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**ECONOMIC INCENTIVES AND LITERACY MOTIVATION:  
A PRELIMINARY STATE-OF-THE-ART REVIEW**

prepared by  
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## PREFACE

### Introduction

There is widespread agreement that literacy is an essential element to individual and societal development. The 1960's and 70's were a period of interest and experimentation in literacy training as international attention was drawn to the field through the work of UNESCO and its Experimental World Literacy Programme. Yet, educational practitioners and researchers are far from consensus in their analyses of the role that literacy plays in the social, economic and civic integration of individuals in the development of their country.

Literacy training continues to be a high priority in the educational program of the developing nations and an educational field supported by international donor agencies. USAID and other donor agencies have recognized the importance of further research on literacy and have sponsored studies to provide guidelines for program planners, to test literacy methods and materials, to train literacy workers and to encourage greater learner participation in program development.

An emerging concern in these efforts is that of the questionable effect economic improvement has on the acquisition of literacy skills. Or, stated differently, what is the likelihood that economic improvement will serve as an incentive for adults and/or out-of-school youth in literacy training programs. Related questions have included:

- Is literacy training more successful when it coincides with practical skills training?
- Does motivation to learn to read precede or follow practical skills training?
- What is the relative strength of political, cultural/social or economic variables on the acquisition of literacy?

The Literacy Oriented Functional Education Project (LOFE)

The purposes of the Literacy Oriented Functional Education Project (AID/DSPE-C-0045) undertaken by Creative Associates, Inc. are threefold:

- a. The preparation of a preliminary State-of-the-Art Review on what is known about the influence of economic incentives on the acquisition of literacy skills and the suggestion of hypotheses from the review for field testing.
- b. The conduct of a two site field test with LDC subcontractors of hypotheses related to literacy motivation and economic incentives.
- c. The refinement of the initial State-of-the-Art Review to incorporate field test findings and the dissemination of the final report to interested individuals within donor agencies and developing countries.

### Preliminary State-of-the-Art Review

The objective of this preliminary review "Economic Incentives and Literacy Motivation: A Preliminary State-of-the-Art Review," is to clarify what is known about the influence of economic incentives on the acquisition of literacy skills and to suggest hypotheses for consideration for testing in field sites in Latin America (1) and Africa (1). The review is the product of the first nine months of phase one of the three year investigation by Creative Associates, Inc.

In the review, contributors analyze existing information on how economic incentives are associated with literacy motivation, provide definition and clarity on issues surrounding the subject and propose relationships and suggest hypotheses for testing. The knowledge base provided by the review will be used during the second phase of the project, years two and three, to design and evaluate field tests in collaboration with LDC institutions.

Procedures used in conducting the State-of-the-Art review were:

1) identification of relevant documents through:

- a computer search of ERIC documents;
- use of research assistants guided by subject matter specialists;
- referrals by literacy specialists and by skills training specialists who have conducted programs with literacy components to specific materials.

These professionals were located in international development agencies, national government offices,

private voluntary organizations with international programs and local and regional centers known for their innovation in literacy oriented skills training programs in Asia, Africa, and Latin America (see Appendix A).

- consideration of literature identified by Creative Associates staff and consultants.

The review considered selected documentation from anthropology, rural development, vocational and adult education, agricultural extension, the economics of education, sociolinguistics, the social psychology of learning and development education.

2) evaluation and synthesis of material based on:

- observations during site visits to operating literacy oriented functional education programs in Asia, Africa and Latin America; and
- interviews during site visits with neoliterates, program administrators, curriculum development specialists, instructors, teacher trainers and evaluators.

The review is being circulated to a limited number of literacy policy makers, planners, program implementors, evaluators and practitioners for

comment. Because of their theoretical and practical experience in planning and implementing literacy programs, these individuals are being asked to comment with respect to the:

- completeness of the information provided in the review;
- accuracy of analysis in relation to their own experiences and findings; and
- relevance of the analysis contained in the review to their own needs and work.

Following the incorporation of responses and critical comments as well as the results of testing in field sites, the conclusions of the project will be made available to a similar but wider audience.

The review is organized into seven chapters. In Chapter One, "Overview of the Study and Analysis of Efforts to Relate Economic Incentives and Literacy Motivation," the focus of the review is described, terms are defined and an analysis of case studies and research on economic incentives related to motivation to acquire literacy skills is presented. The chapter concludes with suggestions of areas for clarification basic to an improved understanding of the link between enhanced economic well-being and literacy motivation.

Chapter Two, "Economic Arguments for Literacy," presents a set of positions which policy planners have argued as the economic justifications for investment in basic education. In their discussions, basic education has included various levels of literacy and numeracy.

In Chapter Three, "A Framework for Assessing the Economic Value of Literacy to Individuals," an analysis of the economic incentives and disincentives from the perspective of individual participants is offered. The chapter provides a working definition of the value of literacy skills which takes account of 1) the nature of the economic result, 2) the tasks through which the results may be obtained, and 3) the ways in which the individual perceives the available economic opportunities. The author discusses aspects of programs which can be tailored to lessen risks and increase rewards and thus improve the individual's likelihood of success. This chapter is of particular interest to those who wish to consider economic incentives from the individual's perspective and to plan for the provision of basic education in a specific economic setting.

In Chapter Four, "Environmental Factors Motivating Literacy," discussion turns to a set of societal and linguistic factors which influence the level of literacy skills needed to function within a community and which provides a supportive environment for learning. The author proposes that the more literacy and numeracy are used to perform daily tasks, the greater the motivation will be to obtain literacy skills.

In Chapter Five, "Perception: Personal Values, Self-Awareness and Occupational Concepts Which Influence the Learner's Acquisition of Literacy," the learner's self-perception is examined in relationship to economic opportunities and the literacy/numeracy skills he/she must acquire in order to participate in the opportunities. Several hypotheses are developed from the observations that 1) perception is a major variable in the learner's motivation to acquire new

levels of literacy and numeracy skills, and 2) that a refined perception can be facilitated during literacy/numeracy instruction. Refined perception is described as:

- an understanding of one's opportunities;
- information on what is involved in participating in these opportunities; and
- awareness of one's capacities to perform the skills required to participate.

Personal values, self-awareness and occupational concepts are analyzed to determine how they influence the learner's striving to acquire literacy/numeracy skills.

The effect which the presence of a literacy instruction program has on an individual's motivation to acquire new levels of literacy is examined in Chapter Six, "The Instructional Program and the Learner's Occupational Perception." While the presence of the program is considered as a variable, it is recognized that the quality of the program can influence the learner's continued participation in the program. Three aspects of literacy instruction programs are analyzed to determine which methods or approaches can be considered "best" in a program which combines literacy and vocational skills instruction. These three aspects are: program content, instructional pedagogy and materials and internal program monitoring.

In Chapter Seven, "Hypotheses and Strategies for Field Testing," a general discussion of problems expected to be encountered in conducting summative evaluation is presented. A summary of possible hypotheses is presented, as well as

a description of indicators for measurement. The hypotheses are at best a first approximation and will be used to suggest and evolve a design for use in specific research settings.

Two appendices accompany the report. Appendix A is a listing of the individuals contacted and/or interviewed during the first phase of the project. Appendix B, "Literacy Oriented Functional Education - A Bibliography," which was organized and compiled by Olga Navia and Mary Rainey, contains a listing of materials recommended and/or received from literacy specialists contacted during the development of the review. The materials are listed and cross-indexed using a subject matter classification system developed after reviewing reference terms used by the Non-Formal Education Information Center, Michigan State University and the Literacy Section of the UNESCO library in Paris. These references constitute a core of literature used by chapter authors. Selected references considered most relevant to the positions taken by individual contributors to the review are noted following each chapter.

The authors wish to express their sincere appreciation to Jeanne Moulton, James Hoxeng, Bernard Wilder, David Sprague and James Singletary of AID/Washington for their support during the development of the review.

Creative Associates is also grateful to the numerous individuals in international agencies and national organizations who shared their insights during interviews and provided project documents and studies for the review. The excellent critical comments received from chapter consultants Sue Hoben, David Kahler, Lyra Srinivasan, and William Thuemmel are also acknowledged. Creative Associates, Inc. takes sole responsibility for the material presented as well as omitted in this review.

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CHAPTER I - OVERVIEW OF THE STUDY AND ANALYSIS OF EFFORTS TO  
RELATE ECONOMIC INCENTIVES AND LITERACY MOTIVATION

by Mary C. Rainey

This chapter is divided into two parts. The first introduces the subject of the state-of-the-art review, while the second presents an historical analysis of efforts to relate economic incentives and literacy motivation.

Overview of Study

The focus of this review is the economic incentives which act as motivational factors in literacy training programs. In the review, it is proposed that the learner's motivation to achieve literacy varies depending on:

- the learner's environment,
- the learner's perception of the economic environment, and
- the presence of a literacy/skills training program in the environment.

In order to pose hypotheses with respect to the presence and interaction of these factors on literacy motivation, the report analyzes information on four questions:

1. How do different types of economic environments provide incentives to achieve literacy (Chapter 3)?
2. How does the strength of the literacy environment affect people's motivation to acquire literacy skills (Chapter 4)?

3. How does perception of economic opportunity motivate people to acquire literacy skills (Chapter 5)?
4. What instructional methods, approaches and information can be influential in the learner's decision to acquire new levels of literacy skills (Chapter 6)?

#### Limitations of the Study

The review was conducted with reference to skills training programs that lead to income generation. It is assumed that within these programs:

1. literacy skills are necessary and/or helpful in the application of the vocational skills being learned;
2. perception is shared by teachers, planners and learners that literacy skills are necessary and/or helpful in applying the skill; and
3. learner attendance is voluntary.

Excluded from consideration are mass literacy campaigns which promote a political ideology, religiously oriented literacy efforts, and programs which obtain participants through coercion or economic bribery, either in the form of food or money.

### Definition of Terms

A number of terms are used frequently in the discussion of the nature of the link between economic incentives and literacy motivation.

These terms are defined as:

- motivation - an internal drive that leads to action.
- self-concept - "a person's total appraisal of his appearance, background and origins, abilities and feelings which culminates as a directing force in behavior."<sup>1</sup>
- perception - how one views the world in relation to one's self-concept.
- incentive or inducement - an external factor which causes one to act.
- economic incentives - economic goods which the individual desires and which are expected as a result of an action. The expected contribution of literacy to a better quality of life may be a better job, an ability to participate in modernizing sector activities that demand reading newspapers, instructions, bills, or the capacity to survive in the marketplace among those who are literate and who use their skills to their own advantage.

Economic incentives are linked to a variety of different levels of literacy, as for example, when there are literacy requirements for job entry and advancement. Numeracy is often more directly required for economic functions than is literacy.

- literacy and levels of literacy - a group of skills involving decoding and encoding of written information and symbols. Literacy, as used here, includes reading, writing and numeracy skills. Although important, other literacy skills such as visual literacy and technological literacy, are not included in the use of the single term "literacy." Different degrees of competency or levels of literacy are achieved at different points in one's life. It is more accurate to discuss literacy as a continuum rather than as a completed state.

While there is agreement that literacy consists of communication skills, there is less agreement among the authors on other attributes which have been ascribed to literacy. Some assumptions held are that literacy implies the ability to participate in learning and change and that it is concerned with the learners' hope and expectation of a better life. The types of literacy demanded are shaped by a continuously changing

world. The historical evolution of the concept of the role of literacy in development is described in Chapter 2.

- literacy skills - reading, writing and computation skills. Numeracy skills such as symbol recognition, the ability to do simple calculations, measurement skills, record keeping and estimation may be at least as economically important as the literacy skills of encoding and decoding written information. The term literacy is used to cover all of these information processing skills.
- functional literacy - literacy skills which allow one to function in a specific environment. While literacy is associated with a recognizable core of skills, the context defines what level and type of literacy is required to be functional. A nuclear scientist and a computer specialist in the Sahel may be highly literate in their professions, but their literacy does not contribute to their functioning in that context. On the other hand a self-employed Sahelian farmer who can read agricultural extension bulletins and keep records is functionally literate with respect to the needs of daily life.

Two other terms used in this report which have specific meaning are "the economic environment or context of literacy" and "literacy environment." These terms are discussed in depth in Chapters 3 and 4.

#### Efforts to Relate Economic Incentives and Motivation to Acquire Literacy

There is a long history of efforts to relate economic incentives to the motivation to acquire literacy skills. An examination of the case studies and research developed in these efforts suggests lines of investigation needed to clarify the link between these incentives and literacy motivation. Primary among these reports are those of the Experimental World Literacy Program (EWLP) which made a concerted effort to maintain continual evaluations on all its programs. While perhaps not as thorough as the EWLP evaluations, other research efforts, case studies and anecdotal accounts add to the understanding of past efforts.

The EWLP program ran over a decade as indicated in Chart One, "Chronology of Experimental World Literacy Activities." It was conceived in an era of optimism when new nations were coming into existence and expectations for social and economic progress were high. As the basis of the worldwide literacy experiment, a concept of development-linked functional literacy was proposed in which literacy skills would be introduced as an integral part of overall development efforts and taught in combination with vocational training for direct application in occupational settings. Initially, emphasis on direct economic incentives was central to the design.

## CHART ONE - CHRONOLOGY OF EXPERIMENTAL WORLD LITERACY ACTIVITIES<sup>2</sup>

- 1964 Thirteenth session of the General Conference of UNESCO agrees to initiate a five year experimental world literacy program.
- 1965 World Conference of Ministers of Education on the Eradication of Illiteracy meet in Tehran.
- 1967 UNDP sponsors EWLP in Algeria (4 years), Ecuador (5 years), Iran (4 years), and Mali (5 years).
- 1968 UNDP sponsors EWLP in Ethiopia (5 years), Guinea (3 years), Madagascar (3 years), and Tanzania (5 years).
- 1969 UNDP sponsors EWLP in the Sudan (3 years).
- 1970 UNDP and FAO sponsor programs in India (3 years) and Syrian Arab Republic (4 years).
- 1971 Algeria begins second phase (4 years); Iran extends program (1 year); EWLP ends in Guinea and Madagascar.
- 1972 Sudan extends program (1 year); Mali extends program (4 years).
- 1973 India begins second phase (1 and 1/4 years); EWLP ends in Ethiopia, Sudan and Tanzania.
- 1974 EWLP ends in Algeria, India, Syrian Arab Republic and Ecuador.
- 1976 EWLP ends in Mali; publication of The Experimental World Literacy Programme: A Critical Assessment.

In operation, however, the link with national and sectoral production priorities was not always realized. EWLP activities in Algeria and Iran are examples of the varied success experienced. In both countries, administrators proposed that content be evolved which would deal with geographically and occupationally specific applications; i.e., what seeds to plant in a given area or how to introduce a vocabulary specifically related to irrigation, the crafts industry or cooperatives management.

When EWLP was introduced in Algeria in 1967, some ministers were not convinced of the importance of literacy for their sectors. Seventy-five percent of Algeria's population were not literate and industrial development plans were developed with an illiterate labor force in mind. Industrial enterprises saw little reason for supporting literacy programs.<sup>3</sup>

When EWLP began in Iran, also in 1967, the government was supportive, viewing it as a means to test and validate methods. Initially, the government developed a strong program which linked literacy and vocational training. However, giving in to pressures for enrollment, Iran abandoned its attempts to link literacy with the human resource development scheme of the national plan. It allowed crossing over of persons in one occupation into programs for another sector in order to accommodate rapid change in employment patterns.<sup>4</sup> While this movement may have reduced the experimental value of the Iran literacy experiment, it is not apparent that it resulted in a weakened literacy effort; it may have increased the value of the training to the individual.

By 1971, the emphasis in EWLP materials was on the development of critical awareness of the learner's roles in society. Literacy developed with this emphasis is expected to lead to judgements by the learner as to what is appropriate change. Such a judgement requires participation in social, cultural and political change as well as economic growth.

Functional literacy programs which fit this new perspective incorporated techniques which emphasized problem solving as part of the skills to be learned. Algeria incorporated both a task orientation and a problem solving orientation, for example, in training agriculturalists in self-management.<sup>5</sup> Following a needs assessment, Mali incorporated problem solving techniques into its functional literacy classes.<sup>6</sup> The Sudan also adopted a problem solving emphasis using dialogue techniques.<sup>7</sup> Tanzania provided the strongest active support for functional literacy which fostered critical awareness. Nyerere adapted the results of EWLP's selective experiment into a national adult education campaign to achieve national development through self-sufficiency in food and through self-reliance.<sup>8</sup>

A third concept emerging at the end of the EWLP was that development should be viewed primarily as social reform. Critics holding this view rejected EWLP's functional literacy approach in favor of psycho-social literacy methods focusing more strongly on political awareness. Ecuador emphasized social awareness and participation themes in its revision of EWLP and tied functional literacy to agrarian reform. Eventually, it rejected EWLP's work-oriented philosophy as less appropriate than Freire's psycho-social methodology.

The EWLP projects were conceived as efforts which would capitalize on the individual's desire to participate in economic activities; however, as its reports indicated, the participating countries failed to have the same concept or acceptance of the goal. As a result, few empirical statements can be made about how the perception of economic improvement creates motivation to acquire literacy.

One assumes that most learners are motivated by a conception of improved quality of life, but one must question whether certain conditions are necessary to enhance this motivation. Are some environments more conducive than others to an instructional strategy that emphasizes economic incentives as a motivational element within the program? Are certain types of economic incentives more apparent and, thus, more motivating? Is there a particular relationship between literacy and participation in economic activities that must be clarified before the promise of participation in these activities will be a motivational factor in the learner's decision to acquire new levels of literacy?

A review of efforts to emphasize economic incentives for motivational reasons results in some answers, and more questions. For instance, it is clear that participation in specific economic activities requires a specific level of literacy; i.e., a salaried typist needs eight years of schooling, while a mason may need the equivalence of four years of math and drafting to do the job well. Farmers may need a thorough knowledge of addition, subtraction and multiplication to calculate the right amount of fertilizer, while a part-time farm laborer may need no literacy skills to draw a salary.

Perhaps this understanding that the literacy requirements of most salaried positions are relatively high motivated many of the long-term participants of the EWLP programs. An indicator of the value of higher levels of reading and writing to individual participants is the EWLP record of attendance. Figures reported are based on a variety of resources including registration counts, daily attendance records, and completion statistics for different cycles. Chart Two, "Attendance Summaries of Experimental World Literacy Programs," shows the kinds of attendance record information available. In most instances figures from a number of programs are reported in combined form, blurring rural/urban and male/female distinctions. The emerging pattern indicates the greatest dropout rate occurred during cycle one; those who continue in later cycles attended with far greater regularity.

Why do these differences occur? Perhaps as Gray points out, participants wanted to achieve different levels of literacy:

Since the value of reading and writing are many, we are faced with the question: What level of literacy is needed to attain them? We must remember that there are many levels of literacy, varying all the way from mere ability to read a simple statement and to write one's name to a high level of maturity in reading interests and habits.<sup>10</sup>

#### Economic Incentives and Literacy Motivation in Industrial, Agricultural and Domestic Sectors

Acquiring a higher level of literacy increases an individual's access to more resources by improving competence as a producer and as a consumer. The

CHART TWO -  
ATTENDANCE SUMMARIES OF  
EXPERIMENTAL WORLD LITERACY PROGRAMS<sup>9</sup>

	Percentage Drop Outs Cycle One	Percentage Drop Outs Cycle Two	Percentage Drop Outs Cycle Three	TOTAL PERCENTAGE DROP OUTS
Algeria	30%	21%		51%
Ecuador				"low enrollment"
Ethiopia				87%
Family life	50%	25%		
Jima	63%	79%		
Agricultural	29%	(gain lost)		
Industrial	35%	34%		
Guinea				No data
India				No data
Iran		60% drop out at end of second cycle	75-90% reten- ion among those who started second cycle	
Madagascar				No data
Mali				No data
Sudan	37%	12-23% drop out for those starting second cycle		
Syria				60%
Tanzania				29% males 71% females

relationship between acquiring higher levels of literacy and increased productivity has been studied in industrial, agricultural and domestic sectors.

In industry, the earning power, taken in this discussion as a rough indicator of productivity, of literate workers is greater than non-literates. This generalization is reflected in studies such as Carl Shoup's research of education and earning power in Venezuela.<sup>11</sup> Shoup's research indicates that non-literate labor whether on land or in towns earns considerably less than literate labor. In Bombay, the Indian workers' literacy was seen by supervisors as facilitating productivity in a comparison of the performance of literate vs. non-literate textile workers. Production supervisors perceived literate workers to be more competent in undertaking skilled jobs, in handling complex machinery and in understanding moderate repairs. In addition, literate workers were thought to have a better aptitude to learn new techniques of production, to take more initiative in acquiring training and to be more achievement motivated. They could read about safety measures and had greater safety consciousness than their counterparts.<sup>12</sup>

An EWLP literacy program in Iran's textile factories, the Taj woolen mill in Isfahan, was organized within the factory with special transportation made available so participants would attend at their convenience during hours outside the regular shift. The management was at first skeptical of the program's worth, a reaction shared by employers in sectors in other EWLP country programs who felt the skills required did not include literacy. In Iran, skepticism was removed when there was a notable increase in the workers' skills and improved work attitudes. Production errors declined as did accident rates and absenteeism.

Based on these results, the management extended the program and granted more increases to all workers who successfully completed the program.<sup>13</sup>

Work-oriented literacy training in the Iranian factory was given at the factory outside normal working hours with no loss of production. The Rio Doce Project in Brazil, however, allowed workers to participate for half a day during working hours without loss of pay. Supervisors saw gains in productivity including "workers making fewer errors because they could read instructions; less need of explanations, more punctuality and greater pride in performance."<sup>14</sup> Throughout the experiment, increased production was noted by supervisors. The higher wages were clearly the most powerful motivational aspect of these programs. Conversely literacy programs which attempted to increase production unaccompanied by personal rewards have been resisted by the workers. For a discussion of the costs and benefits as perceived by participants, see Chapter Three.

All the successes reported above are in industrial situations with salaried employees. In each situation, the employees were able to see daily a relationship between their literacy attainments and increased productivity and often, increased wages. How important is this immediate "feedback" to the effective use of economic incentives as a motivational element within an instructional program?

While literacy has been studied primarily as an urban phenomenon in developing societies, there is some indication that individual productivity in agriculture also increases when greater levels of literacy are acquired. It also

must be noted that research on literacy retention such as that of Roy and Kapoor, contradicts this point. They note that residence in rural areas is likely to result in lack of use of and thus loss of writing and reading skills.<sup>15</sup> Phillips generalizes that "... many literate people continue to behave as illiterates because their society and the behavior of its members is preliterate."<sup>16</sup>

As in urban areas, literacy oriented functional education programs in rural areas assume the existence of opportunities to apply literacy skills and the favorable attitude of participants toward participating in the institutions in which these opportunities exist. When, as in the Sudan's Experimental World Literacy Programme, farmers rejected participation in cooperatives and nomads refused integration into the national culture, literacy programs linked to these activities were rejected.<sup>17</sup>

When, however, social structures and facilities supporting the use of literacy are present in rural areas, literacy rates increase. Land reforms and the redistribution of some wealth allows the landless and marginal farmers to become small farmers with a marketable surplus.

Adishesiah offers an inventory of the functions of literacy for the small farmer which assumes the presence of mechanized and scientific farming, a market economy and credit. These functions include:

Knowledge of the new seed fertilizer technology, of the appropriate use of credit, of the difficult choices in selective mechanization, of decisions as to cropping patterns of markets and price trends, of learning farm, forestry and techniques of cooperative dairying and of the labor market ....<sup>18</sup>

Reports of the relationship between participation in literacy training and increased agricultural productivity differ depending on the size of farms. On large mechanized farms with several hundred employees, the impact has reported to be more like that noted in industry. A technical advisor on a state farm in Mali weighing the benefits against the costs of teachers' salaries and work time lost, judged that benefits well compensated the state farm. Workers formerly unable to check and sign for material and unable to deliver orders afterwards could:

Keep simple accounts, make out invoices and delivery orders, draw up check lists of the number of crates, weights of goods, etc. The technical explanations given to them in the field were better and more rapidly assimilated. The whole working atmosphere at the farm was changed favorably.<sup>19</sup>

The shortage of subordinate staff possessing a minimum of training was considered a chief obstacle to the expansion of agricultural production on large farms. A second cycle of the Malian functional literacy program was being planned by management for the more promising students with the aim of preparing them for greater responsibility. Partial evidence suggested that the level of mechanization of the farm and, thus, the number of workers who require literacy made these settings analogous to factories. Other studies have found that large farms employing unskilled labor in plantation agriculture did not seek literate workers.<sup>20</sup>

Perhaps it can be concluded that literacy has value to the individual in rural areas where a level of economic and technical sophistication exists. Certain land ownership patterns and the presence of institutions

such as cooperatives may be necessary if there is to be a connection between economic activities and literacy. Also, a relationship may exist between the enhanced literacy environment on specific, larger, mechanized farms and motivation to acquire literacy.

The vast majority of rural residents, however, do not work on large scale mechanized farms. They are more accurately described as farm family members whose work is difficult to separate from that of the other members. While the use of literacy as a means to acquiring greater resources which increases productivity and improves quality of life is difficult to document, observations indicate that literacy increases the productivity of small farmers. The small farmer is both owner and worker and functions as a manager, accountant and stock-keeper. The impact of literacy on production, Phillips points out, covers a whole range of capacities. Of special importance is the role of literacy in improving a sense of time, ability to deal in the market and obtain credit and to keep abreast of new techniques and apply them correctly.

An example of inefficiency and large loss because of illiteracy among a group of small farmers was documented in the Iranian province of Guilan. The agricultural services recommended that rice growers when sowing seed nurseries, use 34 kg of paddy seed to the hectare. Only a few Guilan rice farmers could apply the formula correctly. Because the farmers could not do arithmetic, the great majority used much more seed than prescribed. The result of this error was calculated to cost 14,000 metric tons of seed.<sup>21</sup>

Literacy also affects productivity in the household. The most important contribution of the family system to the economy is the development of human resources. With the help of other social systems, the family unit prepares or trains the human capital of a society (for a discussion of the family's impact on human resource development, see Paolucci, et al.).<sup>22</sup> Literacy program evaluations acknowledge this influence in documenting the favorable impact of participation of women in literacy programs on the achievement of higher levels of literacy by other family members. Female literacy is also associated with increased knowledge of family planning, better health, and nutrition and greater retention and higher achievement of children in school.

Literacy for the rural women means an increase in their ability to function in the rural market economy as well as in the household. Adiseshiah gives a summary of the conditions of rural women, pointing out their needs which can be mediated through literacy.<sup>23</sup> He cites UNESCO statistics which indicate that 81 percent of the 649 million rural women living in the Third World are illiterate. Their needs are multifaceted. He cites the need for employment and for the requisite occupational skills in farming, fishing, dairying, poultry keeping, fishing, net weaving and tailoring and a host of handicraft and cottage industries which can help to supplement the low family farm income.

Adiseshiah estimates that the unemployment and underemployment of rural women is in the range of 22 percent of those willing to work and able to do so. As most employment censuses in the Third World class the rural and urban housewife as outside the labor force, he comments, at present a less than

truthful picture of the demand for employment is presented; this is particularly so for unemployed and underemployed rural women. Of particular note is the growing demand of women for an improved family life coupled with greater political and social status, and greater opportunity for cultural participation in their community.

It is clear that literacy can have a beneficial economic impact on the productivity of the farm family. However, since much of the farm families' production (especially that of the farm woman) is non-remunerated, monetary incentives appear to be less significant than are the needs of the family for efficient use of their resources particularly land, time, and technology available. Economic incentives for the small farmer (the farm family) appear to be much less direct than those of the salaried employee. Little is known about how to design literacy programs which assist the small farmer in achieving these efficiencies. Experimentation in this area is needed.

This analysis suggests that a clearer understanding of the relation between economic incentives and literacy motivation will result from answers to the following questions:

How does the learner's environment influence and/or support his/her literacy motivation?

- How do economic incentives differ in urban and rural areas?
- How are economic incentives linked to levels of literacy?

- How does the presence of social structures and institutions affect literacy motivation?

How does the learner's understanding of and feelings toward the costs and benefits of acquiring literacy differ among those who are:

- self-employed,
- salaried workers, or
- engaged in non-remunerated work as a producer?

What approaches, methods and techniques (based on economic incentives) can be used in instructional programs to enhance learners' motivations to acquire literacy skills?

These questions are addressed in depth in the chapters that follow.

<sup>1</sup>Wallace D. La Benne and Bert I. Greene, Educational Implications of Self-Concept Theory (California, Goodyear Publishing Company, 1969).

<sup>2</sup>General discussion in UNESCO/UNDP, The Experimental World Literacy Programme: A Critical Assessment (Paris: The UNESCO Press, 1976).

<sup>3</sup>Ibid., pp. 17-25.

<sup>4</sup>Ibid., pp. 55-68.

<sup>5</sup>Ibid., p 18.

<sup>6</sup>Ibid., p. 80.

<sup>7</sup>Ibid., p. 92.

<sup>8</sup>Ibid., pp. 103-4.

<sup>9</sup>Chart one is adapted from data found in UNDP, The Experimental World Literacy Programme: A Critical Assessment (Paris: The UNESCO Press, 1976); Imperial Ethiopian Government/UNDP/UNESCO, Final Evaluation Report: Work Oriented Adult Literacy Project (Addis Ababa: N.p., 1973); Meleika, Louis Kamel, "The Democratic Republic of the Sudan/UNDP/UNESCO Work Oriented Adult Literacy Project Draft Terminal Report" (Khartoum: N.p., 1973); and UNDP/UNESCO and the Work Oriented Adult Literacy Pilot Project, Lake Regions, Tanzania Evaluation Unit, "An Evaluation of the 1970 Cotton Programme: Final Report" (Dar es Salaam: N.p., 1971).

<sup>10</sup>William S. Gray, The Teaching of Reading and Writing: An International Survey (Paris: The UNESCO Press, 1956), pp. 19-20.

<sup>11</sup>General discussion in H.M. Phillips, Literacy and Development (Paris: The UNESCO Press, 1970), pp. 35-36.

<sup>12</sup>General discussion in University of Bombay and UNESCO, Relationship Between Literacy and Economic Productivity of Industrial Workers in Bombay: A Sociological Analysis (Paris: Unpublished Report).

<sup>13</sup>General discussion in Work-Oriented Adult Literacy Project, "The Taj Group, Brief Account of a Functional Literacy Experiment in a Textile Factory" (Isfahan: UNESCO, 1968).

<sup>14</sup>H.M. Phillips, Literacy and Development (Paris: The UNESCO Press, 1970), p. 44.

<sup>15</sup>Prodipto Roy and F.M. Kapoor, The Retention of Literacy (New Delhi: The Macmillan Company of India Ltd., 1975), p. 26.

<sup>16</sup>H.M. Phillips, p. 26.

<sup>17</sup>UNESCO/UNDP, The Experimental World Literacy Programme: A Critical Assessment (Paris: The UNESCO Press, 1976), p. 92.

<sup>18</sup>Malcolm S. Adiseshiah, "Functionalities of Literacy," A Turning Point For Literacy (Paris: Pergamon Press, 1975), p. 68.

<sup>19</sup>H.M. Phillips, p. 45.

<sup>20</sup>Such as discussed in Maria Emilia Silva Freire, Assessing the Role of Education in Rural Guatemala: The Case of Farm Efficiency (Berkeley: University of California, unpublished Ph.D. dissertation, 1977).

<sup>21</sup>H.M. Phillips, p. 50.

<sup>22</sup>Beatrice Paolucci, et al., "Summaries and Implications for Non-Formal Education Program Planners," Chapter Four in Women, Families and Non-Formal Learning Programs (East Lansing, Michigan: Institute for International Studies in Education, 1976).

<sup>23</sup>Adiseshiah, pp. 69-72.

## CHAPTER II - ECONOMIC ARGUMENTS FOR LITERACY

by Francis J. Method

This chapter reviews the evolution of economic thinking over the past three decades about how literacy programs translate into economic benefits for the general society and for individual citizens. Most of the arguments presented here address general issues of public policy and social purpose, including the bases on which assistance agencies justified their investments in international literacy work. The more specific questions of how literacy enables individuals to be more productive, to participate more effectively in economic activities, and to improve their economic welfare are addressed in Chapter 3.

There is considerable overlap between the policy positions. The typology presented here is only to distinguish the main arguments. There have been almost as many arguments, and competing program labels, as there have been programs. In only a few instances do we find a "pure" case of a national literacy campaign following a particular policy single-mindedly or rigorously. In most cases, literacy campaigns were (and are) justified on many grounds and the actual programs are rather eclectic mixtures of theoretical application, public exhortation and pragmatic use of whatever pedagogic resources and opportunities are at hand.

There has never been much debate about the fact that literacy is an economically useful skill to possess and that the literate members of a society tend to be more prosperous. However, there has been considerable debate about the amounts of public resources and leadership that should be invested in efforts to

accelerate literacy training. Over the past three decades, as efforts to plan and direct economic development have become central to public policy in most countries, the need of planners to justify the investments in literacy and other forms of education has increased in importance.

This is a relatively recent emphasis in public policy. Until about two decades ago, literacy work other than primary schooling was left largely to private initiative. There was little argument for the use of public funds to provide literacy training so long as literacy was thought to benefit the individual more than the society. Beyond the small number of people, not more than a few percent of the total workforce, whose roles obviously required literacy (such as the scribes, record keepers, teachers and administrators) there was not a clearly understood social purpose in making the rest of the population literate. In most countries, the numbers of literates grew more as a byproduct of other education and training, particularly the expansion of primary education, than as a result of literacy campaigns.

In many countries it is now argued that generalized literacy is essential to the economic well-being of the whole society and that individuals should be strongly encouraged, even forced, to become literate -- through compulsory primary schooling, literacy requirements for employment and other measures.

Between these two positions, it is possible to distinguish a number of other arguments which attempt to explain both why public authorities should encourage more literacy as part of economic development strategies and why individuals should value literacy as being in their own economic interest.

Among the economic arguments for literacy are the following:

- The Social Good Argument. Even where there is little consensus as to how literacy contributes, there is a general belief that literacy is a good thing to have. It is associated with the kind of society toward which people are striving. The desire for a more literate, better informed society is in this sense a part of the reason for economic development.

In many countries mass literacy programs were justified, at least initially, as a cheap response to the social pressure to show some development progress. Indeed, in some of the poorer countries the effort to expand mass literacy and primary education programs became the largest and most visible activity of government.

The difficulty with the argument is that it provides little basis for establishing priorities, for determining appropriate levels of investment, or for assessing the functionality and quality of the literacy provided. The result is typically a half-hearted commitment to mass literacy, on a least-cost basis, and a gradual increase in demand for higher quality and more functional forms of basic education.

- The "Minimum Essential" Argument. The assimilationist\* social policies of the colonial period continued to be reflected in basic education policies through the 1960's. A central assumption was that before individuals could participate effectively in modern sector activities, they had to acquire certain minimum skills. Though the minimum was defined differently in each country, it generally had a practical orientation, and in every case included literacy, usually in the language of the modern sector. Such education strategies and assumptions usually accompanied two-sector or dualistic economic development strategies, with the uneducated masses in the rural areas viewed as a residual labor pool from which would come (rationed by the education and training systems) the workers needed by the expanding modern economy.

Until the late 1960's the education systems of most countries were consciously oriented toward producing the workers or cadres needed by the modern sector activities at all levels. Gradually, the focus of development planning broadened from a concern with the industrial work

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\*In the Portuguese colonies the individuals who had learned enough Portuguese to qualify for Portuguese citizenship were termed assimilados. In the French colonies, the equivalent term was evolué. In the British colonies there was no specific term though the bias toward those who had some formal education and who were able to work in English was similar.

force (often there was little prospect of significant industry) to include more specific concern with economic growth in the rural areas. The educational emphasis shifted from providing the minimum skills needed for entry into the "modern" (i.e., urban, industrial) sector to providing the minimum skills for participation within the rural context.

Social policy in Francophone Africa, for example, emphasized basic education (education de base) and the enlistment into modernizing activities (encadrization) of literates as one of the essential first steps in the economic development process.<sup>1</sup> This emphasis was particularly strong in the post-independence period of the 1960's, as a reaction against the limited citizenship and metropolitan social/economic policies of the colonial period. Basic education was combined with an emphasis on rural development (animation rurale). In the more successful cases, e.g., the Operations of Mali, the emphasis was more on the economic development needs. In the less successful cases, e.g., the Rural Education Centers of Upper Volta, the emphasis was more on the educational needs.

Much of the literacy work prior to about 1965 was based on the assumption that literacy was a minimum

qualification for full economic citizenship and participation in the modern sector. Since about 1965 the skill levels defined as minimal have been raised and expanded in most countries, and most planners and international organizations such as UNESCO now argue that the minimum essential is whatever is required to assure participation. In other words, the minimum required is defined not as a fixed quantity or level of skills, but as the skills needed by the situation.

- The "Missing Input" Arguments. The importance of literacy was assumed to be demonstrated by its absence in situations of stagnation or low productivity. This view parallels a dominant notion through at least the late 1950's that growth of almost any kind, i.e., development, was primarily a matter of adding necessary inputs to get the desired increase in outputs. Development conditions were described in terms of the presence or absence of necessary elements and the increasingly sophisticated analysis was largely a means of refining understandings of what elements were missing and what elements must be added to insure success.

The existence of an educated and literate work force had been accepted as necessary much earlier. However, it was not until the early 1960's that Mary Jean Bowman, C.

Arnold Anderson<sup>2</sup> and others began to demonstrate through comparative studies that adult literacy rates of 30 to 40% were a minimum condition or threshold for economic development. The findings preceded significant international assistance to literacy programs and mass education.

The identification of a minimal level of adult literacy as one of the missing ingredients in the development puzzle coincided with other theories and strategies emphasizing minimum conditions and stages for progress (for example, W. Rostow's theory of economic stages, and C. Beeby's observation of stages of educational development<sup>3</sup>) to create a powerful argument for massive investments to move countries to a minimum level of literacy so that economic progress could begin.

These arguments helped considerably in establishing some guidelines for the relative priority to be given to basic education and literacy, and for the amount of resources which could be economically justified for such efforts. However, there was still little understanding of precisely how literacy made its economic contributions and therefore precisely what type of literacy was required

in each context. Despite massive investments in the 1960's, e.g., in Francophone Africa, there was frustratingly little economic development.

It was not until about 1970 that it became generally understood that development was a much more complex and dynamic process than the input-output models implied and that it is the functions of literacy rather than the numbers of literates which must be stressed. Literacy was becoming an ideological tool as well as an economic input, and literacy workers increasingly agreed with Gunnar Myrdal's opinion that, "Merely 'mechanical literacy' is of no significance for a country's development."<sup>4</sup>

- The Eradication Arguments. The converse side of the missing inputs strategies was the view of illiteracy as a negative condition, the existence of which must be eliminated. Illiteracy was viewed as the most obvious manifestation or symptom of a set of behaviors, attitudes and inadequacies which accounted for social and economic inertia or traditionalist resistance to modern ideas and participation in the new societies. It was thought that illiteracy could be treated as a social disease to be eradicated, much as small pox might be, or poor sanitation and malnutrition.

Illiteracy being defined as the enemy or as a disease, the approaches took the character of "wars" and "campaigns" against illiteracy, either as part of national mass movements of a revolutionary character, or as part of internationally funded efforts to remove the obstacles to economic development. The illiterate were to "escape" from their condition.

Though negatively defined and often accompanied by confrontational attitudes toward the traditional lifestyles and traditional people, these approaches at least began to link literacy efforts directly with other development and mobilization efforts and to direct attention to those functions which were retarded by the absence of literacy. The three main weaknesses with these arguments and strategic approaches were: 1) the definition of illiteracy gave few clues to what literacy could or should be; 2) there was little attempt to understand the ways in which the illiterate person thought and acted or the possibility that such people had little functional use for literacy; and 3) being that literacy work was elevated to a moral or revolutionary imperative, there was little agreement on what was a defensible cost or a sensible investment.

- The Distributional Arguments. By the late 1960's, a number of critics such as Myrdal were arguing that dualistic approaches to mass modernization were unnecessarily traumatizing traditional communities while failing to distribute benefits equitably.

Mahbub ul Haq, formerly responsible for economic planning in Pakistan, was a particularly credible critic when he pointed out that:

In Pakistan, which experienced a healthy growth rate during the 1960's [6 percent sustained growth] unemployment increased, real wages in the industrial sector declined by one-third, per capita income disparity between East and West Pakistan nearly doubled, and concentrations of industrial wealth became an explosive economic and political issue. And in 1968, while the international world was still applauding Pakistan as a model of development, the system exploded - not only for political reasons but for economic unrest.<sup>5</sup>

He concluded that, "divorce between production and distribution policies is false and dangerous. The distribution policies must be built into the very pattern and organization of production, .... It is time that we stand economic theory on its head and see if we get any better results."<sup>6</sup>

In addition, a growing number of educators and economists<sup>7</sup> argued that so-called traditional, subsistence and marginalized people were much more economically rational and "educated" within their context than was

generally believed. Development itself began to be broadened from the narrow definitions of modern sector, industrial, GNP growth to include concern with distributional issues, consumption and participation, and to include more explicit concern for the rural poor (who, by any measure, are among the least literate in most societies). With strong leadership from the ILO World Employment Programme in the early 1970's,<sup>8</sup> development thinking began to shift from ways to transform society to enable development to occur, to ways to invest so that people could participate and meet basic needs. Literacy efforts were argued to be directly related to the goals of expanding participation and improving distribution of opportunities.

- The Responsive Argument. Literacy programs were offered in response to demand. It was assumed that literacy is valuable at least for those people who are asking for it. The task of planners was to match the opportunities for literacy training with the demand for such training. Though not initially an argument for functional literacy, it soon became apparent that if planners intended to maintain an expanding literacy program, they would have to provide the kinds of training which people desired.

To the extent that economic benefits could be identified (income, wages), literacy programs began to be compared with other investments using the rate-of-return approach. Most individuals were assumed to be economically rational and acting in their economic self interest. The fact that individuals were enrolling and attending was taken as sufficient proof that it was economically attractive and competitive with other uses of their time and resources. Similarly, it was argued that by comparing the subsequent economic behavior and incomes of neo-literates with their non-literate peers, it was possible to calculate the economic benefit of the literacy training to the individuals. In studies in Africa and elsewhere of employment and migration patterns,<sup>9</sup> the level of education appeared to be highly predictive of the likelihood the individual would migrate, of the likelihood suitable employment would be found, and of the kinds of employment that would be considered suitable. The studies also appear to suggest that while literacy significantly increases an individual's prospects, the prospects do not necessarily improve as much for other levels. Some secondary school educated individuals may actually have diminished prospects.

The responsive arguments continue to be reflected in much of the non-formal education and skills training strategies and in the participatory approaches to the planning of adult education.<sup>10</sup> The assumption is that individuals know what their needs are better than any observer and that the starting point for program planning should be the assessment of individual aspirations and self-identified educational needs.

The main weakness in the responsive strategy is the assumption that the perceptions by individuals of opportunities and of probable returns are based on reliable information and accurate economic signals. The rate-of-return arguments are also criticized on the grounds that they measure only the private benefits and give little guidance on the benefits to society. In fact, the highest rates-of-return for literacy may be obtained in countries with the most economically regressive social policies, since the few individuals who manage to hurdle into the favored class obtain very large economic rewards.

As H.M. Phillips pointed out, in contexts where most people are illiterate, literacy is a valuable skill precisely because it is scarce.<sup>11</sup>

- The Modernization Argument. Literacy is considered essential to the modernization process, though it is only one of the elements needed. An early UNESCO argument was that for a political system to run smoothly, "it is essential to evolve some sense of national cohesion and general agreement on a whole range of values ... [and that] the active and conscious participation of citizens in the political life of a modern state cannot develop harmoniously unless these citizens have crossed the threshold of modernization - and literacy is only the first step in this direction."<sup>12</sup>

In addition to the earlier arguments that literacy is a social good and that there is some threshold level of literacy which must be established before the society can prosper, attention began to shift to the ways in which literacy was required for citizens to participate. A new question began to be posed by leaders such as René Maheu who asked, "If literacy is a key that opens the doors, what interests us is what is behind those doors."<sup>13</sup>

- The Empowerment Argument. Though literacy is not sufficient to enable people to accomplish their

ends, it is a necessary power which people must have to enable them to take advantage of opportunities and to act effectively in their own interest. Whereas most of the earlier arguments began with the social and economic priorities of the nation and then asked in what ways literacy could contribute, attention began to shift to the importance of literacy to the individual.

It is difficult to date this shift, but as the development processes in the new nations (particularly in Africa and Asia) began to be challenged and reassessed in the late 1960's, it began to be recognized that participation was a choice as well as a right and that some people were choosing not to participate or were choosing unpredicted economic alternatives. Thus, in addition to the view of literacy as power or capacity, the question of "power to do what?" began to be asked. Why, if literacy was such a good thing, did so many people choose not to invest time and energy in acquiring it?

- The "Conscienticising" Argument. Most effectively articulated by Paulo Freire in the Pedagogy of the Oppressed, this position incorporated both the modernization and the empowerment argument, while also arguing that in itself

the act and the process of becoming literate can change both the individual and the relation of the individual to the context. The process is one of developing the "power to perceive critically the way they exist in the world with which and in which they find themselves [so that] they come to see the world not as a static reality, but as a reality in process, in transition."<sup>14</sup> Freire's influence, even where his ideologic position was rejected, has caused practitioners to focus on the pedagogy of literacy and on the perception of the context by the learner.

- The Socializing Arguments. Literacy is one of the skills which must be learned or acquired to function effectively in a given environment or as a member of a group. In many countries the literacy programs are used as part of campaigns to shape and direct the political life of the country (Cuba, Tanzania) or to affect a conversion (as with much of the missionary related literacy work) or to reinforce desired behaviors and attitudes of the group (as with labor education which has as its primary purpose the functioning of the individual within the union or collective enterprise). The distinguishing characteristic of these approaches to literacy is that though the pedagogy may

be adjusted in many ways to suit the characteristics of the individual learner, the content is heavily influenced by the characteristics of the environment and the needs of the group.

- The Integrating Argument. It is argued that the literacy campaign must be guided both by the characteristics and needs of the learners and by the new social and economic reality which the society as a whole is attempting to bring about. Literacy has both a "conscienticising" and a functional role, considering both the need to make the individual aware and capable and the need to develop skills which are relevant to the needs of society. The fullest articulation of this is in the Peruvian "Integral Literacy Training" in which the recommendations of Freire are rejected as "pedagogic utopianism" and the functional literacy programs are rejected as preserving the status quo.

A literacy campaign of the functional or the conscienticising type, "however well organized, is incapable of altering attitudes that are fundamentally determined by underlying structural problems."<sup>15</sup> Most illiterates in the villages and on the edges of urban areas were women, not yet integrated into the production systems, and the communities seemed more interested in problems such as water supply, lighting, road, etc., than in

functional literacy or skills training for jobs which were not perceived to exist.

Thus, in Peru, the literacy campaign attempted to help individuals acquire the skills necessary for fuller participation and expanded economic opportunity while recognizing that unless and until other development accompanied the literacy campaign there would be few new opportunities in which to participate.

- The Structuralist Argument. Literacy is required to requalify people to participate in societies being restructured by economic forces. This is not because people in traditional societies are without the skills to participate effectively within the traditional context, but because the nature of capitalist economic change leads to structural changes in production systems. The division and specialization of labor, separation of authority from production, imposition of new technologies and revaluing of existing goods and skills have had the effect of making previously skilled workers underqualified. Literacy is needed as part of the "requalifying" process.

Samir Amin, one of the main proponents of this view, argues that "the essential reason why producers in traditional societies acquire their training on the job rather

than in school is ... that the division of labor in precapitalist societies is far less advanced than in capitalist societies," and that with the changes in the organization of labor, "qualified work gradually draws away from the underqualified labor given to the mass of producers."<sup>16</sup>

The breakup of the traditional education system (the non-formal transmission of skills and knowledge within trades and crafts) "has been replaced by sheer illiteracy. Not merely illiteracy in the limited and conventional sense of the term, but also in the sense of the loss of traditional technical know-how acquired through training on the job in agriculture and in the crafts."<sup>17</sup> Amin warns that literacy and mass schooling programs for adults are not a substitute for development, since if they "are not accompanied by profound changes in the economic and social system designed to provide effective employment for the entire working population and providing for the requalification of labor, then they are likely to appear useless both to their beneficiaries and to the authorities responsible for their implementation, as a kind of luxury that really does not constitute one of the first priorities of the development process."<sup>18</sup>

Johan Galtung goes somewhat further, arguing that the structure is the message, that the more dependent people are, the less need they have for literacy since their information and instructions and possibilities come to them through the dependency. He argues that the keys to literacy include changes in marketing and pricing, efforts to make decentralization real and self-reliance possible, permitting/enabling people to handle their own affairs locally, and more diversity of roles and opportunities at the local level.<sup>19</sup>

The relative success of literacy programs in Tanzania (reflecting the Self-Reliance doctrine of Nyerere) or in China (reflecting the mass-based Maoist doctrine) or in Mali (reflecting the bottom-up Animation Rurale and Operation strategies) may have as much to do with the fact that they were part of aggressive attempts to establish new, self-reliant, rural structures as with their actual content and pedagogy.

- The Technologic Efficiency Argument. A position close to that of the structural or self-reliance analysis is emerging from work in the area of technology choice, technology transfer, and technologic adaptation. Though the analysis of technology and the technologic skills of workers as an independent variable in economic production

functions can be traced back at least to the work of economists such as R. Solow and J. Schumpeter, the interest in the relationships between social factors and the patterns of technologic adaptation and diffusion began mainly with the work of Gunnar Myrdal and others who drew attention to the uneven participation and maldistribution of benefits in the agricultural "Green Revolution." The poorer, typically illiterate, farmers were noticeably missing out on the benefits of the new technology. Attention focused first on the problems of obtaining and assimilating new information, which led to the search for more appropriate forms of skill training and education for the non-formal or informal economic sectors. Emphasis was given to more appropriate and effective communications, media and information diffusion strategies and to emphasis on functional literacy which included such technologic information in its content.

More recently, attention has focused on the technologies themselves. This focus was instigated partly by E.F. Schumacher<sup>20</sup> and others who stressed more appropriate, intermediate, technologies; by analysts of the technology transfer process such as Denis Goulet, Nicolas Jequier, A.S. Bhala, C. Peter Timmer and others;<sup>21</sup> and

by international leadership such as the work of the ILO World Employment Programme, the industrial studies of UNIDO, and the work associated with the dissemination efforts of the international agricultural research centers.

It is now argued that because technologies have been inappropriately chosen, designed or adapted to the characteristics of the users or participants, additional basic skills such as functional literacy (technologic literacy) are required. Alternatively, it is argued that it is the lack of such skills that accounts for the slow and uneven diffusion and adoption of new technologies. Either new technologies will have to be stressed or new efforts must be made to provide the necessary skills. Preferably both will occur.

One of the most rigorous attempts to assess the impact of literacy on technologic innovation, economic allocation and technologic efficiency in rural areas is the recent dissertation by Maria Freire, based on work in rural Guatemala.<sup>22</sup> Most other work on the relation of education to technologic change has focused on the fact that new technologies require additional skills. However, literacy also appears to improve productivity

even among farmers having similar resources and technology. Maria Freire suggests that the economic effects of literacy are strongest for semi-subsistence farmers (those who produce both for a market and for personal consumption) and that literacy operates mainly through its effects on the farmer's perception of "possibility sets" and the amounts of risk associated with various "activity vectors". She states, "The difference between education as a production factor and education as a technical efficiency factor is that, while in the first case one is considering education as a fixed factor of production that enlarges the possibility set of a farmer; in the second case, one is claiming that education increases the ability of the farmer to detect the border of his production set and to operate at the point where no more output can be produced, given a constant level of technology."<sup>23</sup> In other words, even though education or literacy does not necessarily change the production opportunities available to the farmer, it may enable the farmer to be more efficient in taking full advantage of the opportunities that do exist.

- The Economic Motivation Argument. Most of the arguments discussed earlier focus on the contributions of literacy to economic and social development, treating literacy as

an independent variable which explains the ability of people to participate and contribute. The analysis of structural and technologic factors suggests that literacy may be regarded as a dependent variable, with the motivation to become literate being a response to the economic context and to the economic signals which the context provides, e.g., prices and wages. As the economic context changes (grows, transforms) or as the individual moves to a new context, the role of the literate person changes. Thus, the prerequisite condition for an effective literacy program is an economic context providing sufficiently strong economic incentives to motivate the learner, or, at a minimum, a firm expectation on the part of the learner that the acquisition of literacy will lead to improved opportunity or welfare.

There are two major variants of this argument, both of which are explored in the following chapter. The first is that the motivation of individuals to become literate is directly related to their economic need for literacy. Thus, it is the degree to which an individual requires literacy to function competitively or effectively which explains the motivation. As employers begin to require literacy and to favor

literate workers and as economically important information is communicated or recorded in written form (deeds and land descriptions, contracts, technical information, applications, etc.), the individual must either become literate or accept significant limitation of economic opportunity.

The second is that the motivation of individuals to become literate is part of a complex of changes which are associated with economic change and improvement. We do not know enough about the reasons people change, or the conditions which make change possible or attractive, but it is generally true that most people who are changing or innovating or taking risks are also literate or becoming literate.

### Summary

Though economic incentives are recognized as motivating factors within all of the above arguments for literacy programs, the focus has been mainly on the social policy reasons for providing literacy training. There has been relatively little experimentation or rigorous research on the economic perspectives of the individual learner, on the reasons why some individuals do not find it necessary to become literate, or on the ways by which literacy project design and pedagogy can be used to increase the economic value of literacy to the learner in various contexts.

The main implication for this study, discussed in the following chapters, is that literacy should be viewed as a response to economic changes and the emergence of new opportunities as well as a skill which contributes to or facilitates economic changes. Much more work remains to be done on understanding the relationships between the motivation of individuals to become literate and the opportunities and possibilities for economic improvement which exist in the various contexts.

<sup>1</sup>René Dumont, L'Afrique Noire Est Mal Parti, (False Start in Africa) (Paris, France: Editions du Seuil, 1962); Bernard Dumont, "Literacy in National Languages and Development," Prospects VI, no. 1 (1976):92-97; Jeanne Moulton, Animation Rurale: Education for Rural Development (Amherst: Center for International Education, University of Massachusetts, 1977).

<sup>2</sup>Mary Jean Bowman and C. Arnold Anderson, "Concerning the Role of Education in Development," Old Societies and New States: The Quest for Modernity, ed. Clifford Geertz (Glencoe, Ill.: Free Press, 1963), pp. 245-79.

<sup>3</sup>Walt W. Rostow, The Stages of Economic Growth (Cambridge: Cambridge University Press, 1960); Clarence Beeby, The Quality of Education in Developing Countries (Cambridge: Harvard University Press, 1966).

<sup>4</sup>Gunnar Myrdal, Asian Drama, An Inquiry Into the Poverty of Nations, Vol. III (New York: Pantheon, 1968), p. 1687.

<sup>5</sup>Mahbub ul Haq, "Employment in the 1970's: A New Perspective," in Education and Development Reconsidered, ed. F. Champion Ward (New York: Praeger, 1974), p. 77.

<sup>6</sup>Ibid., p. 79.

<sup>7</sup>Edgar Faure, et al., Learning to Be (Paris: UNESCO, 1972).

<sup>8</sup>International Labor Organization, Employment, Incomes and Equality (Geneva: ILO, 1972).

<sup>9</sup>Kenneth King, "The African Artisan: A Study of Training, Technology and the Informal Sector in Kenya" (University of Edinburgh Center of African Studies, March 1975) (Mimeo.) Subsequently published as The African Artisan: Education and the Informal Sector in Kenya (London: Heineman, 1977); Phillip Foster, "The Vocational School Fallacy in Development Planning," in Education and Economic Development, ed. C.A. Anderson and M.J. Bowman (Chicago: Aldine, 1966), pp. 142-163. Reprinted in Economic of Education, Vol. 1, ed. Mark Blaug (Baltimore: Penguin Modern Economics, 1968), pp. 396-423; Mark Blaug, Education and the Employment Problem in Developing Countries (Geneva: ILO, 1973); Archibald Callaway, "Unemployment Among African School Leavers", Journal of Modern African Studies Vol. I, no. 3 (Sept. 1963):351-371; Michael P. Todaro and Edgar O. Edward, "Education and Employment in Developing Countries," in Education and Development Reconsidered, ed. F. Champion Ward (New York: Praeger, 1974); V.L. Griffiths, "The Education of the Young in Rural Areas," in Education, Employment and Rural Development, ed. James Sheffield (Nairobi: East African Publishing House, 1972).

<sup>10</sup> Philip Coombs and Manzoor Ahmed, Attacking Rural Poverty, How Non-Formal Education Can Help (Baltimore: Johns Hopkins, 1974); James Sheffield and Victor Diejamaoh, Non-Formal Education in African Development (New York: African American Institute, 1972).

<sup>11</sup> H.M. Phillips, Literacy and Development (Paris: UNESCO, 1970), p. 13.

<sup>12</sup> UNESCO, An Asian Model of Educational Development (Perspectives for 1965-80) (Paris: UNESCO, 1968).

<sup>13</sup> René Maheu, La Civilisation de L'Universel (Paris: Laffont, 1966), p. 104.

<sup>14</sup> Paulo Freire, Pedagogy of the Oppressed (New York: Herder and Herder, 1970).

<sup>15</sup> Alfonso Lizarzaburu, "ALFIN: An Experiment in Adult Literacy Training in a Society in Transition," Prospects VI, no. 1 (1976):108.

<sup>16</sup> Samir Amin, "Literacy Training and Mass Education for Development," in A Turning Point for Literacy: The Spirit and Declaration of Persepolis, ed. Leon Battaille (Oxford, England: Pergamon, 1976), p. 85.

<sup>17</sup> Ibid., p. 89.

<sup>18</sup> Ibid., p. 90.

<sup>19</sup> Johan Galtung, "Literacy, Education and Schooling -- For What?" in A Turning Point for Literacy: The Spirit and Declaration of Persepolis, ed. Leon Battaille (Oxford, England: Pergamon, 1976), p. 93.

<sup>20</sup> E.F. Schumacher, Small is Beautiful, Economics As If People Mattered (New York: Harper & Row, 1973).

<sup>21</sup> Denis Goulet, The Uncertain Promise: Value Conflicts in Technology Transfer (Washington: Overseas Development Council, 1977); A.S. Bhalu, ed., Technology and Development in Industry (Geneva: ILO, 1975); C. Peter Timmer, ed., The Choice of Technology in Developing Countries (Some Cautionary Tales) (Cambridge: Harvard University Press, 1975); Charles Cooper, ed., Science,

Technology and Development (Frank Cass, 1973); Nicholas Jequier, Appropriate Technology: Problems and Promises (Paris: OECD Development Centre, 1976); Frances Stewart, Technology and Underdevelopment (New York: Macmillan, 1977).

<sup>22</sup>Maria Emilia Silva Freire, "Assessing the Role of Education in Rural Guatemala: The Case of Farm Efficiency" (Ph. D. dissertation, University of California at Berkeley, December 1979), p. 189.

<sup>23</sup>Ibid., p. 28.

### CHAPTER III - A FRAMEWORK FOR ASSESSING THE ECONOMIC VALUE OF LITERACY TO INDIVIDUALS

by Francis J. Method

This chapter explores the economic factors which appear to influence the decisions of individuals to acquire literacy skills. The chapter begins with a discussion of the definitional problems involved in assessing the economic value of literacy from the perspective of individuals. The economic values of literacy are then argued to be influenced mainly by two sets of factors. One influence is the economic context and the economic signals, rewards and opportunities which it provides, or does not provide, to the individual. The other factor is the characteristics of the individual which affect mobility, economic aspirations, tolerance for economic risk and "room" for economic changes. The economic incentive to invest time, effort and resources in acquiring literacy skills is discussed in terms of the individual's private assessment of the net benefits of doing so, with particular weight given to the costs of time and to the risks associated with making economic changes. Finally, some suggestions are offered of ways by which the literacy program itself can be designed to increase the net benefits perceived by various groups of individuals.

Four general hypotheses are suggested:

First Hypothesis: Individuals value literacy skills when the skills provide economic rewards from employment or production.

Discussion: Literacy skills which are directly rewarded in the form of wages or other job benefits (such as increased job security or increased ability

to find employment) will be valued by the individual. For the self-employed the rewards will be less direct, in the form of cost-savings, increased productivity or competitive advantage. For the person who is not engaged in employment outside the household production unit, there is likely to be little direct economic reward and the main form of economic benefit will be time savings and technical efficiency.

Second Hypothesis: Individuals value literacy when opportunities for self-improvement exist within their context.

Discussion: Individuals seek to become literate as part of a set of self-improvement and behavioral changes associated with a change in economic activity and pursuit of new opportunities. Where economic opportunities exist and change appears feasible and attractive, it is suggested that the individuals motivated to make the changes and pursue the opportunities will also be motivated to acquire literacy skills. Thus, it is suggested that literacy programs will be more successful in contexts in which economic changes are occurring and in which opportunities are expanding than in contexts in which there is little change and few new opportunities.

Third hypothesis: In addition to any direct economic rewards, literacy contributes to economic welfare through its effects on economic decision-making.

Discussion: The subsistence producers and the economically marginal workers have little economic room for risk, change or innovation. Literacy is economically valuable in assisting the literate person to function effi-

ciently and optimally within existing possibilities. By improving the ability of the individual to assess risk, to reduce risk and uncertainty or to acquire information needed for economic decision-making, the literacy program can respond to one of the major needs of learners and, by doing so, increase the participation of individuals for whom literacy may not lead directly to a new economic activity (a new job or a better job, an increase in wages, or a change to producing another product or service).

Fourth Hypothesis: Individuals value literacy when social and economic mobility is high.

Discussion: Lack of literacy reduces economic mobility by making it difficult to acquire skills, knowledge and information across social, occupational and geographic boundaries. As these boundaries grow in number, complexity and discriminating power the need for literacy and other information-acquiring skills increases. Where the disparities across such boundaries are incremental (i.e., significant, but not extreme) a motivation to pursue the more favorable alternative may exist. However, where the disparities are extreme such that the change is unrealistic for the individual to contemplate, the majority of the people have little motivation to change. Thus, we would expect to find more mobility and more motivation to acquire literacy skills in situations with significant complexity, few rigid caste or class boundaries, and income normally distributed across population categories than we would in situations having few boundaries, rigid boundaries, little income disparity or bipolar income distribution.

### Defining Economic Value

In brief, the main ways by which literacy has economic value to individuals appear to be:

- as a condition for employment, either as an entry requirement or as an essential skill for job performance, leading directly to monetary gain.
- as a skill which has economic utility for the self-employed, leading to qualitative changes, time savings, or cost savings.
- as a means of obtaining information and assessing risks for economic decision making, leading to improved allocation and efficiency for the semi-subsistence producer/consumer.
- as a factor increasing the self-reliance and economic independence of the individual, leading to greater mobility, more objective risk assessment and more confidence in perceptions of opportunity.
- as a precondition to participation in skill-training or other activity leading to additional economic opportunity.
- as a condition for membership or leadership in economically important activities such as cooperatives, unions, credit societies.

There is substantial consensus on the economic value to society of having literate citizens and workers. The reasons an individual may want a better job or more economic security require little explanation. However, the analytical framework through which individuals conclude that literacy is economically valuable is not well understood and there is little consensus as to how values can be assessed or measured from the perspective of the individual. Factors such as the following make a precise statement of value difficult.

- The economic motivation to acquire or refine literacy skills is intimately linked with the motivation to pursue new economic opportunities. In considering the value of literacy, we are also considering the economic motivation and "room" to make economic changes and pursue new opportunities.
- Value is both objectively determined (e.g., a wage or price) and subjectively perceived. Individual characteristics and perspectives will affect the value of literacy. The assumptions employers make about the productivity of literate workers must be considered.
- The skills will have different utility in different contexts. The characteristics of the economic context must be considered in assessing or assigning value to literacy.
- Literacy is a set of skills, which may be possessed to different degrees and in different combinations. Our

ability to assess economic value of literacy requires an ability to define the levels and types of literacy.

- Literacy is usually valued for more than one reason. While an employer may value only one aspect of literacy, the individual may consider all the ways in which literacy contributes to his/her economic welfare.
- It is often difficult to distinguish between the value of acquiring the literacy skills and the value of having completed a literacy program. For many of the illiterates, the literacy training program is the only educational opportunity open to them.

The economic value of anything (whether a commodity or an amount of currency or a skill) is normally defined as the amount of some desired good that can be obtained by its possession, application or exchange. We need to know the nature of the good (what kind, what amount) and who receives the value. Implicit in the definition is that there is someone who wishes to possess it, to have it applied or to exchange for it. Thus, literacy may be expected to differ in value for the wage-employed and for the self-employed, including the subsistence or semi-subsistence worker producing mainly for personal consumption.

Comparison of values is facilitated (at least for analytic purposes) by the translation of goods into monetary equivalents. In wage-employment it is assumed that the economic value of literacy will be reflected in the difference

in wages paid to the literate and the non-literate worker. This comparison is not always possible, except through the application of rather arbitrary assumptions and artificial conventions, in the assessment of economic values for subsistence and semi-subsistence producers. In these activities, which are marginal to the monetary economy, most production is for personal consumption, and such trade as exists is either by forms of barter or involves the exchange of goods which are considered surplus to the level required for subsistence activities.

It is exceptionally difficult to compare the value of a good produced or consumed or possessed in the market or monetary economy with the same good in the non-monetary subsistence or semi-subsistence economies. For example, we find the subsistence agriculturist willing to sell surplus labor for a fraction of what the urban laborer with the same or lesser skills can afford to do, while the urban laborer may spend half or more of his income on food and the subsistence agriculturist nothing. Clearly both workers consider their time and their food to be valuable, yet just as clearly their values are as different as their contexts and their means of making a living. Values such as job mobility or security, economic self-reliance, efficient use of resources, capacity to use new technology or information, accelerated communication, avoidance of wasted time, etc., also have economic value, though the relation to monetary gain is indirect. Studies of learner motivation in literacy and functional adult education programs<sup>1</sup> in the U.S., in Europe and in developing countries have consistently found factors such as desired self-reliance and independence to be prominently mentioned.

Fortunately, despite the difficulty of obtaining a precise measurement or comparison of economic values between individuals or groups, it is still possible to discuss the economic value of literacy to particular individuals and groups.

A less restrictive definition of economic value such as the contribution of literacy toward the attainment of a desired economic result enables us to consider a wide range of economic goods and to stress the value of literacy as a means toward various economic ends rather than as an end with its own value. Such a definition directs attention 1) to the desired economic result(s), 2) to the tasks or activities through which the result may be obtained, and 3) to the way in which the individual chooses among the available opportunities.

#### Literacy Obtains Its Value With Reference to Some Desired Economic Result

Literacy in itself has no value in an economic sense, though it may be desired for reasons such as status or self-image or religious function. A starting point for analysis should be the specification of the economic aspirations of the learners or potential learners. These may range from desire for wage employment of a particular type or level, to a desire to use time and resources more efficiently, to a desire to obtain more economic mobility, to a desire to obtain economic security, to a need to insure a minimum level of production. Each desired economic result has economic value and, to the extent that literacy is associated with the result, literacy also has value.

The value exists when the association exists, even when a mistaken association exists. Economists may be concerned with measuring the actual gain and with describing the functional linkage between literacy and the improved result. However, the motivation exists when, and only when, the learner values the result and believes that a reasonable linkage exists. The analyst may be able to suggest overlooked possibilities, values or linkages, but unless these can be made realistic and attractive within the analytical framework of the individual learner or potential learner, they can have little influence on motivation. The analyst should be more concerned with the personal calculus of the individual than with the public or social calculus of what newly literate citizens and workers should value or strive to accomplish.

As an observer commented in reviewing UNESCO's literacy work prior to 1971, "clearly, literacy programs must take into account the question of why people are likely to be attracted to them ... it seems likely that many literacy programs are devised according to the notions of what illiterate adults should want rather than what they actually do want."<sup>2</sup>

As educators we should be more concerned with understanding what the economic aspirations and desires of the learner are and what order of priority they have for the learner than with what monetary value they have or how they compare with the normative values assigned by others. In addition, the aspirations and expectations may change as a result of the literacy program - through skill acquisition, through "conscientizing," through perceiving new functions and opportunities or through a change in

personal status, self-concept or group identity. As a first step in program planning, the economic needs, aspirations and expectations of the learners should be studied.

Literacy Obtains Its Value Through Application to Some Task or Activity

The production or acquisition of goods is a result of the activity or task performed. In wage employment it is the employer who determines the value of the activity (assigns a price). In self-employment and in subsistence activities the individual must personally assess the value. Where the task or the activity does not exist (or does not provide a realistic opportunity for the individual to participate) the skill has little or no value. For example, though literacy may be closely associated with a desired form of employment, perhaps required for job entry, the value of the skill depends on the existence of jobs. Where employment is non-existent or where literacy does not increase the wage, the value of the skill may quickly disappear. Another example, though it may be economically desirable to be able to read technical information which could help increase production, the skill will have value only where such technical information is available. The point is illustrated by a neoliterate Somali peasant on the value of being literate in a foreign language:

Literacy is like money. If you have much money and there is nothing you can buy with it, that money is useless. Literacy is useless if you cannot communicate through it with other people. You see, if you have much money which cannot be used in your country, that money is useless. The same is with literacy in a foreign language in villages like ours. Literacy in a foreign

language is like foreign currency. Both are useless, or at least almost useless. 3

An economic value of literacy exists for an individual when it is possible to say that an opportunity actually exists to use the skill in a way which is to the economic good of the individual. In addition to describing the variety of ways in which literacy is economically useful or necessary for individuals, it is necessary to examine whether the opportunity exists to apply the skills. The literacy program planners should be knowledgeable about the kinds of employment which exist or are likely to exist in the near future, the effective demand for additional literate workers, the availability of credit, the kinds of official records which are kept (deeds, land descriptions, tax records in particular) and other factors which tell the planner, and the learner, whether literacy in fact will be used for economic functions. As E.F. Schumacher, speaking of technical skills and appropriate technology, observed know-how is no more a culture than a piano is music.

Literacy Has Value to the Individual When it Increases Opportunities or Helps to Overcome Constraints Which the Individual Perceives in His/Her Personal Context

Unless literacy is deemed to be useful (to have utility) within the individual's context and perceived possibilities, it can have little value. Where alternatives exist for achieving a goal without literacy, literacy has little utility, at least with respect to that goal. For example, if a satisfactory job can be obtained without literacy we cannot

assume that literacy has much value with respect to obtaining a job even though we can demonstrate that other, comparable, jobs do require literacy. There is a demonstrable economic value to being literate when it can be shown that literacy increases the likelihood of a goal being reached (a job being obtained) or contributes to obtaining a more desired goal (a better job being obtained).

A key assumption is that the value actually is received by the individual who has acquired literacy, not just by the group, the general society or the employer. When an employer, for example, invests in literacy training for the factory workers, the employer may do so expecting a gain in productivity. However, unless that productivity is shared with the workers in some way, there may be little enthusiasm for the training.

A number of special problems arise in considering the relation of the individual to the group. One is that the group may benefit more than the individual -- for example with the contribution of a literate child to an illiterate household. Another is that the group may actually discourage certain members from seeking employment or acquiring more skills than others -- as is reported from many places for women in traditional household and for low-status castes and ethnic groups. In the first instance, some individuals may attend literacy classes even though the benefit to themselves is only indirect and they have little personal motivation to attend. In the second situation, individuals may have substantial potential opportunities and motivation but be intimidated from attendance.

To summarize the definitional problem, an assessment that literacy has economic value to an individual requires that literacy be assessed as contributing toward the attainment of a desired economic result. This requires a determination of what the economic result is, the means or linkage through which literacy contributes to this result, and the perception by the individual that the means is feasible and realistic and that the result is desired and within the realm of possibility.

It should not be assumed that literacy skills have the same value for every individual in a context, or even that the same skills are valuable in each context. It is not necessary to define a precise value for each individual. Literacy skills are highly transferable, applicable to many tasks and have both direct and indirect relationships to economic results. The value may be increased as additional opportunities and benefits are created or discovered, as the context changes and as the individual changes. If a literacy program can increase the number of perceived opportunities, or increase the accuracy and confidence with which the opportunities are assessed, or demonstrate functional linkages between literacy and opportunities, the value of literacy may be increased.

#### The Role of the Economic Context

There are many influences on this perception by an individual that literacy will contribute in some way to a desired economic result, several of which are discussed in later chapters. Here, attention is drawn to the role of the economic context. The functions of literacy

and the perceptions of value by individuals are influenced by the signals provided in the economic context. Thus, a first consideration is the degree to which individuals are engaged in production activities (integrated) in the market economy.

It is only in the case of the subsistence producer/consumer acting completely outside the market that the value of an activity is established by the individual acting alone. For practical purposes the completely self-reliant subsistence production unit acting independently of all market signals exists only in theory. As soon as the individual begins to participate in an economic market, whether working part-time or selling some production and handicrafts or purchasing some fertilizer and consumption goods, other factors of the economic context (employers, purchasers of goods and services, suppliers of needed commodities or inputs) begin to influence economic values. Thus, in addition to the individual's perception of various utilities of literacy in carrying out productive activities and functions, there is a need for the individual to assess the values or prices which the employers, consumers and competing producers place on the activity and production. The assessment may provide the motivation to become literate (if the assessment shows that literacy increases opportunities or benefits). Alternatively, it may be that literacy is required for reliable assessment and that the economic value of literacy is largely in its contribution to the ability of producers to assess risks, opportunities and choices. Both

relationships between literacy and economic opportunity can be identified, the first in relation to wage employment, the second in relation to producer behavior and consumption behavior.

In classical economic theory, markets are competitive, information is equally available to all participants, all participants have essentially the same normative behaviors and aspirations (at least profit or production maximization) and it is economically rational to function at or near the margins of perceived possibility. Under such conditions, if the market either demands or rewards literacy, it is economically rational to seek to become literate.

The more typical conditions in subsistence and semi-subsistence\* economies are uncompetitive markets with monopolistic and monopsonistic conditions,<sup>#</sup> limited and undifferentiated opportunities, a high degree of uncertainty about the future, and relatively little information about the alternative opportunities and their consequences.

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\* The subsistence level is generally defined as the level of production at which the basic consumption needs of the household are minimally satisfied. A subsistence producer is one whose production is only sufficient to provide for household consumption. Though "subsistence production" is normally used only in reference to agricultural production which does not produce a market surplus, the term "subsistence level" may also be used for non-agricultural incomes which are only sufficient to meet basic needs. A "semi-subsistence producer" is one who continues to produce for personal consumption while beginning to generate some market surplus and/or supplementary income from non-farm activities.

<sup>#</sup> Monopsony is a market condition in which the product or service of several sellers is sought by only one buyer. Monopoly is the control by one group of the means of producing or selling a commodity or service.

Under such conditions, the ability to obtain and process information necessary for economic decisions is valuable mainly for those individuals who have at least some surplus resources or "room" with which to attempt alternatives.

For those without many surplus resources or much room for mistakes, the most rational behavior may be to adopt "Safety First" or satisficing behaviors which seek first to insure that minimum needs are met (satisfied) using well-tested information and technology before attempting to achieve other goals or take any economic risk.<sup>4</sup>

The literature on the behavior of small, subsistence agriculture<sup>5</sup> suggests that it is only as the threshold of subsistence is exceeded that optimizing or maximizing behavior becomes economically attractive. Below that level information skills seem to have relatively little value, since new information can be applied to new productive activities only gradually and cautiously. Where all available resources are needed to meet basic subsistence needs, opportunities which may be attractive to other investors may be too risky for the subsistence or semi-subsistence producers. Many examples exist of farmers being reluctant to adopt new practices, particularly if their land may be placed in jeopardy, unless the expected return is 30-40% or more over existing practices.

In the following, some of the contextual factors affecting the economic utility of information processing skills such as literacy for subsistence and semi-subsistence producers are suggested:

- Changes in the economic context (an improvement in the price of a key commodity, basic crop or production input; a technical change such as the expansion of irrigation or the availability of higher yielding seeds; the availability of supplementary employment; an improvement in job security; a system of price supports or commodity subsidy; formation of a collective or cooperative) may have the effect of making it more certain that the threshold will be reached, or that it will be reached more quickly and easily. Where such changes are occurring there may be more economic "room" for additional opportunities to be considered and utility\* for the skills required to obtain and process new information.
- Where innovations in production practices are being introduced and changes in the economic context such as those discussed above are occurring, literacy appears to improve the ability of the producers to acquire information needed for economic decision-making.

One of the economic results of having at least a minimum level of adult literacy in a community

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\*Utility is distinguished from value, which is a measure of the goods expected to be obtained from acquiring and using the skill.

appears to be the effect of the literate group upon the diffusion of innovations. There is a ripple or demonstration effect of any innovation which may occur in the area. A number of studies attempting to measure the economic effects of literacy have found it difficult to isolate the effect of literacy on the productivity of the individual from the demonstration effects of innovations attempted by others. If the neo-literate innovates and is successful, others may quickly imitate. If a non-literate innovates and is successful, the literate may also imitate. It may be that part of the economic value of literacy is to widen the range of innovations which come to the attention of the literate, or to accelerate the rate at which they come. The ability of the literate to learn of problems and limitations of innovations elsewhere may be as valuable as the ability to acquire information on the successes.

There has been considerable work on the processes by which information on innovations is diffused. Generally, this work suggests that literates are somewhat quicker to adopt new technologies and that this is due to the literate producer's greater access to information. An alternative explanation is that

the individuals who tend to be the first to become literate also tend to be somewhat more entrepreneurial and information-seeking. However, the literate entrepreneur would be better equipped to obtain information than the non-literate.

Maria Freire reviewed more than two dozen studies of the effects of education on agricultural productivity.<sup>6</sup> These studies show productivity increases up to about 6% for one or more years of education over a wide range of production indices. It is not clear whether the increases are attributable to the education of the head of the farm household or to the education of family members. In her own study of the role of education in rural Guatemala, Freire concentrated on differences in the use of chemical fertilizers and in the growing of selected cash crops. She found small but consistently significant and positive correlations between these factors and the education of the mother, the education of the father and the average education of the farm family. Another review of twenty studies was recently completed by Lockhead, Jamison and Lau for the World Bank, with similar conclusions.<sup>7</sup> This survey suggests that the need for education increases with the level of technology and that where the farmer had at least 4 years of schooling farm productivity was at least 7 percent higher. These

studies suggest that even a few years of education increase both allocative efficiency and technical efficiency\* of farmers and that, except in special cases such as decreasing returns to scale, these efficiencies can be measured as increased productivity per unit of input, particularly units of land and selected technical inputs such as fertilizers or seeds.

Most of these studies concentrate on the adoption of new practices and the use of new inputs. An aspect not fully examined in these studies is the ability of the more educated or literate agricultural producers to detect problems and risks for new technologies and to improve their productivity in comparison with other producers by acting cautiously with respect to use of new technologies. What is the effect of literacy on economic behavior in areas which have had significant failures? If the effect of literacy on economic decision-making is to improve access to information needed to assess

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\*Technical efficiency is the maximum production possible with any given set of resources. Allocative efficiency is the combination of inputs and outputs which gives the maximum profit at a given set of prices. A farmer who produced the most crop from a given amount of land might be said to be the most technically efficient. However, a farmer who weighed the cost of fertilizer and other inputs against the expected price might produce a somewhat smaller crop yet gain a higher profit, thus having allocated more efficiency.

alternatives there appears to be no reason to expect that the effect is only upon information leading to benefits and successful innovation.

- The need for literacy skills may vary in direct relationship with the amount of instability, complexity, confusion and risk the individual perceives in the market place. The traditional farmer may reduce risk and uncertainty by continuing to use well-established practices, even though they may be known to be less efficient or "modern". However, the more prosperous farmer may diversify crops, as the merchant may diversify his/her wares and the artisan may acquire additional skills. A high interest in literacy is often found in the early stages of revolutionary situations, where confusion, instability and uncertainty are high. Paradoxically, the utility of literacy may decline as the situation settles back into a new structure and equilibrium, as the new technology or crop becomes widely accepted, or as an individual's employment and income prospects stabilize (e.g., where employment is guaranteed by law or by contract.)

The implication for literacy programs is that where the program can reduce the uncertainty or con-

fusion (through the content, through group activities, through providing the needed information processing skills) the range of economic opportunities or new technical possibilities may be increased. Analytically, economic risk may be reduced by improving perception, information and assessment skills.

- There is often at least some room for expanded activity within existing knowledge, practices and resources. So long as the subsistence level can be reached by working longer hours, or through a second job, or by farming more land, there may be little motivation toward literacy, or toward risking a change in economic behavior. However, as literacy and new skills become required to reach this level, e.g., to obtain a better job, or to obtain a more secure job, or to produce more efficiently using the same resources, there may be increased motivation to acquire the literacy skills. Much of the migration to cities may be attributed to the fact that individuals cannot subsist at the level they desire in the rural area. Commonly, the land cannot be further divided into economically efficient plots and some members are

effectively pushed into migrating in search of employment or land elsewhere. In such cases, there may be substantial motivation to become literate even though the immediate context does not require or reward literacy. Literacy program planners must consider that the economic context which shapes the individual's thinking may be in another part of the country, or even in another country. Among other pedagogic problems which this raises is the possibility that the individual may have very inaccurate assumptions about the new context.

- The individual may reduce or limit the personal risk associated with a desired level of production, enabling the person to attempt production at a higher level. In Guatemala, Maria Freire found a pattern of literate farmers employing more hired labor and rented land, though the total land and labor available to these farmers was not significantly different from that of illiterate farmers. By renting land and labor, such farmers can seek supplementary employment or attempt new crops and practices more easily (safely) than if their own land and labor were at risk. However, by doing

so they are more integrated with the market economy and require skills to obtain credit, make contracts, keep simple books, etc.

It is possible that even where there is no demonstrable change in economic income for the neo-literate that the new skill has economic value anyway in that it has opened an alternative employment possibility. Because the individual is somewhat more confident in the ability to make at least a minimum living, it is possible to take somewhat larger risks.

- An alternative explanation, also offered by Maria Freire is that the literate farmer is now able to obtain a higher wage for non-farm employment. This enables the farmer to substitute hired labor for his/her own time.
- In general, the first people to attempt new economic opportunities and to seek the additional skills which may be required tend to be those who are relatively free of concern about their economic responsibility for others (e.g., single adults, non-working wives, adults comfortably above the subsistence level).

The minimum which the individual requires for subsistence is related to personal characteristics

such as age, sex, social status or class, group identity, location, etc. The number of people dependent on the individual is particularly important.

Given the same economic resources and opportunities, we would expect to find more cautious behavior from the head of a large household than from the head of a smaller household, or from a single individual. As the wage-earner marries, has children and assumes more responsibilities, the minimum subsistence level rises. Thus, it would not be inconsistent to find a rather cavalier attitude toward learning in the young worker who can obtain the necessary minimum with almost any job, but to find that same individual seeking adult basic education a few years later. On the other hand, a young farmer may be more aggressive in seeking and using new information than an older farmer with more dependents.

One of the difficulties in motivating rural women toward literacy appears to be the extent to which other people depend on their productive roles within the household. Where the necessities of the household or farm unit are securely provided, there

is likely to be motivation to acquire additional skills and economic "room" to attempt new opportunities. However, where there is danger that the subsistence level will not be reached, there is likely to be a reluctance to change productive activities or to invest time in obtaining new skills. Thus, there may be a rather direct relation between measures which relieve women of essential household production responsibilities or which enable the tasks to be done more efficiently, and the motivation of these women to acquire new skills such as literacy skills.

Another way in which the dependency relationship affects literacy activities is seen in the pattern of parents preferring to invest in education for the children rather than for themselves. The family is not dependent on the child for production of the essentials for survival. However, this dependency increases as the child grows older, and increases faster for the very poor. This increasing value of the child's productive contribution is often reflected in primary school dropout patterns.

To summarize the section on contextual factors, the main implications for literacy program design and implementation are:

- Assessment should include learner aspirations/expectations.
- Emphasis should be on the areas and individuals where there is economic "room" for innovative behavior and risk-taking.
- Learning activities should improve perception and understanding of existing opportunities.
- Before assuming underperception of opportunities, assessment should review any factors which are perceived to limit opportunity, personal mobility or the ability of individuals to take risk.
- Literacy programs may be expected to be more successful in areas where economic changes and technologic innovations are occurring.

### Individual Characteristics

In discussing the economic incentives to become literate, it is important that we not exaggerate the opportunities available, nor minimize the impediments and obstacles. The vast majority of non-literate adults are:

- marginal agricultural workers - subsistence or semi-subsistence farmers, landless laborers.
- urban laborers, often recent migrants, working in undifferentiated jobs requiring little specialized skill.

- women who are not wage-employed (though most women in non-affluent households are economically active in agriculture, in crafts, in petty trading and other economic activities in addition to housework).

Most of the illiterates have both restricted economic opportunity and restricted educational opportunity. It is not clear whether a) the lack of essential skills such as literacy is a significant impediment to further economic integration, or b) the lack of integration reduces the economic incentive to become literate. There is evidence for both explanations. The key understanding is that the majority of illiterates are not at present in roles which reward the literate worker, or in environments which offer them many educational and economic choices.

The strongest environmental influence on the value of literacy is the price and wage signals which the economic context gives to the individual. As an individual becomes integrated with production processes in the market economy (becomes employed, or depends upon the scale of goods and services to others), the context begins to "tell" the individual (quite literally in many cases) whether it is economically useful or necessary to acquire literacy. The striking fact about most non-literates is that they are not fully integrated into the market economy, thus with the economic signals of the market.

Most illiterates exist simultaneously and/or sequentially in several economic worlds, and to the extent that they exist in the market economy, their roles demand minimal literacy, and reward literacy minimally. A common analytic mistake is to assume that all, or even most, rural workers can be described as farmers, or that the term farmer is descriptive even of those

who do make their living off the land. Typically, a rural worker will combine agricultural production of both cash and consumption crops with local work as an artisan or hired laborer, seasonal work as a migrant laborer - either in the city or in other agricultural zones, and perhaps production of some crafts goods produced for sale. Most of the dissenting views on the relation of formal schooling to economic growth have come from observers of rural economies who have noted the variety of economic roles, the mobility between and among them, and the near impossibility of providing preparation for such diverse rural employment through formal vocational schooling. Literacy is one of the few "vocational" skills which is agreed to have general application in rural economic activities.

In most cases, the individual (and the society) is simultaneously conservative or traditional in some areas and open to change in others. The transformation from one role to another occurs gradually, taking on elements of new roles without abandoning the old. Most analysts of rural/urban migration stress the movement back to the villages as well as to the city. Migration is seen as a net result of people moving in both directions and for many reasons, not as a one-way flow. A similar "net" effect probably exists with most economic changes. People are accepting changes at the same time as others are being cautious. Change occurs by stages, "three steps forward - two steps backward", with some people experimenting and others waiting to see what happens. Changes made by other members of the group, family, or community are major contextual influences on the economic behavior and attitudes toward change of any individual.

In assessing the economic motives or behavior of the rural worker, the literacy program should consider:

- the sequence and pattern of economic activities - rarely will it be accurate to identify only one activity as economically important. Further, the area in which change is contemplated may not be the largest activity or the activity in which the individual is currently engaged.  
the activity on which the worker depends for subsistence - in this activity there is likely to be less room for innovation than in other areas. It is not necessary (or tolerated by most learners) to challenge traditional practices. The individual usually knows that there are alternatives to traditional practices. The traditional practices are preferred because they are well known and they are reliable.
- any changes in activity - either new activities (even though a small part of total income) or activities which the individual aspires to attempt. These are the areas where motivation to change and to apply new skills may be strongest.
- the amount and areas of activity over which the individual has discretionary control. The landless

laborer has little control and the only discretionary choice may be to seek employment in the city. The person with secure title to land, or with assets to hire land or labor, or with a "surplus" of production or time or land, may be expected to be more innovative (to have more room for discretionary economic decisions) and to be more interested in new skills.

Several typologies have been suggested for the distinction of categories of illiterates according to their economic need for literacy. The following synthesis is suggested:

By age emphasis on adults both in rural and urban areas - young children and adolescents are increasingly covered by formal schooling. For those who are not covered, the value of literacy will grow as their responsibilities and aspirations become better defined.

Type of employment distinguish between subsistence, semi-subsistence, self-employed, wage-employed; also distinguish older adolescents and adults (predominantly women) who are aspiring to enter remunerated employment.

In rural areas Adiseshiah<sup>8</sup> and the World Bank suggest distinguishing a) small farmers who could produce both for their families and for a marketable surplus, but who do not now do so; b) the marginal farmers who are non-viable now and will be, without supplement non-agricultural income; c) the

landless farm laborers whose dependence on wages keep them at the poverty line.

In urban areas Distinguish a) new urban immigrants for whom the reduction of confusion and uncertainty may have high economic value; b) the self-employed; c) unskilled workers in established plants and factories whose mobility, but not whose job performance, requires literacy; d) workers in new plants and factories who require functional and post-functional literacy to adjust to new production processes, technologies and organizations - including labor organizations.

To summarize this section, the characteristics of the individual affect the value of a new skill such as literacy in the following ways:

- Individual characteristics affect mobility within a context and mobility between contexts.
- The context provides economic signals (wages and prices) which are perceived differently by different individuals.
- Individual characteristics affect the level of income or production which is necessary for subsistence, thus the degree to which economic change and innovation is perceived as possible and desirable, necessary or risky.
- The form of employment or production in which an individual is engaged affects the kinds of new information and opportunities which can be considered and the value

which is placed on personal skills, knowledge and decision-making.

- Individuals differ greatly in their economic aspirations and expectations, perceiving different possibility sets.
- Individual experience with primary reference groups, with the economic market, with previous development efforts, and with natural phenomena, affects confidence or insecurity with respect to the future, thus the degree to which the new opportunity is perceived as feasible, attractive and prudent.
- For each group of learners the normative economic behaviors can be distinguished, e.g., satisficing, optimizing, maximizing.

#### Economic Incentives to Become Literate

The central arguments of the preceding sections have been that the economic value of a skill such as literacy is determined by the degree to which the economic context provides realistic opportunities for economic improvement, by the degree to which the context provides economic rewards to the literate individual and by the degree to which the individual perceives economic room to attempt changes and seek new opportunities. When the individual concludes that literacy is economically valuable, it is assumed that the individual will take advantage of an opportunity to become

literate. However, many individuals do not become literate, even though it appears to observers that it would be to their advantage to do so. A full understanding of the economic motivations to enroll and participate in literacy training requires assessment of the costs and impediments of various kinds as a separate consideration from the assessment of benefits or value.

There has been little research or quantification of the cost-benefits of literacy programs. This has been due to the fact that program evaluators have generally been more concerned with cost-effectiveness studies, evaluating programs and program expenditures rather than learner motivation and behavior, and due to the fact that both the costs and the benefits are difficult to define. H.S. Bholā concludes that:

Cost-benefit analysis is far from simple and can turn into a complex exercise in arbitrariness and self-deception. One can usually estimate the costs of a programme in terms of cash, although many economists assert that this is not easy. Planners can estimate project expenditure on things such as wages and rents, but are not always able to include the costs of all the facilities used or that of 'piggy backing' on a multitude of officials assisting a particular programme. It is also hard to put a money value on human and social costs. How much does it cost to sit in embarrassment among a group of people you have never met before? How much does it cost to send children to school instead of keeping them at home to work or take care of younger siblings? What is the cost of changing from one cash crop to another? What is the cost of uprooting oneself from the native village in order to work in a factory? Or of surrendering claims to a small piece of land in order to become part of a large co-operative?

Benefits are even harder to compute in money terms. One can put a cash value on increased productivity or fewer sick days, but one cannot put a cash value on

the education of children, change in women's attitude, and the development of new identities among farmers, workers and housewives.<sup>9</sup>

While it is generally agreed that the technical problems of defining and measuring costs and benefits make cost-benefit assessment of programs difficult, if not impossible, the assessment of the privately-perceived costs as well as benefits is essential to understanding economic motivation.

The most important types of cost affecting economic behavior appear to be:

Time Time invested in obtaining the skill, time invested in a new activity, time until an improvement or benefit is received, periods of time over which the benefit is received. Time may be one of the most important costs as well as one of the benefits of obtaining literacy. For example, the time required to obtain a job has a powerful influence on employment aspirations and on migration patterns.

Risk The possibility that the subsistence threshold will not be reached; consequences of failure, such as loss of land; possibility that literacy may make employment less secure if employers perceive literate workers as potential troublemakers or as not worth the required increases in wages. While the acquisition of literacy may not entail risk in itself, there may be substantial risk associated with the new activity or economic change.

Monetary Foregone income during the training period; any fees or materials costs associated with the training; the requirement of some form of capital to implement the innovation. Even a very small financial cost, such as the cost of kerosene or batteries for a lamp, can be a significant cost to a person whose cash income may be only a few dollars a year.

The minimum condition for economic choice must be that any perceived benefits are at least as great as any perceived costs. One of the problems is that costs tend to be more accurately perceived than are benefits. They are more immediate, often more tangible, and usually more certain. Thus, even though the observer may be able to project substantial benefits, the individual must first assess whether the activity is feasible. Are the risks tolerable? Do the minimum resources exist? Is there time?

Many observers argue that the motivated learner who perceives the value of literacy can go a long way to overcome barriers of methodology and pedagogy.<sup>10</sup> It seems that people who feel the need for literacy will accept the general skills in whatever form they find them. While it appears to be true that where perceived value exists, students will bear substantial costs and inconvenience, it is probably more accurate to assume that the perception of value subsumed a number of private cost-benefit calculations in the first place.

Adam Curle<sup>11</sup> studied several societies in which opportunities clearly existed and were perceived to exist, yet factors which most analysts would not recognize as costs appear to inhibit change.

The Pathans, in fact, have the type of social and political system that could be a spring-board for economic development. They are held back neither by the oppression of a minority, nor by a narrow incomprehension of the market, nor by stifling demands of family, nor by caste-determined work. What holds them back is the jealous fear for their freedom. This, as many will not hesitate to admit, occasions great suffering.

It appears that another element has to be considered in the cost-benefit calculation, that of the confidence which people have in the future and in the assumptions that they must make about the probability that things will work out as they have hoped or planned they will. Analytically, we can discuss this confidence in terms of risk and probability, discounting the cost-benefit assumptions by a probability or chance function. For example, we may observe that the income differential between a rural area in which literacy has little value and an urban area in which unskilled/illiterate labor is employed might be 1 to 3. However, the urban worker may have to spend considerable time looking for a job, and the job may be temporary and insecure. The rural worker may calculate that his welfare is better with secure but lower paid work. If literacy gives the urban worker a higher wage, say making the income differential 1 to 6, the value of becoming literate can be stated. However, if literacy makes it twice as likely that a job of some kind will be obtained, or that a job will be obtained in half the time, literacy also has an economic value of some magnitude even though it may not lead to a higher wage. There are several studies of the relation between basic education and urban migration which suggest that it is the effect of literacy on the certainty of employment which gives it value.

A similar effect may be observed in the relationships between literacy programs and successful rural development efforts. A number of writers have commented upon the fact that in traditional village cultures people do make changes and choices but only slowly and cautiously, as they become confident of the results. However, because there have been so many failures and false promises, it becomes quite prudent to be cautious, to make change slowly. An economic cost becomes associated with change itself. This "cost" or lack of confidence, which includes most elements of risk discussed earlier, appears to be allayed under two conditions.

First, risk appears to be allayed where participation is high. One of the needs is for some kind of group in which to participate. Both the existence of a group and the opportunity to participate in planning activities and generating content or decisions appear to contribute positively to making benefits more probable and costs less risky.

Activities undertaken as part of a group effort may be more acceptable than independent actions by individuals. Some of the anthropologic literature suggests that peasants cooperate in order to maximize benefits and reduce costs (to create a larger cake) but that they are suspicious of possible attempts to gain a disproportionate share (a larger slice).<sup>12</sup> Other observers stress the positive role of the group in establishing and legitimizing new production norms, role expectations, parameters for establishing prices, choosing technologies, distributing resources and other influences on the economic choices of the individual.<sup>13</sup>

In a number of cases, the literacy effort has been based on an existing economic group, such as a cooperative or a factory or a collective farm. In a few cases, the literacy group appears to have transformed itself into an economic self-help group.

In some cases the group may benefit more than the individual, leading to situations such as that reported in Iran<sup>14</sup> in which individuals demanded to be paid for becoming literate since it was the group which would benefit, not themselves. In other situations, the participation may be necessary to translate or make sense of what is otherwise just abstract noise and political rhetoric. As more people come to agree on what is expected, the normative values change. This is part of what Critchfield appears to report in his article, "Revolution in the Village,"<sup>15</sup> in which some of the most change-resistant cultures are observed over about 10 years to have tipped over into a new norm which now makes certain traditional behaviors aberrant, risky, and socially disapproved.

The second way in which confidence is increased, risk reduced, is through the integration of literacy programs with long-term commitments to other changes and improvements in the economic context. Though the functional literacy and skill training may be only modestly successful initially, as the other programs become seen as continuing and making steady contributions in areas of need, confidence grows in the value of the associated education. In India the success with varieties of miracle rice led to similar success in introducing other innovations. In a sense, the cost of the second innovations has been

reduced because of the greater confidence in the probability that it will be a good change and that it will be successful.

Bernard Dumont provides a good example from a country with one of the world's lowest literacy rates and poorer records of economic development:

The Malian project had the advantage of specially favorable circumstances: the launching of the project coincided with that of large-scale rural development operations where the goals defined, the techniques employed and the results achieved were genuinely and speedily beneficial to the peasant. The aim of all these operations was not only to increase national production of an important marketable product (cotton, groundnuts, rice, etc.) but above all to raise the level of the agricultural knowledge and practices of the peasant in order to diversify production; the techniques introduced for this purpose (emphasis on the use of animals for draught and to provide manure, the use of selected seeds, the establishment and observance of an agricultural timetable, with rotation cropping) avoided any sudden upheaval which would have handicapped the small farmer, while constituting a gradual, yet appreciable, improvement in his traditional techniques. The result was not only the appearance of a cash income (in some cases substantial) for the peasant, but also a noticeable increase in the production and regularity of traditional food crops: at the time of the great droughts in 1971 to 1973 the food crops of the areas organized into "Operations" escaped the sudden decline noted everywhere else.<sup>16</sup>

The main educational policy conclusion of Maria Freire's study is that:

... educational policies, aiming at improving the literacy level of rural farmers, have a positive effect on agricultural productivity and farm efficiency, whenever structural and institutional factors do not prevent that effect from taking place. That is, farmers' literacy appears to be correlated with higher use of chemical fertilizers, crop diversification and higher integration in the monetized sector of the economy; however, educated [sic] policies can increase the level of agricultural productivity only when rigidities in credit available to small farmers, land tenure

system, and contractual arrangements are flexible enough to make possible literate farmers to benefit from increased educational abilities. Whenever those constraints operate, increased education may lead to educated (or at least more educated) farmers and workers, leaving farming jobs and entering the labor markets outside their rural community, this being particularly likely in the case of small and medium farms where labor productivity is lower.<sup>17</sup>

Though literacy program planners are usually not in a position to influence employers or government policy makers to change the economic policies and economic rewards, they can make sure that the program responds as directly as possible to the opportunities that do exist and to the needs of adult learners for practical skills which have immediate economic value. Malcolm Adiseshiah sums up the situation,

... There is no a priori method or materials of literacy functional to the farmer/cultivator and his interests, needs and problems. The start is not teaching about a high yielding variety of wheat or paddy, or producing learning materials around NPK fertilizer dosage, and its water and pesticide requirements. These are still too far and too theoretical in relation to the functionalities of the farmer/cultivator, whose motivation is to work out the cost-reutrn of the new technology, so as to be assured that he and his family can be fed, clothed and housed, or whose produce and productivity would earn him a wage which will cover his family's living expenses, and in the process face and find an answer to the monthly, weekly and daily problems that he faces in the new setting in which he is placed. The literacy tool that he wants is one that can be a problem solving tool and not, in the usual pedagogic tradition, an information-inundating one.<sup>18</sup>

#### Summary of section on incentives

In assessing the economic incentive or motivation to become literate and to understand new economic behaviors, we must assess both the costs and the benefits, plus the degree to which the individual is confident in the accuracy

or reliability of the assessment and feasibility of the activity. Benefits may be of many kinds, monetary and non-monetary, and they will be valued differently by different groups of individuals. The decision to take some action to become literate is based on a net assessment by the individual and the "objective" analyst or planner can at best only approximate the assessment.

The essential argument is that while it is possible to design literacy programs which are functional in specific contexts and which take full advantage of the economic incentives of the learners as a powerful motivation for becoming literate, it is only possible to do so to the extent that important functions can be defined as realistic and valuable in the context of the learner.

#### Literacy Project Design Variables Affecting Economic Incentives

The project design can be tailored to increase the perceived net benefits for the individual learner, both by efforts to increase or improve the perception of possible opportunities, applications and benefits and by reductions in the costs to the learner. The costs can be affected by:

- the amount or kind of subsidy
- the timing and location of the training
- the flexibility of the training program, particularly with respect to time
- measures which affect the possibility of failing or wasting time in the training.

The more effectively costs are reduced or eliminated, the more the privately perceived benefits are enhanced; however, net benefits is a meaningful concept only when costs of some kind exist.

It is difficult to generalize about the appropriate balance to be struck between costs to be born by the learner and costs to be publicly subsidized. Perhaps the most important point is that no program can be, or should be, entirely free of cost either to the individual or to the society.

- with respect to the opportunity costs of time, the people with the fewest alternatives will tend to have the most time. If there are no other costs associated with enrollment, the program may attract mainly those who have nothing better to do.
- a modest, but significant, cost to the individual may actually increase motivation. Adults, particularly adults who are struggling economically, are likely to view with suspicion a free activity. It is either of little value or there is a hidden agenda. Costs, including time costs, must be feasible, but the inclusion of some costs helps to assure adults that it is a serious activity.
- the existence of some public subsidy also appears necessary. There is a contradiction between the high level of rhetoric which surrounds many literacy programs -- assuring participants of the impor-

tance of the activity -- and the low level of public support. Rarely does the level of public support for adult literacy efforts approach that of primary schooling.

The time and timing of the training should be appropriate to the opportunity costs of time for the learner -- design variables include:

- the length and amount of time
- the flexibility of scheduling
- the certainty of the duration (avoid open-end training without predictable stages of completion)
- the amount of preparation outside of class
- the interruptibility of training (learners should be able to return after dropping out for a period)
- the immediacy with which the skills and content can be applied.

The age of the learner affects both the costs and the benefits of acquiring a skill. From a social policy point of view, the highest net benefit would theoretically be for unmarried young adults who are seeking their first wage employment but have not yet determined a vocation. However, for individuals, the highest motivation is likely to be for somewhat older workers with responsibilities who perceive a specific occupational need for literacy.

The more homogenous the group of learners in other respects (age, occupation, sex, SES), the more commonality can be assumed about:

- aspirations
- knowledge of skill values/utilities
- role models and information sources
- contact with employers
- dissatisfaction with status quo
- feasible costs
- time available.

The motivational profile, perceived net benefit and possibility set can more easily be assessed for the homogenous group of literacy learners, suggesting that a learning strategy which is economically responsive can more easily be designed for a homogenous group than for a heterogenous group of learners.

The closer the training is to the points of application, the more possibility of improving perception of opportunities and task requirements. Also, since the location of training influences the costs and feasibility of training for different groups of learners, the location of training will affect the homogeneity of the learners.

Learner perceptions of the value or utility of literacy may be enhanced by exposure to employers, either directly or through incorporation of realistic work situations in functional literacy curricula. The more interaction between literacy and specific skill training, the more motivation can be enhanced. These and other design variables will be explored further in later chapters.

#### Summary

The economic incentives to become literate may be influenced by:

- making benefits

- larger
  - more certain
  - different in kind
  - more proximate
  - of longer duration
  - more direct to the learner

- making costs

- smaller
  - less certain
  - more distant
  - shorter in time
  - different in kind
  - more shared by society

- reducing doubts about any of the above; improving confidence in perception of net benefits.

With respect to the private assessments of the net benefits from training, whether in literacy or in other skills, the private assessment tends to be higher than the public assessments, due to the fact that:

- costs of training tend to be subsidized
- benefits are individually controlled
- non-economic benefits exist
- some "free goods" are invested - e.g., time
- skills are transferable and may be used for unintended and unexpected purposes.

Thus, it is reasonable to expect that in most literacy programs the individual stands to benefit more than might be assumed by cost-benefit calculation from the public perspective, were it technically possible to make such calculations.

Logically, we should assume that when the motivation or attendance of individual learners is less than the program planners expect, the problem lies less in the fact that the learner does not adequately perceive the benefits as in the fact that the planners have overlooked various limiting factors, costs and risks to the individual.

<sup>1</sup>David Harman, Fundamental Education (Lexington, Mass.: Lexington Books, 1974); H.M. Phillips, Literacy and Development (Paris: UNESCO, 1970); Rupert Evans and Edwin Herr, eds., Foundations of Vocational Education (Columbus, Ohio: Charles Merrill, 1978).

<sup>2</sup>UNESCO, Literacy 1969-1971 (Paris: UNESCO, 1972), p. 39.

<sup>3</sup>Omar Osmon Mohamed, From Written Somali to a Rural Development Campaign (Mogadishu: Somali Institute for Development, Administration and Management, 1975).

<sup>4</sup>See discussion of "Safety First Literature," in Maria Emilia Silva Freire, "Assessing the Role of Education in Rural Guatemala: The Case of Farm Efficiency" (Ph.D. dissertation, University of California, Berkeley, December 1979), p. 8 and pp. 164-172.

<sup>5</sup>Clifton Wharton, ed., Subsistence Agriculture and Economic Development (Chicago: Aldine, 1969); Theodore Schultz, Transforming Traditional Agriculture (New Haven: Yale University Press, 1964).

<sup>6</sup>Freire, Tables 1.1 and 1.2, pp. 233-36 and discussion, pp. 25-32.

<sup>7</sup>Marlaine Lockhead, Dean Jamison, and Lawrence Lau, Farmer Education and Farm Efficiency: A Survey (Washington, D.C.: The World Bank, 1979).

<sup>8</sup>Malcolm Adiseshiah, "Functionalities of Literacy," Prosepects VI, I (1976): 86-88.

<sup>9</sup>H.S. Bholia, Evaluating Functional Literacy (Tehran: International Institute for Adult Literacy Methods, 1979), pp. 118-119.

<sup>10</sup>Mansoor Ahmed, "A Literacy Strategy for Rural Development" (Persepolis, Iran: International Symposium for Literacy, Sept. 1975); John Oxenham, Non-Formal Education Approaches to Teaching Literacy (East Lansing: Michigan State University, 1975).

<sup>11</sup>Adam Curle, Educational Strategy for Developing Countries: A Study of Educational and Social Factors in Relation to Economic Growth (London: Tavistock, 1963), p. 72.

<sup>12</sup>George Foster, Traditional Cultures and the Impact of Technological Change (New York: Harper & Row, 1962).

<sup>13</sup>Denis Goulet, Looking At Guinea Bissau, A New Nation's Development Strategy (Washington: Overseas Development Council, 1978).

<sup>14</sup>Pierre Furter, Possibilities and Limitations of Functional Literacy: The Iranian Experience, Educational Studies and Documents No. 9 (Paris: UNESCO, 1972), cited in The World of Literacy (Ontario: International Development Centre, n.d.), p. 57. (Draft.)

<sup>15</sup>Richard Critchfield, "Revolution of the Village," Human Behavior (May 1979).

<sup>16</sup>Bernard Dumont, "Literacy in National Languages and Development," Prospects VI:I (1976):92.

<sup>17</sup>Freire, p.189.

<sup>18</sup>Adiseshiah, p. 87.

## CHAPTER IV - ENVIRONMENTAL FACTORS MOTIVATING LITERACY

by Mary C. Rainey

In this chapter, it is argued that social and linguistic factors exist in every society which require or prohibit, support or fail to support, the acquisition of literacy. These factors are reflected in the number, variety and importance of activities which require literacy in a particular environment. They are presented here as a framework through which to characterize the strength of the literacy environment. It is proposed that the strength of the literacy environment influences the learner's motivation to acquire literacy skills.

### Societal Incentives and Factors

Before discussing social and linguistic factors supportive of literacy acquisition, it is important to look at the nature of social incentives. In the previous chapter a set of incentives were presented which are economic in nature in that the acquisition of literacy leads to an economic benefit, or the failure to acquire literacy has an economic cost. The majority of other incentives are classified as societal in nature, in that the society either provides social rewards or restricts social roles depending on whether or not the individual acquires the necessary literacy.

It is important that this review include a discussion of social incentives because of the difficulty in clearly separating the effects of economic and social incentives. For example a social reward is an increase in prestige which can result in increased economic benefits. Often the converse is true; the rich man usually has high status because of his wealth.

For purposes of this discussion social incentives will be broken down into three categories. They are: normative social pressure, gatekeeping and personally-held or discretionary goals.

Society is composed of institutions which present to its adult members a set of criteria by which to behave in order to be accepted. When this normative social pressure demands that literacy skills be acquired, it provides motivation to strive to acquire literacy skills.

Motivation for literacy is also provided by social institutions which use literacy skills to restrict membership. This gatekeeping function may be planned or inadvertently imposed.

Motivation also comes from discretionary or personally held goals. Motivation is present when an individual values literacy and numeracy as a means not to perform a task demanded to function every day at work or home, but because it enhances a personally held goal.

These types of incentives are generated in social groups and institutions. They are discussed as operating in familial, religious, political and educational groups or institutions.

#### Household/Family

The role of the family as educator is widely observed and acknowledged. The family is a transmitter of culture between generations largely through modeling and imitation. If reading and writing habits are practiced by one generation and proposed as part of learning of prescribed roles (all "good

children" write their parents when away), it can be expected they will be transmitted and internalized by other members.

The family also resocializes its members throughout life by consciously revaluing and reshaping previously learned behavior. In so doing, the family is often the strongest source of normative social pressure.

The family manages resources to allow for new learning from outside sources. It can reassign responsibilities to permit older members who are highly productive at home some free time to pursue nonformal education. On the other hand, should it judge that opportunity costs are too high, it may refuse an individual's request to attend. These decisions are reflected for example, in the high dropout rates of women in general and of men of productive age in the EWLP programs.<sup>1</sup>

There is some evidence to suggest that increases in literacy skills are found among household members who share an increase in standard of living. For example, evaluations of EWLP in Tanzania<sup>2</sup> found slight increases in the possession of durable goods among participants in literacy programs. It may be that acquiring higher levels of literacy will be a part of an overall pattern of change seen when discretionary income is available, resulting in new habits in diet, clothing, entertainment, for example.

Research findings indicate that the family acts as a unit, sharing and acting on information obtained by one literate member. The University of South Florida's study in Guatemala of the effectiveness of various communication media in promoting change among 1300 farmers and their families, found

that whether or not a farmer is literate, membership in a highly literate family is related to increased use of modern agricultural practice. Family literacy was more predictive of adoption of modern practices than individual literacy. The study provides no evidence to suggest whether the presence of one literate family member retards or speeds literacy motivation among other members.<sup>3</sup>

A number of household management functions are facilitated by literacy skills including record keeping, measurement, the sustaining of interpersonal relationships through personal correspondence, routinization of procedures such as occurs with the collection of recipes and the making of consumer decisions. This analysis suggests that where literacy skills enhance a high number of household management functions, motivation for literacy will be present.

The literacy oriented functional education program planner should take particular care to understand and plan strategies to work with the family. Motivation is strongly influenced by the perceptions of self held by those counted as most significant in one's life, for the most part, other family members. In societies where familism (enhancement of family well-being before individual well-being) is highly valued, literacy planners may have better results if they can show how the family unit will benefit by a member's achieving higher levels of literacy.

## Religious Institutions

Religious institutions are strong sources of normative social pressure for literacy in many societies. Learning to read religious texts and hymns may be required of an entire congregation, as is common among Protestant religions, or of only a selected group such as future male heads of households represented historically by the education of sons to read the Torah or Koran. Literacy instruction in these religious institutions may take place through systematic or unsystematic methods; nonetheless where the demand is present, literacy skills are acquired.

Wilder provides an example of how literacy skills were acquired through traditional religious institutions and transferred to literacy in a language of wider communication. Wilder found that Lao men who had never been through formal schooling achieved literacy in the Lao language after residing in the Wat. They learned to associate sound with symbols in reciting prayers by rote in the Pali language. Although systematic instruction was not given, over a period of time they became literate. Because the script approximated that used in Lao, they were able to transfer their skills to read Lao.<sup>4</sup>

Literacy skills acquired through participation in religious practices are often in a higher status variety of the language than that used in daily communication. (A higher status variety is a form of a language often used by an educated elite for writing or for communication in formal contexts.) Acquiring a higher level of proficiency in literacy skills in this high variety may serve a gatekeeping function in controlling access to special groups such as those accepted

for training as clergy. Literacy motivation can result when a non-literate individual desires to join such a group.

Historically, literacy skills have been utilized by major world religions to keep records of births, marriages and deaths. This record keeping, however, is practiced by a few rather than by an entire population.

### Schooling

The presence of schooling has both a long term and a short term influence on adult literacy. Sheffield's review of 25 studies of literacy retention among adults who attended some primary school, compared to adult literacy program participants, found that retention is positively related to years in school. It failed to substantiate that there is a level of primary education at the completion of which literacy skills are retained.<sup>5</sup>

The presence of illiteracy in communities is associated with lower levels of, or lack of, formal education. Illiteracy is found among those groups in the population which have least access to schooling - older members, women and rural residents. Schooling may be a path to universal literacy; however, it requires considerable lead time for an entire adult population to receive schooling. It requires a commitment to provide universal access to education, including extension to hard-to-reach populations.

As the proportion of persons attending primary school increases, motivation to acquire literacy by non-literate adults can be expected to increase. Normative social pressure may change to convey the expectation of adult liter-

acy as when the school system sends written messages to the home and/or expects written responses. Personal values may motivate literacy among family members who wish to share the world of their children and assist them in homework. A common experience of adult literacy teachers in India is to find participants enrolling, in part, to learn to read the primers used in primary school. Status is earned by being able to say, after so many days of study, one can read the same text as one's son who is in grade two.<sup>6</sup>

The presence of universal schooling for children can be expected to both complicate and enhance participation in literacy oriented functional education programs for adults. Adults may enroll for multiple reasons such as to "catch up" to the educational level of their children, to be able to read a newspaper and to understand extension bulletins; program curriculum may, on the other hand, be designed to meet only one of these objectives.

Persons who left school at different grade levels may be present in the same class, possessing a variety of entering competencies with respect to levels of literacy, and making it difficult for the instructor to present new information to all and sustain the necessary interest for continued attendance. Participants are likely to have positive attitudes towards learning and self-confidence in their ability to achieve from earlier experiences in schools, enough to encourage risk-taking and personal investment in further education such as enrollment in adult instructional programs. Schools may have taught literacy skills in a high status variety of the language which, because of infrequent use, has been forgotten. The experience, however, may provide

a base of transferable skills for learning the vernacular or a language of wider communication chosen as the language of instruction in the literacy oriented functional education program. By building on transferable skills, the instructor can insure early success for participants, an important factor in maintaining attendance.

#### Political and Legal Structures

Coordinated government efforts are influential in providing motivation to learn literacy skills through mass campaigns. During interviews a number of international literacy specialists and educational leaders emphasized that a strong national will as well as the presence of material resources are critical factors in program success.<sup>7</sup>

Political systems provide a strong motivation for literacy when they utilize literacy to restrict privileges of citizenship. In some cases governments have formalized this criterion into law as in the United States until the 1960's when some state governments required literacy for voting.

Laws likewise demand literacy in an increasingly codified and specialized manner of written communication. Where land reform and taxation has redistributed property ownership, literacy is needed to understand legal obligations including rights of purchase and tax obligations.

### Social Factors Contributing to a Literacy Environment

The institutions and groups just described contribute to the environment within a specific community in which the learner will find support, indifference or prohibition in the effort to acquire literacy skills. Indicators of this support or lack of support are the number, variety and importance of literate activities required of individuals if they are to interact effectively with these groups and institutions. The degree to which these groups and institutions used printed materials, required physical movement on mass transportation systems or use a linguistically complex language for communication effects the individual's ability to cope with these groups. The more printed media used, the more mobility required, the greater the ease in acquiring the language, the stronger is this literacy environment.

### Mass Media

The prevalence of mass media is associated with higher levels of literacy. Follow-up material must be present in the learner's environment if he/she is to retain the literacy acquired. Roy and Kapoor, for example, found that continual availability of reading materials, books, magazines and newspapers is associated with higher levels of literacy.<sup>8</sup> The relationship between higher levels of literacy and radio and film exposure is less clear.<sup>9</sup> Rather than caused by literacy, radio listening and movie-going may be part of a number of changes in behavior made as one shifts to a new life style. It may be, as noted in the discussion of increased family income, that one of the first changes

made when discretionary income is available, depending on the culture, is the purchase of a radio or movie ticket.

### Mass Transportation

Use of mass transportation has not received significant attention as a factor associated with higher levels of literacy. However personal observation suggests that literacy skills facilitate utilization of mass transportation by allowing self-reliance and independent decision-making in deciding to travel and in arriving at distant and new destinations without the accompaniment of a literate companion. Where wide access to mass transportation is available and is characterized by scheduled departures, this discussion suggests greater levels of literacy will be present.

### Influence of Linguistic Factors

Linguistic factors associated with levels of literacy include factors related to the stage of development of the language and to attitudes towards, and prior skill in, the language of literacy. Factors relating to stage of development of the language are presence of a written form of the language, degree of modernization of the language and degree of standardization of the language.

The first criterion for acquiring literacy skills in a given language is that the language be written down. The design of orthographies has political, cultural, and educational ramifications and competing orthographies

may exist. However, one orthography must have been chosen and developed if literacy is to be achieved in that language.

A second criterion is that the language have the capacity to develop or modernize. A language which is used for communication in daily life demonstrates a capacity to develop when it 1) has a written form which is widely understood, 2) meets the need for new and/or specialized vocabulary by inventing its own terms or accepting loan words, and 3) can be used for translating other languages of wider communication.

In order to become widely understood, the language needs to undergo standardization in which a norm is established which supercedes regional or social dialects. The third criterion, standardization, occurs through the development of dictionaries and grammars and with the use of the standard forms in written records. A difficulty that literacy instructors should expect in teaching recently standardized languages is some sound/symbol divergence among speakers of dialect varieties of the standard.

Language speakers are constantly encountering new topics as they hear news of the outside world, and encounter changes in technology and science. Language accommodation occurs through the introduction of words and expressions. Wide acceptance has been achieved through gradual change where practitioners are involved in generating, learning and sharing the use of terms. If the language is a local language, the process may involve the development of a new written language and be supported because of its importance as a political statement.

Learning to be literate in one's mother tongue can be an empowering experience since it implies control of the speaker's own language. When a written form does not exist and literacy is conducted in a language of wider communication, people cannot relate things of importance to themselves in written form. A second source of alienation may be introduced when a group perceived as external creates the orthography. If the group is trusted, people may be more likely to trust the language to communicate information of significance and intimacy. If not, they may use the language for only public activities such as trade. One would expect that Catholic communities in Latin America would not use materials prepared by Protestant Wycliff Bible translators. It would be expected that Mayan language materials generated by Mayans would gain wider acceptance among Mayans.

The vernacular may not be accepted as the language of instruction when a language of wider communication serves a gatekeeping function and adult learners wish to gain social mobility by learning it. Harman cites two examples where vernaculars were rejected. In former French colonies in Africa, education authorities decided that vernacular languages would be used in functional education programs with adults who did not understand French. Learners objected fearing the beginning of a policy of segregation and preferring to learn French. Similarly, Harman reports that among Africans who became literate in English there has been opposition to the use of vernacular languages in education on the grounds that their use will prevent the spread of Western ideas and culture and will impede the progress of the African and his integration into the modern world.<sup>11</sup>

While some attention has been given to the codification of new words into dictionaries, less is known about the process by which consistent use of words is assured for distinct sectors of the population. Adult educators, through materials development, have a central role in this area. They may add to confusion or spread common understanding of scientific concepts and technically specific vocabulary depending on their care in the selection, explanation and application of terms. To do an effective job, adult literacy specialists need to mediate language considerations at several levels. First they need to find out what languages are in use, what their written forms are, and what areas they are used in (e.g., extension bulletins, record keeping, scientific discourse). At another level they need to work with the government (which may be primarily interested in the development of one national language which is perceived as a means through which to achieve national integration) to see what local forms are acceptable for publication.

A fourth criterion is the presence of positive attitudes toward the language of literacy. Persons in one setting may feel positive toward learning literacy skills in a given language while others in a different setting view acquisition of literacy skills in the language negatively. Berry for example discusses a case in Cameroon where "nationalistic opposition to a Colonial language resulted in a tribal group opposing the writing of their language with symbols based on French." Non-literates may on the other hand be motivated to learn orthographies which they identify with the prestigious languages around them learned by educated bilinguals.<sup>10</sup>

The final characteristic associated with the individual's ability to acquire higher levels of literacy is prior oral fluency in the language in which literacy is to be acquired. Literacy is easier to acquire where the mother tongue is used as a language of wider communication. However large numbers of illiterates use local languages as mother tongues and enroll in literacy instruction to gain competence in reading and writing national languages. Gudschinsky examines their situation in a state-of-the-art article reviewing techniques for functional literacy in indigenous languages and the national language.

The individual cannot pass directly from ... native control of a non-national language as an illiterate monolingual ... to ... oral and written control of the national language as a second language .... He can, however, be taught oral and written control of the national language by either of two teaching sequences: (1) by instruction in literacy skills in his own language ... followed by instruction in speaking and reading the national language; or (2) by oral instruction in speaking the national language ... followed by instruction in literacy skills in that language.<sup>12</sup>

Having completed a review of societal and linguistic factors, it is now possible to characterize high and low literacy environments. A high literacy environment is a setting in which literacy skills are required to function efficiently at work, participate in fair trade in the market place and manage and perform the daily activities of the household and community.

A list of factors which this review of literature, interviews and observations have suggested as associated with high and low levels of literacy are summarized in Chart Three and offered as a framework for testing.

Chart Three - Environmental Factors Associated With High Levels of Literacy

SOIETAL FACTORS

Use of literacy in religious practices  
Access to schooling  
Discretionary household income  
Availability of mass media including daily  
newspapers and books  
Availability of mass transportation  
Awareness of government support for literacy  
Presence of written property and tax law

LINGUISTIC FACTORS

Presence of a written, standardized, modernized  
language of wider communication  
Favorable attitudes toward the language of literacy  
Prior oral fluency in language of literacy

LITERACY ENVIRONMENT HYPOTHESES

To test the influence of a high literacy environment on  
literacy motivation among those participating in adult  
education programs several hypotheses are offered. They  
are operationalized and indicators are suggested.

MACRO HYPOTHESIS ONE

Literacy motivation increases in environments where  
literacy skills are used to perform daily tasks.

OPERATIONAL HYPOTHESIS

Differences in motivation to strive toward literacy  
are expected between persons residing in areas  
where literacy skills are required to perform  
daily activities and persons residing where  
those skills are rarely used.

INDICATORS

Use of literacy in religious practices  
Access to schooling  
Number of daily newspapers and books

Scheduled mass transportation  
Number of persons aware of government support for literacy  
Degree of use of written, standardized language  
Degree of local participation in adding new words to the language  
Attitudes toward language of literacy instruction  
Degree of oral fluency in language of literacy instruction

#### MACRO HYPOTHESES TWO THROUGH FOUR

Literacy motivation is influenced by high literacy environments with low economic opportunity.  
Literacy motivation is influenced by low literacy environments with high economic opportunity.  
Literacy motivation is influenced by environments which have low economic opportunity and limited use of literacy skills in daily activities.

#### OPERATIONAL HYPOTHESIS

High literacy environments with high economic opportunity are most influential in motivating individuals to strive toward literacy.  
High literacy environments with low economic opportunity are as influential as environments with high economic opportunity in motivating individuals to strive toward literacy.  
Low literacy environments with limited economic opportunity will provide the least motivation to strive toward literacy.

#### INDICATORS

Achievement scores of participants in literacy oriented functional education programs (LOFE) in high literacy, high economic opportunity settings.  
Achievement scores of participants in LOFE programs in high literacy, low economic opportunity settings.  
Achievement scores of participants in LOFE programs in low literacy, high economic opportunity settings.  
Achievement scores of participants in LOFE programs in low literacy, low economic opportunity settings.

<sup>1</sup>UNDP/UNESCO, The Experimental World Literacy Programme: A Critical Assessment (Paris: UNESCO Press, 1976), pp. 17-103.

<sup>2</sup>UNDP/UNESCO, "An Evaluation of the 1970 Cotton Programme: Final Report" (Dar es Salaam, Tanzania: N.p., 1971), p. 38.

<sup>3</sup>Edgar G. Nesman, Thomas A. Rich, and Sara E. Green, Individual, Family and Village Literacy in Development (Tampa, Florida: University of South Florida, Project Report to United States Agency for International Development, Contract No. AID/DSPE-C-0040, March 1980), pp. 28-44.

<sup>4</sup>Bernard D. Wilder, "An Examination of the Phenomenon of the Literacy Skills of Unschooled Males in Laos" (Ph.D. dissertation, Michigan State University, 1972), pp. 141-145.

<sup>5</sup>International Development Research Centre, The World of Literacy: Policy, Research and Action (Ottawa, Canada: IDRC, 1979), p. 71.

<sup>6</sup>S.C. Dutta, interview held at Indian Adult Education Association, New Delhi, India, November 1979.

<sup>7</sup>Interview with Mr. Cipro, UNESCO, Paris, November 1979 and with Dr. Chiba, UNESCO Regional Office, Bangkok, December 1979.

<sup>8</sup>Prodipto Roy and J.M. Kapoor, The Retention of Literacy (New Delhi, India: The MacMillan Company of India, 1975), p. 47.

<sup>9</sup>Daniel Lerner, The Passing of Traditional Society (Glencoe, Ill.: The Free Press, 1958), p. 58.

<sup>10</sup>Jack Berry, "The Making of Alphabets Revisited," Language and Literacy: Current Issues and Research, ed. by Thomas P. Gordon (Tehran: International Institute for Adult Literacy Methods, 1977), p. 54.

<sup>11</sup>David Harman, Community Fundamental Education (Lexington, Massachusetts: Lexington Books, 1974), p. 68.

<sup>12</sup>Sarah C. Gudschinsky, "Techniques for Functional Literacy in Indigenous Languages and the National Language," in Language and Literacy: Current Issues and Research, ed. by Thomas P. Gordon (Tehran: International Institute for Adult Literacy Methods, 1977), p. 66.

CHAPTER V - PERCEPTION: PERSONAL VALUES, SELF-AWARENESS  
AND OCCUPATIONAL CONCEPTS WHICH INFLUENCE  
THE LEARNER'S ACQUISITION OF LITERACY

by Bonnie J. Cain

The two points to be developed in this chapter are that 1) perception of the value of literacy is a major variable in a learner's striving (or motivation) to acquire new levels of literacy and 2) that this perception can be enhanced so that the learner can better evaluate his/her potential participation in economic activities through the application of literacy skills. It is suggested that the perception of the value of literacy is intrinsically connected to the learner's self-concept (self-concept includes the learner's appraisal of his/her appearance, background and origins, social group membership, sex, and ability to learn). It is proposed that the learner can be aided to develop a realistic perception of opportunities by educators who understand the attitudes and skills needed to participate in these opportunities.

Assumptions and Attitudes About the Nature of Economic Opportunities

The following discussion about self-concept, perception and participation in economic opportunities is based on several assumptions about the nature of economic opportunities available to the majority of illiterate people in developing countries. An initial assumption is that employment opportunities change frequently due to technologic change and fluctuations in national and world markets. Few individuals have the luxury of planning a "career." Planning on any salaried employment may be a futile exercise.

A related assumption is that the most competitive individual within this environment of fluctuating opportunities is one who can move from opportunity to opportunity. It is assumed that such a person has developed certain attitudes of self-assurance and acceptance of responsibility for his/her own life which "... permit them to become active agents in their own career success."<sup>1</sup>

While educators cannot be responsible for the economic conditions within their countries, they can be influential in helping the learners develop attitudes toward themselves, the learning of new skills and economic activities. The appropriate attitudes are often more valuable than the skill, since the acquisition of new skills may be continued throughout the learner's work life. Vocational educators throughout the world agree that it is essential to train for a range of skills rather than for a specific position, because of the fact that most workers are forced to change jobs numerous times throughout their lifetimes. As Foster has argued in his study of vocational training in Ghana, "... total mobilization of the formal educational system in the direction of specific vocational training,"<sup>2</sup> will not result in mass employment in technical fields. Rather, the students graduated from any academic or vocational programs must float, struggle and live with an unpredictable job market. Often, they must be prepared to change careers or create their own employment in several different types of activities if they are to survive.

It is assumed that the more the individual is able to transfer his/her skills to a variety of jobs, the more employable he/she will be. Literacy skills enable the individual to be more effective in most jobs and thus more employable in a wider number of jobs.

The educator cannot prevent the learner's personal interactions and work related experiences which are detrimental to the development of a positive self-concept, positive perception of literacy acquisition or potential employment in jobs that require literacy. Messages of sexual, ethnic or racial inferiority can be so strong as to discourage the learner's efforts to acquire literacy skills. Prohibitions against the employment of women and members of certain castes, ethnic or racial groups can be so thorough as to preclude participation in the majority of economic activities. In such situations there is little relationship between positive attitudes toward oneself and vocational development, since societal constraints dictate that no action can improve the vocational future of the "marked" group.

The educator is responsible; however, when individuals who are not experiencing these constraints fail to identify learning opportunities which would provide access to economic activities. An educator working in a program which integrates literacy instruction and vocational training has an implicit responsibility to help the learner make the connection between literacy skills and participation in future economic activities. This responsibility flows from the assumption of this chapter that the learner who understands the connection between application of literacy skills and participation in economic activities will have a strong motive to acquire the requisite literacy skills.

#### Development of Self-Concept and Perception of Economic Opportunities

The mere presence of economic opportunities has not proven to be sufficient incentive for a significant number of the population to take the necessary inter-

mediate steps to participate in the opportunities. The list of people contributing to an explanation of the "human factor" has been lengthy since "the Hawthorne Studies ... cast doubt on the economic man assumptions suggesting that aspects of the whole human personality were more important than simple monetary incentive in stimulating productivity."<sup>3</sup> As McClelland suggests, "some human factor would seem to be necessary to explain the responsiveness of the few and the indifference of the many."<sup>4</sup> McClelland has his own views as to why certain third world individuals become entrepreneurs. Inkeles promotes an ethnocentric view of polar types -- the traditional and the modern individual -- as an explanation of why some take advantage of opportunities which others do not see. Maslow structured the drive to achieve in relationship to the satisfaction of basic needs.

Central to the study of motivation to acquiring literacy skills in an explanation of the process whereby people determine what is to their good. In this statement of task is the implication that each individual has the responsibility and the power to initiate and to choose. Some argue that individuals living in traditional societies must make certain breaks with their traditions and communities before they can determine what is to their own good. Inkeles and Smith present such a theory in Becoming Modern where they hold that as one becomes more "modern" one becomes more "adaptive" to what is called a "modern world". The "traditional mentality" is an obstacle to participation in the "universal, modern" world. Inkeles and Smith praise this adaption:

Some of the men and women tied by the binding obligations of powerful extended kinship systems have sought to assert their rights as individuals. Some have tried to win more freedom of choice in residence, occupation, political affili-

ation, religious denomination, marriage partner, friend, and enemy. They have sought to replace a closed world, in which their lives tread the narrowest of circles, with a more open system offering more alternatives and less predestination. From desperate clinging to fixed ways of doing things, some have moved toward readiness for change. In place of fear of strangers and hostility to those very different from themselves, some have acquired more trust and more tolerance of human diversity. From rigidity and closed-mindedness, they have moved toward flexibility and cognitive openness. They now seek to break out of passivity, fatalism, and the subordination of self to an immutable and inscrutable higher order, in order to become more active and effective, and to take charge of their individual lives and of their collective destiny.<sup>5</sup>

They posit that the individual must make these incredible breaks with the old in order to progress in the "modern" state. One can hardly ignore the values implicit in this position, nor the ethnocentrism.

What Inkeles and Smith see as laudable and necessary to participate in economic opportunities in the modern world, has been questioned by others who see the brake with the traditional as unnecessary and damaging to the individual. Critchfield finds this modern world to be "... depersonalized, atomized, unstable, secularized, blasé, rationalistic, highly differentiated, self-critical, time-oriented, 'other directed', and subject to sudden shifts in mood and fashion, trendiness and 'future shock' .... extremely high levels of self-awareness and self-absorption, which means, unlike most villagers, few people can be content with their lot."<sup>6</sup> Even if one finds Critchfield's description overly critical, one cannot but question what or why the "traditional" individual must give up or change in order to understand what is to his/her benefit and, thus, to achieve a better standard of living.

Inkeles and Smith state the importance of their work as follows: "It seems to us there was no more relevant and challenging task for social psychology than to explain the process whereby people move from being traditional to becoming modern personalities."<sup>7</sup> However, many argue (as does this author) that the more important question is, "whether the universal village culture (or individual behavior in two million villages, if you prefer) was capable of adjusting fairly quickly to the new technology."<sup>8</sup> Or whether a person within an intact "traditional" culture in a developing country can identify an opportunity and take advantage of it? McClelland and Winter present research evidence that the member of a traditional culture can, through training, take advantage of economic opportunities.<sup>9</sup> They state:

... many of the obstacles to development are in the eye of the beholder, not in the psychology of the entrepreneurs involved. What does seem to be essential is that the man develop a strong faith in himself as an origin or agent of change, as someone who can solve problems efficaciously on his own. If he believes in himself, if he is motivated to change things, then he is undoubtedly an expert on how to carry out change within his social framework and within his traditional beliefs. The most effective strategy, in other words, appears to be to change the man's self-image by direct instruction on this key point, and then to leave the rest to him .... It seems far more effective to convince a man directly that he can accomplish what he wants, that he can become a change agent, and then trust him to find ways within his traditional culture of accomplishing his aims. Under these circumstances, the most touted traditionalist obstacles to development turn out to be less serious than most observers have claimed.<sup>10</sup>

What then, explains the process through which a person determines what is to his/her benefit? Central to an explanation is an understanding of how individual self-concept (identity), environment (culture) and behavior are mutually

influential. Explanations or theories to explain how social affiliation and esteem influence perception and the resultant behavior are numerous. However, there appears to be argument among several writers in the disciplines of psychology, anthropology, and sociology who suggest that:

- 1) the way a person conceives of his self or identity will have an effect on his behavior and beliefs;
- 2) the concept of self is a prerequisite to human life or the conception of self is necessary to orient the individual to his environment and to others;
- 3) an individual's identity is formed and maintained in the course of interaction with others;
- 4) individual's need to have communicated to them by other's information that confirms, validates, or reinforces their particular view of self; and,
- 5) individuals are constantly striving to obtain from others' confirmation of their view of self.<sup>11</sup>

These writers argue that to understand human motivation toward any behavior, one must understand how self-concept or identity is formed. Each sees the identity as being formed through a series of interactions in which the individual struggles for definition of:

<u>Self identity:</u>	the self as known to the individual;
<u>Social identity:</u>	the conception a person has of others' view of him;

Public identity: the way others actually view him.

It is obvious that there can never be total consistency and the individual is constantly striving to be the self he/she would like to be and the self he/she thinks others perceive.<sup>12</sup>

There are various degrees of awareness of the forces influencing identity and the various ways in which the individual can change and adapt to these forces. The concern here is the influence of these forces on the awareness of economic opportunities and the attitude toward the acquisition of skills needed to participate in these opportunities. It is possible that a specific level of awareness must be obtained before individuals can determine what is to their benefit vocationally and act upon it. For instance, Gibbons and Lohnes have identified eight variables which indicate "readiness for vocational planning."<sup>13</sup> They are:

- Variable 1. Awareness of personal characteristics -- abilities, interests, values -- in relation to curricular choices as well as the relationships of different curricula choices to occupational choices.
- Variable 2. Awareness of personal characteristics and educational requirements in relation to occupational choice.
- Variable 3. Ability to accurately identify personal strengths and weaknesses relating to educational and vocational choices.
- Variable 4. The accuracy of one's self-estimates of ability in comparison to levels of actual achievement.
- Variable 5. The evidence used by a person for self-appraisal.

- Variable 6. Awareness of interests and their relation to choice options.
- Variable 7. Awareness of values and their relation to occupational choices.
- Variable 8. Willingness to take responsibility for one's choice.<sup>14</sup>

Learners in all cultures, especially vocationally inexperienced youths, struggle with developing the awarenesses described. Some learners in some programs receive help through various forms of guidance and counselling. Peer counselling, rite of passage ceremonies, initiation schools, vocational counselling, job counselling, etc., are all forms of "identity work" through which the learner establishes what he/she can or cannot do to function in the world.

The educator within an integrated vocational/literacy training program should recognize his/her role in the identity work of learners. The greater support they receive in the exploration of their potentials, in adjusting their self-concepts to correspond to literacy to available opportunities, the greater will be their motive to acquire literacy skills.

#### Enhancing Perception of Economic Opportunities

The second point of this chapter -- that perception can be enhanced -- is an observation on this possibly universal example of communally-directed "identity work." One does not have to look far for examples of ethnic groups that are "the traders," "the bankers," or "the farmers." In a relatively static, "traditional" society one can find children who are being prepared psychologically as well as vocationally to do the work of their grandfathers.

However, when an individual voluntarily presents himself/herself for literacy and numeracy instruction they are often attempting the non-traditional, moving within an unaccustomed world and looking for opportunities on which to build a life. Continued attendance and active striving to acquire literacy skills depends on the fit between the learners' concept of who they are, what they can do and what to do, and what is required of them. A good instructional program should aid the learner in establishing this congruency.

The "developmental approach" to vocational counselling in United States is an example of efforts to help the learner establish a framework in which to identify and choose options, rather than counselling the learner to enter a specific job. They hold that self-concepts, personal opportunities and responsibilities change during a person's life-time and that vocational choice is a life-long process that is a "... constant compromising between wishes and possibilities. This synthesizing and compromising process in turn defines and narrows the range of choices a particular individual is likely to consider."<sup>15</sup>

In a diversified, growing economy major career changes throughout a lifetime have become expected. Within less industrialized, developing countries, movement within a cluster of vocationally similar positions has been the norm. As Kenneth King documented, young workers in the informal sector of Kenya's economy move through a remarkable array of unskilled and semi-skilled trades steadily acquiring new skills and testing alternative vocations. The relatively unschooled workers in the informal sector seem to demonstrate much more flexibility, entrepreneurial initiative and successful adaptation than their more schooled counterparts.<sup>16</sup>

Over a life-time an individual develops a framework in which he/she makes a decision. With the help of the framework, the individual determines how to maximize gain and minimize the chance of loss. It is possible that "... individuals can be helped to choose more rationally by predicting the outcomes of each alternative available as well as the uncertainty and risk each involved .... it has become an accepted principle that the kind of information one has and the way he or she uses it will affect decision outcomes."<sup>17</sup>

Information is considered important to those who adhere to what has been called the "Decision Theory Approach" to vocational choice. For instance, Bross suggests that the learners must develop a method for predicting, valuing and deciding on actions to be taken.<sup>18</sup> Adequate information is the foremost requirement for those developing this rational approach to decision making.<sup>19</sup> Evans and Herr put these requirements into perspective by stating that:

The individual's interpretation of different actions and outcomes present at a choice-point involves two other concepts typically included in decision approaches. First is the matter of risk-taking style. People differ in their willingness to cope with ambiguity or uncertainty of outcomes. Some people prefer the security of knowing what they will be paid and that they are likely to have a permanent position rather than the possibility of greater rewards and the unknowns of variety and tenuousness. Second is the matter of investment. Emphasized in this notion is the fact that any choice requires both tangible and intangible investments by the chooser, e.g., capital, prestige, time, tuition, union dues, deferred gratification, which can be deliberately considered and valued.<sup>20</sup>

### Conclusion and Proposed Hypotheses

Self-concept, information and environmental reality appear to influence the learner's perception of opportunities and the need to acquire literacy skills to participate in these opportunities. It is proposed that with:

- 1) a realistic understanding of one's opportunities, (i.e., that in rural community "A", one has the potential of performing X, Y, Z functions if one is literate);
- 2) adequate information on opportunities, (i.e., that performing X function will provide a specified amount of cash income); and,
- 3) a realistic awareness of one's capacities to perform the required skills (i.e., that they can learn enough literacy skills to perform function X).

the learner will be able to decide on the appropriate amount of energy to put into acquiring literacy skills.

The proposed hypotheses are:

- A. The favorable perception of opportunities to be had through the application of literacy skills will influence the learner's desire to acquire these skills.
- B. Programmatic success in expanding the number of perceived opportunities will increase the learner's desire to acquire literacy.

C. The congruency between the learner's self-concept and the perceived economic opportunities will influence the learner's motivation to acquire the skills necessary for those opportunities.

<sup>1</sup>Rupert N. Evans and Edwin L. Herr, Foundations of Vocational Education, 2nd edition (Columbus, Ohio: Charles E. Merrill Publishing Co., 1978), pp. 317-8.

<sup>2</sup>P.J. Foster, "The Vocational School Fallacy in Development Planning," Economics of Education, Vol. I, ed. Mark Blaug (New York: Penguin, 1968), p. 421.

<sup>3</sup>H.C. Kazanas, Affective Work Competencies for Vocational Education (Columbus, Ohio: ERIC Clearinghouse on Adult, Career and Vocational Education, Ohio State University, 1978), p. 71.

<sup>4</sup>David C. McClelland and David G. Winter, Motivating Economic Achievement (New York: The Free Press, 1969), p. 6.

<sup>5</sup>Alex Inkeles and David H. Smith, Becoming Modern (Cambridge, Massachusetts: Harvard Press, 1974), pp. 4-5.

<sup>6</sup>Richard Critchfield, "Revolution of the Village," Human Behavior (May 1979):21.

<sup>7</sup>Inkeles, p. 5.

<sup>8</sup>Critchfield, p. 21.

<sup>9</sup>McClelland, p. 349.

<sup>10</sup>Ibid., pp. 349-50.

<sup>11</sup>Richard H. Robbins's synthesis on the work of Erik Erikson, Carl Rogers, Harry Stack Sullivan, Charles H. Cooley, George Herbert Mead, Erving Goffman, Anthony Wallace and Raymond D. Fogelson in "Identity, Culture, and Behavior," Handbook of Social and Cultural Anthropology, ed. John J. Honigman (Chicago: Rand McNally and Company, 1973), p. 1202.

<sup>12</sup>Ibid., p. 1205.

<sup>13</sup>W.D. Bribbons and P.R. Lohnes, Emerging Careers (New York: Teachers College Press, Columbia University, 1968). As paraphrased by Rupert N. Evans and Edwin L. Herr, Foundations of Vocational Education, 2nd edition (Columbus, Ohio: Charles E. Merrill Publishing Company, 1978), p. 161.

<sup>14</sup>Ibid., pp. 161-2.

<sup>15</sup>E. Ginzberg, et al., Occupational Choice: An Approach to a General Theory (New York: Columbia University Press, 1951). As paraphrased by Rupert N. Evans and Edwin L. Herr, Foundations of Vocational Education, 2nd edition (Columbus, Ohio: Charles E. Merrill Publishing Company, 1978), p. 159.

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<sup>19</sup>B. Clarke, H.B. Gelatt, and L. Levine, "A Decision-Making Paradigm For Local Guidance Research," Personnel and Guidance Journal 44 (1965):40-51. As paraphrased by Rupert N. Evans and Edwin L. Herr, Foundations of Vocational Education, 2nd edition (Columbus, Ohio: Charles E. Merrill Publishing Co., 1978), p. 154.

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## CHAPTER VI - THE INSTRUCTIONAL PROGRAM AND THE LEARNER'S OCCUPATIONAL PERCEPTION

by Bonnie J. Cain

The two points developed in this chapter are: 1) the presence of a literacy program in the learner's environment is an influence on his/her motivation to acquire literacy skills; and 2) certain instructional methods, approaches and information within the program will enhance the learner's motivation to improve literacy skills. In Chapter IV, the argument was developed that the relationship between a learner's self-concept and the available economic opportunities will influence the effort to acquire the literacy skills necessary to participate in the opportunities. To continue this theme, the author will concentrate on instructional approaches that aid the learner in 1) assessing economic opportunities, 2) understanding what is needed to participate in these opportunities, and 3) understanding the capacities to perform the skills required for participation. It is proposed that this assistance to the learner can best be provided through program content which focuses on imminent economic activities and through instructional methods and materials which facilitate the learner's personal involvement in the exploration of economic activities.

### Presence of an Appropriate Instructional Program

The first point -- that the presence of an adult instructional program is a variable in motivation to acquire literacy skills - may appear to be obvious, but deserves comment. Individuals who cross mountains, walking for

hours to attend literacy classes, are constant testimony to the excitement and power that reading and writing hold for the learner. However, each individual who perseveres regardless of such physical obstacles often has left behind a village of several hundred adults with heavy responsibilities, who do not, or can not participate. A literacy class in the village, or even within a half-hour walk, would reduce the cost of attending and thus would become a persuasive variable in the decision to acquire literacy skills for the other villagers who could not or would not climb the mountain to attend.

An accessible program decreases the travel and time cost to the learner. Actual cash demand is reduced. The required time and money is important in a decision to acquire literacy, since most illiterates are poor and survive on the products of time-consuming subsistence activities.

Functioning adult instructional programs advertise that some people are becoming literate. Villagers will reason that they too can learn when they see their neighbors and friends learning to read and write. The existence of a program can establish that literacy is obtainable and, possibly, even expected.

Motivation to attend the most accessible program rapidly diminishes, however, when the potential learners feel that the program is not providing the instruction they need. This satisfaction or dissatisfaction is related to, among other factors, the instructional content and level of the program.

Learners who enroll in instructional programs, enticed by expectations of increased economic benefits through the application of literacy skills, will assess the level and type of instruction and determine if participation

will provide access to opportunities in their environment. The clearer the connection is between literacy instruction and economic participation, the more compelling will be the learner's drive to complete the course of instruction.

One program in which this connection is made is conducted at the YMCA Craft Training Centre in Shawi Moyo, Kenya. Immediately upon graduation, program participants have secured salaried positions or become involved in lucrative income generating activities. As a result, the program has 400 applicants for the 32 positions provided each year. Fewer than 5% have dropped out of the three year program in the nine years of the Centre's operation. Literacy instruction at the Centre is integral to the vocational training and consists of classes (at about the 8th grade level) in English communication skills and mathematics.<sup>1</sup>

The Centre's successes are closely tied to its ability to train the participants for specific positions in the expanding crafts and building trades in Kenya. The participants' perseverance in literacy skills building is related to their awareness that they need these skills to pass trade entrance examinations and to perform, as independent entrepreneurs, specific tasks such as advertising, selling and contracting.

The Centre is one of many programs which integrates vocational training and literacy instruction to prepare the learners for economic activities within their environment. The environments vary dramatically, as do the students and the capacities of the programs to provide appropriate vocational and/or literacy instruction. Some programs have learners with considerable formal education,

have capacity and time to provide high levels of literacy instruction, and have a direct connection to available salaried positions. Other programs have learners who have had little or no exposure to a written language, have little capacity or time to provide instruction beyond the primer stage of literacy and are located in environments in which subsistence activities dominate the economy.

An example of this second type of program is the Christian Development Education Program (CDEP) in Kenya. The directors of the program facilitate the information of rural community groups in areas of Kenya where "vernacular" languages are spoken and English and often Swahili (the business and national languages) are unknown. Few books are available in the "vernacular" language and literacy is rarely developed beyond the word recognition stage. In this environment, literacy classes become a way "... of developing an awareness of life situations ... a means of getting people to discuss and move toward resolution of communal problems."<sup>2</sup>

Significantly, the CDEP builds on objectives and motivations not always directly linked to economic functioning. Rather, the CDEP develops pre-literacy skills (and possibly pre-economic skills) by working on group attitudes and concepts and by introducing reading, writing, and arithmetic.

Both programs serve a vital function in Kenya's five year program to develop mass literacy. Both serve a specific learner by providing a structure in which literacy skills can be developed. The very presence of the CDEP in a village and the Centre, which draws on villages throughout the country, in

Kenya causes the learners to strive to acquire new levels of literacy: without the programs, the learners may never have conceived of the need or possibility of acquiring the knowledge and skills presented in the programs.

### Integrated Literacy/Vocational Programs

The focus of this report is on adult instructional programs which combine literacy instruction and skills training to develop skills which are usable (saleable) in the learner's immediate environment. Before discussing instructional approaches in these programs, it is important to clarify some of the difficulties and assumptions involved in the implementation of such programs. Combining literacy instruction and vocational training is a more demanding prospect than presenting only one or the other. Instructors must often receive additional training, new texts are almost always required and instructional time is rarely increased commensurate with the added curriculum.

The complication is tripled by the demand that this instruction be connected to salaried employment or participation in economic activities. Program planners and developers must analyze the job market and/or determine the requirements of participation in economic activities. The task is further complicated when such programs are attempted in rural areas where much of the production is non-remunerated. The instructor's task becomes one of promoting increased production even though there may be little immediate reward (cash) for such increase.

Problems are compounded when the program planners attempt to coordinate their programs with the development goals of the national plan. The program planners, thus, must evaluate whether such goals are realistic and whether the program participants will value these goals as well. Again, a rural population working in subsistence activities may have little motivation to increase their production to fulfill the seemingly abstract goals of the national plan.

There are vast differences between vocational/literacy programs in urban areas and work-oriented/literacy programs in rural areas. Educational strategies to emphasize economic incentives to affect motivation to acquire literacy in each setting must reflect these differences. Rather, as has been suggested in previous chapters, the more immediate the economic incentive is to realization, the more powerful it is as a motivational element in the behavior of the individual. In urban areas, this immediacy can be more readily achieved because of cash acquisition through salaried employment. In rural areas, the program must often be built on savings, conservation, budgeting, etc., which are not as dramatic or apparent as a cash increase. Increased production, savings or budgeting are long term propositions and often fail to hold the immediacy that makes an incentive strong.

A rural producer may not have much opportunity for increasing production, particularly where land and water are limited. However, a farmer can improve economically by being as efficient as possible in using available resources, time, technology and marketing strategies. The challenge for the literacy program planner is to connect the literacy training to the kinds of information and to the decision-making skills which the rural producer needs to have in order to be somewhat more efficient and productive.

### Learner-Involvement in Integrated Literacy/Vocational Programs

Economic incentives have been and will continue to be influential for motivated learners in all environments. However, most integrated literacy/vocational programs must work with the learners to help them understand economic opportunities in relationship to themselves, their literacy skills and their potential participation. This entails working on self-confidence and awareness of work options. It requires that learners become active agents in exploring economic opportunities within their own communities. Learners must examine their values, the risks they are willing to take and the benefits they wish to achieve. Such examination and assessment are difficult to facilitate without a large degree of learner-involvement in the instructional program.

Learner-involvement is important because it increases the participants' feelings of control (and thus, self-worth) and ensures a better "fit" between the instructional program and the learners' needs. Programs which will motivate and assist people who have little feeling of control over their environments and opportunities must develop from within the learner knowledge that control is possible. Top-down programming, lecturing and preestablished curricula cannot give this feeling of control. Also, the most effective way of ensuring that programs are appropriately designed for the learners who are attempting to effect changes in their opportunities is to ensure that those individuals are directly involved.

The success of programs which stress learner-involvement, however, depends on the program staff's sophistication in group dynamics and individual counseling skills and ability to provide accurate instruction in technical and aca-

demographic skills. Such abilities are not always present and compromise must be made between the ideal and actual practice.

In the following discussion of instructional methods and materials and formative evaluation, critical points for increasing learner-involvement are noted. It is the assumption that such involvement is preferable, but not always possible.

### Instructional Approaches in Integral/Vocational Programs

An instructional strategy which emphasizes economic reasons for learning literacy skills in any environment must aid the learner to connect the skills and the economic opportunity - be it improved efficiency in non-remunerated activities or improved access to salaried positions. The learner can be helped to develop this understanding by program personnel who:

- elaborate a course content with the learner which emphasizes the connection;
- use instructional methods and materials which allow the learner to explore the connection; and
- maintain a continual internal monitoring process - formative evaluation - to determine the learner's reaction to the program.

#### Establishing Program Content:

Establishing a course content which will aid the learner to see the connection between literacy skills and economic activities implies a procedure

through which the program planner and/or learner can 1) determine if there are connections, and 2) which economic activities require what level of literacy skills for effective participation. In diversified economies, the task is to describe the nature and number of employment opportunities and the level of literacy skills needed to participate in them. The content of the literacy course then becomes the concepts needed to work in the described activities and the vocabulary becomes those words needed on the job. However, in other environments, the mere identification of economic activities often requires the skill of an entrepreneur who sees the potential rather than the actual opportunities.

Procedures for establishing course content for literacy/skills training programs have received world-wide attention. The procedures appear to be on a continuum. At one extreme are designs which require the use of outside experts to conduct "technical manpower" studies and coordinate with national development plans. For example, one UNESCO document published in 1970 suggests that a team of experts journey to the site and spend the requisite time there inventorying the economic, technico-occupational and socio-economic objectives of the national plans, developing monographs of the agricultural and "industrial milieux" and "radiographic" studies of the students and their training needs.<sup>3</sup>

At the other extreme of the continuum are those who propose that the appropriate content can best be developed through "... a series of negotiations between learners and teachers,"<sup>4</sup> in which they assess problems in the environment and determine what is required to solve them. This design pre-

sents an endogenous process (development generated from within communities) and differs radically from the top-down UNESCO design, in which the designated experts dictate the content. Rather, this second design puts trust in the learner and instructor -- perhaps the only choice in many programs given the low funding levels and the scarcity of technical assistance.

Much could be said pro and con for each procedure. The UNESCO procedure integrates the program with the national plans. The experts arrive fully trained in manpower analysis and methods of identifying those economic incentives that the international education community has determined to be important. However, the use of such experts is expensive and implies external funding. Critics point out that the expert team can never be on site long enough to thoroughly understand the needs of the people.

The second procedure insures that a more intimate instructor-learner relationship will be developed and that the learner has the opportunity to affect the design of the program. The instructors have greater freedom to tailor the instructional content to the needs of the learners. This freedom is both the strength and the weakness of the program. The instructors are often poorly trained, often volunteers and are often frantic for more guidance, not less. The instructors can be trained to do needs assessments, but are often at a loss as to how to establish an instructional content that will meet these needs. The instructors cannot be technically accurate in all subjects that the learner identifies as needed.

Again, these two examples are on two ends of a continuum and there are many more alternative procedures in between. Program planners must make their choices on the bases of who is to secure the information on which the program content will be established and how.

The important consideration is to develop procedures that are manageable by program personnel or learners. The procedure must help program personnel establish a content which:

- builds upon economic opportunities present in the learners' environment;
- corresponds to the level of literacy required by persons participating in the economic opportunities;
- and
- aids the learners in understanding that their efficiency in economic activities can be improved through new levels of literacy.

#### Instructional Methods and Materials

Instructional methods which involve the learner in structuring the program can be essential to increasing the learners' motivation to acquire new literacy skills. Such involvement can lead to the learners' examination of their values, their self-concepts, and their potential participation in economic opportunities. The learner's favorable assessment of his/her potential of participation in desirable economic activities is a major element in the learner's motivation to acquire literacy. However, proclaiming the establish-

ment of a learner-directed program does not ensure success if the characteristics of the learners and instructors have not been taken into account.

Instructors and learners must be comfortable with the instructional methods before such methods can be termed appropriate. Often methods and materials which involve the learners in the design of their own programs and the monitoring of their own progress are effective. It is also important to be aware that many instructors were trained to function in hierarchical settings and have little affinity to learner-involvement strategies. Also, many learners do not have a communal tradition of individual participation. The move to involve the learner may not be understood and ultimately may be rejected by both instructor and learner.<sup>5</sup>

When such "participatory" methods seem appropriate, the idea would be to locate personnel with the personality and skills to facilitate this participation. However, few programs have the capability to pick and choose their staff. Low budgets often dictate that volunteers be used. Political considerations often demand that formally trained school teachers be employed regardless of their feelings toward increased participation of the learners. The question then is rarely who to use as instructors, but rather how to train the staff that one has.

The first step, then, in developing an instructional method, is determining what the learner and instructor expect in terms of their own performances. The idea that the "ignorant" should have anything to contribute to their own education is an alien concept to many educators in most societies.

The instructor and the learner have to develop confidence in the ideas and comfort with the methods -- efforts which may require considerable time and training.

The following chart<sup>6</sup> from Perspectives on Nonformal Adult Learning by Lyra Srinivasan contrasts the differences in philosophy and instructional method of two approaches. While both approaches encourage learner-involvement, the self-actualizing approach requires greater learner self-direction. The Chart is reproduced here to illustrate the degree of learner involvement that has been achieved and is desirable to enhance the learners' motivation.

**PROBLEM-CENTERED  
APPROACH**

**SELF-ACTUALIZING  
APPROACH**

**Basic curriculum strategy:**

Approaching the learning situation as primarily an intellectual, rational cognitive process.

Designing learning situations that involve the learner emotionally as well as intellectually so as to touch the learner's deepest value base and self-concept.

**Determining content:**

Identifying the appropriate subject matter for the curriculum through a short-term formal baseline study of local communities and combining it with the priorities of the technical or service agencies.

Involving the learning group in developing its own curriculum with both local and national priorities in mind, using baseline study as point of reference.

**Designing the learning experience:**

Building each learning unit around a problem in the external environment and conducting the lesson in a manner that will develop practical problem-solving skills.

Planning each learning experience in a way that provides learners with opportunities to reassess their feelings about themselves and about others, to exercise creativity, and to experience new roles in the course of solving practical problems.

### Defining curriculum structure and flow:

Prepackaging the curriculum learning units with defined sequences, learning aids, and teaching guides; providing an adaptable but highly structured curriculum.

Predetermining only the bare materials needed to encourage and support an active learning role by the group. Sequence is determined by learners' interests and readiness for action.

### Developing appropriate learning materials:

Drawing heavily from a wide variety of available materials but relying heavily on standardized printed materials as the main vehicle for stimulating group discussion around a preselected problem.

Utilizing a variety of materials with greater emphasis on those not dependent on literacy skills, such as audio-visual aids, role-playing, critical incidents, simulation games, etc., which arouse consciousness of self in relation to problems.

### Teaching literacy:

Using a programmed text from which to teach literacy skills as a relatively precise science.

Using the group's spontaneous communications as the basis for instruction in literacy as an expressive art.

...

### Training the group leader:

Training of teachers or leaders emphasizes learning how to conduct group discussions and to help learners master the programmed text as a reinforcement to problem-solving skills.

Using participatory techniques to train group leaders or village workers to involve people in learning experiences which include group discussion, and other expressive techniques in support of problem solving and personal growth.

### Evaluating the learning experience:

Assessing progress primarily on the basis of learning gains and attitudinal change as indicated by objective tests and teachers' observations.

Assessing personal growth and learning gains through observation and detailed analysis of the process that has taken place in the group: the role played by individuals, the

nature of their interventions,  
relative role of teacher and  
learners, the basis for decisions,  
and the technical validity of their  
plans for future action.

The major emphasis in the self-actualizing approach is the development of the learner self-awareness as a group member and as an independent actor. It is the same goal most integrated skills training programs strive toward and appears to be the best method to be used. Unfortunately, it may be the most difficult method for most instructors to use.

Instructional materials can aid the instructors and learners to become comfortable with the goal and methods of learner-involvement in educational programming. Materials that contain information, descriptions of group dynamic activities and procedures the learners can conduct in order to explore their own economic opportunities can aid the instructor to pull together all the pieces of the integrated skills/literacy program in which learner involvement is emphasized.

Again the "appropriateness" of this material is determined by the instructors and learners who will use it. For instance, an eighteen-year-old instructor usually has the handicaps of having little experience working with adults, and lacking technical expertise in the required vocational skills. Materials can aid the instructor to establish a mature relationship with the adult learners and can provide guidance in teaching the vocational skills. The Radiofonicas Program operating out of Choluteca, Honduras provides an enormous amount of guidance to its volunteer instructors through its nightly

radio broadcast. The broadcast lessons establish an environment of respect between the learners and instructor and suggest points at which the instructor should give individual help. The instructional material could be viewed as almost dictatorial, unless one considers that the instructors usually have no more than four years of formal education, are usually between 16-22 and are expected to teach new farming methods as well as literacy. The instructors are actually being trained through the use of the materials. The success of the process can be seen in the number of instructors or facilitators who are able - after working with the materials - to stand on their own and facilitate group discussions around complex issues.

Other instructors will have had more formal training and more instructional experience and possibly a greater resistance to learner involvement. Materials which continually provide suggestions on how to increase learner involvement can aid the instructor to gradually assess the value of greater learner participation.

#### Monitoring the Program: Formative Evaluation

The "right" content, instructional method and materials are only right when they meet the needs of instructors and learners of each program. However, the needs of both are continually evolving and their satisfaction must be continually monitored. A process of formative evaluation will enable all involved - the learners, the instructors, the program administrators - to determine how well the program is preparing the learners psychologically, as well as technically to locate and participate in available economic opportunities.

The present literature on formative evaluation provides many statements of principle or theory on the need for such monitoring and the need for learner participation in the process. One important consideration is that the motivations as well as the circumstances of adults are very situation-specific and easily misunderstood or overlooked by program sponsors. The most effective way of insuring that programs are appropriately designed for the individuals who are attempting to affect changes in their lives is to insure that those individuals are directly involved. Further, there appears to be motivational importance in the degree to which participants feel that they control or "own" the program. It is important to remember that programs will be attended by people who have in most cases had little feeling of control over their environments and opportunities, and have probably had other experiences with programs which promised, but failed, to improve their opportunities.

A second reason is a practical one. Most adult literacy programs are poorly funded, with staff who are poorly paid if they are paid at all, and there is simply neither the time nor the resources to conduct the data collection and rigorously controlled assessment which more formal evaluation techniques require. Formative evaluation methods must be easily implemented by the kinds of people likely to be administering and implementing community programs. As Noreen Clark and James McCafferty conclude:

Those who have worked in community settings know that rigorous research designs are neither desirable nor possible in conducting village evaluation. The program staff member can use only those data collection

techniques that fit the particular area in question and are acceptable to the people involved. Precise methodology and cumbersome assessment procedures must be retired in favor of more unobtrusive and less disruptive techniques. To be effective, evaluation steps must be easy to initiate and conduct, otherwise program staff will be unlikely to accept them as an ongoing part of their regular responsibility.<sup>7</sup>

This view is increasingly shared by evaluators, particularly by those working with nonformal education approaches. For example, David Kinsey argues that the development of less formal, more formative approaches is still in a very preliminary stage and that there are as yet few well-tested models:

... concerted attention must be given to the development of evaluation options that can more feasibly and usefully be employed by practitioners themselves. With greater practitioner ownership of an evaluation process, the possibility that the focus will be on problem areas or objectives that are considered to be most pressing by front-line program people is increased, and the likelihood that the feelings will actually be used in immediate program improvement is greater .... [however] if evaluation by practitioners is to be more viable, there have to be methodological options that are more carefully geared to formative purposes and nonformal education settings. These options have to be simple enough for use by minimally trained practitioners with limited time while being capable of yielding results that are at least more sound and useful than those derived from causal observation.<sup>8</sup>

These principles or considerations are useful, but give little guidance as to how to develop such an evaluation procedure for the types of integrated skills/literacy programs discussed here. However, such a design is necessary if the complex coordination needed to establish the appropriate content, instructional method and material is to take place.

An evaluation process should be developed which involves the learners, the instructors and the program administrators in the assessment of the following:

1. The learner should be responsible for:
  - the acquisition of a specified level of skills;
  - pursuit of employment or exploration of income-producing activities;
  - evaluation of other elements of the program at the request of the instructor or program administrator.
2. The instructor should be responsible for:
  - developing skills and attitudes for teaching adults and a varied curriculum;
  - requesting constructive evaluation from the learner and the program administrator;
  - assessing the appropriate skills to be taught and levels to be obtained with the learner.
3. The program administrator should be responsible for:
  - determining if the skills instruction offered is timely and appropriate;
  - developing appropriate in-service training for the instructors;
  - assessing the level of the students skills achievement;
  - assessing the developing skills and attitudes of the instructors;
  - designing and implementing follow-up activities.

<sup>1</sup>From interviews with Joel Kinagwi and YMCA Crafts Training Centre staff, November 22, 1979 - November 23, 1979, Nairobi, Kenya.

<sup>2</sup>From interviews with Valentine de Souza, Christian Development Education Program, November 23, 1979, Nairobi, Kenya.

<sup>3</sup>Practical Guide to Functional Literacy (Paris: UNESCO, 1970), pp. 15-31.

<sup>4</sup>Helen Callaway, "Learner-centered Innovations in Literacy Work," A Turning Point for Literacy (Oxford: Pergamon Press, 1976), p. 184.

<sup>5</sup>See discussion of Paul Jurmo, "Participation: Do Villagers Really Want It?" World Education Reports No. 21(March 1980):20-22.

<sup>6</sup>Lyra Srinivasan, Perspectives on Nonformal Adult Learning (New York: World Education, 1977), pp. 72-74.

<sup>7</sup>Noreen Clark and James McCafferty, Demystifying Evaluation (New York: World Education, 1979), p. 5.

<sup>8</sup>David Kinsey, Evaluation in Nonformal Education (Amherst: Center for International Education, 1979), pp. 6-7.

## CHAPTER VII - HYPOTHESES AND STRATEGIES FOR FIELD TESTING

by Mimi Tse, Mary Rainey, Bonnie Cain, Frank Method

### I. Philosophical Positions Regarding the Research to be Undertaken

The time has long past when it has been considered useful, meaningful or moral for researchers from one environment to conduct studies on the people of another environment. For this reason, the authors propose that the research hypotheses and strategy be developed with the following positions as guiding principles:

- the research must be undertaken in full collaboration with local researchers and literacy specialists;
- the research should only be undertaken when it is understood both in terms of purpose and in terms of technical design by the collaborating local researchers;
- the research should be concentrated on questions of importance and interest to local researchers and policy planners;
- research efforts will not jeopardise the program nor the personal interests of any of the local officials and researchers;
- research methods will not disrupt the organizational goals; specifically, any use of control groups will not require suspension or delay of any planned interventions with those groups;

- research treatments will be designed to be responsive to the needs of the learners as part of the ongoing program and strategy of the cooperating program, i.e., needs of the learners will not be subordinated to the research effort;
- whenever possible, research should be carried out by the local researchers;

In addition, several points related to programmatic structure and design should be kept in mind when one is considering a potential site for research study. These are:

- the project should be of a size or nature that will make it reasonable to expect some measureable outcome;
- the project should have demonstrated some continuity and stability with its personnel;
- the project must have clearly stated goals and objectives;
- the political and social setting should be stable for the duration of the project period;
- the project should have established documentation procedure during the period of implementation; specifically, any alterations in program objectives and related structural changes should be clearly recorded;
- if treatment is used, the project must specify the nature of treatment, steps of implementation and expected outcome;
- the data collection procedure should be minimally obtrusive;

## II. Emerging Hypotheses

The authors realize that the hypotheses one chooses to test determine the procedures to be used. Again, the final hypotheses or hypotheses selected to be studied in the field sites will be selected with the concurrence of the collaborating organization.

The discussions in the preceding chapters are the bases for the formation of a number of hypotheses. For example, the following descriptive statements are made as a result of the authors' reading and discussions with literacy workers and could be developed into working hypotheses:

Single young adults who have not yet determined their vocations will benefit economically more than any other group from literacy training.

Individuals who complete literacy programs are more likely to adopt entrepreneurial attitudes and accept new technologies or practices than those who do not.

Literate workers are more likely to migrate geographically and vocationally than illiterate workers.

Individuals who perceive opportunities to improve their economic conditions will more likely enroll in literacy classes than those who expect the status quo to continue.

Individuals who expect to receive increased economic benefits upon acquiring literacy skills are more likely to complete the training than those who do not.

Individuals who hold positive attitudes toward the economic future are more likely to enroll in literacy classes than those who do not.

The value of literacy skills is related to the new economic opportunities which exist in each context.

Several of these statements have common themes:

- 1) that there is a relationship between the diversity and number of new economic opportunities and the desire for new levels of literacy skills;
- 2) that there is a relationship between the level of literacy needed to function in an environment and the desire for new levels of literacy; and
- 3) that there is a relationship between the perception of new economic opportunities and the desire for new levels of literacy.

With these relationships in mind, the authors pose several hypotheses which may be appropriate for testing. The general hypothesis is given, to explain the operational hypotheses which follow. The indicators are suggestions of measures which could be used to describe the magnitude of the relationship. It may not be possible to gather data on these indicators. The researchers at each site will be the best judge of both appropriate hypotheses and indicators.

General hypothesis: The economic value of literacy increases with social and economic complexity.

Operational hypotheses: The decision to acquire new levels of literacy is influenced by social and economic complexity

The decision to acquire literacy is influenced by the expectation of economic rewards from application of the skills.

Indicators:

- interviews with learners to determine: why they choose to attend; their perception of social and economic barriers; their plans for the future application of literacy, i.e., range of occupations envisioned

- income disparities
  - as described in government documents
  - as perceived by learners
  - as perceived by local leaders
- employment aspiration/expectation survey
- number and variety of occupations practiced in the area which reward literacy

General hypothesis: Literacy motivation increases in environments where literacy skills are used to perform daily tasks.

Operational hypothesis: Differences in motivation to acquire new levels of literacy skills are expected between persons residing in areas where literacy skills are required to perform daily activities and persons residing where those skills are rarely used.

Indicators:

- use of literacy in religious practices
- access to schooling
- number of daily newspapers and books
- number of shops with goods utilized for non-subsistence activities
- number and variety of income generating activities
- scheduled mass transportation
- number of persons aware of government support for literacy
- degree of use of written, standardized language
- degree of local participation in adding new words to the language

- attitudes toward language of instruction
- degree of oral fluency in language of literacy instruction

General hypothesis: Literacy increases in value as the individual  
 a) increases or b) improves perception of economic possibilities

Operational hypotheses: We should expect to find differences in the perceived possibilities between those who complete literacy training and those who do not. We should also expect differences in the same individuals, pre- and post-training

Indicators:

- the number of opportunities cited as possible
- the number of obstacles, impediments, negative reasons cited
- the accuracy of selected facts or assumptions about economic opportunities, such as the wage for a specific job, and cost of a key input, the likely price for a crop, the efficiency of a practice or technology, the procedure to follow in seeking extension help or credit

### III. Proposed Field Test Design

The authors cannot stress too frequently that they are developing hypotheses and a field test design without benefit of collaboration from the practitioners on the actual field-site. This will soon be remedied as the

next phase of the project will be conducted on site. It can be expected that the hypotheses, the indicators and the design will be greatly modified.

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APPENDIX A

LIST OF INDIVIDUALS IN INTERNATIONAL AND  
HOST NATIONAL AGENCIES

INTERVIEWER: Bonnie J. Cain

Connecticut

Westport  
Mr. Richard Redder  
Save the Children/Community Development  
48 Wilton Road

Massachusetts

Boston  
Joseph Short  
Mick Scott  
Oxfam America  
302 Columbus Avenue

Brookline  
Pathfinder Fund  
1330 Boylston Street

Cambridge  
David Cole  
Marian Zeitlin  
Harvard Institute of International Development  
1737 Cambridge Street  
Coolidge Hall Building, Room 623

New York

New York City  
John C. O'Melia  
Office of the International Division  
National Council of Young Men's Christian Association (YMCA)  
291 Broadway

New York City  
Jane M. Meskill  
Jill Fraser  
Technical Assistance Information Clearing House (TAICH)  
200 Park Avenue South

New York City  
Mrs. Stam  
The Rockefeller Foundation  
1133 Avenue of the Americas

New York City  
Kristin McNamara  
National Council of Churches  
475 Riverside Drive

New York City  
Mr. Sinderud  
UNESCO  
866 UN Plaza

INTERVIEWERS: Mary C. Rainey and Mimi C. Tse

New York

New York City  
Kristen Anderson  
Carnegie Foundation

New York City  
Jean Gartlan  
Bertha McCann, Director of Programs  
Roland Bordelon, Regional Director for South America  
Bob Walsh, Regional Director for the Near East  
Michael Wiest, Assistant Regional Director, Subsaharan Africa  
Armando E. Sonaggere, Regional Director, Asia and the Pacific  
Catholic Relief Services  
1101 First Avenue

New York City  
Jeffrey Puryeur, Latin American Region Officer  
Ford Foundation

New York  
Richard Aro  
Near East Foundation  
54 E. 64th Street

New York City  
Thomas Keehn, President  
Catherine Crone  
Carman St John Hunter  
World Education  
1414 6th Avenue

INTERVIEWER: Mimi C. Tse

Canada

Guelph  
John Cairns  
Director of International Programs  
University of Guelph

Toronto  
James Draper, Department of Education  
Ross Kidd  
Ontario Institute for Studies in Education

Toronto  
Budd Hall, Secretary General  
Margaret Gayfer, Editor, Convergence  
International Council for Adult Education  
29 Prince Arthur Avenue

New York

New York City  
Roar Sanderud, UNESCO Educational Advisor to UNICEF  
Edward Crunden, Literacy Program Specialist, Afghanistan  
UNICEF  
866 UN Plaza

New York City  
Ellen Lieber  
CARE  
660 First Avenue

New York City  
Jerome Vogel  
Crossroads Africa, Inc.  
150 Fifth Avenue

England, Geneva, Kenya, Tunisia, Morocco

November 10 - December 7, 1979

England

Oxford

1. Anthony Jackson, Food Aid Analyst, Oxfam.
2. Helen Callaway, Program Coordinator, Queen Elizabeth House

London

1. Thelma Awori, Media Training Officer, World Association for Christian Communication.
2. Deanne Earnshaw, Communications Director, World Association of Girl Guides and Girl Scouts, The World Bureau

Geneva

1. James B. Chandler, Director, International Bureau of Education
2. Robert S. Ray, Coordinator of Educational Activities, International Institute for Labour Studies
3. John Whitehouse, Director of Worker Education, International Institute for Labour Studies
4. Sadhona Ganguli, Barbara Gibaut, International YWCA, World Bureau
5. Doris Phillips, UNICEF

Kenya

1. Eric Krystall, FAO/Programmes for Better Family Living
2. Andreas Fugelsang, Vision Habitat, United Nation Information Center on Human Settlements
3. Kevin O'Donnell, USAID Mission
4. Mr. Joseph Dondo, Institute of Adult Studies
5. Dr. Charles T. Hein, Director  
Charles Muthike, Director of Consultancy Project  
Amabel Rumongi, French Editor, Afrolit

6. Edward Ulzen, Director, African Association of Adult Education
7. Joel Kinaguvi, Director, YMCA
8. Kibiru Kinyanjui, Institute of Development Studies
9. Peter Cannon, Dan O'Laughlin, Glen Lesak, African American Labour Center
10. Sally Timmel, Christian Development Education Program

#### Tunisia

1. Leila Cherif, ALESCO
2. Rafik Said, Chef du Cabinet, Ministère de l'Education Nationale
3. Patricia Payne, Director, American Friends of the Middle East
4. Riall Nolen, Director Mellassine Project
5. Edmund Louis Auchter, USAID Mission Director

#### Morocco

1. Louise MacDonald, Reporter on Educational Affaires.
2. Mariam Alaoui, Ministère des Affaires Sociales et de l'Artisanat  
direction des Affaires Sociales, Service de lutte  
contre l'analphabétisme
3. Fatima-Zohra Bennani-Baiti
4. George C. Woods, Food for Peace, USAID
5. Sue Gibson, Health Officer, USAID
6. Lee Sanborn, CRS
7. Ben Abadesaalam, TV Escolaire Abderrahmane Kilito, Chef de Production
8. Leo Devos, UNICEF
9. Wendy Byrne, CRS
10. James Eckes, UNFPA
11. Ahmed Lakhdar - Ghazel, Institut d'études et de recherches pour  
l'arabisation
12. James Smith, Human Resource Officer, USAID

Entrevistas realizadas por Charito Kruvant, Quito, Ecuador Nov. 5th-9th 1979

November 6th

Sr. Patricio Maldonado  
USAID Ecuador

Sr. Franklin Canelo - Director  
Fundación Berthré y Unida  
Av. América 2207  
Quito, Ecuador

November 7th

Sra. Flor María Sánchez de Arqueada  
Ministerio de Agricultura y Ganadería  
Dirección General de Desarrollo Campesino  
Quito, Ecuador

Ing. Gonzalo Sevilla.  
Director General de Desarrollo Campesino  
Ministerio de Agricultura y Ganadería

Srta. Joanna Carroll  
Catholic Relief Services  
Avenida América 1866  
Quito, Ecuador

Ing. Fausto Llevara  
Consultor del Ministro  
Ministerio de Agricultura y Ganadería  
Quito, Ecuador

Ing. Pedro Alcívar Alave  
Consultor - Director de la Estación Experimental de Portoviejo  
MAG  
Casilla 100 - Portoviejo, Ecuador  
(entrevista en oficina central del MAG)

Ing. Baldemar Alava  
Asesor del Ministro  
Ministerio de Agricultura  
Quito, Ecuador

Sra. Aída Gallegos de Moncayo - Ex-funcionaria  
Ministerio de Educación  
Rodrigo Nuñez y Balva 341  
Quito, Ecuador

Entrevistas realizadas por Charito Kruvant, Paraguay Nov. 12-15, 1979

Dr. Max Williams  
USAID - Paraguay  
Educational Officer

Lic. Mabel Palacios Moringo  
Directora de Programa del Centro, de Teleducación  
Ministerio de Educación y Culto.

Lic. Blanca de Adler  
Directora de Alfabetización de Adultos  
Ministerio de Educación y Culto.

Sr. Rubén Benítez  
Ministerio de Agricultura

Dr. Carlos Ortiz Ramírez  
Director Dept. de Enseñanza Primaria  
Ministerio de Educación y Culto.

Sr. Miguel Franco  
Catholic Relief Services  
Asunción, Paraguay

Entrevistas realizadas por Charito Kruvant, Argentina, Nov. 15-16, 1979

Dra. Inés Lagmanovich  
Directora de Educación  
Organización de los Estados Americanos  
Buenos Aires - Argentina

Dr. Pascual Carlos Castronuovo  
Director Nacional de Educación del Adulto  
Ministerio de Educación

Ana Segade  
Unidad Funcional Análisis y Diagnóstico  
Ministerio de Educación

Victoria M. Matamoro de Pagani  
Coordinadora del Programa Nacional y  
Multinacional de Educación a Distancia  
Sector Extensión Educativa  
Ministerio de Educación

November 8th

Dr. Carlos Poveda  
Asesor de la Dirección Nacional de Planeamiento  
Ministerio de Educación  
Quito, Ecuador

Lcda. Beatríz Vazquez Fuller  
Asesora de la Dirección Nacional de Planeamiento  
Ministerio de Educación  
Quito, Ecuador

Profesor Abnes Prada  
Experto de la UNESCO a cargo del Proyecto de: Fortalecimiento  
de la Nuclearización Educativa para el Desarrollo Rural  
Ministerio de Educación y Cultura  
Quito, Ecuador

Lic. German de la Bastida  
Jefe del Proyecto de Fortalecimiento de la Nuclearización  
Educativa para el Desarrollo Rural  
Ministerio de Educación y Cultura

Sra. Graciela Escudero Moscoso  
Delegada Alternativa de la CIM  
Presidenta del Comité de Cooperación  
Quito, Ecuador

INTERVIEWER: MARY C. RAINEY

EUROPE

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ASIA

Hong Kong

Soo-Min Lee, Director (Interviewed by Stella Yu)  
Asia Area Committee of YMCA's

Persons interviewed: Mr. Rumulo Peralta  
Assoc. Sec. for Development  
Asia Area Committee of YMCA's

Mr. V.C. Varkey  
Assoc. Sec. for Leadership Development  
Asia Area Committee of YMCA's  
23 Waterloo Road  
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India

Dr. Mukherjee, Director  
Council for Social Development  
New Delhi, India

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Evaluation Officer  
Literacy House  
Lucknow, India

P.M. Chakravorty  
Lecturer approved by the Dept. of Tourism  
Government of India

Miss Radhe Kumari, Secretary  
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YWCA National Office, YWCA of India  
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Mr. B.C. Rokadia, Joint Director  
Anita Dighe, Consultant  
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Program Officer  
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Rev. K. Imotemjen Aier  
General Secretary  
Council for Baptist Churches in Northeast India  
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Mrs. Kamala Rana  
World Education Representative  
Council for Social Development  
New Delhi, India

Kusum Misra, Chicken Organizer  
Sheela Trivedi, Head, Family Life Center  
Miss Rajkumari, Home Scientist, Literacy House

Mrs. Nigar Nasrin and  
15 students  
Village of Chllaa  
Guide, Kusum Misra, Chicken Organizer  
Literacy House  
U.P., India

### Thailand

4 participants, 1 teacher in the Farmers Training Project  
Chiangmai Lifelong Ed. Center  
Thailand  
Mr. PraPhat Somdulyavat  
Miss Saysak Chankum  
Miss Somsee Baon Peng  
Mr. Sowthong Surag  
Mr. Suvit Promboot

Mrs. Ponsiri  
Catholic Relief Services

Mr. Sunthorn Sunanchai  
Head Operation Division  
Department of Non-Formal Education  
Ministry of Education  
Bangkok, Thailand

Mr. Damri, Staff and Vichitra Samanasena  
Staff, Functional Literacy Program

Dr. Chiba, Acting Director  
UNESCO Regional Office  
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Robert M. Traister  
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Khunying Dithakar Bhakdi  
Chairman, Committee for the Promotion of Welfare for Women  
The National Council on Social Welfare of Thailand

Mr. Surat Lekngarm, Assistant Director  
Chiangmai, Lifelong Education Center  
Chiangmai, Thailand

Mr. Suwat Kaosungton, Director  
LEC

Mr. Anurak Pan Yanuwat, Operations Section  
Head (Manchester U in Comm. dev.)  
LEC

Mrs. Pijit Jarunet, Administrative Section Head  
LEC

Mr. Anek, Staff, Hill Tribes Project  
LEC

Dr. Ken Kampe  
Department of Non-Formal Education  
Ministry of Education  
Bangkok 3, Thailand

Edgardo T. Valenzuela  
Food and Agricultural Organization  
Regional Office for Asia and the Far East  
Malivan Mission  
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Mr. Ekok Djaka  
Librarian Assistant Documentation Officer  
UNESCO Regional Office, Bangkok

## APPENDIX B

### LITERACY ORIENTED FUNCTIONAL EDUCATION A PRELIMINARY BIBLIOGRAPHY

by Olga Navia and Mary C. Rainey

The materials cited in this bibliography were collected during the first phase of Creative Associates's Literacy Oriented Functional Education Project (LOFE). These materials served as a partial knowledge base for the preparation of the Preliminary State-of-the-Art Review to which the bibliography is an appendix. The LOFE project was begun in 1979 and is scheduled for completion in 1982. It is the intent of Creative Associates to continue the document collection process throughout the life of the contract and to make the bibliography in its periodically updated form available to interested individuals.

Materials included in the bibliography were written between the years of 1956 and 1979. In most cases, they were recommended by literacy specialists and practitioners or by subject area specialists. In all cases, it was felt that the documents were relevant to the study of economic incentives associated with vocational skills training programs with literacy components.

Readers are invited to add to this bibliography by suggesting any materials in print which they feel are relevant to the topic. We, in turn, will share this information with a larger public interested in literacy and adult education. It is not possible though to make copies of documents cited available to readers.

The cross-indexing system used in classifying the materials included in the bibliography was developed by Olga Navia and Mary Rainey with the assistance of Sai Chiang and Pablo Maldonado.

References are divided and cross-indexed in seventeen sections. They are:

- A. Foundations of Literacy Education
- B. Literacy Surveys
- C. Instructional Technology/Media/Support Services
- D. Economics and Planning of Literacy Education
- E. Program Content
- F. Learners/Participants
- G. Area Studies - By Countries
- H. Research and Evaluation
- I. Culture/Societal Role of Literacy
- J. Motivation
- K. Literacy Skills
- L. Teachers and Teacher Planning
- M. Information Networking
- N. Reports of Meetings, Seminars, Conferences
- X. Literacy and Development
- Y. Publications in Languages Other Than English
- Z. Bibliographies and Directories.

## LITERACY ORIENTED FUNCTIONAL EDUCATION

### A. Foundations of Literacy Education

#### Concepts and Issues

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### History

See 6, 8, 20, 19, 126, 163, 192, 200, 211, 247, 252-3, 266, 271, 300, 319, 323, 345, 348, 399, 401, 405, 413, 417, 422, 426, 432, 435, 437, 445, 456, 464-5, 468, 482, 487.

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#### Relationship to Formal Education

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#### B. Literacy Surveys

##### Literacy Survey - General

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### C. Instructional Technology/Media/Support Services

#### Cassettes

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### I. Cultural/Societal Role of Literacy

#### General

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#### Self-Identity, Self-Perception

See 19, 22, 114, 185, 227, 237, 327.

#### Legal System

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