts of the school, the teacher, and school management.

The frontiers of education for all are often found at the frontiers of nations. Located in marginal, sparsely populated areas along national borders, they represent some of the major future growth centers of opportunities and natural resources. Breakthroughs in communications, transportation, and trade have drawn people on national borders into closer contact with each other, creating a greater potential for either conflict or cooperation. Basic education of sufficient depth, breadth, and quality is needed in these frontier areas to prepare people to deal peacefully and reasonably with one another.

At the same time, global economic development will inevitably bring powerful multinational enterprises into these promising frontier areas. The people who live here will need sufficient basic education and skills to be able to participate in and benefit from this development, and also to understand and protect their rights in case, for example, environmentally unsound practices are introduced.

The prevailing concept of the school today, worldwide, is the industrial model, expressed by an input-process-output framework. Pupils, the input, are strictly age-graded and then processed in batches, being moved from one level to the next, until they come to the end of the assembly line, where they are tested, certified, and released into the marketplace. Most people acknowledge that children of the same age group vary enormously in their rate of development and their intellectual capacity, but management efficiency requires that they be processed in batches anyway. It is also well known that a single teacher can comfortably handle a student load of 25 to 40 pupils, yet the age-grading model keeps classes separate even if there is only a handful of pupils at each level.

Working on the frontiers of education for all requires us to abandon conventional

concepts of schooling. The vain attempts to use the conventional school at the outer limits only lead to distortions in school shape and learning time, and ultimately lower educational quality and student learning outcomes. What we need on the frontier are new concepts of the school, the teacher, and of school management.

New Concept

A new concept of the school for the frontier is actually an old concept: the one room school, built on the 'family' model instead of the industrial model. Children are not segregated according to age and grade, but are grouped in various ways in multigrade classrooms where they work on tasks at different levels and subjects at the same time.

Educators in all regions are beginning to recognize the multigrade teaching situations that exist in their countries. Sometimes multigrade teaching has existed for years but in an invisible, unacknowledged way, as a temporary problem to be solved once more teachers are available.

Research in Multigrade Classrooms

New interest in multigrade teaching has led to a growing body of research in this field. In 1989 the Northwest Regional Educational Laboratory of Portland, Oregon released a 300 page *Resource Handbook on the Multigrade Classroom* for small, rural schools. In it is a review of 23 studies of multigrade teaching, mostly in the industrialized North and Australia. The research results are encouraging. In cognitive achievement, students from schools which used multigrade teaching fared just as well as their single grade counterparts. Most studies showed more positive developments by multigrade classroom students in terms of self-esteem, attitude towards school, cooperation, and feelings towards other students and teachers. "Sixty-five

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Frontier Schools in China



In the middle of Guizhou Province, a mountainous state in southwest China, lies Leigong Shan or Thunder God Mountain County, classified as politically autonomous because of the predominance of ethnic minorities (mostly Miao).

In Leigong there are many small, isolated Miao villages, including one perched on a steep bank above Peach River. The Peach River school has two rooms: in one room 19 first graders (10 girls and 9 boys) are led in a civics lesson by an older first grader who has repeated the grade twice. In another room, four second graders, all boys, gaze at open textbooks, while a white-haired male teacher reads to them.

Since the village and the school are very small, only two grades are taught in Peach River. Any child wishing to go beyond second grade must enroll in the full-size school in the Township center. Since this school is several hours away by foot, Peach River children who attend it generally stay in small but crowded hostels, where they cook for themselves. Girls from Peach River rarely make it to the Township school; in fact, very few make it past the first grade. Instead, they attend to a variety of household chores. In Leigong County the participation of girls in primary education is between 20 and 30%—compared to 80% for boys.

Frontier Schools in Indonesia



H. Dean Nielsen

The village of Kuluk Habuhus, located in Central Kalimantan in Indonesia, has two primary schools that use the same buildings, one with 25 students in grades 1 and 2, and the other 80 students in grades 2-7. Both schools have only one teacher. The teacher who oversees five classes keeps the 15-20 pupils in each class in separate rooms, and then visits each in turn, giving traditional teacher-centered lessons. Thus, each class gets only one-fifth of a full day's instruction. Although each school on the premises has a small second grade class (10 and 15 students, respectively), the two are kept separate, as they belong to different schools.

The next village upstream is only six minutes away by trail. Its small, one-room school has only 33 pupils in four grades, but it has four teachers. Thus, within a six minute radius, there are three schools where there could easily be one. With a total teaching staff of six, such a school could have one teacher per class, with an average pupil-teacher ratio of 23:1, just under the national average. Instead the pupil-teacher ratios of the three schools are 8:1, 25:1 and 80:1.



H. Dean Nielsen

Last Frontiers continued from page 6

percent of the measures favored the multi-grade classroom at a significant level, 13% indicated a trend toward multigrade students out-performing their single-grade counterparts, and 22% revealed no difference between the classroom types. Only one measure favored the single-grade classroom."

The Frontier Teacher

In the Central American country of Belize there is a good example of effective multigrade teaching in a one room school at Willow's Bank. The school has 77 students in two levels of kindergarten and six primary grades. It has two teachers, who have been there for 16 years and 12 years. The two kindergarten levels and grades one and two cluster around a teacher at one end of the long room; grades three through six are with the second teacher at the other end. In one corner of the building is a small library and activity center.

During one hour the teachers set things up so that the preschoolers help each other with word recognition, while the first graders work at their seats on math problems written on the blackboard. The second graders play a spelling game led by one of their group members. At the other end of the room, the teacher helps third graders solve math problems on the blackboard, the fourth graders read a story, and the fifth and sixth graders work together on a geography assignment. The teacher moves smoothly and continuously from one group to another, giving encouragement, correcting mistakes, and answering questions. In this remarkable one room school six different lessons are going on at the same time and virtually 100% of the pupils are 'on-task.' The teachers, on their own, have developed some extraordinary classroom management skills over the years.

In the current industrial system, teachers are essentially assembly line workers, adding value to students who are passed up to their levels. In the multigrade concept, a teacher is more like a master chef who has to cook many dishes at the same time, each with its own particular ingredients, seasonings, and cooking times. Work-

ing like this is clearly more demanding and it requires special training, but as the example of Willow's Bank shows, it is within the reach of rural teachers. The fact that it is more demanding makes a special case for providing incentive pay to multigrade teachers, at least equivalent to the amount that they forego in extra income because of the need for extra lesson preparation time.

Teacher selection methods for frontier areas also need serious reexamination. The general method for selecting teachers is competitive testing. Since in places like Indonesia there is now a surplus of trained teachers, those who obtain teaching appointments are generally from the better schools in the urban areas. These new appointees may initially accept teaching appointments in remote areas to get into the profession, but will soon find a way to be transferred out. The teacher trainees who come from the remote regions and who would stay there if assigned are generally screened out of the hiring process because they cannot compete with their urban counterparts. A related problem concerns the fact that because girls rarely make it through primary school there are very few female teaching candidates, and thus village girls rarely see an educated female role model.

These conditions call for mechanisms of teacher selection that allow the best and brightest among village boys and girls to be identified, trained, and placed as remote village teachers. A new program launched in Indonesia is starting to recruit teacher training school graduates from remote areas for new jobs in remote areas. Also, Indonesia's new program for training primary school teachers at the post-secondary level will encourage colleges to obtain some of their candidates from rural areas by "talent scouting." For such programs to work they will need to include scholarship support as well as assurances that the selected candidates will get a teacher appointment. In exchange, the trainees should give some assurance that they will accept and stay in appointments in or near their villages.

School Management

Finally, changes are needed in school management. For instance, school systems generally allocate funds on a per student basis.

But education in frontier areas is more expensive than it is in more populated regions. This is not only because of added transportation and communication costs, but also because the cost of living in these areas is often twice as high as in the provincial capitals.

Supervision is also a problem in frontier areas. Where supervisors are available they often have too many schools to visit over too large an area, at too high an expense. School supervisors in Indonesia receive a standard transportation allocation of Rp600 (about 30 cents US) per school visit, whereas in some small island or remote river districts transportation to a single school may cost as much as Rp 10,000 (about \$5.00).

Working at the frontiers of education requires a new approach that is not bureaucratic in orientation, but problem-solving. In the management of the educational system this requires more latitude or authority for grassroots decision making. In addition, it requires the development of simple tools for identifying and understanding problems. Most remote districts have the raw data for identifying and understanding serious systemic problems, but local administrators have neither the training nor the authority to use them.

Those who live in remote areas, ethnic minorities, girls, and marginal and nomadic populations have usually been last in terms of the services provided to them. It's time to put the last first. We need to renew our commitment to provide quality education for all, and put special effort into finding creative solutions to the problems of those living on the frontiers of our national boundaries as well as on the frontiers of our national development efforts. ♦

H. Dean Nielsen is a Principal Research Scientist for the Institute for International Research, Arlington, Virginia. This article is extracted from a paper originally presented as a keynote speech at the International Conference on Education for Developing the Quality of Human Resources for the 21st Century: A Global Challenge, Bandung, Indonesia, July 3, 1991. For further information, write to Dean Nielsen at 1143 Bear Tavern Road, Titusville, N.J. 08560 USA.

Nonformal Education on the Urban Fringe: Child Scavengers in the Philippines

by Susan Gunn

A pilot project for child scavengers combines teaching, health care, and earning money.

On the northern edge of Manila—but far beyond its margin in social terms—is the community of Barrio Magdaragat. The people who live here are refugees from droughts, typhoons, falling sugar prices in their home provinces or the personal disasters of drugs, alcoholism, encounters with the law, or runs of bad luck. Twenty thousand people have now accumulated, along with 40 years' worth of Manila's refuse, at what is better known as "Smokey Mountain."

This heap of garbage, 20 hectares in area, 200 meters high, is always smouldering. During the day it shrouds the area in thick smoke; at night the black slopes are rent with fissures of orange.

The Children

Dressed in old rubber boots, shorts, and oversize shirt, carrying a bent wire probe and a large wicker basket, the child scavenger waits as a garbage truck backs up and tips its load, and then scrambles through the falling debris to grab plastic, glass, wire or

repairable goods. The child's skin is black with soot.

These are subhuman conditions, and clearly intolerable. But do the child workers see it that way? It is hard to know, because scavengers have learned to mistrust and avoid strangers, and also, they are seldom asked. To get to know and be known by the child workers, the staff of the SABANA Project cleaned out a derelict building at the top of the garbage heap and set up its 'office' there. Slowly, by simply watching the children and talking with them when they came for a drink of clean water or to rest out of the hot sun, the staff began to get an idea of what life was like for them.

Work is hard, the children acknowledged, especially for those who spend long hours in the heat or work at night when the chance of injury is greater, but work gives them independence and a sense of importance. With the money earned, the child can buy sweets and a seat in front of the local video,

Urban Fringe continued on page 10



Child scavengers on Smokey Mountain, a garbage dump outside Manila. Scavenging is dangerous. The Project staff found themselves bandaging burns, cuts and sores daily, rushing to the hospital with children hit by garbage trucks or bulldozers, and all too often attending funerals of children who had died of tetanus.

The hillside pictured in the large background photo on these two pages is not a geological formation, but a heap of garbage, 20 hectares in area, 200 meters high.

Child scavengers at work: Out on the dump the Pilot Project set up a Drop In Center that offers child workers free clean water for drinking and washing (a luxury), nutritious food at low prices, first aid, and games in a sheltered play area. In addition, it serves as the 'ears and arms' of the project—gathering information on the child scavengers and funnelling willing children into SABANA, "The Sheltered place for Learning." At last count, the Drop In Center had vaccinated 1,362 children against tetanus.



Urban Fringe continued from page 8

an installment on clothes, and rice with fish for the whole family's dinner. But this sense of importance and self-esteem extends no farther than the perimeter of Smokey Mountain. At school, children's self-respect vanishes under taunts from the other children about their smell and criticism from teachers for dozing off in class or not doing their homework. As absences increase the child falls further behind until by age 10 or 12 the fear of school and the outside world in general is so great that the child is only too glad to accommodate increasing family demands and remain on the dump.

Many children at Smokey Mountain are third generation scavengers; the closed world of the dump has engulfed their parents so completely that they see no value in education. Ironically, it is often only the grandparents who remember, who can read, and who press their grandsons and daughters to stay in school.

Developing a Response: SABANA

Faced with over 1200 children for whom the advantages of work are very clear and the disadvantages either invisible or ignored, it seemed impossible to curtail child labor on the dump, especially in only two years. But the Coordinator of the Pilot Project, Ms. Zenaida Ostos, resisted the temptation to impose a ready-made solution, instead allowing the community to determine how to approach the problem. Over a 3-month period she met with all the formal and informal organizations of Smokey Mountain, and from her base on top of the mountain talked with the parents while they scavenged. She found out that although 26 NGOs and several government agencies provided services to the area, the working children fell outside almost all the target groups. She worked through the most promising suggestions from the community until she found the ones that worked.

The "Sheltered Place for Learning" (SABANA is the Tagalog acronym) was the result. The program has four parts - Learn, Earn, Health, and Parent involvement - to help the children leave scavenging and enter the outside world. Two SABANAs, one for children who are in school but in danger of dropping out, the other for older out-of-school youth, were set up in an

Urban Fringe continued on page 11

Recycled articles awaiting resale. A child can earn as much by scavenging in half a day as an adult factory worker on a ten-hour shift. SABANA gives the children a way to earn money without scavenging and to learn at the same time.

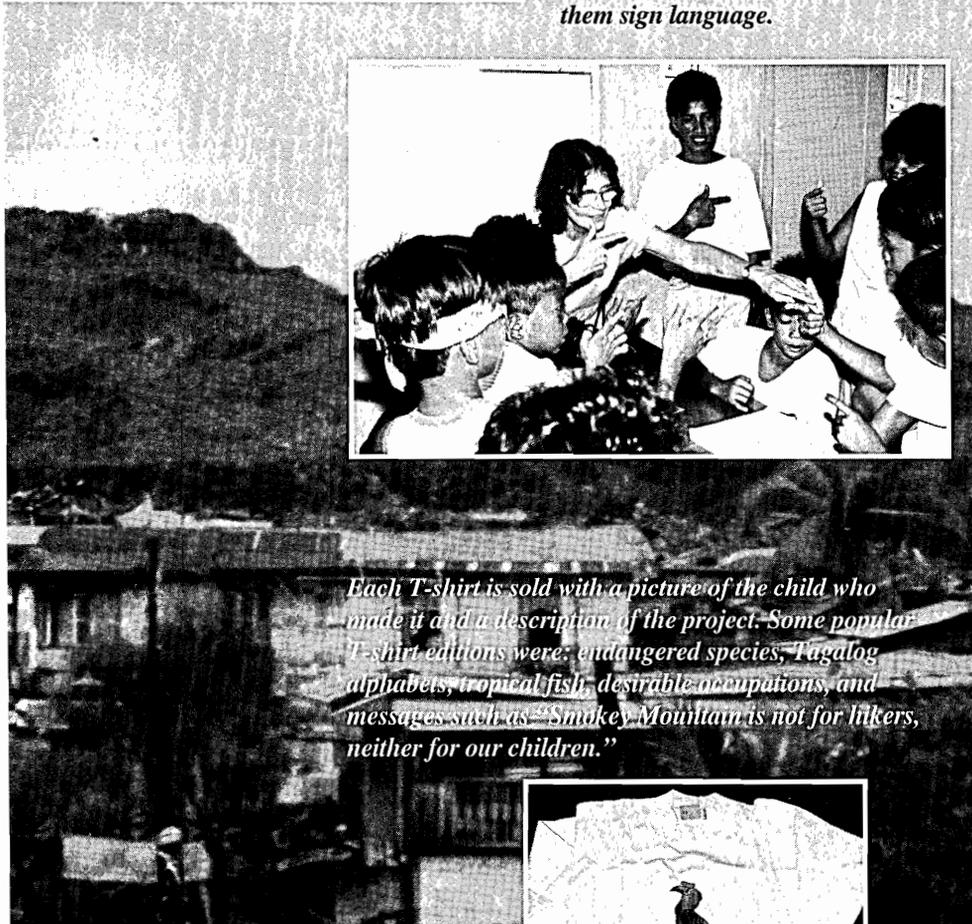
To find out which children (pictured below) know how to spell their names without humiliating them, the teacher at SABANA teaches them sign language.



Each T-shirt is sold with a picture of the child who made it and a description of the project. Some popular T-shirt editions were: endangered species, Tagalog alphabets, tropical fish, desirable occupations, and messages such as "Smokey Mountain is not for liars, neither for our children."



Children copying textile patterns from different countries are learning art and geography while developing designs for their T-shirt business.



Photos: page 9 top left, Mary Ng; all others on these two pages, Debra Milligan.

apartment house at the edge of the dump. In the Learn sector, SABANA I focused on making learning fun and school work comprehensible. Curriculum was based on tactile, kinetic, and other learning modes that were more developed in these children because of their work on the dump than were the traditional auditory styles used in schools. SABANA II focused on "vocational preparation," consisting of 2-3 month introductions to each of the major trades, ingeniously interwoven with intensive literacy and numeracy education. The Earn program took note of the fact that, for psychological as well as economic reasons, the children must make money. SABANA I had a hand-painted T-shirt business; SABANA II fabricated lovely handmade stationary by recycling waste paper. Criteria for these businesses were that they be economically sound, safe, and serve as both a means of self-expression and of learning new subjects and new skills.

The Health sector of both SABANAs was designed to diagnose, rehabilitate, and strengthen the children physically and emotionally. It involved weekly explorations of the world beyond Smokey, games to strengthen self-concept, counselling and mediation with families, vitamin and protein supplementation, lung, blood and neurological testing and, of course, vaccinations. The Parent sector attempted to involve the families of SABANA children in all aspects of project work, from management to cooking, to convince and help them to release their children from scavenging. Interestingly, the third who regularly responded—an unusually high participation rate for Smokey Mountain—said they did so because of pressure from their children. In other words, parents were led to learn and change through their children rather than the other way around.

Lessons Learned

- Common assumptions must be questioned. For instance, child labor is generally thought of as a simple economic issue: family poverty leads to children working, and therefore, conversely, raising family income leads to a reduction in child labor. Not so on Smokey Mountain, where social factors and a comparatively lucrative industry vastly complicate cause and effect.

- Comprehensive programs are essential. Many agencies are tempted to try only one type of intervention—health care, for example. But doing so sets up 'pull' factors which can create an effect opposite to that intended or which are ultimately unsustainable.
- Go deep. There is danger in a multi-faceted program of being too superficial. To actually save lives, it is not enough to address what is easiest or most common. All children had parasites, but what they died of were tetanus and gunshot wounds, much more difficult to deal with. The goal had to be clear and the interventions had to reach the goal. The community was highly skeptical of good-sounding projects and the community was always watching.
- Child workers are hard to reach. To find those who are hurting the most and discover what they need requires patience, presence, and special techniques of inquiry. Standard surveys and statistics cannot capture the scope and locus of child labor nor can all-purpose programs serve their needs. Two or three tight studies at the beginning can help to aim a project correctly and save considerable time and money later.
- Trickle down doesn't always work. It would seem logical to start with and/or focus on parents, but in socially depressed communities like Smokey Mountain where family breakdown is high, parents are immobilized in unproductive life styles, and children are highly independent, the benefits (better food, money for school) seldom seem to trickle down to the children. In such circumstances, it may be only the children who are still malleable and hence child-focused programs are more effective.
- Protection and rehabilitation. One wishes to attack root causes, but in the case of children working in hazardous occupations, long-term measures to remove children must be accompanied by immediate action to protect them. It may seem like



Debi Milligan

The child pictured here shows the design he has drawn for a T-shirt in SABANA I.

condoning child labor, but where children may not live to benefit from the long term solutions, lofty principles need to be softened with common sense. ❖

Susan Gunn is with the Working Conditions and Environment Department of the International Labour Office in Geneva which executed the "Pilot Project on Child Scavengers." During the 2 years of the Pilot Project, 12 residents of Smokey Mountain, themselves former scavengers, were recruited and trained as staff. These men and women are now forming their own NGO. Their most urgent need is for nonformal educational materials and activities to augment the SABANA I and II curricula, and for assistance in finding markets for the handmade paper business. Inquiries may be addressed to: Zenaida Ostos, National Coordinator, Pilot Project on Child Scavengers, International Labour Office, NEDA sa Makati Building, Amorsolo Avenue, Legaspi Village, Makati, Metro Manila, Philippines. Susan Gunn, International Labour Office, 4 route des Morillons, CH-1211 GENEVE, Switzerland.

The Educational Impacts Model (EIM)

by Luis Crouch, Jennifer Spratt, and Luis Cubeddu

EIM is a policy dialogue tool to increase the effectiveness of ministers of education in budget negotiations. More money for education will increase the latitude needed to address equity issues.

The level of public spending on education is specified in government budgets that are often set in medium-term plans and adjusted annually. Plans and budgets result from negotiations between representatives, generally ministers, of the various sectors. In many countries the minister of finance plays a critical role in making decisions about total budget allocations. This process relies heavily on technical information, but that information is organized by each sector to support its own objectives. When financial considerations are the most important ones, economic rationale and data receive the most attention. Ministries of education most often lack the capacity to present arguments that are buttressed by economic logic or data. Although research shows that education is the most profitable form of social investment available, in a room full of lions, education too often is a lamb.

The Educational Impacts Model (EIM) is designed as a tool to help ministers of education increase allocations to the education sector. EIM helps people understand how spending on education can encourage development. Transparent enough that a non-technical user with no training in economics can understand how to use it, but technically sophisticated and complex enough to persuade economic decision makers of its validity, EIM is intended as an instrument to promote discussion, rather than to provide precise answers. It is a general model based on empirical data from 80 countries that show:

- Enrollments in education grow principally as a result of increased supply.
- Rates of completion increase with increased spending per student.
- Education of women lowers fertility rates and infant mortality rates, and eventually contributes to declines in population growth rates.
- Education of women delays marriage

age and contributes to increased female participation in the labor force.

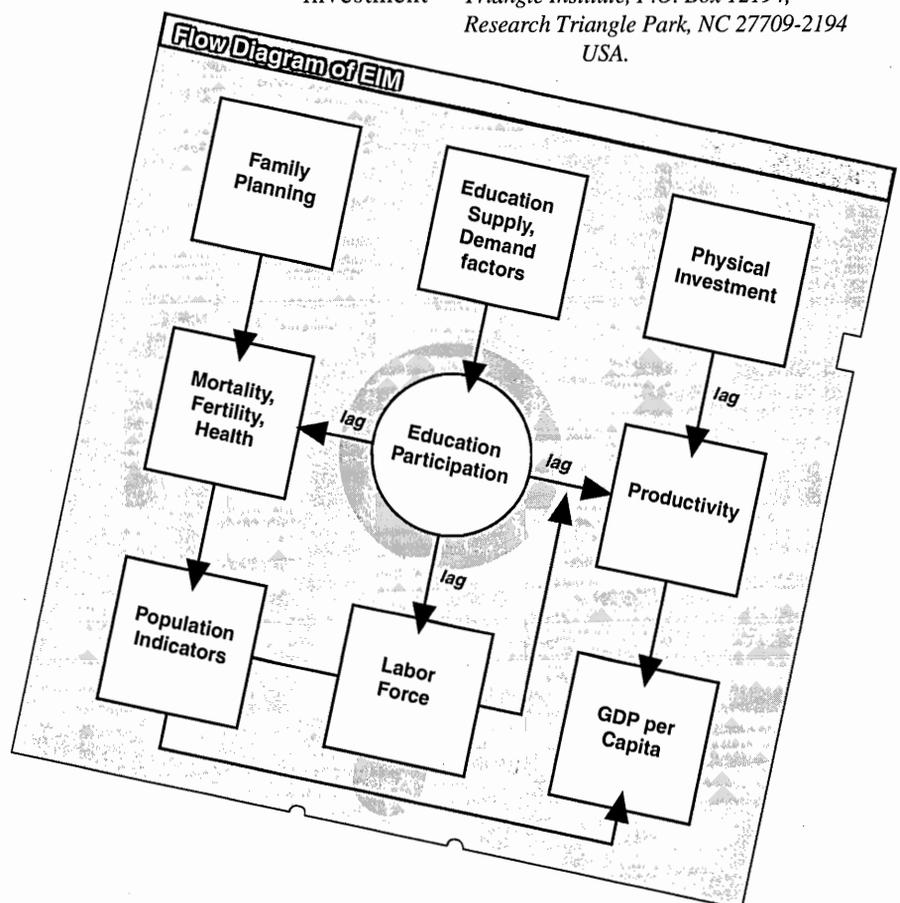
- Participation rates have an indirect but positive effect on growth of GNP, and GNP per capita.

These results have been integrated into a computer simulation model that allows the user to see the implications of increased investment in education and reduced unit costs on social and economic welfare indicators. The outcomes it generates will include several factors primarily focusing on population growth and economic productivity. EIM is available on diskette so the user can test the results and examine alternative approaches.

The availability of this information on diskette and on easy-to-use software is intended to help educational policy advocates promote education not only as a basic right, but as a very profitable form of social investment

that is fully competitive, in the long run, with traditional economic investment. This should not be seen, of course, as an excuse to push for increased budgetary allocations and expenditure without cost-consciousness. Experience in many countries has shown that excessively rapid and careless educational expansion, without first reforming management, policy, and internal allocation problems, drives unit costs upward, does not produce the intended impacts on enrollment and quality, and can discredit educational expenditure as a form of investment. To improve education, management and policy reforms should precede increased allocations. ❖

From BRIDGES Research Report No. 12, available from Project BRIDGES, One Eliot Street, Harvard University, Cambridge, MA 02138 USA. To obtain the EIM diskette and data, write the authors at the Center for International Development, Research Triangle Institute, P.O. Box 12194, Research Triangle Park, NC 27709-2194 USA.



Where are the Women in Educational Management?

By Lynn Davies

A study of women in educational management reports its findings.

Women are seriously underrepresented in management positions across the world, even in countries where education is seen as a female's prerogative. Whatever the overall gender balance of the teaching profession in a country, that is, whether it is male-dominated, female-dominated, or equally balanced, the proportion of women declines as seniority increases. Although we can find women in very powerful positions in education in a number of countries, women are not equally represented throughout the various hierarchies of the education system.

Research Findings

Results of a research project of the University of Birmingham on gender, career and school management in low income countries indicate concerns and findings which underpin particular and perhaps controversial recommendations for school management structures and for management training. Questionnaire data supplemented by ethnographic interviewing and observation were used in Botswana, the Gambia, Nigeria, Uganda, Zambia, and Malaysia, providing a cross-country sample of 252 questionnaires. An in-depth case study conducted in Sri Lanka included a sample of 237 questionnaires across 15 schools. Together this makes nearly 500 returns, which although not vast, is enough to start teasing out whether, if gender issues emerge, they are not limited to one culture with a particular history. There were some similar findings from the cross-cultural and the in-depth case study. Different gender balances were, it is true, found in the two samples, with 80% of the respondents female in Sri Lanka as opposed to 42% female in the predominantly African responses. Yet in both areas we find proportionally more women than men in 'non-management' positions, and therefore men more likely to assume middle or senior administrative positions in the schools.

What then does this study show such underrepresentation to be related to?

The study showed no evidence of any inbuilt difference in 'career aspiration' between men and women. Nor were there significant differences in qualification levels or previous experience. Neither were there any significant gender differences in terms of perceptions of a conflict between family and school. There are at least two explanations for this apparent lack of complaint about women's additional domestic duties. One is that the cultures in the study lean toward extended family and/or the availability of cheap domestic help. Certainly, interview data from Botswana support this idea. Women teachers often cited the presence of servants or younger relatives in the home as the reason they felt little stress from their work.

Another explanation, of course, is that women take for granted their various commitments, and do not think of them as problems. The pilot study found that women classroom teachers did more housework than men, but women headteachers also did more than men headteachers, spending about the same amount of time as women classroom teachers. Presumably they have become adept at time management. (A Botswana headmistress I interviewed was breast-feeding her sixth child while talking to me and sorting out the staff rotas for the term.)

Do women perhaps want different things from an organization in terms of its management, structure and personnel? At first sight, no. Across the world, women and men place a high priority on constructive criticism, recognition for doing a good job, social contact with colleagues and efficient administration. A surprising finding initially was that neither men nor women appeared to want much participation in management. In both contexts, they placed 'opportunity to practice areas of school management myself' at the bottom of a list



Jorge Valdes

of 'wants' from the organization. It was expected that men would place this higher, but, as we saw later, it was not that men wanted to *manage*, it is that they want to *excel*. Women and men in general went into teaching to teach: what they both valued from their work was the 'feeling that they were doing a socially useful job' and that they were 'transmitting knowledge effectively.'

If neither sex necessarily wants to 'manage,' and women are not constrained by dual roles, limited career aspirations, or inadequate job satisfaction, what explains the predominance of men in decision making positions? The most convincing 'gender differences' from this research are, stated baldly, that:

- men perform more of the managerial tasks in school in general;
- men assume in particular more of the 'hard' managerial tasks anticipatory of public decision making;
- men are more confident (arrogant?) about their capacity for managerial tasks, whether or not they actually perform them;
- in some of the men, there is a noticeable language style stressing competition, material reward, and status.

What is particularly instructive is the confidence levels expressed. Men think they would be good at jobs, even if they do not do them; women express less certainty about their competence even in those arenas where they have shown themselves capable. The interview data found that women have to be persuaded to take on positions as head of department or deputy head:

"...I didn't think I would be equal to it, although I realize now I enjoy it... perhaps I'm not confident until I actually do something and prove to myself I can do it. As

soon as it's discovered it's just personal relations, the other things come easily." (Head of English, Botswana)

So there is a mystique that has to be dispelled: it has always been in the interests of those in power to present and justify their roles as high level, expert, and difficult, but this is particularly problematic for those who are genuinely cautious about capabilities. A Zimbabwean woman Head of Department provided some more clues:

"I have never been one for a leader. Even heading the Department I had to be persuaded there was a need...it was a question of searching myself...I enjoy working with fellow teachers, but keeping them as fellow teachers, not below me, looking up to me."

Here the persuasion is necessary because of the reluctance to be above others - difficult for a person who prefers collegiality.

One feature of interest was the prevalence of competitive, status-oriented, and materialistic language in which some men couched their hopes, fears, and desires. It was only men who expressed their hopes for their students in terms of winning competitions, their hopes for themselves in terms of "get to number one position in my subject and the country," who couched their hopes for their family in terms of "have a good happy home that is the envy of others." They were far more concerned about finance, pay, and the material conditions of teaching than were the women. A traditional breadwinner role, the desire to be at the 'top' and the almost childlike need to be envied drive some men to succeed, regardless of proven competence. A competitive, hierarchical management structure will suit this motivation better than the collegial one desired by the woman above.

Therefore, there might be no contradiction between men putting 'opportunity to practice management' low on a list of priorities, yet assuming and feeling confident in a range of managerial roles. It may be less that men want to manage, but that they want the prestige or reward that public duty provides.

Implications for Management & Training

There were men in the survey who were non-competitive, expressed caring roles,

Examples of Gender-Based Statistics

Proportions of Female Teachers and Heads in Three Countries

		% female teachers	% female heads
Brunei	Primary	6	2
	Secondary	49	27
Philippines	Primary	77	22
	Secondary	57	12
Zimbabwe	Primary	40	1
	Secondary	32	10

Source: Annual statistics and private correspondence

Zimbabwe: Senior and key staff at Ministry of Education, 31 December 1988

	Male	Female
Secretary for Primary and Secondary Education	1	0
Deputy Secretary	3	0
Chief Education Officer	7	0
Under Secretary	2	0
Deputy Chief Education Officer	11	0
Chief Executive Officer	6	0
Assistant Secretary	1	1
Regional Director	9	0
Deputy Regional Director	18	0

Source: Annual Report of Secretary for Primary and Secondary Education, 1990

Papua New Guinea: Women in administrative positions in education, 1988

	Male	Female
Curriculum writers	30	7
Executive Officers	8	3
Teacher Education Division		
Professional Officers	34	8
Schools Administration		
Professional Officers	17	3
Guidance Inspectors	7	5
Education Department		
Division Heads	10	0
Superintendents	21	1

Source: Wormald and Crossley, 1988

and articulated low self-confidence about administrative tasks. However, the agendas for school management and 'suitable' personnel tend to be set by the 'competitors' rather than the 'sharers.' Once career ladders and hierarchies are in place, it is difficult not to play the game. Women, like non-competitive men, have difficult choices. They can uncritically assume 'ambition' to be the correct driving force for job satisfaction; they can refuse to join the race; or they can work for alternative models of ordering schools which do not exclude the majority from decision making and do not create management as some-

thing to 'get into.'

Running management training courses presents an equally difficult set of dilemmas. Simply teaching a course implies assumptions that there are expert skills which cannot be fully realized until one has sat at the feet of some guru. Even if one calls oneself a 'facilitator' there are still uncomfortable power dimensions. Running women's management training may be particularly ironic when one considers the research that shows that women have considerable management skills from their 'nurturing' roles, and that it is men who need the training in human relations.

The message seems to be that women become excluded from management less because of previous learned traits and more because school management is organized and conceptualized in a way that hinders their participation. Women expressed a desire for rotational management, which would give people a chance to manage without the permanent trappings of power. They prefer collegial styles, where the person responsible for a department or committee is not a 'head' or a 'leader' but a sorter-out of tasks.

It is not inscribed in stone that management has to imply that people are either 'under' or 'over' others. It is not for me to portray the perfect gender-neutral model of school management, for that would be equally dominating. If management training is to be useful, it is for participants to start from scratch to design structures and task allocations that are flexible enough to allow everyone, women and men, to experiment with different roles. I want to suggest, however, that one major aim would be to prevent permanent competitive status differentials which lead to the underrepresentation of certain groups - such as women - in the important decision making which conditions our schools, our educational thinking, and ultimately our societies. ❖

Lynn Davies is Director of the International Unit at the School of Education, University of Birmingham. A full account of the investigation summarized in this article will be published as Women, Men and Educational Management: An International Inquiry by L. Davies and C. Gunawardena (International Institute for Educational Planning, Paris.)

Innovators in Education

In Hidalgo, Mexico, Jesus Salinas, a linguist and Nahnun Indian, is using computers to help Indians create a written tradition out of their oral languages to preserve their indigenous language and enrich their children's education and their culture.

The Problem

There are 56 different ethnic groups in Mexico that compose approximately an eighth of the national population. Each group speaks a different language, or a different dialect of a common language, but few read or write in that language. This is primarily because the language has never been written down.

The education system in Mexico makes provisions for bilingual education, but since most Indian languages have no texts, students learn Spanish exclusively. Perceived therefore as the language of knowledge, Spanish increasingly pre-empts the indigenous language among younger generations, leading to a general decline in the vitality of Mexico's indigenous cultures. For the smallest groups, this waning influence spells extinction within a few generations. The larger indigenous peoples find little safety in numbers: their languages are generally splintered into various dialects lacking a common written tradition, and are likewise in danger of dying from lack of use.

These endangered languages are more than curious artifacts. They embody the ways these cultures have learned to think and the values that undergird them. Languages need to be standardized, students need to be taught how to read and write in their own language, as well as Spanish, and a wealth of new materials needs to be produced that entices and inspires students to exercise their new skills.

The Idea

Computers are an extremely useful tool for creating unified alphabets among different dialects, preparing dictionaries, producing texts quickly and inexpensively, and more. At his Workshop in Indian Languages in Oaxaca, Jesus trains repre-

sentatives of Indian groups to use the computer in these ways so that they may begin recording their language before it becomes extinct.

Once a group standardizes its alphabet and grammar, they can begin producing the body of work that will be used to teach reading and writing to their children in their native tongue, a far easier and more satisfying exercise than learning these skills in a foreign language. Most of the new texts will be produced by translating Span-



Jesus Salinas

ish books into the new written language, but Jesus also has his workshop set up so that anyone in Oaxaca can write original works on the computer, from local histories to family recipes.

The Strategy

Through his Workshop in Indian Languages, Jesus has already trained representatives of the Mazatec, Chinantec, Amuzgo, Zapotec, Mixtec, and Ayuuk ethnic groups to begin standardizing their languages using specialized computer programs. Jesus leaves the method of standardization to the ethnic group. Some first unify the language, then write. Others first write and later reach an agreement on a unique and practical alphabet and grammar.

The center encourages and facilitates the process. Jesus contacts different communities and explains his program and invites representatives to his center in Oaxaca. There the representatives learn the techniques that will simplify the process of recording their language, such as compiling a language's first dictionary, or incorporating, more easily than traditional typesetting, signs and symbols unique to a particular language.

The center also operates as a community writing center and a small-sized publishing house, producing new texts in less time, and with less effort and cost, than traditional printing. The computers at the center have been donated by IBM and Apple.

"We are in an age of technological advancements, and just because we are Indians, we are not exempt from these achievements," says Jesus.

Jesus now wants his new trainees to begin working with other indigenous groups in danger of losing their language before anyone can record it: The Chocho, Ixcatec, and Cuicatec in the state of Oaxaca, and the Kilimas, Kimiais, and Paipais in the state of Baja, California Norte.

The Person

Jesus initially studied to be a teacher in his native state of Hidalgo. He taught primary school for a few years, directed one for five years, then went to the state of Oaxaca to become a teacher in a secondary school.

Pursuing an interest in computing and linguistics, Jesus went to the University of Florida. He became a field assistant and eventual coauthor of studies of the Otomie (Nahnun) Indians with an American anthropologist, and he has since published ethnographies of Nahnun culture in both English and Spanish. ❖

Jesus Salinas is an Ashoka Fellow. For more information, please write to the Ashoka Foundation, 1700 North Moore Street, Suite 1920, Arlington, VA 22209.

Please send your story about an innovator in education (with a photo, if possible) to The Forum Editor.

What's Happening

June 3 - June 30

Cornell University

"Communication Planning and Strategy"
Ithaca, New York, USA

Contact: Department of Communication
Cornell University
Kennedy Hall
Ithaca, New York 14853, USA
Tel: (607) 255-6500
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Telex: 6713054

June 28-July 2

Association Francophone d'Education Comparee/University of Bourgogne Fifteenth CESE Conference

"Evaluation of Education and Training:
Comparative Approaches"
Dijon, France

Contact: A Goguel
IREDU
University of Bourgogne
BP 138
21004 Dijon
Cedex France

June 30 - July 31

Harvard University

Educational Policy and Planning Workshop
Cambridge, Massachusetts, USA

Contact: Education Group
Harvard Institute for International
Development, One Eliot Street
Cambridge, Massachusetts, USA
Tel: 617-495-9720
Telex: 275276
Fax: 617-495-0527

July 8-14

VIIth World Congress of Comparative Education

"Education, Democracy and Development"
Prague, Czechoslovakia

Contact: Prof. Frantisek Singule
8th Congress WCCES
M D Rettigove 4
CS-116 39 Prague 1
Czechoslovakia
Fax: 0042-2-290225

July 18 - September 18

University of East Anglia

"Gender Analysis and Equity in
Development"
Norwich, United Kingdom

Contact: The Course Coordinator
Overseas Development Group
University of East Anglia
Norwich NR4 7TJ
United Kingdom
Tel: (0603) 5788-
Fax: (0603) 505262

August 18-21

Society for the Advancement of Games and Simulations in Education and Training (SAGSET) and International Simulation and Gaming Association (ISAGA)

Joint Annual Conference: "Developing
Transferable Skills through Simulation and
Gaming in Education and Training"
Edinburgh, Scotland

Contact: Dr. Fred Percival
SAGSET/ISAGA Conference 1992
Craiglockhart Campus
Napier Polytechnic of Edinburgh
Edinburgh EH14 1DJ
Scotland, United Kingdom
Tel: 031-455-4394/4320
Fax: 031-455-7209

October

African Council on Communication Education

"Communication and the Environment in
Africa: Challenges for the Future"
Cairo, Egypt

Contact: ACCE Executive Coordinator
P.O. Box 4795
Nairobi, Kenya

November 6-7, 1992

Comparative and International Education Society

1992 Western Regional Conference
"Democratization in School and Society"
Stanford, California, USA

Contact: Shari Seider
Hans Weiler
SIDEK-CIES Meeting
School of Education
Stanford, California, 94305-3096
USA

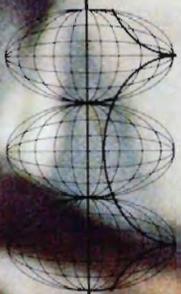
June 27-July 2, 1993

World Association for Educational Research

11th International Congress
"The Role and Place of the Humanities in
Education for the World of the 21st
Century"
Jerusalem, Israel

Contact: Professor Yaacov Iram, Congress
President
c/o International Ltd.
P.O. Box 29313
61292 Tel Aviv, Israel
Tel: 972 3 5102538
Fax: 972 3 660604

Please send calendar submissions to:
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Cambridge MA 02138 USA
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THE FORUM

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