Camillo
Bonanni

Education for Human Needs

NFE Field Experiences and Designs

INDIAN ADULT EDUCATION ASSOCIATION
NEW DELHI

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RUBRICA

While working twenty five years ago in an internationally assisted Fundamental Education Programme in Somalia, we introduced to some villagers a more efficient potter's wheel than that which they were using. The craftsmen learned very quickly how to use the new tool. They thanked us sincerely for our help and promised that, although they did not intend to use the new wheel, if we would just give them a day's notice of the arrival of any United Nations visitors, in order to show their gratitude, they would pull it out from the corner and demonstrate their ability to use it.

The explanation of this surprising announcement was quite reasonable; they had no need to produce pottery more efficiently than they had been doing.

The programme was neither needed nor expected by them. It was carried out simply because funds had been allocated for it.

Fabula docet : do not teach new practices before the people are so motivated to seek them, for your action, if not wanted, will fail.

Preface

In 1972 I put together all my field notes on Literacy in a brochure titled "A Literacy Journey", which was published by the Indian Adult Education Association. Today, in grateful sodality with the same Association, I present in this booklet Non Formal Education experiences gained by me from 1972 to 1980.

During those years I was posted in New Delhi, then in New York, Paris, Rangoon and Mogadiscio, fulfilling working responsibilities which, day after day, became alas, more administrative than educational.

Nevertheless, there have been some opportunities for field work and thanks to them I did not betray my educational vocation. Moreover, by stealing several hours from my weekends and leave days, I was able to prepare written records of them. Many of these records have been already published in specialized bulletins and reviews, but here they are organized in a new progression, more logical than chronological. In this form they are addressed to a wider audience than hitherto and I hope that they might represent for the reader something more than only a witness to my professional pertinacity.

Many of these pages were written hurriedly, in the midst of busy working days directly in a language which is not my mother tongue. They will surely carry mistakes and repetitions. I hope to be forgiven for them.

The experiences I refer to have been carried out within the framework of internationally assisted projects, but the lines devoted to them reflect only my personal views.

I am deeply indebted to all the national and international colleagues who participated to, and contributed to the success of, the various field experiences which are described in the following pages, as well as to S. Lourie who kindly consented to the insertion in this text of an article we wrote together and to U Thaung Tut, Rector of the Rangoon Institute of Education, for his introductory thoughts and for the appreciative words he kindly devoted to my work.

C. Bonanni
Mogadiscio-1981.

Introduction

It is indeed a great pleasure to read a book which is written with such clarity and at the same time concise, lucid and educative. It is an even greater pleasure to find that the author, not as a dogmatic expert but as a "cetana"* fellow-worker shares with the reader his personal practical experience gained during the field implementation of various non formal education projects in different countries and offers useful practical suggestions and creative thinking about this type of education.

This work is a compilation of papers which have been published separately in different and various specialized bulletins and reviews during his tenure of service as an expert involved with internationally assisted projects from 1972 until the present. When these separate and different papers and articles of various sizes and value are organized and put in a new logical sequence, it appears that the result may be regarded as manual of methods, techniques and designs for non formal education particularly for adult literacy programmes. It is just like a beautiful and attractive necklace made up of different sizes of separate valuable diamonds arranged in a beautiful order.

Non formal education, the subject of this collection of papers by C. Bonanni, is certainly of paramount importance for the social, cultural and economic development of a country. Non formal education is becoming one of the major, if not the only major educational innovations and is of great concern these days. Its concept, its idea, its perspective, its activities and objectives have been vivified (to some extent) and have acquired new significance and initiated mass application, and have aroused an increasing support and interest in many countries.

The term non formal education is in vogue and is widely used nowadays. But its usage varies and is a source of some confusion. In some areas and to some educational researchers, it is a source of not only confusion but irritation also.

*Burmese word which in this case, may be translated in English as "*generous*".

Why has this happened ? It is because non formal education is a new term which has recently been added to the vocabulary and its concept, its definition and its relationship to formal education and to various social, cultural and economic developments have not been yet systematically and commonly accepted and agreed upon.

What is the difference between "formal education" and "non formal education" ? Can we equate non formal education with "informal education"? Can we label "non formal education as "out-of-school education"? Is it adult education? How does it meet the needs and demands for the social, cultural and economic development of the country ? What should be its objectives ? What are its coverage, prospects and limitations ? What should be its strategy ? What methodology should it take ? And for whom ? Whose responsibility should it be ?

These fundamental and complex questions and issues may puzzle some readers. But on the other hand, it is necessary to have a clear concept of the term we are using so as to provide a framework for practical programme. In the words of the author "without the mastery of new concepts, new logical interrelationships, new mental processes, the people's journey towards behavioral and cultural changes will be in danger."

"Non formal education, according to Bonanni, is dynamic in its nature and flexible in its modes, consisting of socio-educational activities leading to cultural adaptation to change as well as of non-structured, non-graded, non-sequential learning experiences."

In this book the reader can find some answers, as has been put forward by the author, to these fundamental and complex questions and issues of non formal education. This booklet written by Bonanni, who has a genuinely critical eye and open ear of his own as well as abundance of practical experiences in the field of non formal education, has made a solid contribution to the literature on non formal education. The reader will become aware of the author's insight into the importance and crucial role of non formal education in the socio-economic transformation of the neglected and educationally deprived groups in the rural areas of the developing countries. More important is the reader's ability to grasp the precise and practical concepts and steps that could be taken for implementation and to comprehend the reasonable and sound suggestions given by the author.

Bonanni has rightly hit the nail on the head by stating "do not teach new practices before the people are so motivated to seek them, for your action, if not wanted, will fail", in his "Rubrica". Of great importance is the author's observation that community or area development can be fulfilled only "with the population's participation" by means of "an appropriate pedagogical approach".....and "their participation should be, where possible, supported by a national political action."

Since the author is a devoted crusader who has spent a large part of his life in combating illiteracy under very different situations in many different parts of the developing countries, the social, cultural and economic developmental outlook of the author as a Literacy Fighter is evident in many chapters of the monograph. He sees literacy "not merely as a skill in reading and writing, but as a behavioral society pattern and as a way to communicate a complex flow of information."

The chapters "New Paths in Training Literacy Trainers : A TCDC Based Regional Approach". "The Jaipur's Experience : Preparation of Problem Solving Curriculum and Learning Materials" and "Cooperation Training and Functional Education (Afghanistan)" will serve as a fountain of information and knowledge to our colleagues in the adult literacy field.

Resulting from the limitations and failure of "Formal Education" and paving the way for universalizing education, non formal education is gaining ground in many developing countries. Though the concept, structures, methods, strategies, designs and contents of non formal education presented by Bonanni may not be "the best", they will most certainly either directly or indirectly, help the planners, the programmers, the trainers and the workers of non formal education in defining some of the principles and criteria and by the insights gained therefrom, take pragmatic, and realistic steps which by their feasibility ensure success in dealing with certain problems in the field of education.

In short, this collection of working papers will certainly serve as a handbook or a guide or all workers at all levels engaged in non formal education.

Thaung Tut
Rector
Institute of Education
Rangoon

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CHAPTER I

THE ROLE OF NON FORMAL EDUCATION IN SOCIO-ECONOMIC DEVELOPMENTAL PROJECTS

A. Fundamental Considerations

In this paper the term *Education* is understood to mean the laborious process by which human beings acquire an awareness of new goals, the freedom of making choices in relation to them, and the intellectual and technical skills required for attaining them while the term : *Non Formal Education* as a conjunct dynamic in its nature and flexible in its modes, consisting of socio-educational activities leading to cultural adaptation to change as well as of non-structured, non-graded, non-sequential learning experiences.

These socio-educational activities and learning experiences are offered to groups and individuals involved in a transformational process so that they could possess that knowledge, those skills and those abilities which are indispensable for the implementation of the practices required firstly for achieving and then for keeping their new standards of life. By this way it is expected that they will become agents instead of slaves of the transformational process.

This unity of socio-educational activities and learning opportunities is particularly necessary in those geographical areas where economic development projects are taking place and a marked educational *deficit* exists.

The purpose of a non formal education programme conceived as an integral part of a developmental project is to cancel out this *deficit* so that the communities of the area may be able to contribute actively to the implementation of the project and influence it in accordance with their expectations.

Previous experiences (Panama, Tanzania, Nigeria, Thailand. India, Cuba, China, Vietnam) have shown that the main aims of developmental projects were attained more easily in situations where an acceleration in the rhythm of social change was produced by an educational action. This suggests that such educational action is a *sine qua non* of success.

Health and nutritional developmental projects, water supply schemes, programmes concerned with increasing basic grain production and with agrarian reform, resettlement and employment plans, establishment of agro-industries etc., all ultimately aim at improving the living conditions of the population. But the fact that they are offered and not requested could strongly reduce their impact.

To avoid this danger, the population must be made aware of the causes of its problems, must be able to evaluate the proposed solutions, and must become directly responsible for their programming and execution. It means that their participation should be supported by a national political action advocating changes from bottom up. If so, sooner or later, local self, managed development projects will arise, and prosper.

The planning of non formal education activities for development cannot be conceived as a subsidiary addition to economic plans. It must constitute, on the contrary, an integral part of them.

Moreover, considering that the contents and the methods of Non Formal Education cannot be established as a priori but must correspond to the needs and the expectations of the concerned communities, we can see that the first pre-planning activity had to be that of opening a dialogue with the people at village level; this activity will, in itself, have a strong educational incidence at top level.

How exactly, does non formal educational action fit within the framework of a Developmental Project ?

(a) The services offered by the project must take an *education form.* This does not mean that for example in the case of a Health project, a course in Health Education will necessarily have to accompany the distribution of medicines and the medical treatments (this approach has been in fact, already adopted in most

such situations). This means in reality, that the various projects should become, themselves, *vectors of education*, and the agents of their respective operations should become, themselves, *agents of education*. The latter, indeed, long before the starting of the projects' operations should approach the populations and establish, *without any intermediary*, a direct dialogue with them.

(b) The population which lives in the developmental zone must be prepared for change *in an educational form*. They should, through information and communication, become aware of the change and be induced psychologically towards it. They should, if needed, through social work be led towards the establishment of organized groups. These actions indeed cannot be successful if they do not receive the support of the national and local political leaders. More the basic societies will be aware of the change and socially organized for it, more they will be motivated towards participation ; the increase in social dynamics being the cause and not the effect of participation.

(c) The members of the community, if they have to understand and support the new action which the Plan requires of them and to carry out the operations demanded by them, must receive in a non-structured and non-graded form, knowledge and skills those that they do not possess as yet and not what we think indispensable for them. This educational action therefore should not be confused with vocational courses or with agricultural extension work. The abilities which non formal education aims at promoting, even when of a technical nature always attempt (i) to stimulate intellectual, logical and epistemological processes as well as those attitudes which may help the participants to move from a thoughtless acceptance of reality towards its rational understanding and (ii) to instil in them a new awareness of their unlimited possibilities and capacities of action.

A word of caution, we must emphasize the fact that it would be a fatal error to create new bodies and new structures to develop this type of action and that it would be also too expensive, both in time and money. Instead of new bodies and new

bureaucratic organizations, it is best to use the institutions and personnel which already operate in the field, the human resources of the existing specific and sectoral development projects as well as all the human potentials of these same communities, which too frequently are not utilized.

Moreover, this type of educational action should not, nor can it be, straight-jacketed into small isolated pilot experiments, unique of their type. From reading recent history we know that it is rare for a pilot experiment to come to fruition. It should have a national dimension. Non formal education should become congenial to all the sectors promoting economic and social development, to all the on-going transformational operations and to a multiplicity of developing situations.

There could be reasons to fear that when operating within sectoral projects, one might come to betray the principles of inter-sectorality which should direct and inspire the whole, of the Non Formal Education action. But in practice there is no other way of operating in the actual situation: in fact the majority of the developmental activities at the peripheral level are sectoral, they are carried out by existing, often disunite ministerial structures and they have, indeed well defined sectoral objectives. We feel however, that the possible negative effects of this fragmentation of the educational action could be neutralized by taking into account when compiling the educational messages, the total existential experience of the participating population, and, at the same time by attempting to establish, in the course of the field action links and bridges among the educational components of the various sectoral operations.

Elected "People's Committees" should be considered as the most appropriate bodies to which the responsibility for the non formal education programmes built in socio-economic developmental projects has to be attributed. They had to operate at all vertical levels, the village, the province and the State, they should be provided with institutional as well as interministerial support, and be assisted by interdisciplinary, intellectual and technical resource groups, as required by the action.

B. Practical Application Model of a NFE Programme within a given Economic Developmental Project.

1. **Principal characteristics of the Project :**

Executive agency : Ministry of Agriculture

Title of the Project : Project aiming at increasing the production of basic grains (maize, wheat, beans, rice and sorghum) included in the national Agricultural Development Plan (75/79)— Production Programme.

Description of the Project : The Project will cover in its first year, an area of 115.000 hectares, and in its last year 223.500 hectares. In the beginning the farms with less than 30 hectares will cover an area of 65.300 and at the end of 173.500; 31,000 farmers will, in 1976 participate to the project as individuals and 15,000 as cooperative members; in 1979, 45,000 and 31,000 (total 66,000).

The total amount of credit facilities will be $159.2 million.

The wheat sub-project is situated in the Western Plateau, in a global area of 71.887 hectares (46% in cooperative farms) with an allocation of $4.277 million.

The Western Plateau is one of the zones where the Government will officially support the operations of the project, due to the fact that the conditions of the population living there deteriorated in the recent past, because of low fertility of the soil, scarcity of capital, low level of technology and pulverization of the pulses.

With the aim of increasing the production of basic grains the farmers participating in the scheme will receive the following inputs : fertilizers, seeds, tools and pesticides.

2. The need for a Non Formal Educational Component

A project like this faces very complex problems : problems of technical assistance, of training, of logistics and that of a need for increased individual technical competences. The latter can be solved with an efficient combined action of Agricultural Extension and Non Formal Education.

The need of an educational action is also justified by the presence of the following non-technical negative factors, which can limit the project's chances of success.

(a) lack of adequate information about the need of increasing the food production, and consequent non-utilization of the incentives available as well as non-adoption of the new technical practices,

(b) insufficient motivation and stimuli towards the increase

of the production, because of heavy workload it requires, of the high cost of the inputs and of the physical, logical, cultural and political problems linked with the marketing of the produce,

(c) farmer's lack of receptivity vis-a-vis the new practices and in relation to the use of certain fertilizers and improved seeds,

(d) lack of those basic elements of reading, writing and calculation which are pre-conditions to become a true member of a cooperative,

(e) lack of knowledge in respect of the social and economic benefits which could be gained by participating to savings and credit cooperatives.

3. **Concise list of the Contents of the NFE Action**

(a) *Informative elements* : To be aware about : (i) the zones of the country which produce more grains, the reason of the increased production and the consequent farmers' benefits, (ii) the fact that the increasing of the production represents more income for the individual and food sufficiency for the nation, as well as its value in respect to the development of the rural society, (iii) the interrelation existing between work and higher production, on one side and more productivity and higher income on the other side, (iv) the fact that a task of such importance can be achieved only through a collective effort, (v) the needed mastery of innovative technical knowledge and the acceptation of new working cycles as necessary pre-conditions to obtain the increase of the production, (vi) the realization of how the new agricultural practices represent the consequence of long laborious processes put in motion by farmers and scientists in their country as well as in other countries during all the course of human history; (vii) the reflection upon the present contribution of different countries to the modernization of the agricultural work, (viii) the success and the failure of similar projects in other countries; (ix) the new practices in the fertilization of the soil, in the growing of the plants, in the control of the plagues and in the conservation of the seeds, etc. (x) the interrelationship existing among all the various physical, logistical, economic, social and political

elements which contribute to and affect the functioning of a marketing system, as well as the need for a more just and equitarian distribution of the agricultural products at national level.

(b) *Cognitive elements* : Knowledge about : (i) the nutritional elements needed to ensure healthy living conditions and the consequences of malnutrition in the physical and mental development of the children; (ii) the basic elements of soil, and plants, the microlife of the soil, and the water, the physical and biological processes which condition the natural environment and the agricultural production ; (iii) new working techniques and new processes in agricultural marketing; (iv) functions of the fertilizers, pesticides, etc. the danger of their inappropriate use, the remedial measures in case of poisoning; (v) concepts of linear measures and volumes, yield per hectare, etc.; (vi) basic abilities in relation to the mastery of the written communication: reading, writing and calculation; (vii) the most important procedures of a cooperative: how to fill the application forms, how to buy a share, how to participate actively in meetings, how to elect representatives for the social changes, how to vote, and the interrelationship between voting and acting, how to identify the credit facilities, how to get a loan, how to calculate the interests to be paid on the loans, how to pay the interests, how to prepare a simple budget, how to read and interpret the budget of a cooperative etc. ; (vii) basic elements of agricultural economy : how to establish a farm plan etc.

(c) *Communication elements* : Due to the fact that the Project has given special emphasis to the cooperative action, the non formal education programme should include *literacy teaching* with the aim of giving to these farmers who are illiterate the basic instruments of the written communication without which they could not act as a responsible member of the cooperative.

4. **The Services of the NFE Technical Interdisciplinary Team :**

(a) To identify and elaborate the educational contents required by the population of the area of intervention

so that they will be able to participate actively in the realization of the developmental plan.

(b) To integrate and distribute these contents within the frame-work of a curriculum, characterized by an open structure. The horizontal units of the curriculum will contain, in integrated form, all the subjects inherent in the existential problems experienced by the population, e. g. the use of water and its implications in the physical, economic and social life of the inhabitants of the areas where intervention is taking place.

(c) To prepare prototype of radio scripts, pamphlets, notes, hand-out sheets, charts, posters : with or without titles, according to the given type of context (literate or illiterates). All the written, oral or visual material will convey educational messages corresponding to the units of the curriculum.

(d) To reproduce the prototypes in sufficient numbers after having firstly established their effectiveness by appropriate tests.

(e) To prepare a guide for the use of the materials by local agents of the project, by those responsible for local radio broadcasts, and by the leaders of the communities. This guide will include advice on the various modes to be adopted in the organization of the educational activities, for example: meetings with committees and groups with the purpose of motivating and orienting them towards collective work, promotion of group discussions on felt problems; home visits and interviews.

(f) To offer orientation, during field visits, to those in-charge of the educational activities mentioned above, by means of informal talks and 'ad hoc' demonstrations.

(g) To ensure (through the area supervisor) the capillar distribution of the educational materials.

(h) To gather at the basic level the information related to the effectiveness of the materials.

C. Conclusion

Thus a Non Formal Education action carried out within the frame-work of a Socio-Economic Developmental Project should have as its principal aim the following one : to provide the concerned population with those information, knowledge and skills which could enhance their acceptance of the Projects' objectives and their participation to the Projects' activities.

Participation which is the basic pre-condition for the effective, productive and permanent "actualization" of all developmental plans and, consequently, their sole "raison d'etre".

CHAPTER II

BASIC LEARNING MODULES : ARE THEY FEASIBLE ?

Recent pledges for a new international order, echoed on a worldwide scale, impose on everyone an arduous task : that of aiming to improve the living conditions of people in the poorest areas of the world.

It is generally felt that such an aim can be best achieved by giving priority to the provision of services at the village level in the primary fields of health, agriculture and food, nutrition and safe water. This would involve local leadership, local personnel and local participation so that people could move, quickly and without trauma, towards self-generated change. Envisaged is the development of a sort of basic technology, locally managed, which, as Margaret Mead has written :

> *"should help hundreds of millions of people to feed themselves, to meet their basic needs, and improve their quality of life".*

Thus, there is a renewed interest in fostering Gandhian approaches in education. Many developing countries, indeed, have already decided to redirect their primary educational programmes towards the basic needs of their people at the village level.

One of the most relevant components of basic education at the peripheral level is *literacy*. As we understand it, literacy is not merely a skill in reading and writing, but a behavioral societal pattern and a way to communicate a complex flow of information. A basic education process, with objectives to train illiterate people in nutrition, health and family life, is best integrated with literacy, because, by the use of written information, the processes are hastened, broadened and have stronger impact.

At the same time, literacy teaching will loose its mere scholastic configuration, will benefit from motivation and acquire more meaning and permanence as the written language taught to adults will then convey messages related to their direct experience.

What is now suggested is a basic educational programme, suitable to different environments but having as content-cores specific themes, such as nutrition, population, agriculture, etc., based on the day-to-day life of participants, and integrated with literacy. Such programmes would be prepared in view of their participatory adoption at village level; they would have to be imparted to the people by agents, locally recruited, acting as teachers.

Curricula and materials for basic educational programmes as suggested above are costly. The Experimental World Literacy Programme has shown that their global costs could be between $30 to $100 per capita, per year. Considering that many developing countries already devote 30 per cent of their budget to education and that communities themselves ought to be considered as the main resources for developing their basic education, these costs are too heavy.

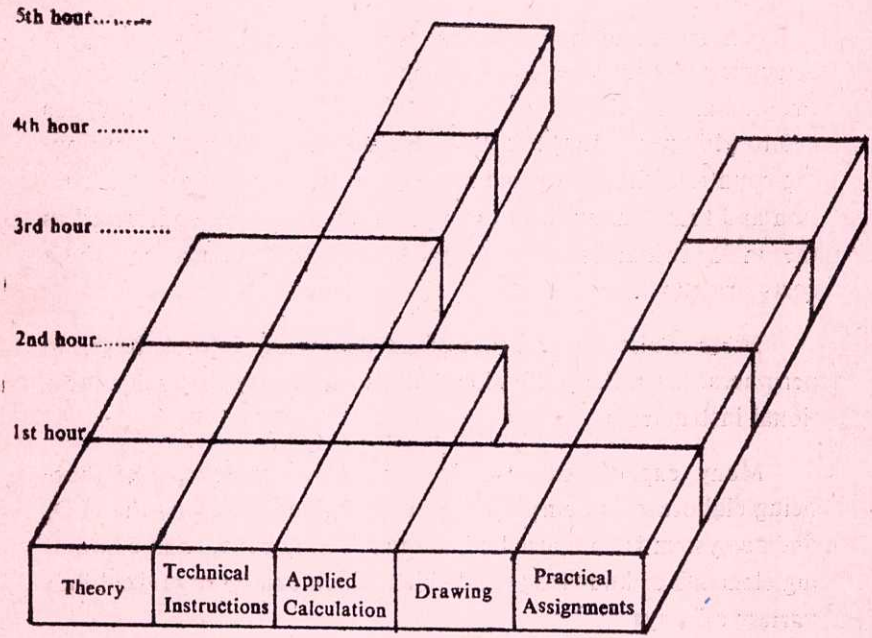
There is also the fact that often countries do not have, at peripheral level, the professional skills necessary for such educational instruments.

Many experts call for *learning modular cells*, like those being elaborated on employable or vocational skills by the ILO. Such a system is composed of many learning cells, each containing elements of knowledge and skills which can be organized in a variety of ways.

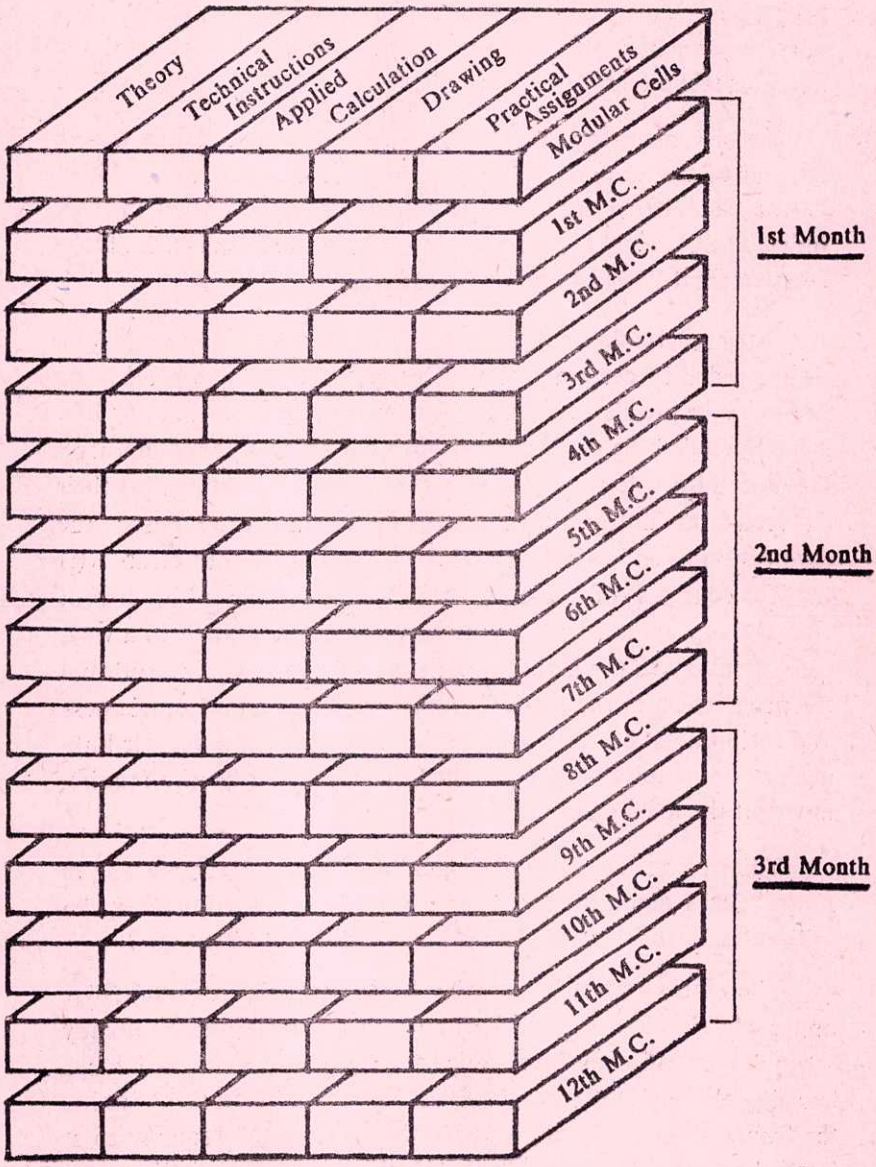
The cells, as will be seen from the following two graphics, are composed in non-sequential and in non-graded ways, so that each of them can : (i) fulfil a complete independent function in itself; (ii) be capable of being grouped with other cells, in various forms. (See diagrams No. 1 and No. 2 on the following pages).

In the case of vocational training, the adoption of a modular approach to the preparation of diversified curricula has already

1. Diagramatic Presentation of A Modular Cell



2. Diagramatic Presentation of a Module Designed for a Three Months Teaching Method



lowered costs. But vocational training is based on subject-matters, topics or lessons, selected by specialists, and embracing demonstrations designed for classroom or workshop floors, while the basic education curricula, which are our main concern, are directed towards practical and intensive targets, suggested by the people to suit their crucial needs. Now we need to know if it is possible to successfully apply to such type of curricula the modular technique.

Before answering this question, one must examine the nature of some of the more recent basic education curricula, developed in the field experiences conducted at *peripheral* level in Iran, India, Mali, Tanzania and Ecuador, within the framework of the Experimental World Literacy Programme.

Such curricula were developed to convey knowledge and skills needed by certain groups of people to help them solve some of the major problems they were encountering in their daily life. These included the death of first born children of young mothers; the search for safe water sources; the parents' fight against their children's malnutrition; the struggle against crop pests; the eradication of endemic debilitating diseases. It is thus clear : (i) that the contents of these curricula were determined by urgent spatial/temporal needs; (ii) that they were integrated in a way, corresponding to the global experience of the people; (iii) that the progression of the curricula units was based on the crucialness and seriousness of the problems to be solved and that their linking was not determined by pedagogical rules, but by the requirements of the local environments.

This being so, how can modules, rapidly structured in geometrical frames, prepared for scholastic artificial *milieux*, be utilized as learning answers to a plurality of real situations?

Therefore, it appears that the basic curricula for a modular approach should not be *cells* composed of constituents already interrelated and well-framed in a structured form, but loose learning elements to be utilized flexibly to build learning units, the frame of which will be designed to meet local requirements. Such elements should also meet existing human situations and developed so that the resultant unit, may be "rooted" in these

situations.

There are relatively new processes of curricula-preparation which accept some of the principles of a modular system but use single-learning "based on life" elements, instead of horizontal modular cells. These single-learning elements are adequate for, and convergent to, a maximum number of possible educational situations.

The question now arises : are such elements feasible?

The educational expectations of men or women are related to those knowledge, skills and abilities which are needed to bridge the gap existing between what they are and what they want to be. The causes of such a gap are diverse. They may be ecological, economic, pathological, sanitary, nutritional, demographic, etc., but their lowest common denominator is to be found in ecological and socio-cultural factors. Thus, we can state here that similar agro-ecological and socio-cultural areas should experience similar clusters of problems and similar educational expectations. It follows that specific elements of a basic education curriculum, prepared for a population living in a given zone, may be applied, without loosing their specificity, to different populations living in other geographical settings if the latter have agro-ecological and socio-cultural patterns similar to those found in the first one.

How are these elements constructed?

Field experience suggests the following possible methodological approach. Firstly, a regional or national centre of applied studies and research in social and economic fields should undertake an analytic survey within the various national contexts to identify those having similar agro-ecological, socio-cultural and linguistic patterns. This should lead to the establishment of typical zones: (i) sharing analogous physical conditions and analogous developmental virtualities; (ii) having common socio-cultural patterns; (iii) inhabited by groups using a common communication language.

The next step consists of comparing maps showing zones having common ecological patterns with the others showing

common socio-cultural and linguistic aspects. In this way, we arrive at geo-anthropic types of zones sharing common problems, common developmental expectations and, consequently, common educational needs.

In the Unesco functional literacy work in India, it was realized that the curriculum which was prepared for population groups living in a tropical, humid, paddy-cultivated and Tamil-speaking region in Southern India conveying teaching on how to detect and control malaria and bilharzia could have been adopted without changes with other groups living in different zones having analogous agro-econological and pathological characteristics. A similar thing happened when the *same* specific curricula built for dry, sorghum-cultivated areas in Western India and for subtropical wheat-cultivated regions of the Punjab in Northern India were found suitable for other geographical zones of the subcontinent.

Once the type of curriculum corresponding to the educational needs of four, five or more educationally homogeneous zones has been identified, then its content-cores should be elaborated according to the principles introduced in the following lines.

Such content-cores will constitute the *functional* and the principal components of the basic education curriculum. They should not relate to subject-matters, neither to traditional themes of health, nutritional education, but should convey messages *in what and how to do it terms.* The global messages in this sense—global being the mass experience—should have strict and close relation with the human ordeals of the people who know hunger but not nutrition, who understand ploughing, sowing, but not agronomy.

We opine that the people living in the zones selected for such educational intervention, not only need to be assisted in learning what to do, but they also need to understand why they have to undertake certain actions. They want to know about the economic benefits of their actions as well as how to overcome their socio-cultural implications.

In addition, they will also be in need of mastering written communication skills.

Therefore, each functional content-core should be complemented by a series of learning elements, having diverse nature. Such elements should be developed from, and linked with the functional ones. We now see that five different types of components should basically constitute the *corpus* of curricular elements. They include : (i) *Functional core-components* : instructions on practices, needed to be implemented, for transformation: (ii) *Rational components* : mathematical and scientific concepts arising from the functional core-component ; (iii) *Socio-economic components* : information on the social implications of each transformational practice and on their economic aspeets and outputs : (iv) *Socio-cultural* components : individual and group behavioural dimensions of the new practices : (v) *Written communication components* : analysis and fixation of the linguistic and arithmetic written forms of messages related to all the above-mentioned components.

Once elaborated, such learning elements should be classified and centrally stored, like the memory core in a computer installation, from whence they could easily be retrieved, when needed, and distributed to local basic education and literacy centres.

Local programmers can then "build" them in horizontal, integrated units, based on the criterion that each functional component must be followed by its rational, social, economic, cultural and written communication complements.

These units will be then vertically organized in a chain constructed on the basis of the two following criteria ; (i) the themes relating to problems having a crucial and urgent need for solution will be tackled in priority : (ii) the time chronology of their transmission to the concerned groups will be determined by the requirements of the local environmental calendars.

A methodological guide could be developed and be placed at the disposal of local programmers so they could use it when assembling the pre-constituted elements. In comparing them the programmers have to take into consideration the common needs of the local groups as well as the individual characteristics of their members.

Programmers should also be advised on how to integrate the preconstituted elements with those which ought to be prepared

in loco, to meet specific situations and particular emergencies.

The final result of the process introduced here above, should be the construction of basic education curricula less expensive than the ones totally built *in situ*, but equally geared to the real educational needs of the local communities.

In conclusion, it might be useful to try to answer a few questions which may now have arisen in the minds of readers.

If separate curricular elements can be built in advance, then why can't well-framed complete curriculum be built for each educational homogeneous zone ?

Because, as we have attempted to show, the nature of the contents of a curriculum may have a polyvalent potentiality of application. Their length, duration, rhythm, dosage within the curricular structure, are peculiar and confined to each human and physical situation and can only be determined *in loco*.

Why do rational elements of a certain complexity have to be included in a primary basic education curriculum ? Are they really indispensable ?

Because the new concepts and logical interrelationships are needed by the masses if they have to understand and justify the new actions to be taken for improving their quality of life. A new way of thinking is indeed required by all persons involved in an accelerated transformational process. Without it, there will be no real change. If, for example, we examine the tasks required by several actual developmental situations, we find that they cannot be reifyed before new concepts are possessed by those who have to execute them. New concepts such as : development rate of growth, productivity of the work, time-output, marketing, cost-benefit and others all representing a new logic, that of the development.

Do not the philological complexities and variety of languages represent an impediment to the establishment of pre-constituted learning literacy elements ?

Despite these linguistic complexities and varieties, literacy and numeracy progressions can be pre-built if, in conceiving them, new approaches are also adopted.

In fact, in the case of a two "type" situations having common problems but diverse languages the curricula pepared

for each one of them will be the same in terms of content but their educational messages will be written in two different languages.

To avoid that the adoption of given philological and paedagogical methods might result in a retarding effect on the curriculum implementation rhythm, the written educational messages addressed to the learners, should be conveyed to them in their globality, i.e. phrase by phrase, not analytically written word by word or letter by letter. In fact, if they will correspond to their new experiences and, consequently, to their new thoughts they will be surely easily decoded.

As Merleau Ponty has stated :

"any written language structure, though not well recognized in all its analytic articulations, can be equally understood as a whole, if the message conveyed is functional and is already experienced by the addresses. Thereafter, a written language structure should be mastered by the adult learner if it applies to him, and totally missed if artificial to him."

Once learners have a rational comprehension of the complete written expressions, then it should not be difficult for the educational agent to develop directly at the learning floor some specific exercises of analysis and fixation, aimed at making them progressively able to master the minimal articulations of the words composing the messages under consideration

To conclude it seems that between an authoritarion dogmatic educational programmed fixed a *priori* and completely ignorant of local conditions and a plurality of specific, costly, locally-built curricula, there is a third solution, only partially inspired by the modular systems. A more organic solution, which could be called, using a term borrowed from the architectural language, *polyfunctional.* It should consist, not in preparing already structured modular cells, but of series of pre-constituted frequent learning elements, echoing typical situations and open to adaptations. These elements may be used flexibly *in loco* in order to compose various functional learning units to be framed in curricula which exclude uniformity and present original patterns; a store of elements that could be often renovated, thus giving birth to variable products according to the rhythms and the terms of the change.

CHAPTER III

VERNACULAR MENTAL STRUCTURES : THEIR FUNCTIONS AND LIMITS IN SOCIO-EDUCATIONAL PROCESSES FOR DEVELOPMENT

When a briefing on "communication" is offered to a social worker who will be responsible for socio-educational activities in a community-based development project, generally he is asked to be very cautious in communicating innovative messages to the people. He must choose with attention the words which he will utilize : they have to be the same as those commonly used by the people and, in the case of new words, he must pedagogically grade their presentation. He is also requested to be very careful in transferring messages through visual images : they have to reflect local representations of the reality, they have to be pre-tested, refined, etc.

All kind of suggestions are indeed given to him, but very rarely he is alerted on how to avoid mistakes in dealing with the inner epistemological processes of his interlocutors. He is never asked to make an inventory of the logical patrimony possessed by the people with whom he works so that he could know, respect, and use as far as possible, in his educational action, their syntactical structures, i.e. the mental frames in which their thoughts are organized and interrelated.

We feel on the contrary, that whoever is involved in educational development, has to pay great attention to the above mentioned aspects. To support this affirmation we would like to share with the reader, in the following lines, some self-explanatory examples drawn from direct field experiences.

An agricultural extensionist explained once to a group of farmers that : *if they had had* in the preceding rainy season so many mm of rain *they should have put* in the soil so many kilos of fertilizers but *if they had not had* a sufficient quantity of rain

then *they should not have put* so much...but...etc. At the end he realized that the farmers did not get the message he was trying to transfer to them. Were they incapable of understanding the meaning of each one of his words ? Surely not, because they were expressed in their own mother tongue. The way in which he was framing those words in phrases only was foreign to them and for that reason they were unable to understand. He should have searched in advance, through group discussions, for the syntactical forms adopted by that rural population in framing hypothetical phrases and past-future temporal relation ships and adopted them. For example, in the case of money borrowed in the past and to be paid in the future that population was utilizing the following expression : "The money I got three months ago is still lying on my chest, but very soon, I hope, it will lie on my back."

Other farmers attending a literacy course were showing high capacities in mental calculations while their achievements in written arithmetic were very poor. The reason for this appeared to reside in a dichotomy between the procedures adopted by the teacher on the blackboard and those followed by the farmers' mind. Encouraging results were achieved when, finally, the method for teaching basic arithmetics was founded on the farmers' mental approaches, as shown by the following table :

Teaching arithmetics by adopting learners' mental approaches

279+
183

1. Read aloud
   "Two hundred and seventy-nine plus one hundred and eighty-three"
2. Write down as said

200	70	9
100	80	3

3. Add the parts in the order which is simplest to the operator (this will vary from person to person)

   e. g. (i) 200 + 100=300
   70 + 80=150
   9 + 3= 12

(ii) 300 + 150=450
450 + 12=462

365–
128

1. The approach is by "making up" from the lower to the higher number (as when counting out change)

e. g. 128 to 130 = 2
130 to 150 = 20
250 to 200 = 50
200 to 300 =100
300 to 365 = 65

2. Now proceed with addition : read aloud and write as said :

		2	
	20		
	50		
100			
	60	5	
100	130	7	= 237

To underline the uncertainty of a marketing operation, a social worker, while discussing with a group of poor blacksmiths, decided to utilize in his speech verbs in their subjunctive and conditional modes, but the unknown sound of their endings caused humorous reactions from the group. Why? The audience was composed of people using, in their daily life's conversations, only one verbal mode : the indicative. Their "present", indeed, was so aleatory that there was no need for the subjunctive or conditional. They knew, of course, the future tense but it was utilized only for the Divinity ! By making use, in his speech, of their comprehensive indicative the social worker could have received more attention and his words produced more impact.

It should be emphasized. however, that in certain cases, the transformational process requires the mastery and the use of concepts, as well as of logical structures and relationships which are not present in the rich and articulate mental patrimony of traditional rural groups, because the experiences from which

these logical elements generate have not yet been gained by them. These new mental tools have to be considered as necessary preconditions for the success of an educational action leading towards behavioural, cultural, and social changes. Some of them are inherent in the microlife of the soil and the water, in the time/output, time/control, cost/benefit and are relevant for a farmer who has adopted advanced agricultural practices. Others are inherent in the rate of growth, in the biological causes of endemic diseases, in the organic functions of the human body, in the nutritional value of food and are indeed relevant for a family life education programme. They cannot be taught by indoctrination but must be induced from a series of propaedeutic experiences ad hoc put in motion at the very inception of the socio-educational process.

To be more specific let us introduce some examples. How is it possible to request a bush's farmer to dig a ditch in an absolutely straight line if he does not possess the respective concept ? They are in fact human groups who master the concept of a circle, which is physically very present in their environment, as well as the practical skills for drawing, shaping, and building circular forms, objects, and houses, but not the concept of the straight line. Therefore, before to tell them to dig a straight ditch, they have to be led towards the formulation of the concept of the straight line through pragmatic exercises and demonstrative working experiences.

A teacher of nomadic groups who wishes, at a given-moment, to transfer to the latter some visual messages utilizing the law of the perspective without giving them previous experiences about it, after many efforts will be obliged to give up. The concept of perspective, indeed, does not exist in their minds. If he shows to them a drawing presenting two constructions : the smaller in the background and the bigger in the front, they will consider the bigger one as superior in value vis-a-vis the smaller one. This latter in fact, will be for them the house of the slaves or of the animals, but rarely that which is more distant from them than the other.

Those who have worked in field health education programmes know that it is impossible to transfer a message on

the interrelationship between the germs present in the polluted water and the intestinal diseases of the children, if the concept of microbe, i. e. of a living being, so small that it cannot be seen by our eyes has not been acquired in advance by the people to whom the message is addressed.

Similarly it is impossible, when operating in a society where the words "right" and "duty" have the same signification (as in the case of my people in Naples), to instill habits related to duties and rights until the moment when the logical preconditions for their differentiation are created in the minds of the members of that society.

In reading the above lines one could be induced to think that only the members of deprived or poor rural communities need to reinforce their logical patrimony with new conceptual acquisitions. This is not true. In reality it is a two-way process. It goes also from them to the members of the so-called learned society, as shown by the following story.

In 1870 the Baron von den Decken—as told by himself in his diary—was navigating upstream the Juba River in the Horn of Africa, hoping to find its source. Each evening he stopped and camped until dawn on the river bank. One evening the guards of his escort started to light a fire with wet branches, making a lot of smoke. The Baron ordered them to stop, but they explained to him that with the help of the smoke they were trying to prevent fever. The Baron could not understand what they were telling him and requested them to make more comprehensible their words. They respected to him that by making smoke they were driving away the mosquitoes which were bringing them fever. The Baron could not accept their justification because in his human experience at that time the relationship between mosquitoes and malaria fever did not exist. Thus, he ordered them to put out the fire. The chief of the escort before lighting the fire should have explained to him by which experience the interrelationship between mosquitoes and fever came to their mind and only after he could have hoped that the Baron had approved and shared the benefits of their preventive action.

Something similar happened to a western seaman sailing

in the Pacific. He was not able, in fact, to understand and accept what his local counterpart was telling him about the utilization of a navigation plan based on directions suggested by the net of influences and forces which binds the constellations. His refusal, however, did not last eternally : it disappeared when he absorbed the cosmological experience of his new environment.

Finally, we can say that those responsible for socio-educational activities for development should

(a) elaborate their messages, respecting and using as much as possible, the participatory groups' lexical, grammatical, and syntactical structures as well as their semantic values;

(b) pragmatically contribute to the formation of the new logical elements which are compulsorily required by the transformational process.

If we will be permitted to paraphrase the words pronounced by C. Attlee, the day on which UNESCO was created, we could say that since the reality starts in the minds of men, it is in the minds of men that we have to establish the basis for its development.

Part Two
Methodological Notes

IV. A Methodology for the Preparation of Non Formal Education Programmes

V. New Paths in Training Literacy Trainers : A TCDC Based Regional Approach

CHAPTER IV

A METHODOLOGY FOR THE PREPARATION OF NON FORMAL EDUCATION PROGRAMMES

Family and community education, non formal teaching or training and schooling have shared, throughout history, educative responsibilities within societies, all contributing together to the development of the human condition.

The role of each one of these vis-a-vis the others, however, has been more or less important from time to time from country to country and from place to place, in relation to given political, economic and social situation. Today new socio-political objectives and more urgent developmental needs demand expansion and open varieties of educational services, not substitutive but concurrent to those which are being offered by the school system. For this reason non formal education processes are seen as effective ways for promoting education, particularly in transformational rural situations, where new socio-economic targets arise the educational expectations of the population and where there is a scarcity of formal services.

Urgent need for out-of-school activities for the educationally deprived

After a decade of legislative, technical and financial efforts by many developing countries to provide equal educational opportunities to all their school-age population, it has become evident that the increase in services have tended to favour the already privileged groups, while the educationally deprived have yet to claim their rights.

At present in many countries of the developing world, there is, in fact, a concentration of educational services in the urban areas. The accelerated rate of growth of the urban school

population, its actual patterns of frequency, the low incidence of drop-outs, the high motivation and high pupil-teacher ratio, coupled with the law of aggregation which often rules the establishment of new school facilities, lead us to hypothesize that for the next ten years and also afterwards, the main beneficiaries of the new formal education provisions will be the populations living in the zones already served by schools.

The rural areas will therefore continue to suffer from the same problem as today. Because only a small percentage of their children are at present in school and because of their high drop-out rate, the number of illiterates will increase in future years. These considerations permit us to state that there is, and there will be, in many developing countries, an urgent need for out-of school activities.

A methodology drawn from existing national non formal education programmes

For this reason, some governments have now oriented their educational policy towards the adoption of non formal education strategies.

UNICEF's interest in this field gave rise in 1973 and 1974 to two studies prepared by ICED on the state of non formal education in the world and on its potentiality for attaining new educational objectives. The two studies gave a clear understanding of the present status of non formal education it is quantitatively not particularly relevant and qualitatively often uneven.

A new formula for non formal education, therefore, had to be found. The most fruitful way seemed to be through applied research carried out directly in the field, in which new premises would be elicited from given contexts with the population's participation.

The following indications are presented for reflection, discussion and further dialogue. Our knowledge about the types of attributes which non formal education should have in order to solve some of the educational problems of our time is still limited. In fact, it will be only after a certain number of years spent in episodic developments at the level of practice, that the best non formal education strategy for each typological context can be established.

First phase : identifying the educational expectations

Educational expectations are defined as the consciousness on the part of a group that the attainment of certain socio-economic targets, which are possibly open to them or to their children is delayed or prevented by their lack of a particular experience, knowledge or skill.

The identification of the educational expectations of a population should be confined to only those areas of experience which can be enhanced by non formal educational processes.

This identification should be achieved by means of a dialogue in depth between those involved in the educational process. This means that a dialogue should be established at village level through an opinion survey based on semi-structured interviews, by groups and individually, of potential participants in the programme. Chosen at random, care should be taken to ensure that their number is fairly representative of the population. The survey should be prepared and managed by an interdisciplinary team which is responsible for the technical aspects of the non formal education programme and which is composed, for example of an agriculturist (or other specialist in a sector which in the zone is complementary to agriculture), a rural sociologist, a medical doctor specialized in environmental health, and a linguist. Interviewers may be the possible future mediators of the educational process : local leaders or government employees who are selected and trained in advance by the team. The duration of the exercise may vary from three to nine months, according to the physical, demograpic and ecological patterns of the chosen zone.

Once the educational expectations of the population have been identified, the following steps should be taken :

i) classification of the educational expectations, by priority, selecting those which are crucial and common to the participatory audience.

ii) shaping of the potential participant population into groups whose homogeneity is constituted by a sharing of common educational expectations, and therefore common learning and training needs.

iii) inventory of the educational structures operating in the chosen zone, either as part of the school monopoly or outside it, and an analysis of their programmes;

iv) assessment of the educational gap, that is, the difference between the educational expectations of the potential participants in the programme and the educational provisions offered them by the existing structures operating in the zone;

v) selection of the progressive focal points of intervention within the chosen zone, according to the criterion that the points to be lowered in priority are those where the educational gap is the widest.

Second phase : Setting the educational objectives and the strategies to attain them

Once the various programme areas have been identified, more specific objectives and means of implementation can be established.

The specific educational objectives for each inter-group of participants and within each programme area should be defined, stating in terms of basic and specific knowledge and skills as well as of socio-economic information, and in terms of behaviour, what each educational programme must provide the participants in order to permit them to fulfill their educational expectations and overcome the gap. It is then possible to examine the feasibility of directly involving in the programme, the already existing educational structures operating within the zone which may be willing to modify their curricula, to innovate their methods, to increase their coverage, and to adopt extra-mural activities. As in all probability only part of the educational gap can be overcome by existing services, the role to be played by new structures to be established ad hoc should also be clearly defined and their organizational and administrative features devised.

Throughout this process, a continuing dialogue must be maintained with the participant populations. It is imperative that they be involved in the elaboration of the delivery system, i.e. the decisions as to the best types of mediators, the best way of communication (face to face, home teaching, group work, radio broadcasts, mixed system, etc.), the most suitable months,

days, hours and places for implementing the educational process. It should be clear that the delivery system will vary from country to country, according to the physical distribution of the population and the demands of their working calendar. One of the main reasons for the failure of many educational programmes has been the fact that their curricula, teaching schedules, and premises were established in a pre-conceived way without consulting the population.

On the basis of the choice of delivery system, the instructional methodology can be defined. To be adequate to the objective of equalizing education and reducing its cost, it must be active, intensive, non graded, accelerated and participatory. However, its terms cannot and must not be defined a priori, but developed in keeping with the actual situation and the socio-cultural specificities of the participants.

Third phase : developing the curticula and materials

A highly skilled interdisciplinary team is needed to prepare the instructional curricula and materials. It should be composed of a specialist in the content-area representing the core of the curriculum, an educationist, an expert in curricula and materials preparation, a linguist, a writer, and, according to the situation, an illustrator, a radio programmer, an audio-visual materials specialist. As far as possible, the curricula and the materials should be elaborated in the same environment as that of the participant groups.

Elaboration of the curricula : (i) presentation of the contents in extenso, (ii) hierarchisation of the different elements; (iii) integration of the various elements; (iv) development of the knowledge and skills progressions; (v) their organization into units of learning and training; (vi) distribution of the units over the period of instruction; (vii) harmonization of the calendar of instruction with that of the execution of tasks, where both are involved.

Preparation of the materials : (i) design and preparation of the materials for the initial period : visual posters, graphs demonstration charts, instructional booklets, and radio programmes when needed; (ii) design and preparation of semi-pro-

grammed materials for exercises : work sheets, hand-out sheets, and work books, as needed for the mastery of the basic knowledge and skills; (iii) design and preparation of the continuative action : graded readers, content booklets, work manuals, leisure books, newspapers, bulletins, posters, radio programmes, etc.

Fourth phase : defining the criteria and tools for evaluation and curricula revision

It is important that tools be developed to evaluate the adequacy, suitability, effectiveness and impact of the curricula and the materials; to achieve a progressive assessment of their contents and forms in relation to the actual needs of the learners; and to carry out their progressive refinement. The criteria for evaluation should be based on a definition of the results expected from the adoption of the curricula and materials as reflected in the rate of learning, in the application of the learners' skills, and in the behavioural changes of participant populations. Measurement scales and their critical points with which the results have to be compared must be identified.

Appropriate measurement tools would be tests (comprehension, acquisition, assimilation, applications, etc.), questionnaries, learners' interview schedules, and an observation guide for the mediators of the educational process.

Fifth phase : training of the mediators

The mediators should be selected from among those government agents who operate the closest to the participant groups, and from natural or social leaders, or any available open-hearted and openminded persons from the community, who are willing and able to act as educators.

Teaching guides will need to be prepared for their use : content sheets, paedagogical advice, plans, time-tables, notes for instant didactic aids preparation, explanatory notes on evaluation and curricula revision techniques and tools.

The curricula for pre-and in-service courses, sessions, workshops and operational seminars for the mediators will need to be elaborated. During the implementation of the pre-service training activities, the contents, methods and phases of the in-service

training scheme should be discussed and finalized with the mediators.

Sixth phase : establishing the final programme design

The final programme design and calendar of operations will be jointly established by the programmers, the trainers and the mediators in close consultation with the groups of the participant population, this will replace the ritual motivational phase and represent the first operation of the educational process.

Planning from the Community Level

The planned sequence discussed above does not attempt to indicate which are the best specifiic forms, structures, methods and contents of a non formal education programme, because, as stated before they will vary to a great extent from one situation to another; it does, however, suggest methods which may permit the identification of structural and contentual patterns suited to the given contexts. They should in principle, be valid for any type of approach, whatever the size of the zone and the number of the participants.

Non formal education, to fulfill the developmental needs of our time, should lean today more and more towards innovative paths. Preconceived models cannot be prescribed as a solution for the educational needs of a group. Only through a serious diagnosis of its particular human, social and economic context can the real needs of a given group be discovered : needs in new skills, in new knowledge, in new attitudes.

Such a concept requires an appropriate paedagogical approach : programmes should be intensive and non-graded; they should take into account the diversity of the situations and targets; they should be tailored to suit the requirements of each group; their different constituents of training should be closely integrated around a functional core; they should become itineraries towards practical objectives.

In other words, it will be impossible to realize effective non formal education processes without true dialogue between members of the same community and between the community and the planners.

CHAPTER V

NEW PATHS IN TRAINING LITERACY TRAINERS : TCDC* REGIONAL APPROACHES

A. Background

Profound changes are taking place at present in literacy personnel training they reflect the changes that have revolutionized literacy teaching from a merely missionary vocation into a factor of political, social and economic development.

The content of literacy programmes, which was formerly cut off from the realities of the existence, is becoming progressively adapted to on-the-spot needs and identified with a form of basic education geared to the expectations of the people for whom those programmes are intended. Literacy teaching which was previously an activity solely concerning professional educators, now involves persons drawn from a variety of professions, natural leaders, and sometimes newly literates belonging to the same milieux as the literacy trainees themselves.

Bearing in mind the desire expressed by the international community to eradicate illiteracy before the end of the century we are likely to witness even more thorough-going changes in the future. The trainers of trainers are facing new responsibilities. They are called upon to take a fresh look at their work, to interpret it in terms of the changes taking place. Not only must their action be adapted to new conditions, but it must be made more dynamic and more creative.

The "*literacy personnel training*" must no longer be regarded as an activity carried out before the starting of the literacy action and separate from it, but must, on the contrary, form an integral part of it and be present at every stage of the literacy process, from planning down to the establishment of a literate environment; the new type of training must be meant not only

*TCDC=Technical Cooperation among Developing Countries.

for educators or persons belonging to various professional categories but also for all those who, in a given community, are capable of taking an active part in the struggle against illiteracy, as the following table shows :

	Stages in the literacy	*Literacy personnel to be trained*
Training for :	1. Mobilization	1. Community leaders; those responsible for information & media; social workers, etc.
	2. Planning of operations, follow-up & evaluation; research	2. Planners, evaluators, researchers
	3. Programming	3. Programming specialists (especially as regards content)
	4. Administration	4. Administrators, organizers
	5. Identification of needs	5. Sociologists anthropologists, educational psychologists
	6. Preparation of programme & educational materials	6. Specialists in applied linguistics, programming & production of educational materials
	7. Training of the literacy workers	7. Trainers & supervisors
	8. Implementation	8. Instructors
	9. Establishment of a "literate" environment	9. Group leaders; officials, rural press specialists printers, radio & television technicians & managers of small industries, etc.

In many cases the objectives of the new type of "literacy personnel training" will be defined taking into account the most innovative aspects of the current literacy experience. In Tanzania and in Guinea-Bissau, today often the neo-literates are those who take charge of children's education at the primary level; in these countries, therefore, the aim of training is no longer that of producing teachers only able to teach literacy but that of producing educational agents who, while teaching to illiterate men and women how to read and write, could be also able to train them in how to transmit literacy skills to others. Consequently the trainers of literacy personnel, will become the *trainers of trainers*.

The content of training must also change. The significance of literacy training has evolved : from being purely educational work, regarding literacy as an end in itself, it has come to be a component of programmes distinct from education, as for example, health, nutrition, safe water supply, access to work and employment etc. Consequently, the contents of the new programmes can no longer be confined only to the techniques enabling a person to teach reading and writing; it must cover other subjects, particulary those related to the needs felt by the people involved in the literacy process.

It is now unanimously agreed that the conscious and active participation of illiterates in the preparation of literacy training activities is a decisive factor in the success of the literacy effort. But such participation does not come about spontaneously. It has to be encouraged and organized through the cooperation of public and private institutions. Training programmes must contain themes offering information on, and analysis of the mechanisms for arousing in the communities the social drive that will generate participation.

The training methodology will, in turn, have to change. Just as the process of transferring knowledge to illiterates is carried out using informal, non-academic methods such as discussion groups or dialogues, so literacy training has to be carried out. Therefore the training programme contents should be transmitted to the trainees adopting the same method they would later apply in their own literacy work.

There are today, two conceptions of the world confronting each other in a planet-wide scale as well as within each nation

and co-existing in the mind of every man in the form of an insoluble dichotomy: science and technology, on the one hand, and cultural identity on the other. How can these two conceptions be harmonized ? The highest aspiration of the international conscience today is to find an answer to this question. There is a certain intimation that it might be possible to surmount this antithesis, not through a process of integration, which is impossible, but by establishing communication channels between the opposing fields through which reciprocal exchanges could be incentivated.

Thus, science might encourage culture to adopt behaviour models that are innovative and enterprising, without undermining the principle of cultural indentity, being in its turn, enhanced by the patrimony of traditional heritages, beliefs, wisdom and by the creative spirit of the people. But how could we put them in communication ? Culture and science are not abstractions of the minds : they exist in the reality as values of every human being. At present, it is true, a portion of mankind makes no use of written communication, which means that their culture cannot be transmitted to others in a permanent, objective and precise form; similarly, science is a closed book to them since they can neither read nor write. Literacy, therefore, may represent a hinge between science and culture. How is this new role of literacy to be reflected in training programmes? How are literacy trainers to be prepared so as to be ready to facilitate the junction between science and culture ? This is a task which calls for regional and interregional action.

Finally, at a time when the principle of national responsibility for development is universally admitted attention has to be called on the fact that *training* is perhaps the only field in which international cooperation can be possible. It will certainly be the most active field among those left open to multi-lateral assistance and the one which corresponds best to the new ideals expressed by the international community.

B. Regional Review of National Training Programmes

The dynamic and relativistic nature of each national educational environment, particularly with regard to literacy, non formal education approaches and their related training systems, is so great that it would be neither advisable nor practical to think that rigid and preconceived training schemes may be

designed at regional level in support of national training activities. Moreover, exogeneous resources and experiences cannot provide any answer or assistance to national training schemes, for they have specific endogeneous requirements and needs.

Each national system or sub-system is at present developing its own training model and programme, and, therefore, creating within a region, considerable differences from country to country.

Considering, however, that some countries wish to secure a regional support for their training activities and that their requests justify a regional training-support programme for literacy personnel, it clearly appears that this regional programme should be based on an innovative approach and be able to deal with a wide variety of situations and needs.

It seem to us that its specific objectives can be formulated as follows:

(a) To assess, in consultation with the specialists respon sible for national training systems or sub-systems operating in the field of literacy, characteristics and problems of their training processes and programmes, particularly those inherent in the assessment of the training needs.

(b) To enable them to meet, and discuss with other competent national professional key-personnel, the identified problems and to jointly explore alternative strategies and tactics for their solutions.

(c) To develop and promote a sense of common perspective and joint responsibility among the national training agencies operating within the country.

(d) To develop and promote a regional or sub-regional cooperative action among the various national competent training institutions and specialists, particularly among those which could be respectively considered as "Centres of Knowledge" and "Experts in Specific Contents and Methods Areas."

Therefore, in order to design regional training support programmes based on the objectives above-mentioned, a thorough knowledge of each actual national training situation, potentiality and perspective is needed. Only this type of knowledge may

facilitate and make meaningful and possible the formulation of regional strategies. How may this knowledge be acquired? It seems to us that it ought to be acquired by national general surveys.

Such surveys should systematically provide information on the national overall educational situation with regard to literacy, and insights in its trainlng implications. They should consist of three phases : (i) Identification of national educational needs, plans and problems in the field of literacy, (ii) Description of the characteristics of the training programmes, (iii) Identification of the training potentialities.

It could be articulated as follows :

(a) *National framework* :

—Development Plans & Problems
—Educational Plans & Problems
—Policy Framework & Priorities

(b) *Existing programmes* :

—Objectives
—Funding
—Resources
—Training areas
—Administrative & organizational patterns
—Types of delivery systems & their participatory dimension
—Instructional strategies
—Technology—Curricula-Materials
—Benefit/Cost
—Evaluation & feed-back systems
—Extension & follow-up actions
—Research capabilities & programmes
—Problem areas
—Creative self-generating patterns

(c) *Potential programmes* :

—Available models
—Available resources
—Available technology
—Available personnel
—Available funds
—Expected benefit/cost

Together with this general survey, the following inventories ought to be established :

a) Inventory of training institutions.

b) Inventory of training personnel, by basic content and method areas of specialization.

c) Inventory of the functional and efficient national-training institutions which could play, also at regional level, a role of knowledge-centres in different basic training areas such as need assessment, instrument design, programme planning, etc.

Both the survey and the inventories could be achieved by adopting various techniques and procedures, some of which are listed below :

a) Collection of information through the distribution of a questionnaire which will be filled by the responsible and competent national authorities.

b) Collection of information through national studies and surveys contracted to existing national institutions.

c) Collection of information through direct observation (or by filling of ad hoc built form) made on-the-spot by national specialists already cooperating with the regional centres.

d) Collection of information through utilization of already existing organized data, such as those provided by IBE APEID, IERS and other information centres.

Before any regional utilization, the output of these surveys and of the other investigations should be sent back to the responsible national leaders in order to permit them to verify and control again their validity, also asking them to periodically provide elements for their up-dating.

A typology of sub-regions or zones sharing common patterns could also be achieved at this stage for further benefit of those regional training activities, in the course of which modular poly-functional materials will be utilized.

C. Designing of alternative training strategies

Beyond the modalities of the traditional regional training approaches (courses, seminars, study visits, etc.) there are new cooperative forms which can be adopted for achieving technical

cooperation in the field of training among various nations of a region, such as :

a) The "*network structure*" which has been recently established with success by Unesco in Asia and in Central America. The "network structure" gathers an ensemble of national institutions located in different countries and ready to interchange experiences on a reciprocal basis. The "network structure" may be easily established in a variety of geographical and political contexts. Asia has already provided us with a successful prototype, that of APEID. It should be emphasized that the establishment of a "network structure" is an undertaking which does not impose particular "servitudes" on the countries participating in it. It does not require either common policies, nor common infrastructures, but only the sharing of information. The "network structure" seems to be a valuable instrument of regional concertation; in fact the "network" now in operation are already generating more and more complex forms of cooperation.

b) *The programmes of associated action* : they can be considered as mechanisms from which derive many possible formulae of institutionalized regional cooperation. They are based on a diversification of roles within a geographical framework and on a distribution of tasks agreed in advance among the countries and their institutions. In the field of training, these programmes combine, in accordance with specific pre-determined criteria, a series of activities both within the national systems and abroad, so that each country can benefit, in the best and more effective way, of its own endogeneous capacities and of those more specialized existing in their region or sub-region. A good example of associated action in the field of training for educational administrators and supervisors is the one developed in Central America, which involves the five Central American nations and Panama, and is assited by the Unesco/ UNDP Regional Project called "Red regional de sistemas educatives para el desarollo."

(c) *The knowledge networks* : certain national institutions or groups of individuals will become centres of advice, guidance and orientation in given specific fields of expe-

rience-where they have acquired recognized competence and excellence instead of having such advice, as usually, located in instituationalized regional centres. In a UNICEF note on this matter it is written :

> *"The principal justification of such mechanisms which can be also called 'programming groups' or 'programming speciality groups,' stems from the realization that knowledge evolves to a large extent from practical experience, and could be better developed by an institution with a large involvement in the substantive field concerned, and also that with the rapid improvement of global communication, it is possible to have a variety of centres of knowledge scattered throughout a region."*

Regional training schemes may no doubt benefit from such an approach, and regional literacy personnel training centres ought to direct their action towards its adoption by promoting, encouraging and assisting countries which have the potential of contributing to and benefitting from it.

Regional training centres are sometimes called to cope with unforeseen requests of assistance for which they are not equipped in staff resources. A useful contribution to the solution of this problem could be the establishment of a list of national specialists, operating in the region, with experience and competence, available at shortest notice, and the subsequent creation of "*interdisciplinary shadow teams*" able to assist national authorities and to offer them short, quick and efficient services on the spot. The experience of the "Mobile Team" within the training programme assisted by Unesco in West Africa gives a good example of such type of operation.

D. TCDC in Training Materials Production and Distribution

An innovative type of regional training-support programme is likely to require an innovative system of communication, something different from the face-to-face approach or the documentation system used in the past. How then to achieve the transfer of competence and experience from a national training institution to another one in the same country or in a different country of the same region?

This transfer could be achieved by *recording* all aspects of creative, self-generative programmes implemented in each region,

on visual, aural and graphic materials, such as video and audio tapes, slides, records, graphs, cards etc., and by diffusing them in a modular dimension to the training institutions of the region. Therefore, regional training-support centres should be endowed : (a) with intellectual and technical expertise : (b) with the needed technological equipment and supplies; hardware and software; (c) with the necessary funds which could permit them to function as channels of diffusion of training experiences.

All the multi-media materials recorded in various situations and countries should then be gathered in pool, so that each centre may be able to constitute a kind of "bank of training softwares." These resources will offer to the Centres' different partners a supplementary training capacity which can increase the potential of each one of them, often in considerable proportion. The fact that numerous multi-media and modular training messages adjustable to various situations will all be available at the same time, will constitute an important contribution to the solution of those problems, which are encountered by conventional training programmes when their agents are obliged to produce formative material under financial, technical, logistical constraints.

Granted that the usefulness of getting the regional centres and units engaged in this endeavour is recognized, and considering that this is an activity which the majority of them have not yet been experiencing, it becomes necessary for the successful implementation of this innovative technological approach to have a systematic plan of action-research. This plan should have at least three important factors :

(a) Motivation and support of national institutions in the making of appropriate multi-media trial materials;

(b) Organization of an adequate number of meetings to assess and evaluate these materials;

(c) Systematic follow-up of the progress achieved in interchanging and utilizing the materials and their contribution to improved training practices.

With a view to facilitating the establishment of the above-mentioned "Bank", the centres may also directly produce mentorial multi-media modular materials on given methodological training areas, which could show to their national partners the innovative value of the formula, give them practical examples

and incite them to autarchically build their own software.

E. Inter-regional Linkage and communication systems

Trans-regional complex systems of satellite communication for tele-educative programmes covering many regions, the efforts undertaken by international working groups which are studying, in a convergent perspective, common world problems and elaborating projections of long- range world developments such as the ones of the Unesco-assisted "Man in the Biosphere" Project and the ones of the "Club of Rome", the recent pledges for a new human and economic international order echoed on a worldwide scale, impose on the specialist responsible for regional activities, a very challenging task, that of aiming at building linkage systems and interdependence channels among the various world's programmes.

This is particularly relevant when we examine the case of illiteracy. The struggle against illiteracy is, of course, first of all a matter of national concern, but, at the same time, because of its magnitude, it cannot be totally solved, without an intensification of the international cooperation. This particularly applies to the training dimension of any literacy action.

We feel that this cooperation is needed and feasible because, although concrete training needs and priorities differ from region to region and from time to time, there are certain common problems, inherent in each specific situation, the solution of which may benefit from interregional concerted approaches.

This inter-dependence, however, is often perceived as undermining the autonomy of regional bodies and generating negative consequences. We believe that the specificity of approaches and the inter-dependence are not antithetical propositions but necessary complements. The solution is that of adopting unidirectional approaches when needed and benefitting from the multi-directional experience when required.

How to establish a fruitful and productive dialogue among regional centres? Such a dialogue, which is at present almost inexistent, will be very necessary in the near future.

The specific foci of our reflection on this question should then be the following :

(i) Which should be the cross-frontier areas af concern?

(ii) Which tasks should be progressively executed by each regional centre within each common area of concern?

(iii) Which mechanism and ways of cooperation should be established in building the interregional linkage and communication systems?

We consider that, among the areas of common concern, those corresponding to typological, geoanthropic, ecological, socio-cultural and linguistic situations which overcome the borders of a given region should be chosen in priority. We may indicate here only some of them : the training of literacy agents for nomadic education; the training of religious leaders as literacy instructiors; the training of literacy personnel responsible for an integrated functional approcach, i.e. an approach conveying educational advices on existential problems like malaria or bilharzia, which are present in various continental zones having common meteorological and agro-ecological characteristics.

Among the tasks which each centre should execute in relation to each common area of concern, the following ones may be retained :

(1) Data gathering in different environments and review of literature and experiences;

(ii) Identification of transregional research themes;

(iii) Identification of transregional programmes and methodologies with a view of measuring their impact;

(iv) Collection of instrumentation prepared and adopted in other regions;

(v) Formulation of interregional policies and strategies;

(vi) Inventory of the problems encountered by trans-regional programmes and personnel;

(vii) Creation of a "Data, Information and Materials Bank" for exchange and diffusion.

Finally, it should be said that it cannot be possible to preconceive ways and mechanisms for establishing, on a constant and synergistic basis, the dialogue among regional centres. They have to be induced from the first experiences and on the basis of their results obtained from those interactive process of consultation and co-action already started in the near past.

Part Three
Case Studies

VI. An attempt to reach the isolated and the underserved : a case of regional reform in education in Guatemala

VII. The participatory local developmental Project of San Miguel y Morazan (Salvador)

VIII. An experience in Curriculum Construction and Material Preparation for a Problems Solving Farmers' Training and Functional Literacy Programme in Jaipur District (India)

CHAPTER VI

AN ATTEMPT TO REACH THE ISOLATED AND UNDERSERVED : A CASE OF REGIONAL REFORM IN EDUCATION IN GUATEMALA*

Two-thirds of Guatemala's population of 5.75 million live in rural areas. Close to half of this rural population is concentrated in the North-West Highlands. This area, which covers almost a third of the nation, includes a total population of 1.9 million people, less than 20 per cent of whom live in communities of 2,000 inhabitants or more. The remaining 1.5 million live in rural dwellings on mountains, at altitudes ranging between 1,500 and 2,200 metres. The population density is considerably higher than the national average, exceeding 130 inhabitants/km^2 in two of the seven departments making up this area. Over two-thirds of these people are Indians.

The main problems affecting the people of the area are :

a) The arable land is eroded, is on hillsides, is short of water for irrigation and is of low fertility.

b) Agriculture is backward, with annual subsistence crops (maize, wheat, beans, potatoes) predominating. There is a high percentage of small holdings, and this, together with lack of training in new farming techniques, results on the one hand in very low income for the farmers and on the other hand in the indiscriminate use of and low

*This paper is compiled from C. Bonanni's "The Basic Module for the Rural Population for the Western Plateau of Guatemala, and S. Lourie's "Design of a Regional Educational Plan. An Illustration : Informal Education in the Highland of Guatemala."

productivity from natural resources. The marketing system for agricultural products minimizes the producer's income.

c) Eighty-eight per cent of the rural population have no drinking water supply; eighty-two per cent of the dwellings have no sanitation; infant mortality is as high as thirty-three per cent. The situation reflected in these figures explains the prevalence of infectious diseases, particularly of the gastro-intestinal and respiratory types, which decimate the population and result in short average life spans. Moreover, chronic malnutrition—owing to low consumptions of calories and animal protein—is common in the region.

d) Most of the inhabitants of the area speak Indian languages of the Maya-Quiche group, and this, to some extent, is responsible for their relative isolation. Slightly over fifty per cent of the rural population are illiterate and only thirty-three per cent of children between the ages of seven and fourteen attend school.

e) These conditions force a large proportion of the agricultural population to migrate to the southern coastal region at harvest time. This situation aggravates dropping-out and truancy, causes families to break up and exposes the population to the risk of contracting infectious and communicable diseases.

Without neglecting other productive sectors, the Development Plan designates the agricultural sector as the central focus of action and the population of the most economically depressed rural areas as the group to receive greatest attention. Consequently, the west-central altiplano will be treated as a priority region for the purpose of action to implement the Plan. Within this context, and with financial assistance from UNICEF, an educational development plan has been worked out, under which the education sector is assigned the task of speedily improving its programmes, delivery and operational systems, and making them more flexible, in order to give children and young people better educational opportunities, genuinely suited to their circumstances, and to give adults vocational training. To achieve

those ends, the educational development plan envisages the co-ordination of the school and out-of-school education systems.

The objectives of the national out-of-school sub-sector are :

a) To increase the availability of educational opportunity in Guatemala by offering it to a significant segment of the population which has largely been overlooked in education programmes and which cannot be served by the school system;

b) To make the best use possible of available resources by establishing a network of education services designed to fulfil the objectives of the development plan. This is to be achieved through adequate coordination of the services provided by various governmental institutions for out-of-school education;

c) To provide the people with access to training for their productive and social functions, thus enabling them to participate actively in the development process by utilizing modern systems of production and the relevant technological skills;

d) To offer the people continuous and graduated out-of-school education programmes so that that may become involved in a process of life-long education.

The Government has established the following strategy for achieving these objectives;

a) Selective increase in coverage : During the period 1975-1979 the coverage of out-of-school education will be considerably extended to bring in sectors of the population which have had no access to formal education. Priority will be given to children between the ages of ten and fourteen, and men and women between fifteen and forty-five.

b) Integrated government action : There is an urgent and vital need to initiate and institutionalize coordination of the many existing out-of-school education programmes carried out by various government agencies. A structure responsible for coordinating all these programmes must therefore be established.

It has been decided to establish a National Out-of-School Education Board (BOEM), which will be responsible for co-ordinating all programmes. The Board will have a 'Coordination Secretariat' which will implement the necessary measures to coordinate at the regional, departmental area and local levels, the out-of-school education programmes being carried out by the various bodies represented on the Board.

The Out-of-School Education Team is under the jurisdiction of the following organs at various levels :

a) At the national level : the National Out-of-School Education Board and the Secretariat for the Coordination of Out-of-School Education;

b) At the regional level : a coordination team headed by a regional coordinator with programming, training and administrative functions;

c) At the departmental level : departmental coordinators who administer BOEM operations in their respective jurisdictions;

d) At the area level : area coordinators with organization, technical guidance, evaluation and advanced training responsibilities in respect of the monitors. There will be an area coordinator for every 40 monitors;

e) At the local level : the monitors, who will conduct the educational activities. Their work will be complemented by radio programmes and the use of written materials.

The out-of-school education system will consist of a number of education programmes, at different levels, known as modules : the term 'module' is used because these education programmes (a) have a functional structure and (b) although separate and having their own features, balance and complement each other within the system. A module, in this context, has two further definite characteristics. On the one hand, it represents an 'educational programming model' with criteria and techniques for selecting, organizing and grading content as an integrated educational message; on the other, it constitutes an 'operational structure', the units of which —mix d/combined delivery systems (direct teaching by monitors, radio, written materials, etc.) —

together form an 'out-of-school apprenticeship circuit' through which the chosen target population may be reached more effectively.

The out-of-school education plan provides for four types of modules : (a) a basic module which will give the participants (children and adults) the ability to communicate better, in words and in writing, the rudiments of mathematics and an introduction to the cultural values of the nation; it will also have specific training programmes in job techniques, nutrition, hygiene and child care; (b) module two will provide students with additional skills for improving working and social conditions: (c) module three will be designed to provide students with specific technical and vocational qualifications, together with a broader knowledge of national and international cultural processes; (d) module four will produce highly skilled manpower in various technical and scientific fields.

The targets of the basic out-of-school education module are to provide service during the next five years to 145,000 school age children not served by the schools and to 226,000 men and 229,000 women between the ages of fifteen and forty-five.

The content of the BOEM basic education programmes will fall into two main divisions : (a) for children and adolescents who have not received any schooling; and (b) for adults of both sexes, which will include the rudiments of the national language (Spanish), the practical applications of mathematics, the fundamentals of health, nutrition and hygiene, and a grounding in civics.

The first stage of the programme will be a study of the area which will provide the necessary information for the following sequence of activities : (a) identifying the expectations and educational needs of the population; (b) preparing an inventory of existing educational programmes; (c) examining their efficacy in relation to national development objectives and the expectations of the population; (d) determining the gap between what is actually being done and what needs to be done in the field of education.

An educational content programming team will be establi-

shed to determine what package of knowledge, skills and attitudes is required by the population in order to reach the proposed goals.

Materials to be used in the out-of-school education programmes will be prepared. They will be of two types (a) motivational, designed to stimulate the participation of the target population in the programme and to create public receptivity to it; and (b) operational, to be used in the apprenticeship and follow-up proeesses.

Monitors and supervisors will be trained. Preference will be given to persons from the selected areas who have leadership qualities and have attained an adequate level of education. The function of the monitors will be to organize demonstrations and radio forums in cooperation with agricultural extension workers, health promoters and teachers from the area, and to arrange for the distribution of supplementary audio-visual material. It is estimated that operation of the BOEM will require a total of 4,000 monitors and 100 supervisors. The training programme was initiated during 1975 with 200 monitors and 10 supervisors. An administrative structure will be required for the distribution of materials and for supervision and follow-up, and it is hoped that the service centres will utilize existing facilities belonging to the departments responsible for agriculture, health, community development and the regional schools. There will be service centres in each project area for the supervision of monitors and the distribution of materials.

A system of feed-back and overall evaluation will be designed so that from the outset the out-of-school programmes can be modified and adapted, and thus respond continuously and effectively to the changing educational needs of the population. At the same time, the machinery and means needed to accomplish these tasks will be determined.

The relationship between the BOEM and the out-of-school education programmes of public institutions presently operating in the altiplano will be organized in the following way: (a) the educational needs of population groups and how and to what extent they are being met by the out-of-school education pro-

grammes of the institutions concerned will be ascertained through basic research; (b) the Coordination Secretariat of the National Out-of-School Education Board will make the results of the research available to these institutions so that proper standards for their respective programmes may be agreed upon and will, in addition, offer them the technical cooperation of its programming teams: (c) in those areas in which few educational activities are conducted by other agencies, the BOEM will itself carry out activities and will coordinate the future work of other agencies.

All of these operational structures will, each in the area of its own jurisdiction and responsibility, conduct continuous evaluation and methods appropriate to the circumstances so as to provide feedback information to all of its parts.

Although the essential emphasis of the programme will be on out-of-school education, sub-projects in formal education, health, nutrition and environmental sanitation will also be included. The sub-projects will make up 20 per cent of the entire programme and will be designed to complement, in specified geographical areas, the out-of-school education activities.

At the time this plan was formulated, certain questions were raised in order to bring out some general problems besetting attempts at this kind of regional planning of education. These questions are critical, not only in Guatemala, but in the majority of developing countries undertaking significant national educational reforms.

The first question is whether the organization proposed for the module is likely to be the best one for transforming the plan into action. This question may be more closely applied to levels of decision-making : central, regional (the Highland Area), departmental, zonal and local. Two of these levels correspond to actually delineated administrative structures and functions: the central and the departmental. The regional level has been devised only for the project, and the zonal level is sometimes artificial, but sometimes coincides with the larger communities, the *municipios* which do have a specific administrative existence. Finally, the local level does have societal reality, the community

although it does not usually coincide with any administrative or institutional unit.

The next question is whether it is realistic to propose an organizational structure which does not match the existing administrative infrastructure. This could be a fruitful compromise between total identification with conventional structures and autonomous institutions. The first extreme represents an obvious danger. Administrations, at best, are jealous of their sovereignity : at worst, they may be imperialistic and devour the activities and budgets of any agents careless enough to be under their protection. The other extreme encourages local administrative authorities, who receive no instructions from the 'centre' to, at best turn their back on such a venture and allow it to die of lack of recognition and support and at worst, to mobilize efforts to thwart the ambition of any operation demanding their attention and energy. In short, the proposed administration acknowledges the need to acquire and maintain administrative power. Like most attempts at changes, this one involves a sizeable share of risk causing uncertainty and consequent potential unmanageability. But the risk may be reduced in this case by the modular structure of the curriculum, whereby the interdependence of parts is minimal, and the success of the whole system does not depend on the success of each small part.

On the national level, the question arises as to whether such a representative group of Government Ministries and agencies can really guide the proposed operations. In other words, can a formal representation of high level Government officials meet with regularity to prepare and oversee such a programme ? It may be that this official group is necessary, at least to demonstrate the common desire of ministries to develop new activities. Delegation of authority to each of the agencies represented may be possible only if a consensus is reached before implementation orders can be given. As such, the National Board would serve as the highest political body, sanctioning specific operations to be conducted within a plan which may have to be altered or re-directed according to circumstances.

The Regional Coordinator will have to activate the policies of the National Board, and he can only be as effective as the

pooled resources he controls will permit. At this level will be found the true test of the existence of a Regional Plan. This is the most sensitive and delicate part of the complex administrative machinery proposed for the module. *Sensitive* because it is here that the intentions of individual Board members will become apparent, and *delicate* because if the resources are not forthcoming the scheme cannot advance regardless of policy and good intentions. At the departmental level we find an already established administrative structure. This is valuable, for many regional plans are foiled through ignoring the conventional institutions which represent a power-base without the support of which it is unlikely that any project can survive. The Departmental Coordinator must preserve the link between the established administration, which is geared to maintenance of the *status quo*, and the newly-arrived development experts working in agricultural production and social promotion programmes. The Departmental Coordinator is expected to use the resources of the former to strengthen the latter.

At the zonal level we meet a new difficulty, namely that which come from within the Education Ministry. For example, problems may arise from the decision to appoint bilingual 'monitors', who had no more than six years of formal education, to teach at the local level. The school teachers, who are already opposed to the use of these 'monitors' for gradual introduction of the Spanish language to Indian children at the kindergarten, may well resist the presence of 'competitors' whose salaries and conditions of tenure call their own into question. Such a challenge may force the Zonal Coordinator to work with the school supervisor in attempting to avoid friction between the school and informal education personnel.

We come now to what is the human test of the viability of the module; will it be seen by the villagers as an instrument to promote change in their way of life or as an irrelevant form of schooling ? All will depend on the ability of the coordinated teams to develop learning activities responsive to various groups of people living in a variety of circumstances.

Implicit in this challenge is the possibility of coming close to an understanding not only of the explicit motivations (to

produce and earn more) but of implicit motivations affecting family and community structures. Much will also depend on the capacity of the 'monitors' to dovetail their actions with those of other agents visiting the communities where they are working. The quality of the educational material is also important. And essential to the success of this enterprise is the existence of a feedback mechanism so that the module does not become an instrument ruling the village but one which villagers can master and consider their own, fitting to their needs, and adapted to the rhythm of their lives. Only then can the dialogue begin between villagers and educators.

In conclusion, it seems that the feasibility of the module rests on three key issues : (a) institutional changes determined by political authorities (Is there a purpose in developing new production habits if there is no land ?) (b) administrative decisions permitting effective decentralization such as a regional budget which gives flexibility to the multi-agency teams working at the three levels between the Central Government and the villages; (c) convergence of the module's content and method with the villagers' resources, needs and aspirations.

The project is on the threshold of action as it is slated to gather speed with each passing year until it will have covered the entire target population by 1980. The design stage is finished but constant re-tooling will be imposed by experience. In 'learning by doing' the Guatemala authorities, assuming a calculated risk, may run into resistances and reticences both from the module 'producers' (specialists or administrators) and its future 'customers'. Likewise, action——if it is swift and on an economy of scale consistent with the requirements——may generate acceleration phenomena reducing effective or potential obstacles.

Nevertheless, while it is obviously impossible to predict to what extent the design does reflect the reality in the field, it is not unfair to suggest that it did attempt to take into account whatever quantitative, descriptive and intuitive knowledge there was about past failures and present problems.

CHAPTER VII

THE PARTICIPATORY LOCAL DEVELOPMENTAL PROJECT OF SAN MIGUEL Y MORAZAN (SALVADOR)

There is today, at national and international levels, a growing acceptance of the idea that developmental process will be less traumatic and have more impact if they evolve from the bottom and are built on community self-determination. Already the Plan of Operations of some internationally assisted projects in rural and urban development carry the assertion that their objectives will be achieved through community mobilization and participation.

The phenomenon defined as *participatory planning*, is explained by the "theoreticians" of development as the translation of national developmental goals into local developmental objectives with the concurrence and participation of the population and, consequently, as the process by which congruence between national planning policy and community expectations is attempted.

Many pages have already been devoted to the theoretical and conceptual facets of this theme, while the references to their practical implications are very few. Do we really know how "participation" can be achieved in concrete situations : in situations very often affected by a strong dichotomy between autocratic planners at the top and passive communities at grassroot level ? How many witnesses do we find of experiences showing us the implementation of a participatory planning process in what-to-do terms? Not too many to my knowledge.

I have been familiar only with the one sponsored by the Government of El Salvador and assisted by Unicef and Unesco,

carried out in the Departments of San Miguely Morazan and called "Proyecto Coordinado de Desarrollo Comunal." I would like to refer in detail to this experience because it seems to me that from it, a first answer to the relevant question of how a participatory approach could be tried out in a real practice, may be obtained, and that a useful methodological orientation to analogous future projects may be provided.

A. Some information and data about the "Proyecto coordinado de desarrollo comunal of san Miguel Y Morazan"

The Government of El Salvador, Unicef and Unesco agreed in 1973, to carry out a joint PROJECT having as its objective that of promoting a better standard of living in the rural communities of the Departments of San Miguel Y Morazan. This objective was to be achieved through co-ordinated, intersectoral action and organized, dynamic participation of the population, in planning local participatory developmental projects.*

(*a*) *The Area*

The area of San Miguel Y Morazan where the PROJECT is operating, covers a total of 3,854 Km^2 and has a population of c. half-a-million inhabitants, which represents respectively, 18 per cent and 14 per cent of the total of the country. *The PROJECT is carried out in 50 communities* where the following governmental services operate : 2 Regional offices of FOCCO (National Community Development Programme); 1 Centre, 6 Units and 19 Health Posts; 16 Primary Schools and 13 Supervisory Units; 17 Agricultural Extention Centres; 3 Credit Agencies; 12 Clubs—4-C; 9 Agricultural and 10 Housewives Clubs. There is in San Miguel a Training Centre which can accommodate 50 trainees and which is utilized for up-grading technical personnel and community leaders.

(*b*) *Demographic and Socio-Economic Problems*

* For the sake of clarity in this study, "El Proyecto de San Miguel Y Morazan" as an institution will be transcribed as the "PROJECT", while the local developmental schemes promoted by it will be referred to as "the projects."

Listed herebelow are the main demographic and socio-economic problems of the area :

(i) High rate of growth (3.8%); high demographic density; percentage of population between 8 and 14 years—48 per cent of the total; majority of the population spread out in the rural areas or gathered in very small rural communities where social services are provided in a rudimentary way; the majority of the economically active population works in agriculture.

(ii) Scarcity of arable land for farmers, due to the fact that there still exists big latifundia under the control of few families; limited productivity of work at level of income which does not reach $100 per capita per annum.

(iii) Presence of respiratory ailments and gastro-intestinal diseases caused by the water; malnutrition due to the lack of protein and calorie intake, affecting mainly children and adolescents.

(iv) Sixty per cent of illiteracy rate; one-third of the children not benefitting from schooling; out of each 100 children entering first grade, only 20 reach the 6th grade.

B. How does the project formulate its participatory dimension?

We quote below the paragraphs of the Section B/4 of the Conaplan, Document D., p. 837 (San Salvador, July 1971), which conveys the first design of the PROJECT;

"*To make the communities able to take part in all efforts of national development.*

To obtain a clear level of knowledge in the community, of the national objectives, the means and resources, before starting any action or project.

To obtain coordination of action among the various agencies participating in the project, so that this action may be based systematically on the characteristics, interests and decisions of the community, and take advantage of the maximum effort of the communities themselves.

To achieve the integration of the community, through the organization of local groups (men, women, youth, children, etc.) and by taking advantage of their own interests and dynamism.

To recruit leaders and promote their training in order to make them able to work with groups and communities.

To establish committees of the communities and lead them towards a progressive independence, so that they can eventually direct their own action."

C. The project's operational structures

(*a*) *At local level :* the community committees which are constituted by the leaders of the local groups and associations and by the agents of governmental services operating at the bases—(teachers, agricultural extensionists, health assistants, home economists and community development workers and supervisors of the credit system). They are, altogether, responsible for promoting and executing local developmental projects and for providing feed-back to the Regional Committee, with which they will work in close cooperation.

(*b*) *At regional level :* a committee composed of Departmental Directors of the National Community Development Programme of Agriculture, Education, Health and A.B.C. (Administration for Rural Welfare which is in charge of the credit system). The Regional Committee, which is coordinated by a "gerente", ad hoc, appointed by the National Community Development Programme is responsible for planning, programming, organizing, supervising and evaluating the PROJECT's activities, as well as for training the PROJECT's operators. These functions will be executed in coordination with the local committees and in accordance with the guidelines given by the Central Coordinating Commission, to which the Regional Committee will provide constant feed-back. In order to assume its mobility, the Regional committee is endowed with two Jeep-station wagons.

(c) *At national level* : a Central Coordinating Commission, formed by two FOCCO (National Community Development Programme) representatives and one representative from each of the other Governmental Ministries involved in the PROJECT all high-level ranking officials, capable of taking quick decisions. They are namely : the Chief of FOCCO Administration, the General Director for Education, the General Director for Health, the General Director for Agriculture, and the Assistant Manager of the Administration for Rural Welfare. The Commission is responsible for the integral planification and organization of the programme and for the orientation of the members of the regional and local committees. It directs and makes convergent, the activities of each participating institution on benefit of locally planned activities; it approves the precise means and mechanism to make the work of the inter-ministerial personnel effective ; it carries out periodic evaluations to measure progress achieved; and it supervises and coordinates rationally the PROJECT's regional and local activities; it ensures a compatibility of means and institutional branches of the PROJECT.

D. Summary of the PROJECT'S action after one year of work

Forty-three local development projects planned for the communities, of which seventeen were already executed and 26 were under study or on the way to being approved. In examining the planned Projects according to their nature, we can classify some of them as follows : 15 deal with problems of water supply and environmental hygiene and health: 2 deal with education; 3 with rural housing; 5 with community institutions; 4 with agricultural production; 1 with electrification and 7 with rural roads.

E. Some problems faced by the PROJECT in 1974 during its first operational year

a) During its preparatory phase the PROJECT had collected a relevant amount of data from 25 communities out of the 50 comprised in its area. These data were very usefully utilized for the establishment of the socio-economic profiles of the communities but their exclusive

quantitative nature did not permit a clear elicitation of the people's expectations and motivations.

b) In the beginnning, the PROJECT did organize some promotional campaigns but they were informative rather than motivational and they were held so far in advance that the population forgot their messages at the time when the operations started.

c) All the local developmental projects stemmed from the first action kept, as we have seen before, a strong sectoral configuration. Some of them were only educational, some agricultural, some dealt only with housing and some with health. This compartmentalization limited the total participation of the communities in the developmental action, moreover, incitement to developmental action continued, in several cases, to reach the population from the top, through vertical parallel lines.

d) The list of the local projects launched in the area shows that the majority of them were echoing habitual community development programmes not based on the priority interests of the population.

e) The training courses for governmental staff members and group leaders operating in the communities held at regional level during the first year of the PROJECT's life were organized by each Ministry, in "separata sede" and restricted to their respective dependents.

F. Remedial measures

Here below are listed, in chronological order, the remedial measures which the PROJECT's managers discussed, agreed and proposed for immediate adoption.

a) The PROJECT should immediately organize an integrated and active regional training workshop addressed to *the agents of the Governmental services* operating in the communities where local developmental activities were, or were to be carried out, in order to make them aware of the identified problems and to discuss the measures to be taken at local level to overcome the impasse. The curriculum contents of the training course were defined during the same meetings and it was

also decided to invite national resource persons specialized in social animation and mobilization to participate in it.

b) The agents of the Governmental services should then bring back to the attention of the groups operating in each community the data of the basic survey and introduce again to them the objective of the national development plan.

c) The same should open a democratic discussion in each community, by way of open group interviews about the national developmental objectives, the community problems and about the possibility of designing local projects within the finalities of the national plan.

d) The same should initiate a dialogue among the various communities of the area on the above-mentioned points, with the view of catalyzing their attention around projects having high effectiveness and a strong inter-community value.

e) The same should incite, where needed, the community groups to elect their leaders, who should meet with them in a series of working meetings in order to attempt the identification of the most needed and crucial local developmental projects.

f) In each community or group of communities the leaders of the association, together with the agents of the Governmental services, should constitute the local committees, which will be responsible for planning the local projects. The most relevant task of the local committees, at this stage, should be that of detecting with the help of regional technicians the problems, tensions and conflicts when acting towards the attainment of the chosen objectives and, consequently, hypothesize the measures to overcome or reduce them. The organized corpus of these measures should constitute the first operational plan of a local developmental project.

g) Once the first plans of the local projects are ready, they should be sent to the Regional and National Commit-

tees, which should refine them and provide guidance for their implementation, as well as those needed resources and incentives (credit, technical assistance, training) which have to be drawn from sources external to the community.

h) The local committees should, then, elaborate the programme-designs of the local developmental project and proceed subsequently to their execution.

The two tables shown in the following pages, present graphically, the above sketched processes as well as the phasing of the PROJECT's activities from 1974 to 1976.

G. Teachings to be inferred from the experience of San Miguel y Morazan

The preceeding analysis of the facts occurred during the initial phase of the San Miguel y Morazan experience conveys to us certain indications which may be of value in devising further trials.

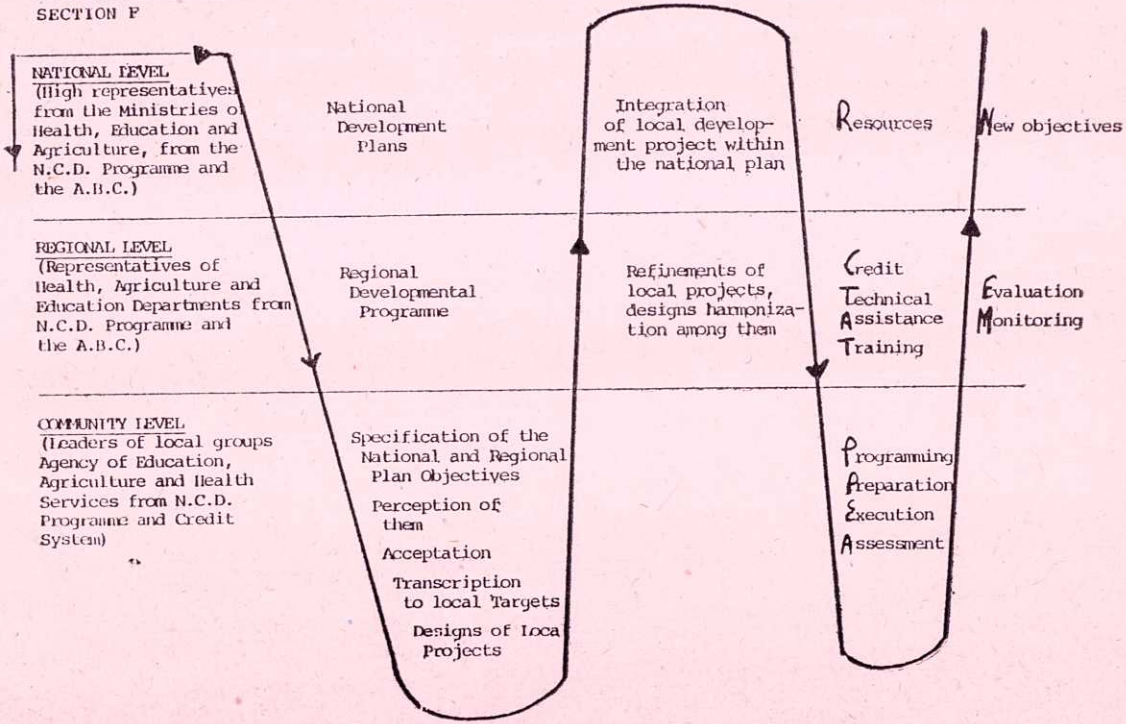
a) *Needed Pre-condition* : Among the factors which favourably influence the success of a participatory approach at its inception, the following ones should be considered very relevant.

(i) The existence, in the country, of a strong political drive leading the planners towards the auscultation of the population touched by the developmental processes and towards a clear understanding of their needs, wants and expectations, i e., of their social dynamics. The sociology of the participation is indeed a part of political sociology because all the main incentives to participation, legal, economic, educational, financial, depend upon political power, as is well explained by A, Meister in his Essay on "participation."*

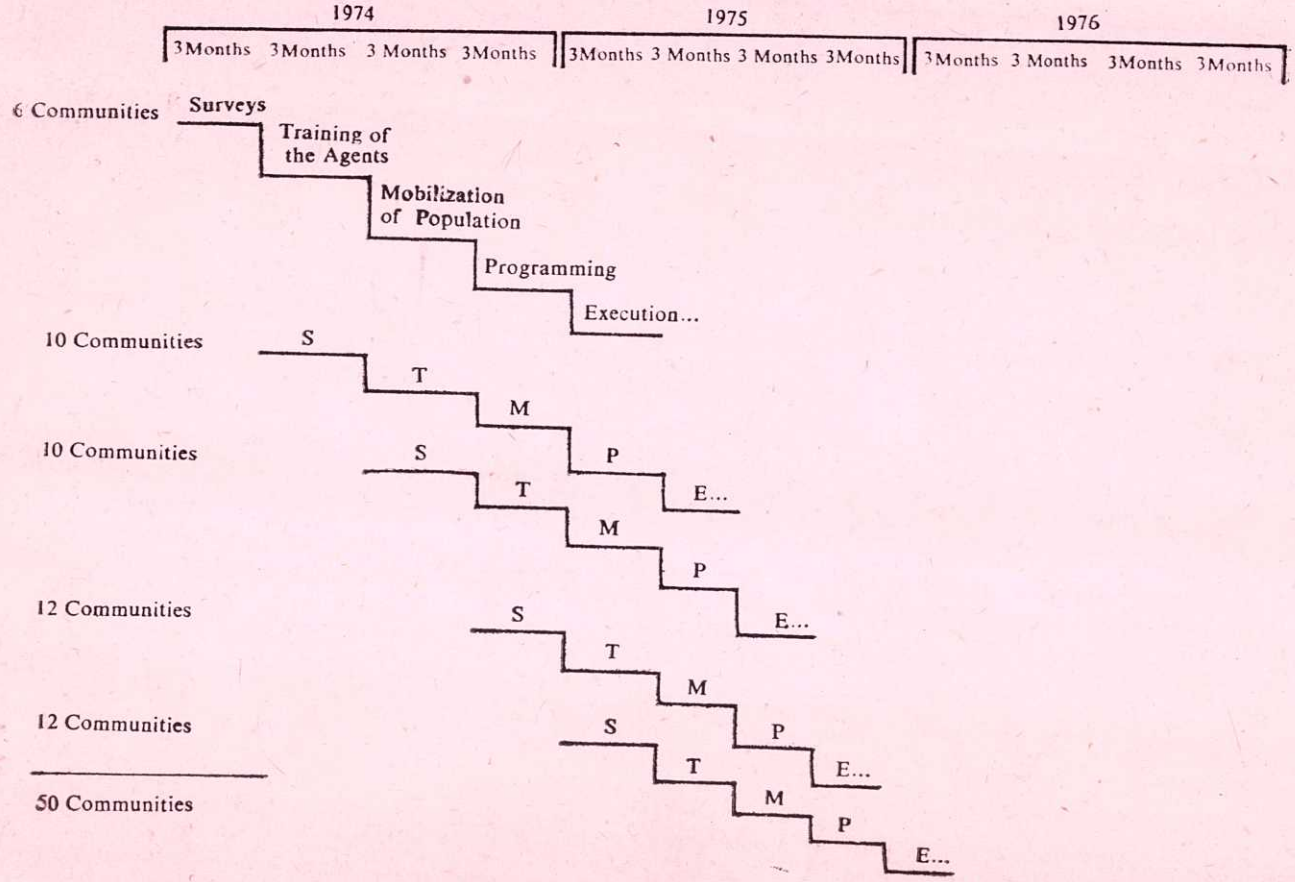
*See Chapter III, para, 8, pages 102-138 of "Animation, participation et Development" by A. Meister—Edition Anthropos, Paris, 1969.

Table 1

GRAPHIC PRESENTATION OF THE VARIOUS STEPS OF THE APPROACH INTRODUCED IN SECTION F



GRAPHS SHOWING THE PHASING OF THE PROJECT'S ACTIVITIES AND THE TELESCOPIC COVERAGE OF THE PROJECT'S AREA



ii) The presence of organized community groups, in the area of intervention, like associations, cooperatives, unions, social centres, youth clubs, traditional and religious confraternities, etc., which should be progressively incited to operate as a system ; a system of which their leaders will be the spokesmen.

iii) The presence, in the area, of agents of the most needed Governmental services (teachers, health assistants, agricultural extensionists) susceptible to acting as a team.

In fact, without a propitious political climate it would be impossible to establish the dialogue between planners and community leaders, and to ensure in the PROJECT's structures, a concrete functional role. On the other hand, if the area of intervention is devoid of community groups and Governmental agents, it would be wrong to launch a participatory approach, lacking the fulcrum on which it should be founded. Participation is indeed the upgrading of an already existing social dynamics and not a means to achieve social dynamics.

b) *The PROJECT's Operators* : In designing a participatory approach it should be clear from the very begining, that its operators have to be persons who are directly and "existentially" involved in the developmental processes affecting the area of intervention. This means that the PROJECT's operators ought only to be : (i) the agents of the local Governmental services; (ii) the leaders of the community groups; and (iii) their respective representatives, at regional and national levels. No external operators, be they national or international, should be called in under pain of annihilating the participatory dimension of the PROJECT, i.e., its "raison d'e'tre". In fact, how could a team, composed of external specialists, be responsible for sensitizing the national planning authorities of the expectations of the people living in the communities of the area, and how could it be able to awake and encourage those people towards the comprehension and the acceptance of the

national developmental finalities? These tasks could be executed successfully only by the same "actors", the same "drivers" of the developmental process.

c) *The Training of the Operators* : Will the operators be able to carry out the tasks referred to in the preceeding paragraph ? And if not, who will prepare and train them ? New approaches need innovative solutions and a situation like the one under consideration, indeed requires a new type of training, a training which should take the form of an endogeneous process of auto-formation. A training relationship should then be instituted between the various operators at all the PROJECT's vertical and horizontal levels. They should become *trainers and trainees* at the same time; reciprocally inverting the roles according to the situations and the phases of the action. (something like what, in the oriental philosophies and in the Western paedagogies of the Neo-Idealism, was the symbiotic integration between teacher and learners).

It will be then the Regional Committee, the institution which will assume the organizational responsibility for calling the meetings, the workshops, the group-discussions which will represent the forum and the floor for the PROJECT's auto-formative dimension.

It may happen, however, that, during certain phases of the action, particularly in the early ones, promotional, training and evaluative methodological procedures and tools have to be defined and elaborated. The PROJECT's operators cannot completely rely on themselves and may be in need of technical orientation and advice. On such occasions the Regional Committee might appeal for assistance of external specialists competent in the given fields of need. These specialists, national or international, should operate on a consultancy basis, and by indirect and periodic technical advice.

d) *The Preparatory Surveys* : Are preparatory surveys needed ? Have the efforts, for example, been made by the teams surveying accurately and extensively the

communities of San Miguel y Morazan, offered a real contribution to the progress of the PROJECT ? I am doubtful. I feel that in the preparatory phase of participatory developmental projects, there is no longer need for very long, laborious, and complex researches, particularly on qualitative aspects of local communities. This is so because by involving the population from the very beginning in the exercise of defining objectives and contents of the action, their choices will indeed be congenial to their situations, and will never hurt their own values. What is needed, at the starting point, is the initiation of an open dialogue between the two different categories of operators, at local level. This dialogue should be conducted through a series of open group discussions among local Governmental agents and local people, as well as by semi-structured group interviews on problem situations. In the course of these the local people should be informed of the goals of the national developmental plans, of its regional programmes, and local potentialities while the agents should acquire knowledge about the socio-geographic configurations of the associated groups, about the community leaders, as well as about felt needs, problems and aspirations of the local population. In addition, the agents by observing the overt behaviour of the local population in problem situations should also be able to identify their main expectations in developmental terms, the latter being the consequences of the tension existing between needs imposed by the situations and wants freely expressed by the people. This exercise should not be considered as a preliminary step but rather as the first participatory phase of the PROJECT.

e) *Need for Evaluating "Participation" In Itself*: In monitoring and evaluating the activities of a participatory local development project it is not only its efficiency and effectiveness, in terms of achieved developmental targets, that should be measured, but also the indices of its participatory dimension. For this purpose specific indicators should be established in advance, thanks to which the rationality, ascendant increase, tension, speed and

durability of the community groups' participation should be detected and assessed in the different phases of the PROJECT life.

These indicators should cover at the same time, the indices of participation of the community groups and those of the Government structure operating in the area. They should be part of a basic evaluative tool, which could be called "Basic Data Sheet for Planning a participatory Local Developmental project." (see model at Annex I of this study).

Some of the above-mentioned indicators are introduced, as examples, on the next two pages.

Some indicators of Participatory Approach

Postulate	*Intrinsic Objective*	*Indicators*
1. Participation of governmental structures to the local developmental projects.	Full involvement of the governmental structures, responsible for socio-economic development at national, regional and local levels, in planning and implementing local projects.	1. Proportion of structures' staff involved in the planning phase of a local project, out of the total number of persons involved. 2. Proportion of structures' staff directly involved in the implementation of a local project out of the total number of persons involved. 3. Proportion of working hours per week given by the staff members of each structure out of the total working hours devoted to the implementation of the local project by all the persons involved in it. 4. Ratio of material and financial contribution of each structure to the total expenditure for the implementation of the local project.

Postulate	*Intrinsic Objective*	*Indicators*
2. Participation of the community	Full involvement of the community in planning and implementing local developmental projects.	5. Proportion of the members of the community groups out of the entire economically active population of the area. 6. Ratio of the groups' participants to the project out of the total community groups. 7. Ratio of the number of actually held group sessions to the total number of sessions planned for preparing the project, for all the groups involved in it. 8. As above, for the implement ation phase of the project. 9. Ratio of the number of additional participation of groups to the project, after the starting of its activities. 10. Ratio of the number of groups which have abandoned the project after the starting of its activities. 11. Final participation rate.

Conclusion

Before closing this case study, I would like to emphasize the fact that our terminology should be modified and made more coherent when we deal with themes inherent in participatory practices. Terms such as target population, inter-disciplinary, support communication, pilot project, et alia, should no longer be used since their logical values are antithetic to the spirit of a participatory context. For example, how can we call the population involved in pursuing the PROJECT's objectives the target population? The community groups, together with the Governmental agents are, in fact, as we have alreaey written, the operators of the PROJECT, and not its passive targets.

CHAPTER VII
ANNEX I

Basic Data Sheet for Planning of Participatory Local Developmental Project

A. General Characteristics

1. Programme :
2. Code :
3. Sector :
4. Type ;
5. Duration :
6. Starting Date :
7. Zone of Impact :
8. Community groups & experts responsible for the integrated action :

B. Zone of Impact

9. Community groups' problems (physical, organizational, socio-economic and cultural); retarding the achievements of the developmental finalities. (Listing in priority the most crucial, urgent and common ones) :
10. Community groups' main developmental expectations :

C. National Development Plans Affecting the Zone of Impact

11. Objectives :
12. Resources :
13. Structures :
14. Agents :

D. Planned Objectives for Local Developmental Project (in operational terms)

15. Long-term :
16. Medium-term :
17. Short-term :

E. **Anticipated Social and Economic Changes (due to the local Project)**

18. Individual level :
19. Community level :
20. Institutional local level :
21. Institutional regional and national levels (feed-back effectiveness) :

F. **Derived Indicators of Change**

22.

Indicators	Measurement tools
(to be elicited from the situations, according to the established methodology)	

G. **Participatory Approach**

23. Methods and techniques of the integrated action at local level :
24. Processess of coordinated work at local level :
25. Supporting national and regional actions :
26. Derived indicators for method and process :

Indicators	Measurement tools

H. **Technical Assistance**

27. Organization providing technical assistance :
28. Fields of specialization when technical assistance is required :
29. Specialists :

I. **Additional Information**

N.B. : The next chapter relates to a collaborative effort done in Jaipur (India) by a team composed of the author, Shri K. B. Rege, Shri R. S. Mathur, Dr. (Mrs) S. K. Agarwal, Shri L. C. Vohra from the Directorate of Adult Education, Dr. M. G. Chaturvedi from NCERT; Dr. R. P. Singh from IARI; Shri R. S. Singh and Shri K. S. Mathur, research associates and with the cooperation of Shri M. C. Bhargava and Shri L. D. Maheshwari of the Farmers' Training Centre, Durgapura, Jaipur.

CHAPTER VIII

AN EXPERIENCE IN CURRICULUM CONSTRUCTION AND MATERIAL PREPARATION FOR A PROBLEM - SOLVING FARMERS' TRAINING & FUNCTIONAL LITERACY PROGRAMME IN JAIPUR DISTRICT (INDIA) 1972

A. The Design

Crucial to the success of a Functional Literacy Programme are its curricula as well as the teaching and learning materials which constitute the medium through which new concepts, contents and methodologies are introduced.

In the India Farmers' Functional Literacy Project these curricula and materials were initially developed around a package of agricultural practices required for the successful implementation of the High Yielding Varieties Programme. However, it was soon found that such materials were not adequate by themselves either in motivating farmers or in sustaining their interest. In fact, adopting these new varieties, farmers encountered some problems and they needed help in finding solutions to them.

Therefore, the functional literacy curricula and their respective didactic metarials had to be *problem-oriented.* They did not deal with all agricultural, scientific and economic topics needed to be known in connection with the High Yielding Varieties and the the Multiple Cropping Programmes but only with those skills, knowledge and working practices needed for neutralizing those physical and socio-cultural factors which were hindering the attainment of agricultural objectives.

A special experimental project of developing curricula and materials around these problem situations and their solutions was

conceived in response to this need. In 1972 the district of Jaipur in the State of Rajasthan was chosen as the base for this experiment.

The Jaipur Project was designed as a five-phases project :

a) *Exploratory phase* : consisting of a Survey to identify the actual problems faced by the farmers in adopting new high yielding varieties of seeds and the new agricultural practices required for them.

b) *Syllabus and Curriculum phase :* consisting primarily of the identification of agricultural remedial measures to be adopted by the farmers for overcoming their problems as indicated by the Survey as well as the arrangement of the syllabus based on information, knowledge and skills necessary to implement these remedial measures.

c) *Learning and Teaching Materials Preparation phase* : consisting of the preparation of first book, posters and charts, teachers' guide and supplementary readers.

d) *Action phase* : consisting of experimental implementation and use of these materials in a limited number of appropriately selected functional literacy centres with the teachers and supervisors adequately trained in the use of the learning and teaching materials.

e) *Evaluation phase* : consisting of assessment of the suitability of this problem-oriented approach and of measurement of the socio-economic and educational impact achieved by it.

Only the first three phases are elaborated in the following pages of this case study, viz : (i) the exploratory one; (ii) the syllabus and curriculum construction; and (iii) the learning and teaching materials preparation.

B. The Exploratory Phase

the first phase consisted of the following steps :

a) Identification through an opinion field-survey of the technical problems faced by the farmers, who were to be the future participants in the functional literacy courses (the word problem should be taken to mean : a situa-

tion in which the attainment of the agricultural target is delayed or prevented due to the lack of a particular experience, knowledge or skill, as well as to the lack of other related factors or necessary conditions).

b) Confrontation of the farmers' perceptions of the problems with the diagnosis given by the agricultural and other specialists.

c) Assessment of the real nature of the problem.

d) Classification of problems by priority and selection of those among them which are crucial and common to the target-group.

e) Recognition of the linguistic patterns : phonological, lexical, grammatical and syntactical—of the daily spoken language of the farmers, by analysing the texts of the group-interviews, which have been recorded on tape during the opinion field-survey.

1. The team in-charge of the Survey

In order to identify the specific problems of the chosen district, it was necessary to constitute a team, consisting of an educationist, an agricultural extensionist, a rural sociologist and a linguist.

a) The team's main responsibilities were those of conducting a quick survey on :

i) the crucial problems faced by the farmers in the H.Y.V. programme;

ii) the remedial measures suggested by the agricultural local specialists;

iii) the farmers' consciousness of the problems and their capacity to take action on the suggested remedial measures.

b) The survey was carried out in districts/ blocks in which functional literacy centres were to be established.

c) The data/information were collected by interviewing, both in groups and individually, agricultural and educational specialists, associated with the High Yielding Variety (H.Y.V.) programme in the locality, such as :

Block Development Officers, Village Level Workers, the staff of the Farmers' Training Centres and the farmers.*

d) This survey was expected to yield :

i) the list of problems in order of priority;

ii) a detailed inventory of the practical measures as proposed by the competent agricultural technicians for the solution of each of the identified problems;

iii) identification of the physical, technical, socio-cultural and linguistic factors (primary only), which accelerate or retard the implementation of these measures.

The team had also to collect statistical data on farmer's population, together with information on their most relevant socio-economic characteristics (much of these data were available in the Block Office).

The tasks of the agricultural extensionist were :

a) The identification of factors which tend to accelerate or retard the adoption of the H.Y. Varieties, e.g. :

i) physical : climate, soil, water, roads;

ii) structural : farm holding, tenancy, management, population to land ratio, land ceiling;

iii) technical : value of the existing working techniques and adequacy of traditional tools;

iv) financial : management, incentive, credit, insurance, interests, other subsidies;

v) economic : patterns of production, consumption, pricing and marketing.

b) A detailed inventory of the agricultural operations to be implemented by the farmers for the solution of each of the identified problem.

The sociologist was primarily concerned with the identification of the socio-psychological and socio-cultural factors (traditional structures, beliefs, habits, attitudes, behaviours) accelerating

*The proforma of the group interview is attached to this study (see Annex No. 1)

or retarding the adoption of the innovative technical processes demanded of the farmers for achieving the objectives of the High Yielding Varieties Programme. His responsibilities also included the collection of data on :

i) Peasants, castes, family characteristics, migration trends, professional mobility, housing facilities, health and hygiene both individual and environmental and diet;

ii) Peasants' educational levels and needs : existing educational, training and extension facilities at the village and district level.

The linguist had to find out the convergences and divergences of the technical language spoken in the problem areas and those of the adults' spoken language. This investigation provided a list of the expressional and structural characteristics of the adults' thinking and language. This helped in developing the right set of criteria to be followed in preparing the language progressions of the problem-oriented materials.

2. Survey procedures

The following steps were taken in conducting the survey :

a) The team began with the elaboration of basic tools, tests, questionnaires, proformas for interviews etc. to be used :

i) in investigating the situation in the area where the programme would be implemented and;

ii) to establish a comprehensive inventory of all the problems encountered by the farmers living and working in the four selected Blocks.

In order to establish this inventory, the agriculturalist and the rural sociologist interviewed officers and specialists at the District and Block Headquarters. Then three villages were chosen at random in which functional literacy centres have been, or will be set up. In these villages, groups and individual farmers were interviewed. After twenty days of field work the team could finalize a list of problems for each Block.

b) Specialists, officers, and farmers sometimes gave different interpretations of the same problem; therefore, the

members of the Survey Team after their own analysis consulted some of them again in order to reach a better definition of the real nature of the problem.

c) The team then selected, among all the identified problems, only those which could be solved by the *educational process*, i.e. by imparting literacy skills and knowledge to the farmers.

d) Among all the problems educationally solvable, listed clockwise, the team again selected those which were common to all the four Blocks.

e) These problems were then arranged in order of priority, in accordance to their cruciality and urgency.

f) The list of the identified common, crucial problems, was presented to the educational and agricultural specialists of the district, for their comments and reactions.

g) Following this, the agricultural specialists and officers in the district were requested to provide detailed list of remedial measures to be carried out by farmers for solving the selected problems, together with the calendar for their adoption.

(h) Finally, the linguist, in cooperation with the Agricultural expert established a list of lexical, grammatical and syntactical Hindi terms as demanded by the technical language of the problem-areas under consideration, to be matched against those used by the adult farmers in their daily spoken tongue. For this purpose he contacted three groups of farmers, each in a different village of Jhotwara Block. The villages were selected by the Block Development Officer. Two local agriculture extensionists accompanied him. Their task was to carry on a discussion with the farmers on some of the topics related to the identified problem-areas and practices to be adopted for their possible solution. These discussions were recorded on tapes and successively processed in the Language Laboratory of the N.C.E.R.T. A list of 630 local agricultural words were established, together with an analytical description of the phonological morphological, and structural chara-

cteristics of the adults' language. These data helped the specialists in materials preparation in formulating appropriate criteria for fixing the frequency and the sequence to be given to the progression of words grammatical forms and syntactical structures in the functional literacy text.

3. How the Survey was conducted

The Survey was undertaken in the four selected Blocks of Jaipur District from 26 July to 21 August 1971. These Blocks were Jhotwara, Amber, Shahapura and Sanganer, i. e. the four Blocks in which the Farmers Functional Literacy Programme would be developed. The data/information on the problems faced by the farmers while cultivating H. Y. V., were collected by interviewing both in groups and individually, farmers involved in H. Y.V. Scheme, village level workers, national demonstration specialists and adult education university professors, agricultural and educational district officers, farmers training centre staff and other officers at the Block and village levels associated with the H.Y.V. programme of Jaipur. Twelve villages were visited.

4. Diagnosis of the situation

Some of the major findings of the interviews are indicated below :

(a) The majority of the illiterate or semi-literate farmers are small land owners. They possess, on an average, five to six acres of land mostly only suitable for dry farming.

(b) They are involved partially in the cultivation of H.Y.V. Preferably they cultivate Mexican wheat, but the majority of them are not inclined to exclusively cultivate hybrid *bajra*. The new variety is always cultivated by them along with local varieties.

(c) They cultivate wheat during *rabi* season and bajra during *kharif* season. There is no precise rotational scheme adopted by them for '*zaid*' or summer crops.

(d) When they cultivate new varieties, their yield per acre is far inferior to the optimum.

(e) The majority of the illiterate small farmers do not seem to have frequent contacts with government services.

(f) The Radio Farm and Home Unit broadcasts technical information, three times a day, totalling 50 minutes; illiterate farmers follow them with interest when they are in the functional literacy centres or *charcha mandals*, but they report that the reception is not very satisfactory. This is presumably due to technical reasons, weak radio station and imperfect radio receivers.

(g) The small owners are aware of their lack of technical knowledge and express their willingness to learn.

(h) They are aware of the limitations caused by their illiteracy and inadequacy in mental calculation particularly for marketing purposes.

(i) They are ready to adopt H.Y.V. if they are assured of the availability of the right inputs on time.

(j) No resistance to H. Y. V. due to socio-cultural factors has been noted in their statements.

(k) Many farmers have expressed the wish to learn standard Hindi.

5. Selection of the problems

All these findings—from the sociological, agricultural, technical and linguistic viewponits—were of a paramount importance for the subsequent phases.

The team next proceeded to the selection and classification of the identified problems, taking into consideration their 'commonness' and 'cruciality.'

(a) *Common primary problems* : Partial resistance to the adoption of H. Y. V. due to socio-cultural factors.

(b) *Crucial common problems* :

—Lack of control measures against white grub, which attacks the roots of new and old varieties of *bajra* in the *kharif* season.

—Total inefficiency of the cooperatves.

—Inappropriate marketing infrastructures, facilities and patterns.

(c) *Less crucial common problems* :

—Soil erosion by wind. Sandiness of soil. Uneven topography. Water salinity and alkalinity. Zinc deficiency. Scarcity of surface water, loss of water because of soil permeability.

—Lack of control measure against wheat, smut and rust.

—Absence of a multiple cropping scheme.

(d) *Non-crucial and uncommon problems* :

—Water pumps' defective utilization, maintenance and repairs.

—Lack of control measures against nematodes.

—Seasonal scarcity of labour.

—Inappropriate seed-storage practices and facilities.

—Monkeys damaging crops.

6. Interpretation of the Survey's results

The problem survey brought out the fact that the middle and big farmers are those who participate actively in the H.Y.V. programme and who are better able to reach the targets set by Government for bringing areas under the H.Y.V. cultivation. The small farmers are relatively less directly involved, and it is they who constitute the large section of the functional literacy audience. Their training needs would obviously be different from those of the other farmers. This distinction is not only due to their illiteracy, but also to their different level of involvement in the adoption of H. Y. V. cultivation. For this reason the Functional Literacy target for Jaipur District was formulated in the following way : to increase the level of involvement of the small illiterate farmers in the adoption of H. Y. V. by solving the problems which have caused their partial resistance to it.

C. Syllabus and Curriculum Construction Phase

Only after the exploratory phase has been completed, could the functional literacy syllabus and curriculum be elaborated. The major steps involved in this phase have been.

(a) Drawing up an inventory of the remedial measures

required for the solution of the problems. These measures were suggested by local or regional agricultural specialists, in consultation, when and if needed with institutes of research.

(b) Sequential arrangement of the remedial measures required for the solution of the problems, according to the order in which they have to be implemented : one specific sequence for each problem.

(c) Juxtaposition of the different sequences, according to the calendar of adoption of the measures included in them.

(d) Interweaving of the sequences in a unified chart in which the various remedial measures have been distributed according to the chronological order of their adoption and fitted into the agricultural calendar. The outcome has been a list of innovative working tasks to be added to those traditionally executed by the farmers. This list has been discussed with and accepted by them before being finally adopted as the syllabus of the functional literacy programme.

(e) Break-up of the planned working tasks, in their primary working operations, if and when required by their complexity.

(f) Inventory of skills, knowledge and socio-economic information needed by the farmers for implementing each one of the working tasks or operations in a conscious and autonomous manner.

(g) Organization of a '*corpus*' of skills, knowledge and socio-economic information needed for the implementation of each working task or operation, into separate instructional units.

The entire set of instrcutional units required for the solution of the crucial and common problems faced by the farmers participating in the programme has constituted the functional literacy curriculum. The curriculum, therefore, is not a compedium of generic topics selected according to the judgement of professional educators or paedagogists, but an itinerary for a journey towards the solution of practical problems and achievement of definite targets. A curriculum not knowledge-oriented but wealth-oriented, if we use the word wealth to convey the

meaning of Buckminister Fuller has given to it, namely '*energy compounded with intellectual know-how.*'

1. **Reformulation of socio-technical problems and measures**

The elaboration of the syllabus for a functional literacy programme had to be based on : (i) identified problems in the determined area; (ii) identified agricultural remedial measures to be implemented by the farmers. In other words, the preparation of a syllabus consisted in a 'translation' of socio-economic and agro-technical measures into paedagogical messages.

The problems identified and diagnosed in the first phase of programme preparation (Exploratory Phase) needed to be reformulated in terms of positive remedial operations and successively transformed into 'contents' and 'units' of the functional literacy syllabus.

2. **Identified remedial measures**

Broadly formulated, the remedial measures were focussed on the solution of the following problems :

(a) Improvement of the soil and watering conditions.

(b) Detection and control of white grub.

(c) Multiple cropping scheme : different crops to be grown as third crops, their choice, timing and method.

(d) Revitalization of the cooperatives, by making the farmers aware of the real nature of a cooperative, of their advantages as members of the cooperative, and by instilling in them the consciousness of their rights and duties as cooperators.

Thereafter a list of the detailed agricultural remedial measures to be implemented by the farmers of Jaipur District during the operational calendar for overcoming the above mentioned problems was drawn up with the help of the agricultural experts and was later verified in the field with the help of the officials of the Farmers Training Centre at Durgapura, Jaipur.

3. **Sequential organization of syllabus**

The syllabus was founded on the following premises :

a) All the contents included in the syllabus should lead, in a comprehensive way, to the achievement of the main targets of the programme itself : to increase the level

of involvement in H.Y.V. Programme of small illiterate farmers, to help them to solve their problems, to promote the adoption of high yielding varieties.

b) The core of each unit should be centred around an agricultural problem, task or operation.

c) The aim of the syllabus is not only knowledge or information delivery about working operations, but also the promotion of understanding of social and natural phenomena, development of scientific spirit, attitudinal changes, strengthening of motivation and readiness for action.

d) The syllabus should initiate the learner into a logical mathematical and scientific thinking, an assimilation of new concepts and inter-relationships and reading and writing skills, as a 'take-off' towards a permanent autonomous process of learning, information and communication, using the written word.

e) There should be a close inter-relation between the agricultural operations and learning content in the functional literacy programme. In other words, the farming and the didactic calendar need to be interwoven, since disparity and distance in time among learning and operational practices will affect farmers' and farmings promotion.

The main curricular units of the first stage are : soil test; farmyard manure; first ploughing; selection of hybrid *bajra* seeds, their varieties and seed rates; basal application of fertilizers; seed treatment ; soil treatment ; detection of white grub ; control of white grub ; sowing in lines and strip cropping ; *katra* control; second application of chemical fertilizers; hoeing; weeding; irrigation; plant protection measures and second irrigation; harvesting; stubble mulching and threshing ; marketing processes ; storage, marketing processes; transportation; marketing processes; inputs: marketing processes ; pricing ; marketing processes ; outputs.

The list of the 25 basic 'units' and their time of adoption is shown by the following table :

TABLE No. 1 — **Curricular Basic Units**

Time	*Unit No.*	*Title*
April	1	How to test the soil
	2	How are the first ploughing and the planking to be made
	3	Which, among the hybrid seed varieties, are the most suitable for your field
May	4	How to build a shelter belt for breaking the winds and overcoming the negative effects of erosion
	5	How to introduce green manure crop cultivation (mung)
	6	Working techniques for making contour bunding
June	7	How to apply farmyard manure
	8	How to detect white grub
July	9	How the second deep ploughing and the planking have to be made and how to apply for the first time N, P_2O_5, K_2O and in what doses
	10	How to control white grub
	11	How to sow hybrid seeds
	12	How to apply for a second time, N, P_2O_5, K_2O, and in what doses
August	13	How to irrigate after the second application of chemical fertilisers
	14	How to thin
	15	How to control weeds
	16	How to apply, for the third time, N, P_2O_5, K_2O, and in what doses
September	17	How to irrigate after second application of chemical fertilisers
	18	How to utilize mulches to protect the field
	19	How to market your produce
October	20	How to market your produce (transportation)
	21	How to market your produce (inputs costs)

	22	How to market your produce (pricing)
	23	How to market your produce (outs)
Units to be implemented successively	24	How to establish an integrated calendar of adoption including all the new practices and distributing them by months and weeks
	25	How to prepare a farm plan

In other words, this means that, unlike traditional literacy programme where the syllabus usually follows the school year pattern—there should be, in a programme, such as the problem-oriented one for Jaipur District a close coordination between the farming calendar and the educational calendar (see Tables No. 2 and No. 3 on the following pages). This would certainly represent an important improvement, both from the point of view of conceptualisation and efficiency of an integrated approach to farming problems and learning experiences.

The synchronisation of the didactic calendar with the timing of farming practices would permit a close link between learning and practical work. Theory and practice should go together: reading and writing skills should go together with the practical implementation of operations the learners read about in the written educational messages. Such a reciprocal correlation is meant to support and strengthen both the aspects of the programme.

4. Curriculum construction

Each syllabus unit has been then developed and articulated in six components. They are :

(*a*) *Functional components* : Sentences, arithmetical expressions, drawing and working plans conveying description analysis and demonstration of a given working operation.

(*b*) *Rational components :* Formulae, arithmetical expressions, drawings, pictures and sentences conveying mathematical and scientific concepts, linked with agricultural improvements and necessary practices.

TABLE No. 2 — **Integrated Calendar : Traditional and New Practices (Hybrid Bajra)**

Months	Agricultural seasons	Traditional practices	New practices for :		
			Soil Conservation	3rd Corp	white grub control
April	End of Rabi		Soil test	—	
May	Starting of Kharif	First Ploughing Planting Provisions	Shelter belt Manuring Contour bunding	Mung	Detection
June	DRY	Application of Farmyard manure	Green manuring Turning over		Detection
July	Monsoon R A I N	Second ploughing with turning Plough and Planking First application of N P_2 O_5 K_2 O Seed treatment Sowing in lines behind the plough			1st control operations
August		Second application of N P_2 O_5 K_2 O Irrigation, thinning and weed control			2nd control operations
September	Spikes emergence	Third application of N P_2 O_5 K_2 O Irrigation			3rd control operations
October	End of Kharif	Marketing processes	Stubble mulching		
November December		Marketing processes		Potatoes	

TABLE No. 3

Proposed Juxtaposition of the Agricultural and the Didactic Calendars

I Agricultural						II Didactic		
Months	Agricultural Seasons	Traditional practices	New Practices for :			Units	Duration	Adoption Time : From—to
			soil conservation	3rd crop	white grub control			
April	End of Rabi		Soil test			1	15 days	15/4-30/4
May	Starting of Kharif	First ploughing Planting ~~Pservicio~~ Provisions	Shelter belt Manuring Contour bunding	Mung		2-3-4 5-6-7-8	7/8 working days per unit	1/5/-30/6
June	DRY	Application of Farmyard manure	Green manuring Turning over		Detection			
July	Monsoon R A I N	Second Ploughing with turning Plough and planking First application of $N\ P_2O_5\ K_2O$ Seed treatment Sowing in lines behind the plough			Detection 1st control operations	9-10-11	as above	1/7-31/7
August		Second application of $N\ P_2O_5 K_2O$ Irrigation thinning and weed control			2nd control operations	12-13-14	as above	1/8-31/8
September	Spikes emergence	Third application of $N\ P_2O_5\ K_2O$ Irrigation	Stubble mulching		3rd control operations	15-16-17	as above	1/9 30/9
October	End of Kharif	Marketing Processes		Potatoes		18-19-20	as above	1/9-30/9
November December		Marketing Processes				21-22-23 24-25 consolidation workshop	as above	1/10-31/12

(c) *Socio-economic components* : Sentences, texts, arithmetical expressions, diagrams and graphs conveying information about the social and economic nature and effects of the development (purposes and achievements) in the area.

d) *Written communications components* : Exercises for the development of reading, writing and written calculation skills, all connected with the above-mentioned 'contents.'

e) *Didactic components* : Ways of transferring to the farmers the contents conveyed by each of the instructional units, utilizing in an effective manner the above mentioned materials.

f) *Evaluative components* : Tests and other tools conceived for measuring the degree of acquisition of the contents of the 'unit', achieved by the famers, individually and in group.

The functional, rational, socio-economic and written communications components were organized within each unit on the basis of the principle of integration, they all were born from and converged to the working operation, in such a way that a close linkage between theory and practice was established.

The following Table No. 4 shows the specific instructional contents of the first ten curricular units. Their horizontal development, as already mentioned, is inspired by the principle of integration, their vertical development by the principle of synchrony with the agricultural calendar; the diagonal development by the principle of sequential progression.

D. Learning and Teaching Materials

The transfer to the farmers of the selected contents has been achieved *de facto* by the mediation of three communication systems : (i) the spoken language; (ii) the visual non-verbal language i.e. static or cinematic images, illustrations, graphs, drawings, etc. and (iii) the written verbal language.

1. The written communication materials

The written communication system was considered as the only one which could open to the farmers the way for a continuous improvement of their conditions of work. In preparing literacy material the following processes have been adopted :

a) Simple written, verbal and numerical 'progressions' have been prepared, clearly conveying the content of each instructional unit. The structures of these progressions have been carefully designed; they respected the logical patterns of the farmers thinking and of their language as identified in the exploratory phase. They were composed of those innovative linguistic terms required by the technicality of an advanced agricultural language. These progressions have also been accompanied by visual non-verbal supports such as posters, maps, working plans, diagrams and graphs. Altogether they constituted the Functional Literacy Materials, which will be utilized for the implementation of the programme. To prepare these materials an inter-disciplinary team was required, composed of an agriculturalist, an educationist, a paedagogist, a linguist and an illustrator.

b) The consumers of a functional literacy programme being illiterate farmers, it is clear that, in the beginning, they will be unable to decode the messages conveyed by the materials. For this reason the contents of the first instructional units have been transferred to them by the instructors : orally or with the help of demonstrations. The instructors have also introduced to the farmers short written phrases and written arithmetical expressions, taken from the already established, verbal and numerical progressions. Simultaneously, these phrases and arithmetical expressions have been analysed into their basic units : words, syllables, letters, numbers or digits as the case may be. These basic units, once fixed in the minds of the learners, have been utilized for building new words and phrases, or new numbers and arithmetical expressions. This two-way process, progressively devoloped, has led the farmers towards the mastery of the reading, writing and written calculation mechanisms, and enabled them, eventually to directly utilize the materials.

c) A collection of worksheet and hand-out sheets containing progressive exercises for the development of reading, writing and calculation skills, has been prepared by the paedagogist. Each instructional unit has been accompanied by a set of exercises, strictly related to the verbal and arithmetical expressions of the unit.

TABLE 4

Jaipur's Farmers Training and Functional Literacy Curriculum India—1972
Summary Table Showing the Content of the First Ten Instructional Units

Functional Components		Rational Components		Socio-Economic & Socio-Cultural Components		Written Communication		
Instructional Unit	Working Operations	Mathematical concepts	Scientific concepts	Socio-economic	Socio-Cultural	Linguistic New alphabetic letter	Matra	Arithmetical operations
1	Soil Testing	—Proportions (reductions of soil samples to prepare the final one for testing)	Soil composition (basic elements)	Relationship between supply of nutrients and proper growth of the crop	Existence of non-magic invisible living being	4	2	—Numbers upto 12 —place value of digits —use of Signs
2	Farmyard manuring	—Linear metric measurements	Principles of soil fertility	Increased yield due to better soil fertility	Relationship between traditional & metric measurements	5	1	—Numbers upto 100 —Addition & subtraction
3	First deep ploughing	—Conception of depth	Humidity evaporation	Labour as input	Animal work pros & cons	4	1	—Numbers above 100 upto 1000 —Idea of thousand —Addition & subtraction
4	Selective hybrid Bajra seed	—Weights -Areas	Mendel's laws	Cost of new hybrid seeds of bajra & better yield benefit	Taste & flour durability. Eating habits & their relativity	6	2	—Numbers beyond 100 —Addition & subtraction —Tables of multiplications
5	Basal application of fertilizers	—Average	Microlife of the soil	Gains & losses in relation to whether or not to use chemical fertilizer	Reasons for adopting the innovative process of using chemical for fertilizers	5	2	—Idea of millions —Decimal conversions —Multiplications
6	Seed treatment	—Role of 3	Local plant disease	Treatment of seed as prevention of plant diseases (economic benefits)	How to overcome taboos against rodents-control measures	6	2	—Multiplications & divisions
7	Soil treatment	—Percentages --Fractions	Effects of pesticides on the soil	As above for the soil	Reasons for adopting innovative practice of using pesticides on the soil	5	—	—Divisions —Fractions
8	Detection of white grub	—Progression	Life cycle of white grub and other insects	The principles & benefits of co-operation	Community efforts	4	1	—Arithmetical progressions
9	Control of white grub by application of phorate	—Dilution	Poisons' action in the body	How to get credits for buying phorate	Safety measures & local antidoses against poison	3	1	—Problems related to farming
10	Sowing in lines and strip cropping	—Correlation between spaces	Multiple cropping	Saving of seeds and fertilizers due to sowing in line	Value of non-cereal ailment	3	1	—Problems related to famine

2. The mentorial material

A teachers' Guide has also been prepared by the paedagogist. It contains : a clarification of the objective of each instructional unit, introduction to its contents, suggestions about the most effective method of presentation, orientation for an appropriate utilization of the exercise sheets and of the supporting aids, and finally, indications of the estimated time requirements.

3. The evaluation material

Tests, questionnaries, interview schedules, observation guides, etc., have been prepared by the paedagogist, in consultation with the psychologist, in order to evaluate the validity of the contents and the adequacy of the materials of each instructional unit, as reflected in the rate of learning. This has helped in remedying deficiencies noticed. First tests and questionnaries have already been prepared.

E. Conclusion

We have to emphasize, finally, that in preparing and planning this programme, the team of the Indian Adult Education Department gave a practical example of an 'ecological approach' to the elaboration of educational activities. The 'milieux' and the environmental elements become, in fact, more important than abstract, theoretical and general assumptions.

The need is now being increasingly recognised for such a basic modification in planning and organising adult education and adult literacy programmes specifically moduled to various contexts and situations.

TOOLS

I. Group Interviews about General Problems

District.....

Block.....

Date of interview.....

A. General information about crops and characteristics of respondents

Major H.Y.V. Crops in the Block (season-wise) :

—Kharif.....
—Rabi.....
—Jaid..... .....

Respondents :

—District Officers : (give names, qualifications and tasks of each member)

—Block Officers : (give names, qualifications and tasks of each member)

—Farmers : (give name of the village, general composition of group and main characteristics of its members : age range, size of land holding and level of literacy)

B. Check list of the themes to be covered during the interview

1. Health Problems

(i) Epidemic diseases due to or affecting the farmer's health

2. Physical Problems

(i) Unfavourable climatic factors
—High, low humidity
—High, low temperature

(ii) Inappropriate nature of the soil
—Acid, alkaline, sandy, permeable etc.
—Deficiency of potash, calcium, sodium, zinc, etc.
—Soil erosion, by wind or by water

(iii) Inappropriate provision of water
—Insufficient, excessive
—Scarce surface or ground water
—Saline, calcareous, etc.
—Lack of drainage system
—Lack of canal system
—Obstruction of canals

(iv) Uneven topography of the surface

(v) Natural enemies
—Insects
—Birds
—Rodents
—Monkeys

3. Technical Problems

(i) Faulty technical practices
—In weed control
—In land preparation
—In treating the seeds
—In sowing—advanced, delayed, wrong
—In applying fertilizers—defective, excessive, wrong
—In water—over, under
—In ploughing—advanced, delayed
—In harvesting
—In threshing

(ii) In effectiveness of mechanical labour
—Absence of tractors, pumps, or other mechanical tools
—Lack of maintenance, defective maintenance
—Non-availability of spare parts
—Absence of mechanical workshops
—Farmers' lack of skill in mechanical skills

(iii) Lack of awareness about pests attacking the new crop

(iv) Lack of consciousness about the benefit of written extension advice for a more productive working performance

4. Phyto-Pathological Problems

(i) Smut, rust and other epidemic diseases attacking grains, leaves, blossoms, plants, roots

5. **Socio-Economic Problems**

(i) Inadequate man/land unit ratio

(ii) Scarcity of labour
—because of migration
—because of small family
—because of absence of landless labourers

(iii) Obsolete working patterns

(iv) Insufficiency of the cooperative societies

6. **Socio-Cultural Problems**

(i) Negative attitude towards new seeds
—because of the taste
—because of their stature
—because of the colour
—because of their susceptibility
—because of their flour cannot produce durable bread

(ii) Negative attitude towards new fertilizers, new insecticides and new pesticides
—because of the nature of their components
—because they are not available at the right time
—because they alter the nature of the soil
—because they alter the taste of the grains
—because they require complicated mixing, dosing and applying operations

(iii) Negative attitude towards the complexity and exigency of the innovations in cultivating practices required by the new variety

(iv) Negative attitude towards modifications in the traditional farming
—In the calendar of the cultural cycle
—In the measurement system (bighas/hectare)
—In the weighing system

(v) Negative attitude towards associative work

(vi) Negative attitude towards multiple cropping

7. **Logistic Problems**

(i) Delayed or unphased provision of
—Seeds
—Fertilizers

—Pesticides
—Insecticides

(ii) Lack of adequate two-way communication between Farmers Training Centre, Extension Service, Radio Farm Unit and farmers
—because of scarcity of personnel
—difficulty in gathering the farmers group
—lack of proper contact with individual farmers
—lack or misuse of the radio receivers

8. Finance Assistance Problems

(i) Inefficiency or inadequacy of the credit system from the banks
—because credits are given only to few farmers
—because of its strict mode of repayment
—because of its high interests
—because given on very short term basis
—because insufficient in terms of total amount
—because of delays
—because credits are blocked (farmers not refunding the preceding one in time)

(ii) Inefficiency or inadequacy of the credit system from cooperatives
—because of its strict mode of repayment
—because given on very short term basis
—because insufficient in terms of total amount

(iii) Negative effects of the transactions done by money lenders
—because of their very high progressive interests

(iv) Absence of Crop Insurance Schemes

(v) Non-availability of seed, fertilizers and agricultural implements and insecticides at government controlled prices

9. Commercial and Economic Problems

(i) Inappropriate patterns of storing
(ii) Inappropriate patterns of packing
(iii) Inappropriate patterns of weighing
(iv) Inappropriate patterns of selection and grading
(v) Inappropriate patterns of pricing

(vi) Inappropriate patterns of marketing
(vii) Inappropriate patterns of distribution
(viii) Inappropriate patterns of transporation
(ix) Inexistent road communication facilities
(x) Lack of other infrastructures
(xi) Inadequacy of the farmers mental accounting processes for marketing purposes
(xii) Interference of the mediators in the selling process
(xiii) Ignorance of the basic economic inter-relationships as e.g., yield per hectare, cost and profit per rupee invested, and inputs-outputs-benefit.

CHAPTER IX

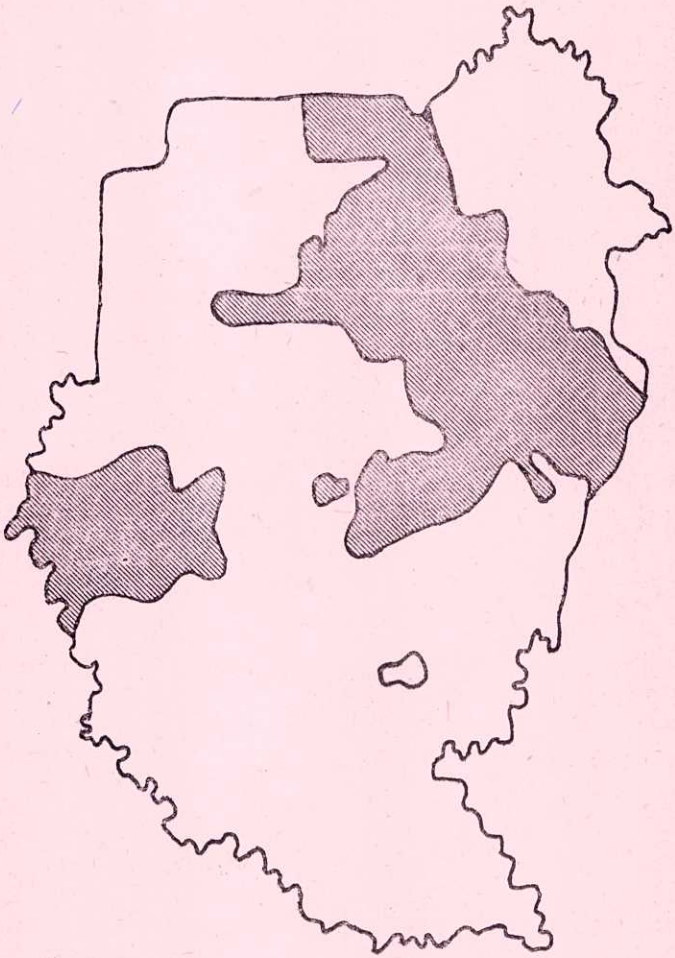
PROPOSAL FOR A NATIONAL NON FORMAL EDUCATION SCHEME (SUDAN)—1973

A. The educational needs of the non-urban areas of Sudan

At present there is in Sudan, a concentration of educational provisions in the urban areas of the three capitals and of Port Sudan. (see Maps 1 and 2 on the following pages). In ten years from now, according to the prospects of the National Planning Commission, there will be at school, the double of the actual school-age population, i.e., circa two million pupils, who will represent only 50 per cent of the entire scholastic population of the country.

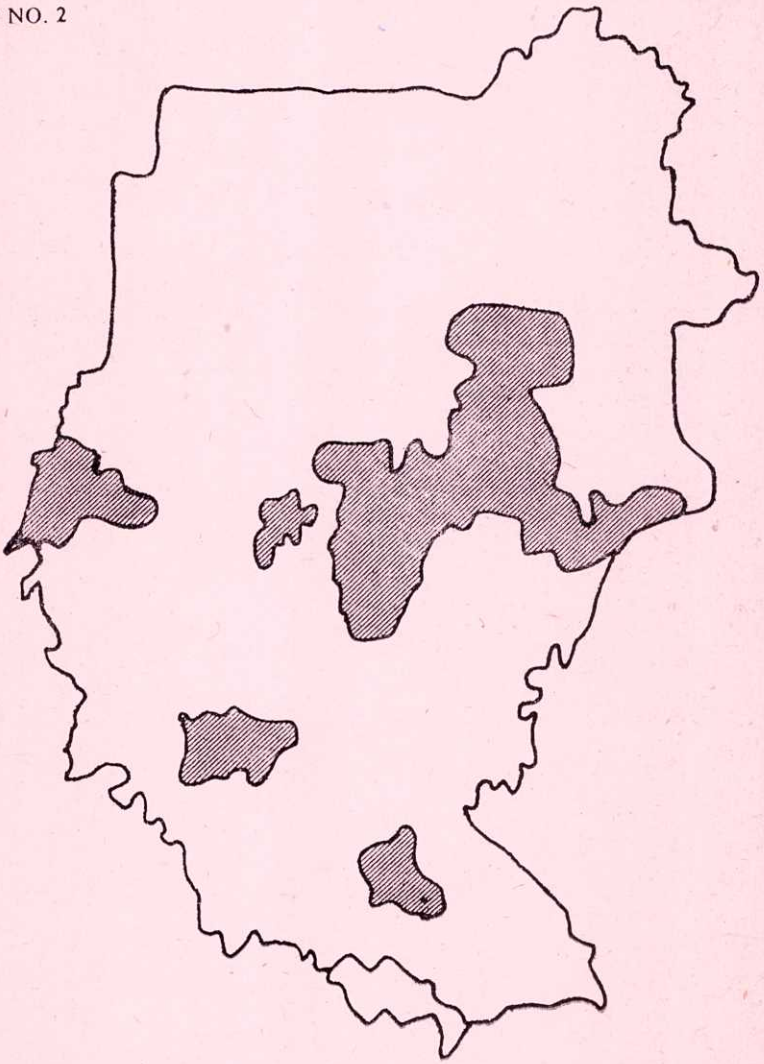
Due to the accelerated rate of growth of the Sudanese school population in rural areas it can be hypothesized that the regions at present deprived of educational facilities (see Map 3 on the following pages), will suffer tomorrow from the same problem of today. Therefore, non formal education activities will be surely required in the future by the non urban regions of Sudan. Moreover, there will be also a need for non formal education provisions in the urban areas having a high density of educational facilities mainly for their primary school leavers without access to secondary school and for newly urbanized illiterate adolescents, as well as for the existing illiterate adult population of both sexes. Their educational needs, however, could be fulfilled by extra-mural activities of the schools which might operate in their benefit during the evening developing a new type of educational extension work. I will not deal however, in this programme design with the non formal education activities to be established in the urban areas, confining my attention only to non formal education programmes for groups of population living in the non-urban areas of Sudan.

MAP NO. 1



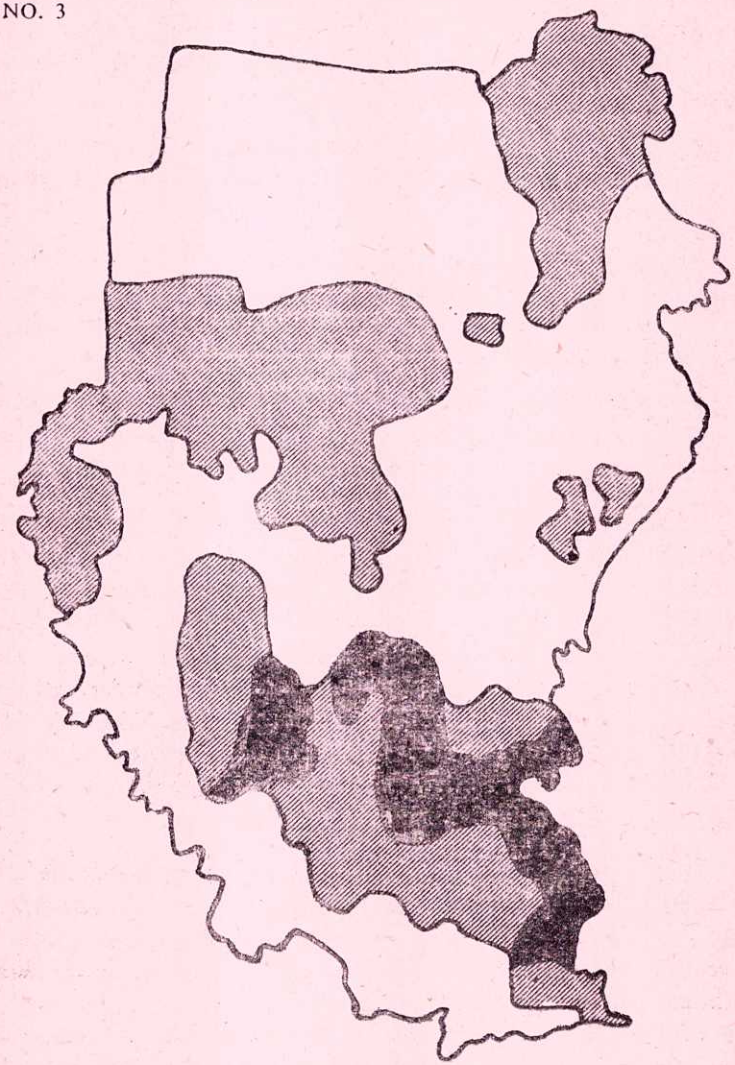
Zones with 50% (±) of Population in Schools

MAP NO. 2



More than 5% of total population
(in % of total Area)

MAP NO. 3



80% of School age population not attending the Schools

90% of girls not attending the Schools

B. The Transformational Homogeneous zones of Sudan and their Educational Needs

Taking into consideration the fact that educational wants and needs are commensurated to the rhythms of change of a given human community, we will try to identify within the non-urban Sudanese universe, which is mainly agricultural and pastoral, three different types of zones, according to the speed of their developmental thrusts :

a) zones where a change is determined by endogenous rhythms, i.e., marginal zones with an economy of subsistence;

b) zones of settling up, where traditional farming and herding practices are slowly being transformed and made more effective through the actions undertaken by regular governmental programmes;

c) zones where an accelerated transformation is being attempted, thanks to concentrated governmental economic efforts and planned developmental schemes.

Non formal education activities are generally carried out in order to achieve the following objectives : (i) upgrading of working skills, (ii) mastery of the physical environment, and (iii) fulfilment of the human personality. We will attempt therefore to show which configuration these main objectives may take in relation to the above sketched Sudanese transformational typology. It should be clear that while general objectives may be foreseen from now in an indicative way, the specific ones can be identified only by an opinion survey conducted in the same contexts and with the participation of the population.

In the *first zones*, the educational needs of the adults are, at present, fulfilled by their traditional system of education (education as a social vital stream) but additional non formal educational activities may pursue the objective of providing them with information about the civic, political, social and economic life of their country, utilizing both face to face processes and mass media channels, so that they may open their horizon, cut their isolation and accelerate the dynamics of their national integration.

In the *second zones*, the adult active population should be in need of educational activities having as objective that of impart-

Part Four
Designs

IX. Proposal for a National Non Formal Education Scheme : Sudan –1973

X. The Southern Sudan Water Supply Project and its Non Formal Education Implications—1973

XI. The Lower Khalis (Iraq) Resettlement Project and its Non Formal Education Implications—1974

XII. A Curriculum Scheme for Cooperative Education and Functional Literacy—Afghanistan—1974

ing instruction and training on improved agricultural and pastoral techniques, on rural crafts, and, if possible and when needed, on basic literacy so that they could raise and upgrade their skills, increase their crop production, achieve a better commercialization of their produces and reach a more human level of income.

In the *third zones*, the objective of a non formal education project addressed to the adult active population should be that of training in new agronomic techniques, in mechanized agriculture, in irrigation system, in agro-industrial works, in cooperative organization, in maintenance and repair of tractors and pumps, etc. This training ought to be integrated with the teaching of the literacy skills and the use of written communication messages.

In all three zones, men, women, adolescent and children should need to know better what to do, and how, in attempting to solve their health, nutritional, and hygienic problems so that they can control their physical environment and not suffer for it.

In all three zones, the children should certainly need basic essential knowledge comprising literacy, numeracy, initiation to scientific discovery, basic comprehension of their environmental natural processes, as well as of their national entity, and this eventually should be given to them by the formal system of education.

C. Identification of Priorities

In establishing the criteria to be followed in priority, when planning non formal education activities for the non-urban Sudanese universe, the first task is that of recognising among the three types of identified zones, the ones where the educational needs of the population are more urgent and crucial.

If we accept the above-mentioned postulate which claims adequacy between educational needs and economic development, we may suggest that the groups of population to be chosen in priority as beneficiaries of a non formal education programme ought to be those living in one of the zones of the third type where governmental socio-economic developmental schemes are being carried out. We wish to emphasise here the point that non formal education activities cannot be successful in a vacuum, that it is impossible to teach people about higher productive techniques in absence of measures and incentives, technical and

financial, for producing more; that it is impossible to ask poverty stricken people to overcome poverty, by learning more, if the causes of poverty are not attacked from the other sides also.

A non formal educational programme, to be really successful, ought to be a part of an overall rural development project; it ought to be funded by a small percentage (3% or 4%) of the entire budget of the project, and managed by the same manager of the project. It ought to be implemented by the project's personnel responsible for social work in cooperation with the local leaders, and local governmental agents, while an interdisciplinary team composed of specialists from Ministries of Education, Agriculture, Health, Social Affairs and Labour, ought to offer to them *in the preliminary phase*, orientation, training, curricula, teaching materials and education tools; and *in the implementation phase* constant paedagogical and technical assistance.

D. Sudanese Developmental Projects open to non formal education programmes

The first project to be taken into consideration is that of the IBRD/Sudan Government—Agricultural Rehabilitation Project for the Southern Regions : Equatoria, Bar-el-Ghazal and Upper Nile, which comprises the following components, some of which could be considered suitable for non formal education activities :

a) *Small holder Development Schemes*

i) Tobacco and food crop development at Lao, Magwe, Kajo-Kaji and possibly Mundri.

ii) Coffee and food crop development at Yei, Acholi and Maridi.

iii) Oil seeds and food crop development at Yirol and Rumbek.

iv) Cotton rehabilitation and food crop development at Nzara, Maridi and Tambura.

b) *Rehabilitation of large-scale farming schemes*

i) Mechanized grain production principally for seed and to meet the needs of farmers.

ii) Mechanized rice production at Aweil.

iii) Coffee, tea and palm oil production at Iwatoka, Maridi, Obbo and Nzara.

iv) Vegetable and fruit production (for canning factory)

at Wau. The central ministry responsible for irrigation has already initiated some work to expand the irrigated area in the vicinity of the factory.

c) *Livestock development schemes*

i) Range livestock marketing development at strategic locations of the Region.
ii) Rehabilitation and expansion of veterinary services.
iii) Improvement of hides and skin processing.
iv) Pilot ranches at Wau, Juba and Kapecta.
v) Dairy farm development at major population centres.
vi) Poultry development at major population centres.
vii) Fisheries development along the Nile.

A non-formal education programme developed in one of the above-mentioned schemes will surely have an exemplary value for successive analogous experiences to be possibly carried out in the others. In addition it should be considered that, by operating within the framework of a developmental project, which offers jobs requesting only eight hours of work per day, a non formal education programme may be sure to obtain the participation of a large number of learners. In situations of subsistence economy, on the contrary, the long working day, mainly for the women, would impede them from participating in the educational activities. This does not exclude, however, the necessity of establishing even in the developmental zones, a delivery system, the calendar and timing of which would have to be based on the choices of the participant population.

E. Who has to be involved in the planning and in the implementation phases?

The persons to be involved in the *planning phase* fall into three main groups :

a) *at national level* : those who will influence and formulate the overall socio-economic policy in executive and administrative sectors of the country, and those who will be responsible for the higher direction of the programme;

b) *at provincial level :* the Commissioner, the Assistant Commissioner, and the Province Council members;

c) *at local level* : the Social Developmental Committee

members; the Rural Block and village Council leaders; the manager and the senior staff of the developmental project.

The persons to be involved in the *implementation phase* are the following :

a) *at provincial level :* representatives of the various competent ministries, who have to ensure the techinal guidance of the non formal education programme;

b) *at local level* : those who have to act as mediators of the educational process : local leaders, "*samads*", governmental agents such as teachers, health assistants, agricultural extensionists, etc., the project's social workers and the participating population.

F. Conclusion

It should be clear, after these considerations, that in spite of the fact that such type of programme carries in its title the word : *education*, it cannot be only an exclusive task of the Ministry of Education, because of the polyvalent nature of its training components and because of the close link between the socio-economic developmental trends of the zone of intervention and the learning and training needs of the local population. Therefore, a non formal education programme ought to be developed with the participation of all ministries operating in a developmental zone. The integration of their different functions, which is impossible to achieve by utilizing the existing forms of cooperation should be sought by adopting innovative solutions. Technicians and professionals from different ministeries, for example, could be detatched for a certain period from their normal responsibilities and transferred to the Non Formal Education Projects' where a common working task ought to be assigned to all of them : *the implementation of the objectives of the non formal education programme.*

CHAPTER X

THE SOUTHERN SUDAN WATER SUPPLY PROJECTS AND ITS NON FORMAL EDUCATION IMPLICATIONS—1973

A. The Context

The Water Project under consideration is being carried out in the Equatorial belt of Sudan (see Map 1 on the following page), which is divided into three provinces : Bar-el-Ghazal, Equatoria and Upper Nile where about one-quarter of the country's total population (15.8 million in 1970) live. The Southern region presents the following characteristics :

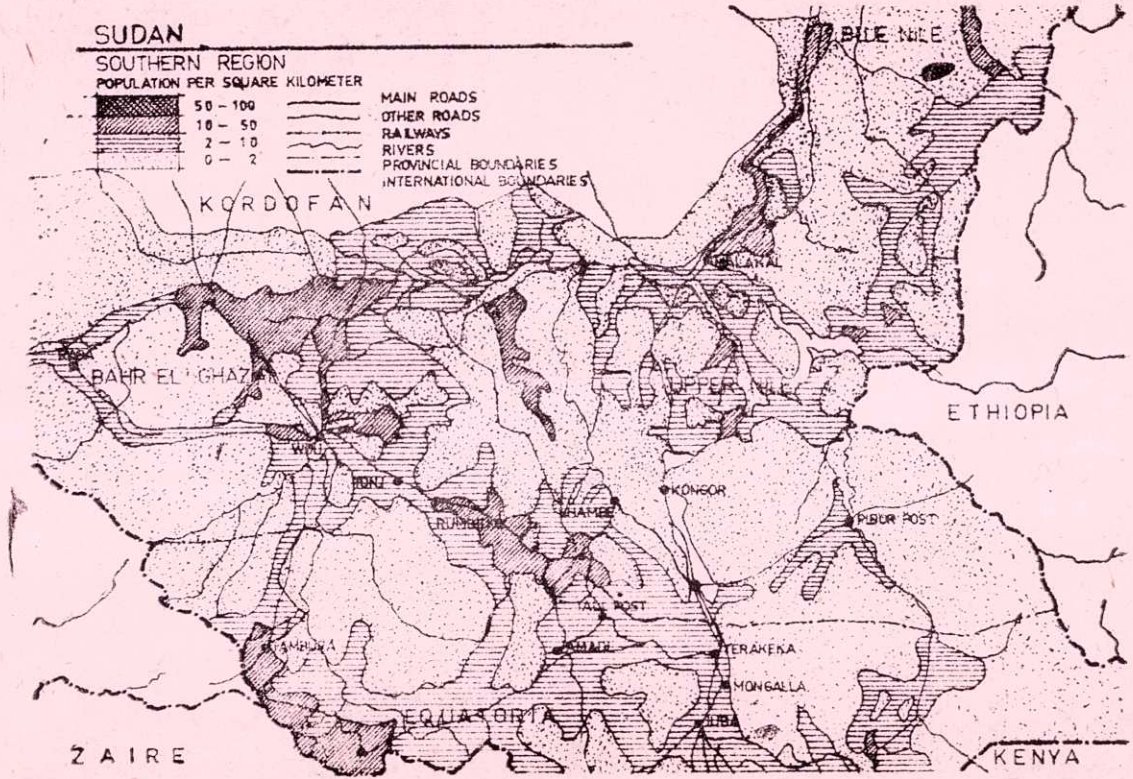
a) *Geoanthropic*

Ethnically, the people of the South have been classified in three main groups : the Nilotes, the Nilo-Hamites and the Sudanese, and they vary in their physical appearance, customs and languages. There are no less than twelve major languages in the South, but Arabic or pidgin Arabic is the most common. The people of these three groups are predominantly pagan.

b) *Economic*

Subsistence economy dominates Southern Sudan's life, farming, herding and fishing are the main economic activities of the majority of the population but their practices are not functional. Crop farmers cultivate small plots exclusively with hand tools, often in a shifting or rotational cultivation without using any modern inputs. In the pastoral areas the basis of subsistence is milk from traditional herds but many pastoralists are also accustomed to cultivation—mainly of sorghum—for supplementary food supply. This cultivation has recently been greatly expanded with the result that some members of family groups are now sedentary cultivators whereas others manage livestock in the traditional manner.

MAP No. 1


SUDAN
SOUTHERN REGION
POPULATION PER SQUARE KILOMETER
50 – 100
10 – 50
2 – 10
0 – 2
MAIN ROADS
OTHER ROADS
RAILWAYS
RIVERS
PROVINCIAL BOUNDARIES
INTERNATIONAL BOUNDARIES
BLUE NILE
KORDOFAN
BAHR EL GHAZAL
UPPER NILE
ETHIOPIA
KONGOR
PIBOR POST
TERAKEKA
MONGALLA
EQUATORIA
ZAIRE
KENYA

Road, railways, and river communications are insufficient, and marketing facilities are under the capacity for providing basic services.

In the southern region large areas appear suitable for agricultural development. During the past disturbances, most cultivated plots reverted to bushland and development schemes under implementation were abandoned. But now tea, coffee, rice, horticultural products and vegetables have been grown again successfully and their production can be expanded, if physical, financial and human resources are made available. The output of many crops will need to increase to meet local consumption requirements but there are possibilities for import substitution and, in some cases, for export. There is also a potential for livestock development as well as for increasing the output of forestry products and of fresh fish production.

c) *Health*

There is an incidence of the following diseases, listed according to their high priority of prevalence, social importance and intensity : malaria, diarroheal diseases, especially in infancy and childhood, schistostomiasis, measles, pertussis and trypanosomiasis.

d) *Educational*

About 8.9 per cent of the seven to twelve age group are enrolled in 153 schools. This is the level which was most seriously affected by the past disturbances during which about 120 schools were destroyed or very badly damaged. The schools which remain are overcrowded with very large classes in the first two grades. The standard class size is 50. The average class size in the first two years is 56 and 51.5 but in many cases the classes are well over 60. With the exception of Equatoria Province, separate schools are still provided for boys and girls. The adult illiteracy rate in the rural areas is estimated at 95 per cent.

B. The Water Supply Project—the water situation

a) *Kyala*

Four thousand inhabitants; there is in the village a small ephemeral spring with insufficient water. A good

source is 30 miles away from which water is distributed by a tanker. There is underground water ten miles from the village. Boreholes are needed with a provision of hand pumps.

b) *Kapotia*

It is located near the river Sanjarta. There are three shallow wells near the river for men and animals together. They are unsanitary. The wells have to be used by the animals while the men should receive piped water with the help of mechanic pumps.

c) *Lablua*

There are 300 returnees, 2,000 more are expected. There is a borehole with a pump which is out of order. A new borehole is needed.

C. **The work of the women in relation to water**

The structured questionnaire answered by eleven women of a rural community near Wau may enlighten this point. (See Table No. 2).

Table No. 2 The work of the women in relation to the water in a rural community of the Southern Sudan

a) How far does she have to walk to fetch water ?

1 km	2 km	3 km	4 km	More
7	1	1	2	—

b) How often during the day does she have to fetch water ?

Once	Twice	Thrice	More
—	2	5	4

c) What is the average amount of water 'safeehass' that she fetches at a time ?

other

2	4	6	8	10	12	More
7	—	3	1	—	—	—

d) Does the husband ever fetch water ?

Yes 2 No 9

e) If she fetches the wood from the field how far does she have to walk to fetch it ?

1 km	3 km	5 km	7 km	9 km
6	3	1	—	—

other

f) Does the husband ever fetch fuel ?

Always	Often	Sometimes	Never
—	1	9	1

D. The Prospects of the Water Supply Scheme

By the implementation of the Water Supply Scheme, it is expected that the existing wells will be improved, new ones dug, water points managed, hand, wind and mechanic pumps installed spring protected, reservoirs constructed and pipelines laid to bring water to the village centres.

All these actions have the following common final objectives :

a) To bring the source of drinking water near to the village so that the work load of the women can be reduced and some of the time actually used for it dedicated to the physical and cognitive development of their children.

b) To establish a safe hygienic environment.

c) Better health and nutritional conditions.

It should be made clear that if all these objectives are to be attained it will depend primarily on the full participation of the population in the scheme, and on their behavioural changes. The insertion within the scheme of a non formal education dimension may serve this scope.

E. The Educational Implications

We can assume that the expectations for this project are not only that the wells will be constructed and protected and the pumps installed, but also that the life of the families and com-

munities involved will take place in a hygienic and sanitary environment in the near future; that their health and nutritional conditions will be improved; that the diarrhoeal syndromes, causes of high infant mortality, will gradually decrease; and that the regular supply of water will help the community members by decreasing the time necessary for their primary tasks, thus allowing them to attend to and participate in more productive community affairs.

If these are the ultimate objectives of the project, we consider fundamental the organized and active participation of the communities in the execution of all the stages of its programmes, and also—if necessary—in the reformulation of its modes.

To obtain this participation it is indispensable to carry out not only an intensive community development programme, but also a programme of non formal education in order to offer to the communities those types of information and specific knowledge which they require to better understand the aims of the programme and to cooperate in its realization.

How could the local communities actively participate in the construction of latrines and the establishment of sanitary protection for the wells without having a clear awareness of the interrelationship between the disposal of excreta and refuse and the contamination of water, between polluted water and the endemic diseases of the area, between the bacteria in the water and the infant mortality caused by gastro-enteritis? How could they benefit from the planned physical installations without understanding the techniques necessary to avoid water losses by infiltration or evaporation? How could they use a bacteriological solution safely without knowing all the necessary precautions?

To fill the gap between that which the communities already know and understand, and that which they need to know in order to obtain maximum use from what the project provide, will have to be the specific objectives of a non formal education programme carried out within the framework of the project itself.

F. Summary outline list of the specific contents of a non formal education programme integrated into the water supply project

a) Informational elements (incentives for awareness of the problem).

i) **In relation to the environment**

—Importance of healthy environment : less contamination, fewer diseases, reduction in expenses for medical treatment, increase in labour productivity.

—How and *why* to construct well-situated latrines, lavatories and baths; how and *why* to protect the wells : how and *why* to build sanitary systems.

ii) **In relation to health and hygiene**

—How to prevent, detect and control enteric and the skin infections which are endemic in the area; how to control flies and other disease vectors.

—How to use insecticides and precautions required when handling them.

—How and *why* unhygienic septic customs must be avoided.

—Contamination of water channels by human and animal excreta, animal diseases and possible human contagion through water.

—How to purify the water of polluted wells.

iii) **In relation to nutrition**

—How to purify drinking water. How the water which has been used in the household can be used for cultivation purposes in the family garden. How to avoid the synergistic action between infections and malnutrition etc.

iv) **In relation to mechanics**

—How a hand-pump should be used, maintained and repaired. How to utilize wind energy for pumping water etc.

b) Elements relating to knowledge and skills. (Knowledge and skills required for understanding and mastering of the phenomena of the environment, which are prerequisities for the adoption of new habits).

i) Concepts of the micro-biological life of water and soil. Inter-relationship between bacteria and enteric diseases. Inter-relationship between infection and malnutrition. Nutrient content of foods. Low

protein and calorie consumption and retardation of growth, etc.

ii) Scientific and mathematical principles arising from the subject : water and its utilization, such as volume, capacity, weight, measures, filtration, evaporation flow, etc.

It is hoped that these elements of information and knowledge, although very specific and focussed on the subject in question (water), may orient all the participants towards new and more general intellectual interests and may open for some of them new areas of study and of reflection.

G. How knowledge and skills should be organized within the curricula and transferred to the participants

The identified contents should be organized in four main curricula areas, according to the various groups to whom they are destined. One given area will include all the contents specifically related to children's educational needs, another area to those related to the adolescents' educational expectations, a third will comprise those inherent to the mothers problems and a fourth to those meant for the working population of both sexes.

These four areas will therefore cover all the specific themes of knowledge and all the specific skills which are expected to be required by each different group of learners while a fifth area will be devoted to the basic knowledge, common to all different community groups. This common core of knowledge will be elaborated in different formats according to the psychological development of the participants.

The specific contents as well as the general core of knowledge should be conveyed by graphic and audio-visual material, prepared in accordance with the learning characteristics of the groups to which they will be addressed. These materials will be composed in non-sequential and non-graded *learning modules*, which may permit to prepare diversifled curricula, with the view to making them commensurate to the various specific situations experienced in each village, and tailor-made for each community.

The technical local studies on water supply, public health and epidemiology already conducted by Bloss, 1967, Fergusson, 1972, and Giacometti, 1974, in the region, plus the detailed study on educational conditions of the Southern region prepared in 1973 by the Ministry of Education, will offer, from now the pre-

liminary data needed for the elaboration of the non formal education programme. Another useful source material for the programme could be the recent survey of the rural women workload in Juba, Nyala, Wau and Malakal, sponsored by the Ministry of Culture.

H. The Cadres

A non formal education section should be established under the direct responsibility of the Director of the scheme; it should be composed of experts in various disciplines such as an educationist specialised in curricula and materials construction for non formal education, an environmental health expert, a socio-anthropologist, a linguist and a technical engineer. They will be responsible for preparing the designs of the programme, for elaborating curricula and materials as well as for selecting and training the socio-educational mediators, who will operate at local level. The cross-disciplinary team may be episodically assisted by international consultants.

A small percentage of the already allocated budget could be devoted either to the payment of the professional team as well as to the other expenses inherent in the non formal education programme.

I. The non formal education mediators at local level

Mediators of the non formal education process at local level, should be the regular teachers, the health assistants, the agricultural extensionists and the liverstock agents, other governmental employees operating in the zone, as well as the local leaders. In order to get the latter involved from the beginning, establishment of a small committee in each village, headed by a chief or some such person, should be considered as a very important preliminary step.

The mediators of the non formal education process, both governmental employees and natural leaders should receive some kind of reward for their overtime engagements, which does not always mean additional salary or indemnities.

The governmental employees and the leaders of the villages should all plan together their common educational action and by it ensure the closest possible involvment of the community in the activities of the water supply scheme and vice-versa.

J. The delivery system

The delivery system of the programme should be designed in each context together with the participant population. It will of course, be different from village to village, according to the wishes and the working obligations of the participants. It would be based on a face to face action : in the field, in a clinic, in a school, on a workshop floor; on demonstration, on group discussions, on home visits and it could be supported by using audio-visual materials or radio broadcasts.

K. Exemplary Value

If the future will show that a non formal education programme linked with a Water Supply Scheme is technically feasible and that it could be realized without encountering big difficulties, from the beginning of the engineering and drilling operations, it will surely represent a model for analogous experiences in other countries which have foreseen, but to my knowledge, not yet developed, educational programmes centred on *water*.

CHAPTER XI

THE LOWER KHALIS (IRAQ) RESETTLEMENT PROJECT AND ITS NON FORMAL EDUCATION IMPLICATIONS—1974

A. Its Area and Population

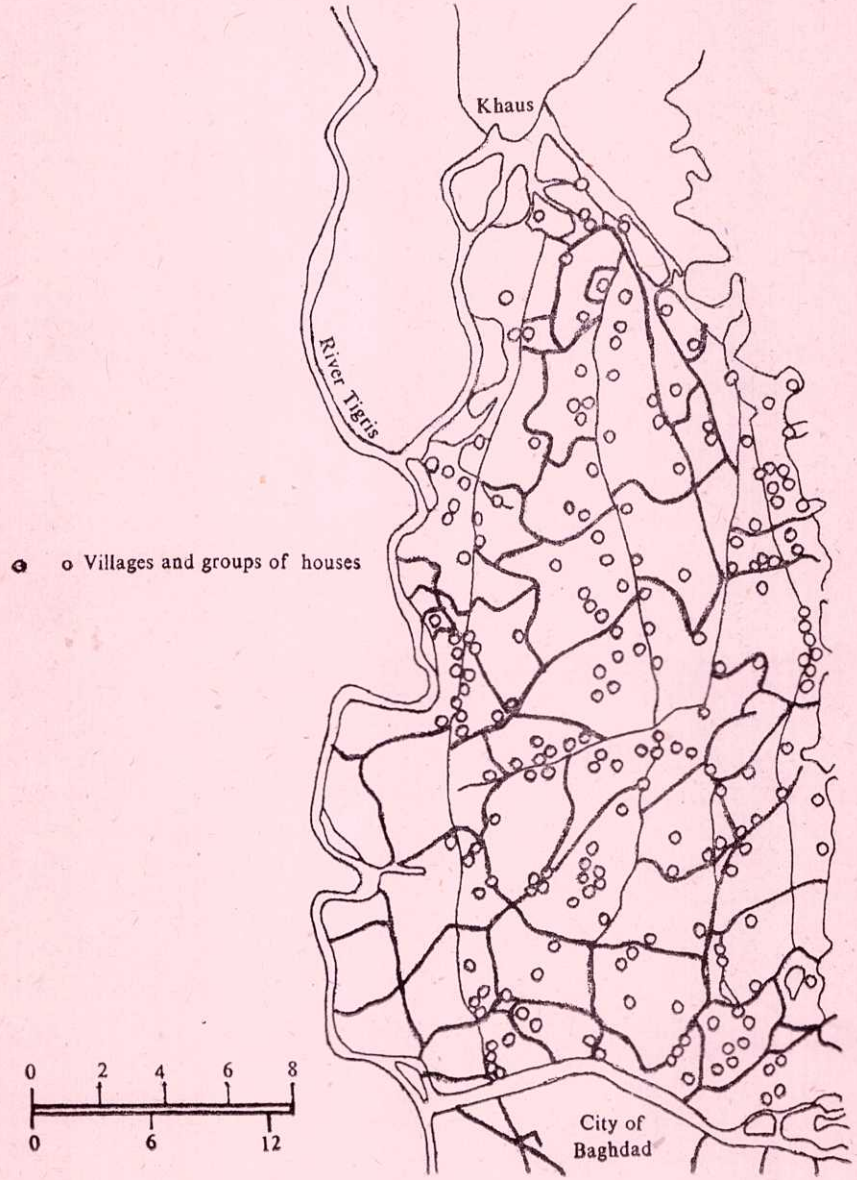
The Lower Khalis Project occupies an area of ninety-three thousand hectares of land between Diyala and the Tigris River, from Khalis town to North Baghdad. It covers the districts of Baghdad and Diyala. The population is about 70,000 of which 50,000 are farmers. There are 60 kms. between the Northern and Southern bordering planes. There are two main surfaced roads, while the villages are served by two rural paths.

The majority of the population consists of small scale farmers, some of whom—when water fails—work as bricklayers in Baghdad. They are scattered throughout the area in small round villages (see Map on the following page). The only sizeable settlements are Khan Bani Saad, Husseniyah, and, to a lesser extent, Hibbib and Beshidiyah. The average household is eight persons.

By extrapolating some of the estimates of the Diyala Governorate population, prepared by the U. N. Demographer Mr. Kozo Veda, in January 1972, we can presume that the various age groups will represent the following indicative percentage of the total population.

— 4	— 15,000	— 21%
5— 9	— 10,000	— 15%
10—14	— 11,000	— 16%
15—19	— 7,000	— 10%
20—24	— 5,600	— 8%
25—29	— 2,800	— 9%
30—54	— 10,000	— 15%
55—...	— 7,700	— 11%
	70,000	100%

Lower Khalis Population Settlements



The man-woman ratio within each age group is almost constant in the region of 50:50.

B. Actual Agricultural Pattern

During the winter—barley in salty soil and wheat in better soil; during the summer—sesame and, on a limited scale, cotton. The raising of sheep, goats and a few cows is an integral part of farming. The marketing of all crops is in the hands of private business, except for a small quantity of vegetables which are sold directly by the farmers in Baghdad.

C. Existing Governmental Services

(a) *Agriculture* : one extension centre in Bayuba with tractors; one experimental crop station in Baseiyah; one poultry farm at Maradiyah; one secondary agricultural school at Khalis.

(b) *Health* : Bayuba has a general hospital with 300 beds, out-patients and isolation wards; Khalis has a local hospital with 43 beds, Khan Bani Lad, Ahbib and Bashidiyah have dispensaries with doctors, but no beds, and throughout the area other larger settlements have doctors and nurses.

(c) *Education* : a similar pattern is seen in the field of education : 28 primary schools and 4 secondary Schools in the project area, though the distances (5-10 kms) involved and the quality of the provisions, as well as the fact that the teacher does not live in the community, result in low educational achievements.

D. Local Structures

The village has always been and will always be the focal point for the distribution of land, and the organization of the farming system. In such rural areas the *mugtah* (headman) provides the major institutional framework for all agricultural and social activities.

Cooperative societies provide short and medium-term credit through the Agricultural Bank. One branch of the Iraqi Women's Union is operating a centre in the rural zone; literacy classes are also available; they still follow the traditional approach, while in the town of Bayuba. new types of courses are being run for 1,700 adult women and about 2,000 adult men.

E. **Main Problems Encountered at Present by the Population of the Zone**

Health and nutrition : malnutrition in children, prevalent in the age group 7 to 24 months—girls are more affected than boys; children's diarrhea, prevalent among children not breast-fed because of the unhygienic handling of milk at home; marasmus, prevalent among 13 to 18 month-old children; trachoma, bilharzia and intestinal worms.

(b) *Education* : almost 55 per cent of the school-age population between 7 and 12 are out of school; the majority of adolescents are illiterate; 86 per cent of the adult men and 90 per cent of the adult women are illiterate.

(c) *Economics* : shortage of irrigation water and facilities, soil salinity; drainage insufficiency; inadequate water distribution; restricted crop intensity; poor yields.

(d) *Labour* : lack of sufficient skills in advanced agriculture and persistence of use of poor traditional methods of cultivation; limited capacity in planning and implementing agricultural cycles; overload of work for the women who take care of the children, the house, the farm and cooking, and the transportation of the water.

F. **Resettlement Patterns**

A resettlement of the actual rural population in blocks of 320 *donoms* (four donoms = approximately 1 hectare) for ten families is envisaged. Each block or village will have approximately 100 inhabitants who will be organized within a local cooperative. Each ten villages will constitute a unit, served by a service cooperative and by an agricultural extension centre respectively, managed by a supervisor and an extensionist. The resettlement operations will start in early 1975 in Rashidiyah, and they are expected to be completed in the whole area by 1978. It has been decided that a survey on the socio-economic conditions of the population' covering all the families of the area, will be started soon as a preliminary measure to the resettlement. They include also socio-educational aspects. The survey will be conducted by thirty social welfare workers under the supervision of the local studies section of the Lower Khalis Project.

The service cooperatives which will be installed in each one of the thirty-two village units should represent the focal points for supplying agricultural inputs, machinery hiring and collecting produce for marketing.

G. Developmental Objectives

The arable land is expected to increase within fifteen years by approximately 200 per cent to 300 per cent. New crops will be cultivated, such as, beans, linseed, maize, groundnuts, citrus, vegetables and fodder. These will provide sufficient family labour for the entire year. The workload of the women will be reduced. Further economic activities will be open to the active population of the zone, viz. the employment in the supporting industries for tranformation of agricultural produce.

H. Rationale for the Non Formal Education Programme

The economic objectives fixed by the Government for the area will bring prosperity to it, but the attainment of these objectives will depend on the upgraded performance of the labour force, on the participation of the population in the developmental thrust, on improved forms of management and real cooperative work based on literate membership. We must emphasise, at the same time, that the success of an operation consisting in a deployment of farmers and in their resettlement in zones made more productive by infrastructural work, will depend on their understanding and cooperation, and that these latter have to be achieved through socio-educational action. Education, therefore, is one of the first and more relevant inputs urgently required at the preliminary stage of the project.

Basic education, literacy, vocational education, technical education, health education, nutritional education; such education should be imparted through new channels, due to the scarcity in the zone of institutionalized scholastic structures. This education will represent a benefit for the development of the human resources and a guarantee for the success of the project's overall objectives.

Taking into consideration the fact that most of the new riverine agricultural developmental projects in Iraq will follow the Lower Khalis pattern, we can also hypothesize that one of the

indirect effects of a non formal education programme in Khalis will be that of motivating other projects towards the adoption of analogous patterns.

I. Possible Structures which Could Implement Non Formal Education Programmes in the area

All the various institutions, governmental and non governmental, composing the wide spectrum of the Iraqi social institutions could share the responsibility of this endeavour, by implementing new coordinated formal education programmes; they are: schools, health centres, youth centres, General Union for Farmers Associations, social centres, General Federation of Iraqi Women Branches, General Union for Trade and Cultural Establishments, rural refresher courses, etc. These organizations and programmes, sponsored by various Ministries, and their future educational activities in the zone should be coordinated and managed by inter-ministerial and interdisciplinary councils at provincial and district levels, with the participation of the social and natural leaders of the local communities.

The role of the Ministry of Education should be that of preparing the curricula, organizing the training and monitoring the field operations.

J. Future Foreseeable Responsibilities of the Ministry of Education

a) To take part in the preliminary survey of the population of the area, participating in its design so that appropriate questions on educational status and needs can be inscribed in the sample questionnaire. This would help in clarifying the literacy and educational patterns of the population and, consequently, in building adequate strategies for educational development.

b) To reactivate and strengthen the inter-ministerial committee, one of its main tasks would be, at this time, to attempt to plan educational provisions adequate for the potential employment opportunities.

c) To initiate socio-educational and motivational programmes with the help of radio-broadcasts, in order to make the people conscious of transformational trends and willing to participate in the development effort.

d) To organize interdisciplinary teams of work for the elaboration of specific curricula and material centred on the problems encountered by the people in attaining the developmental objectives.

e) To be ready when the resettlement phases are complete, to establish an educational centre in each village unit, managed by an educational mediator, who will work in close cooperation with the extensionist and with the project's supervisor. For the execution of this task, the mediator should utilize those among the following didactic media, which are more congenial to the zone : radio, television, demonstration sessions, family counselling, face to face teaching, etc. He should establish his calendar of work in conformity with the wants and availability of its target population.

K. Educational Expectations and Needs of the Participating Population

The following statements on the educational expectations and needs of the people of the area should be considered as first hypoheses and be confirmed by field participatory surveys.

a) The children who are not attending school want and need the basic knowledge of which they have been deprived.

b) The adolescents want and need training : some of them in agricultural working techniques, or in rural crafts and small industry, others, who wish to earn a better living without abandoning the rural environment, in extra-territorial industrial work. (The training of the latter escapes from the frame of the project under consideration).

c) The adult farmers want and need information and assistance so that their resettlement could be less traumatic and be successful: they want and need also skills and knowledge on new agricultural techniques, thanks to which they could increase the yield of their traditional crops, introduce new varieties, improve the commercialization of their produce, and reach a more human level of income.

d) Mothers and fathers want and need to know what to do so that their children may live a life free from disease, hunger and fear.

e) All of them need information about the civic, political, economic and social life of their country.

L. **The Contents of the Non Formal Educational Curricula**

With relation to what has been said before, four differentiated curricula could be proposed. While their specific contents ought to be identified in the same contexts where the project will be carried out and with the participation of the population, their general main contents are indicated in the following table.

General Content of the Non Formal Education Curriculum

I *Out-of-School Children*	II *Youth*
Basic skills in functional writing, reading and calculation.	The same contents suggested for the children, presented, however, in didactic sequences which have to be elaborated according to their psychological and logical development.
Initiation to the scientific processes by searching and discovering.	IN ADDITION :
Basic comprehension of the natural processes pertaining to their environment.	Skills, scientific knowledge and economic information as required to achieve increased productivity of their agricultural and non-agricultural activities. Emphasis will be given to the themes which might induce favourable attitudes towards enterpreneurial capacities and cooperative efforts.
Consolidation of the literacy and numeracy skills by their continuative functional utilization.	

III *Mothers*	IV *Farmers*
Instruction on health, sanitation, hygiene and nutrition practices, together with their respective scientific knowledge. The specific contents will be chosen in close relation to what they need for solving the most urgent and crucial existential problems they are encountering "here and now".	Skills, scientific knowledge and economic information on innovative agricultural and non-agricultural working techniques. This knowledge and skills will be organized in different branches having diversified sequences according to the different crops.

If written communication is needed, wanted and possible, and if following-up is feasible, the above-mentioned curricular contents will be integrated with literacy.

Common Core

Religious Khoranic teaching; civics; history; national and local cultural aspects; Governmental structures and functions; citizen's rights and duties; taxation and public expenditure; principles, objectives and functions of the cooperatives.

M. Conclusion

Rural transformation does not occur without a programme of capital investment as well as investment in human resources. Roads and canals are necessary but so are highly capable people for their construction, as well as highly motivated people, able to participate actively in the developmental process which is meant mainly for their benefit. The efficiency of the majority of the people in the project's area is, at present, low. What to do ? Part of the answer is undoubtedly, education. It diffuses slowly but it is the only basis on which development should be built, and without which it cannot succeed.

CHAPTER XII

A CURRICULUM SCHEME FOR COOPERATIVE EDUCATION AND FUNCTIONAL LITERACY AFGHANISTAN—1974

A. General Framework

The participatory population to the Cooperative Education and Functional Literacy Project is composed of illiterate and semi-literate adult farmers in the age range 18 to 45 years, living in rural communities, members or potential members, of agricultural multi-purpose cooperatives.

The objectives of the Project are the following ones :

(a) *General* : Raising the literacy and education levels of rural adult groups to enhance their motivation towards social and economic development and to facilitate their active participation in cooperative societies.

Specific. To provide the farmers with those specific skills and knowledge required by the cooperative work, as well as to induce them towards those attitudes which may ensure a productive and successful cooperative life.

B. The Phases of the Teaching Learning Process

The entire teaching/learning process will consist of three phases, the type and the duration of each one of them is given by the table on the following page.

Table No. 1

Phase I Motivational	*Phase II Functional Literacy*			*Continuing education*
	I Stage	*Bridging Stage*	*II Stage*	
3 mths : Mizan-, Aqrab, Quas 1355	6 mths, from Jade to Jauza	4 mths. Saratan, Assad, Sunbula Mizan	8 mths from Aqrab 1356 to Jauza	From the end of the Functional Literacy Second Stage to infinity

1. **The I Phase—Motivational (3 months)**

The main contents of the motivational phase as well as its materials and modalities are presented in a concise way, here-below.

Contents	*Materials*	*Modalities*
Need for a better income (individual/community/national levels) and ways for increasing it. Better production and productivity. Cooperative approach. How cooperatives may help. What is a cooperative ? Services, advantages, obligations. Coincidence between traditional and institutionalized forms of cooperatives. Religious teaching on Cooperative—*The Basic Agreement Between a Member and the Cooperative :* Analytic examination of its components.	Radio-scripts. Lists of topics for leaders and animators; pictorial posters; other visual and graphic non-verbal materials.	Radio broadcasts. cassette-talks, socio-educational meetings; group discussions, religious and political speeches. Leadership action.

2. **The II Phase —Functional Literacy (3 stages 18 months)**

Information about the time distribution of the Functional Literacy teaching/learning phase, as well as about the sequential

organization of the main cores of its curriculum are given here-below :

(a) **Distribution of time for each stage**

(i) *1 Stage*

6 months=26 weeks
5 working days/week = 130 days
2 working hours/day = 260 hours

In *teaching/learning terms :* the above-mentioned lapse of time will be articulated in 26 weekly sequences: 20 graded and 6 repetitive, covering 130 daily sessions. The word : *sequence* should be taken to mean the curricular unit containing the corpus of knowledge and skills which will be transferred to the farmers during five working days, and the word : *session* the curricular contents which will be transferred to them, each working day, during the two hours of the literacy course.

(ii) **Bridging Stage**

4 months of non-structured educational provisions.

(iii)

8 months = 34 weeks
5 working day/week = 170 days
2 working hours/day= 340 hours

The total number of hours of the structured Functional Literacy Course (i. e. the I and II Stage without the Bridging period) will amount to : *600.* In teaching/learning terms, the above mentioned lapse of time will be articulated in 34 weekly sequences covering 170 daily sessions.

3. **The III Phase—Continuing Education**

This III Phase will go from the end of the Functional Literacy Second Stage to the infinity. It should be constituted by a continuous series of community based socio-educational activities aiming at :

(a) providing the neo-literate members of the cooperatives with graded, periodical, efficient, and intensive reading materials, so that they could constantly be informed on, and motivated towards new practices leading to the progressive fulfilment of their existential aspirations.

(b) creating a literacy environment which could offer to the neo-literates a wealth of written communication opportunities.

(c) stimulating the community's white collars towards the involvement of the neo-literates in jobs and tasks correspondent to the higher level of instruction attained by them.

C. The Functional Literacy Curriculum

The Functional Literacy curriculm is constituted by a series of teaching/learning sequences comprising various instructional components. Their vertical distribution has been established by taking into account the chronology of the cooperatives' cycle. The core-component of each sequence is the one dealing with the functional tasks to be carried out by the members of a cooperative.

1. The core-component of the curriculum and its themes

The following Tables Nos. 2, 3 and 4, one for each Functional Literacy Stage, will show the core contentual *themes* which will be covered during each respective stage as well as in the case of the I and II stages, their breakdown in *sub-themes* : one for each weekly sequence :

Table No. 2 List of the Curricular Core-Contentual Themes and Sub-Themes for the I Functional Literacy Stage

*Themes**	*Sub-Themes***
I The First Tasks of a Cooperative member	1) How to fill the application form and to pay the admission fee. 2) How to buy a share. 3) How to write calculations linked with cooperative operations and transactions. 4) How to keep records of purchases *and payments.* How to make receipts. 5) *Repetition.*
II The Functions of the Cooperative	How to participate actively in : 6) Meetings, 7) Voting, 8) Electing, 9) Decision-making, 10) Group activities, 11) *Problem* solving action. 12) *Repetition.*

*Themes**	*Sub-Themes***
III The Credit Facilities and Processes	13) How to assess credit needs. 14) How to establish simple budgetary plans. 15) How to apply for a loan. 16) How to utilize a loan. 17) How to calculate interest. 18) *How to repay* a loan. 19) *Repetition.*
IV The inputs	How to apply and buy from Cooperatives : 20) Seeds, 21) Fertilizers, 22) Insecticides & pesticides. 23) Tools, 24) Other supplies, 25) *Repetition* 26) Global Review & Assessment of the Corpus of knowledge and skills transferred during the First Stage.

*Each theme is articulated in sub-themes and will be developed in approximately one month.

**Each sub-theme will be developed in one week. It corresponds therefore to a weekly sequence.

Table No. 3 List of the Contents, Materials and Modalities of the "Functional Literacy Bridging Stage"

Contents	*Materials*	*Modalities*
a) 6 Principles of cooperation. b) The establishment of a Co-operative society. c) Legislation. d) Structures e) By-laws etc.	Radio scripts accompanied by written messages on posters.	a) Radio-broadcasts b) Cassette-talks. c) Verbal & pictorial/ mural Newspapers. d) Folders,

Table No. 4 List of the curricular core contentual themes and sub-themes for the II Functional Literacy Stage

Themes	*Sub-Themes*
V The Marketing of the Produces	How to improve the earnings by selling produces to cooperative after having improved their quality by upgrading the following operations : 27) Picking, 28) Cleaning and washing, 29) Sorting, 30) Grading 31) Processing (drying, etc.), 32) Storing, 33) Weighing, 34) Packing & transporting, 35) Selling. 36) *Repetition.*
VI The Accounting System	Information and instructions in how to do terms, on : 37) Avoiding indebtedness, 38) Expanding, 39) Incoming, 40) Saving, in different ways, 41) Account keeping. 42) *Repetition.*
VII Better Management	Information and instructions on how to do terms on : 43) Management of resources, 44) Economical use of money and time, 45) Economical use of energy and material goods, 46) Labour saving devices, 47) Democratic decision-making. 48) *Repetition.*

Themes		*Sub-Themes*
VIII		
The Planning		Information and instructions in how to do terms, on :
	49)	Analysing the problems,
	50)	Listing priorities,
	51)	Decision-making on what to do and how to do,
	52)	Taking action,
	53)	Keeping records.
	54)	*Repetition.*
IX		
Global Review	55-60)	Assessment of the corpus of knowledge and skills transferred during the II stage and revival of the I Stage acquisitions.

The other components of the curriculum

The following Table No. 5 shows how the functional core-components of the curriculum will be horizontally integrated with other elements of knowledge within the framework of eaeh sequence.

Table No. 5 Horizontal development of a curricular sequence

Functional core components. Description, analysis & demonstration of the sub theme under consideration, together with the calendar of adoption of its practical implications.	Rational, components. Rational scientific, mathematical concepts & their interrelationships as elicited from the functions and the tasks of a co-operative's member	Socio-economic components. Socio-economic information on the social implications of each co-operative practice & their economic outputs	Socio-cultural components. Socio-cultural individual & group behaviours vis-a-vis of the new practices & anticipated attitudinal changes	Written commnication skills. Synthesis & fixation of the basic linguistic & arithmetical written forms of the message related to the other components of the curricular sequence

D. I and II Stages Functional Literacy Material

A schematic typology of the various elements constituting the Literacy Materials ensemble is given here below :

a) *Mentorial materials*, which will be provided to the teachers. They are composed of *a set of paedagogical sheets*, consisting of : technical content sheet; rational principles sheet; socio-economic sheet; socio-cultural sheet; reading, writing and calculation sheet.

b) *Groups materials*, which will be provided to groups of learners. They will be composed of : posters; series of drawings or pictures; flash cards; cassette-lessons; and radio-talks.

c) *Individual materials*, which will be provided to individual learners. They will consist of : workbooks on reading (primers & loose sheets); on writing; on calculation; on drawings, as well as hand-out sheets.

d) *Reading materials*, which will be distributed individually to the learners. They will consist of a series of graded readers; their possible initial contents could be the following ones : duties and rights of a cooperative member; the application forms; the management structures of a cooperative; how you support your cooperative and how your cooperative supports you.

e) *Evaluation materials*, which will be distributed to the programmers, to the supervisors, to the instructors. They will comprise: tests (comprehension, acquisition, application); forms for observation of learners behaviours; in group activities, in participatory efforts and in cooperative work, etc., proforma for measuring achievements against the following indicators : adoption of new practices, membership increase, share money raising and body meeting attendance, etc.

E. The III Phase—Continuing Education

Table No. 6 on the following page shows some of the contents, materials and modalities to be developed and adopted in implementing the III Phase of the teaching/learning process, i.e. *the long-life continuing education.*

Table No. 6 Short list of contents, materials, modalities for the III phase of the teaching/ learning process

Contents	*Materials*	*Modalities*
i) Socio-cultural and environmental Education.	i) Pamphlets. ii) Folders. iii) Booklets. iv) Educational Kits,	i) Mobile libraries. ii) Radio broadcasts iii) Cassette talks.
ii) Hygiene and Sanitation	v) Rural press newspapers & bulletins.	iv) Correspondence courses v) Film shows.
iii) Duties and rights of a citizen.	vi) Films. vii) Radio scripts.	vi) Observation. vii) Socio-educational activities.
iv) Upgrading of working techniques (Agriculture; rural & pre-industrial crafts; village technology).	viii) | | ix) | Other topics. | etc. |	viii) | | ix) | Other topics. | etc. |
v) Nutrition, Health, Family-life Education.		
vi) The cooperatives' movement in the Islamic World and in the contiguous Central Asian countries.		
vii) | |		
viii) | Other topics. |		
etc. |		

F. Conclusion

The teaching contents shown by the preceeding graphs (Tables 2 to 6) have been formulated on the basis of those identified by national and FAO specialists working in the country under the PACCA Project. It should be emphasized here that they ought to be developed in accordance with : (i) the store of knowledge already existing in each community; (ii) the individual rhythms of learning of the participants; iii) the professional and personal characteristics of the instructors available. This information might be obtained through a preparatory field-investigation to be organized ad hoc before the starting of the curriculum preparation phase.

APPENDICES

I. Fundamental Education in the '50s and Basic Education in the '70s

II. Endogenous Development and Education

I.

Fundamental Education In The '50s And Basic Education In The '70s

"The purpose of fundamental education is to help people who have not obtained such help from established education institutions to understand the problems of their environment and their rights and duties as citizens and individuals, to acquire basic knowledge and skills for the progressive improvement of their living conditions and to participate effectively in the economic and social development of their community making full use of facilities and techniques brought to the community from outside."

(Report of the twenty-fourth session of the United Nations Economic and Social Council).

"The initial precept of virtually all educational systems is that each child must receive full-time instruction in school. It follows that those unable to benefit from this precept are in fact condemned to do without instruction. Millions of children and young people are in this situation. This is therefore one of the fundamental issues for educational strategy. Universal basic education in a variety of forms depending on possibilities and needs should be the top priority for educational policies in the 1970s."

(Faure, E., et al. *Learning to be.* Unesco, Paris; London, Harrap, 1972. 192p.)

Educational approaches labelled Fundamental Education *(Education de base)* in the 1950s and Basic Education in the 1970s both embrace a wide diversity of concepts, forms, structures, clientele, objectives, programmes and methods. Thus, in the abstract, they are difficult to compare. But a close look at the two approaches and their historical contexts can provide some insight into the relationship of Fundamental Education to

Basic Education, and some perspective on what we have learned during the past three decades.

We shall attempt here to identify similarities in the two approaches, to delineate noteworthy differences, and to account for these differences in terms of the evolution of educational concepts and the accumulation of experiences with development.

A. Similarities

To begin, let us note that, in spite of our fading impression of Fundamental Education as a small-scale array of local programmes, there were actually more than 150 programmes carried out in some thirty odd countries, colonies, trusteeships and non-self governing territories. This number is comparable to that of on-going Basic Education programmes, which, according to World Bank and UNICEF studies, number more than 100 in some 50 odd countries. On both national and international levels, significant attention has been given to many programmes of these two approaches.

A survey of the samples of Fundamental Education programmes and of Basic Education programmes reveals that each approach encompasses a wide range of characteristics, thus making it difficult to locate a characteristic of one which has not also occurred in the other.

(i) Both approaches have included programmes which were implemented over a very large expanse of territory as well as in a very limited area, and in different kinds of social and economic milieux. In the 1950s the Northern Nigeria Mass Literacy Campaign covered an entire region while DAUFEP (Dinsor Afis Unesco Fundamental Education Project) was carried out in only one village in Somalia. The Makco Rural Progress Society was located in the most remote territory of Papua, while the Kits Scheme in Australia took place in the most economically advanced area of the country; the Marbial Valley Experience in Haiti was addressed only to the rural population, but the Bombay City Social Education Committee Programme was for urban people. In the 1970s the Tanzania Primary Basic Education Programme has national coverage, while the Darb-El-Ahmar Project covers only a quarter of the inner city of Cairo; the Guatemala Modulo Basic de Education Extrascolar is intended for the entire Indian population

of the Altiplano Occidental, while the Non Formal Education for Rural Women in Hyderabad, India, is for a very limited clientele.

(ii) Both approaches have used governments as well as non-governmental organizations as sponsors. In the 1950s, the Community Development Scheme in Northern Nigeria was entirely planned and executed by the Governmental authorities, whereas the Jamaica Fundamental Education Programme was organized by a non-governmental agency, the Jamaica Social Welfare Commission. The programme of the 1970s include both government-sponsored ones such as the Cuban School in the country-side and non-governmental ones such as the well-known ACPO in Colombia.

(iii) Programmes with wide scope as well as with very specific skills focus are to be found in both Fundamental and Basic Education. In the former, for example, there was the Graham Shikshan Mohim in Maharastra, India, which was an adult education programme, and the Tanta Health Demonstration Project in Egypt, primarily concerned with health education. In Basic Education, there have been functional literacy programmes in many countries, and vocation skills training programmes, such as the one in Sri Lanka and the Entrepreneurship Programme in Nigeria. Programmes aiming to offer a multiplicity of skills, such as the Marbial Valley Experience in Haiti, which included vocational training, primary schooling, language, health, agricultural, industrial and artisanal skills training, also took place in the 1950s In the 1970s we find multidisciplinary programmes such as those developed by the Social Work and Research Centre in Tilonia, Rajasthan, India and by Sarvodaya in Sri Lanka.

(iv) In both Fundamental Education and Basic Education programmes, the kinds of persons—teachers, social workers, health workers, agricultural extension agents, volunteers, etc.—employed as learning mediators have covered a wide range.

(v) Finally, both approaches have used a variety of media for transmitting skills and knowledge. Sometimes a programme has relied mainly on one medium such as

the Campana de Educacao de Adultos in Brazil in the 1950s, which used radio and the Mysore Adult Education Council, also in the 1950s which used folk arts and the theatre. In the 1970s, too, certain programmes, such as the Education Basica Rural in Guatemala have used radio extensively, and the non formal education projects in Ecuador, sponsored originally by the University of Massachusetts and the Kalatapak Group in Madhya Pradesh, India, have employed the folk arts. Mixed media approaches were used in Fundamental Education programmes such as the Chiapas Project of the Instituto Nacional Indigenista de Mexico and the Marbial Valley Experience in Haiti, and in Basic Education programmes such as those launched in Somalia, Tanzania, Mali and many other countries.

From these examples, we can see that there is no single characteristic, in regard to programme components, which distinguishes Fundamental Education from Basic Education. As educational approaches, the two seem very similar. However, there are some notable differences between what went on in the 1950s and what we are engaged in now which allow us to say that Basic Education is not merely an echo of Fundamental Education and that, indeed, both changing circumstances and the benefit of experience, have allowed us to progress—not strikingly, but soundly—in the practice of education.

B. Differences

There appear to be four significant differences between Fundamental Education of the 1950s and Basic Education of the 1970s. We shall look at each of these and try to explain, wherever useful, the historical reasons for the differences.

(i) Basic Education is addressed primarily to children, adolescents and young adults and it occurs more frequently (and very recent trends in thinking and policy reflect this emphatically) as part of the primary schooling system than did Fundamental Education which nearly always occurred outside of the formal school system. In the early 1960s, new nations were installing school systems modelled closely on those of Western nations. The school was the only "official" educational agent, and its single purpose was to provide a handful

of citizens with the talent needed to live and work on a high social and economic level. Primary schooling was intended to prepare students for secondary schooling, which would lead them to higher education, and so on. Fundamental Education, then, was separate from schooling. It was regarded more as a socio-educational service than a purely educational provision. It was parallel to, not convergent with schooling, intended mainly for the underprivileged populations who had no access to schools.

However, the adoption of the Western model did not work because it was expensive, too small and narrow in its offerings, particularly by the mid-1960s when reduced infant mortality had resulted in an increased young population and a greater demand for schooling. The failure of the Western model led to a search for an alternative capable of meeting the new demands, both in terms of number and of needs. It was at this time that Basic Education was born. It has been viewed not as an alternative to primary schooling, but as an approach to learning which can take place either within or outside of the formal school system. The extent to which it may evolve in one, the other or both directions remains to be seen.

(ii) In a sense broader than just schooling, Basic Education is more closely linked to national development policies and programmes than was Fundamental Education. The obvious reason for this is that the settings for many Fundamental Education projects were not nations, but colonies or territories, which were in no position to employ national strategies for development. Fundamental education was inspired by humanitarian ideals, whereas Basic Education is seen as a means toward nation-building. For those working in education today, this shift has the practical advantage of providing national institutions within which Basic Education programmes can be planted and tendered Education is viewed more in the light of national advancement than as a kind of social welfare. Consequently the purpose of schools is to be kept more in line with national development goals, and in this regard, there is more reason for schools to feature innovative programmes,

which, however, will keep some of the characteristics pertaining to the Fundamental Education approach.

Moreover, during the past three decades, national development policies have evolved from one extreme of pure goodwill and another of strict economic growth to a more realistic medium of interwined individual, social and economic development. The educational policy of the 1950s derived from the economic growth theory was concentrated on the selective training of specialized workers who were needed in the productive sector. Improved living conditions of therst of the population were expected to be a natural consequence of an increased Gross National Product. But by the late 1960s, attention shifted toward the development of human resources in terms of developing "people" rather than "products". Thus, interest was revived in the human dimension of education once again, and education was more seriously taken as a means of reducing poverty, starvation and ignorance.

(iii) Those who work professionally in Basic Education are more concerned with its theoretical and scientific foundations than were those involved in Fundamental Education. This difference is largely a part of the increased general familiarity with and interest in social science research of professionals in every field. Often, what was done on the basis of intuition in the 1950s is now done with a firmer foothold in knowledge of social dynamics. The participation of villagers in designing and implementing educational programmes, for example, was promoted in the assumption that those living in relatively poor conditions would take up with enthusiasm any opportunity to improve their lot. We now think that, although such spontaneous cooperation does not always occur, social change cannot take place without the participation of those who will be affected by it and that a preliminary step to introducing innovations of any kind is to animate the people and induce their participation in the programmes into which innovations will be introduced.

(iv) Whereas the position of the international support systems to Fundamental Education was *pro*-active in the

1950s, it has become *re*-active in regard to Basic Education in the 1970s. That is, United Nations and other international technical assistance agencies no longer see their role as initiating change and prescribing formulas for change to those leaders of developing nations. Rather, they now respond to requests for assistance, whether these be general requests for advice and/or supplies, or specific requests for certain kinds of aid.

Fundamental education was introduced as one part of the United Nations' commitment to secure peace.

"*Since wars bigin in the minds of men, it is in the minds of men that the defences for peace must be constructed.*"

This statement in the Unesco Constitution was the foundation on which the agency's experts were to stand and create a new kind of education. Over thirty years of experience have produced a more cautious lot of educational planners and implementers, who no longer believe there is a single answer to the various demands of the developing world, and who have learned to tolerate uncertainty and ambiguity, to make mistakes and to learn from them. Moreover, we have seen that nations have less and less need for foreign experts, as they become more adapt at designing and carrying out their own solutions to problems which are always peculiar in some respects to their own situation.

C. "Fundamental" to "Basic" Education

Finally, we cannot go without noticing that, even though the concept of Fundamental Education is hardly distinguishable from that of Basic Education, the label has changed. The reason for this is primarily rhetorical but it merits enough explanation here to demonstrate that the wheat has not been thrown out with the chaff. Education, as a means of change, is always a long and laborious process. The results of complex educational programmes such as those which aim to innovate and extend the act of learning cannot be measured after two, three or five years. This difficulty in achieving quick results which is common to all educational endeavours was increased in the case of Fundamental Education by severe operational problems—the critical lack of resources, of institutions into which the programmes could fit and delays in expected results. Consequently, in the late 1950s, one began to notice a disenchantment with the approach

and a scepticism in regard to the value of fundamental education for development. In the Unesco *Approved Programme and Budget for 1959-1960*, we find this disenchantment reflected in the decision to abandon the term, '*fundamental education*" as having "led to confusion".

> *Recognizing that the term "fundamental education" has led to confusion, (the General Conference) instructs the Director-General to take immediate steps to secure that a proper terminology which can be applied all over the world be used by Unesco for all kinds of education of adults and young people and to discontinue as rapidly as is feasible the use of the term "fundamental education" in all official documents of Unesco.*
> *(10 C/Resolution 1.51).*

This decision was taken in spite of the fact that considerable time and effort had gone into the selection of the term, "fundamental" over "popular" "mass" and other brands of education, on the grounds that it "indicated an education on which more could be built.*"

A few years earlier, the term "community development" was launched as a label for local level efforts to increase the amount and kind of services offered to people in developing countries. In 1957, at the twenty-fourth session of the United Nations Economic and Social Council it was reported that :

> *"The term 'community development' has come into international usage to connote the processes by which the efforts of the people themselves are united with those of governmental authorities to improve the economic, social and cultural conditions of communities, to integrate these communities into the life of the nation, and to enable them to contribute fully to national progress."*

Part of the appeal of community development schemes was that it combined the services of several agencies, such as health, agriculture, administration and education. Thus, when the label gained official status, it was convenient to incorporate "fundamental education" into it, in the belief that education,

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* Dr. Kuo-You Shou, Educational Counsellor of the Secretariat in May 1946, at the meeting of the Education Committee of the Preparatory Commission of Unesco.

when integrated with other development processes, would have more impact. The role of Fundamental Education was then redefined.

> "*The term is generally synonymous with "social education" "mass education" and "community education." It does not mean community development; but* it should be regarded as an essential component of the community development."

The conclusion that improvements in educational programmes would not have much value if not accompanied by social and economic changes appears to have been a valid one, and indeed, is generally adhered to today, as witnessed by our concern for offering "integraded services."

But by the end of the 1960s, community development as well had begun to lose its charm, since development, like education, is a slow process without dramatic results. When poverty and ignorance had failed to disappear, scepticism reappeared. In addition, however, communities in isolation were no longer critical foci of development activities, since what had begun as externally pre-conceived programmes had been taken over by national governments, who were in a position to inscribe the communities' efforts within comprehensive national developmental programmes.

Much had been learned, nonetheless, about the need for education in development. In the 1970s, indeed the new nations began to take a closer look at their educational institutions, and taking notice of their anacronisms, they attempted to renew their schools with more relevant curricula and teaching methods. This new effort, common to several developing nations around the world, has become labelled "Basic Education."

D. Conclusion

There are differences and similarities between Basic Education and Fundamental Education as we have seen, but what seems to us very important is the maturation of the latter approach from the former, and the capitalization on what has proven to be worthwhile for use in the present historical context : its short duration, its decentralization, its reliance on local resources, its applicability to everyday life problems, its non-sequential and non-graded organization, its employment links, its use of culturally inherited knowledge and skills, its

practicality, its variety of agents, and so on, are no longer considered marginal vis-a-vis institutional education, but on the contrary, seen as critical elements in its revitalization and productivity.

Basic Education has incorporated (although perhaps not systematically) characteristics of Fundamental Education into educational institutions which are components of national systems and national development policies and school systems. These systems are expanding to include out-of school as well as in-school programmes.

In short, the *context* of Basic Education is different from that of Fundamental Education, for historical reasons, and the *label* is different. The *value* remains the same, however. It is one dimension of a many-sided and long-lasting drive manifested in different ways at different moments in history, to improve, through education, the human condition.

II.

Endogenous Development And Education

A. Endogeneity in Development

Throughout the centuries, even in those epochs when inequalities and oppressions made more tragic the human condition, an ideological force advocating the release of all human beings from servitude, misery, ignorance and discrimination has been present to the thinking consciousness of mankind. It, diachronically, included visions of world palingenesy, universal love, humanism, social well-being, communitarian progress and cosmic solidarity. It has represented a constant effort of rationalizing the history and its latest manifestation, which has taken the name of *development*, is contemporary to us. A relevant difference exists, however, between the latter and all the preceeding ones : in fact, the concept of development has been promoted by statesman and politicians while the others were partimony of philosophers, religious leaders, economists and writers. Moreover, "development" was taken, from the very beginning as an action oriented concept having strong practical implications and not as an utopian dream to be fostered in abstracto.

In the '50s the term development became synominous with a new political and economic course which was sponsored by the great powers and adopted mainly by newly born nations that hoped, through it, to find a solution to the crucial disparity existing between them and the rich countries of the world.

In the '70s, the first partial and controversial results of such historical experiences, as well as the fear felt by the new nations that in following foreign models their own precious values and civilizations could have been destroyed, set the stage for a critical re consideration, at world level, of the concept of development and of some of its theoretical foundations. The first one

to be revised was that considered until then as a *conditio sine qua non* of every doctrine pursuing the progress of the mankind, viz. the postulate that no action is truly human if it cannot be universalized to all men.

It was at that stage that a new attribute was added to the world development : that of endogenous, and by virtue of it, the right of every human society of asserting itself in its own socio-political and socio-cultural terms was strongly emphasized.

Endogenous development in the recent acceptation given to it by the international community has to be taken as a process going beyond the economic sphere proper; a process : "aiming at developing all men and women, and every aspect of the indivadual in a comprehensive cultural process, deeply permeated with values and embracing the national environment, social relationship and welfare" (from "Moving Toward Change" Unesco Paris, 1976, page 19).

Thus, it was recognized that development can only be autonomous if the countries concerned rely first and foremost on themselves for ideas and resources and that external aid can only marginally sustain national efforts.

In more factual terms endogenous development can be also defined as the sum of all efforts deployed by a whole national society to transform and improve its own patterns of life by relying upon itself and by safeguarding its own political, social cultural identity. In utilizing the words : *cultural identity*, we need to remind here the value given to them by A. Cabral : "...it is at this level that culture attains its full significance for each individual : comprehension of and integration within his social milieu, identification with the fundamental problems and aspirations of his society and acceptance or rejection of the possibility of change for the better". (from A. Cabral's Study presented at a Meeting on Concept of Race, Indentity and Dignity—Paris 1972). And, if we will be permitted to paraphrase a statement made by the same author, we could add that development has to become not a cultural fact but a *cultural factor*.

Parenthetically, it, should be said here that despite the great emphasis given at present to the endogenous aspects of the development the idea of universality has not been totally withheld from it. In fact, it has been accepted by all the partners

in this new human venture the principle that each individual context should develop itself as part of a system and be organically linked to be others.

Dependency among nations should give way to *interdependency*, this being the substance and the value of true partnership. If we accept the lesson of that school of thought which asserts that terminological analysis is a valid instrument to better understanding some ontological aspects of the human experience we must point out here that the adjective : *endogenous*, in addition to its above-mentioned socio-political and socio-cultural meanings has another relevant signification, that drawn from its etymology, i.e. *growing from within*. This is indeed the most important of its significations and the most congenial to our discourse because if carries with it deep educational implications. What in reality determines the success of a developmental process are not the persons in power, the governmental planning or sectoral authorities, the technocrats, the external advisors but the wills, the determinations, the actions of the men who are involved in it and who are seeking it. No change can take place in a society without the conscious acceptation by its members that it is needed, appropriate and attainable by them, without their understanding that the knowledge, skills, behaviours they already possess cannot permit them to move towards it, and that new ones are necessary.

This "prise de conscience" is the unique way by which people may take direct charge of their own process of the development. It can be attained only through education; an education having as primary scope not the transformation of the abstract "man" but the awakening of the unlimited capacities of being, doing and becoming possessed by real men.

B. Education for Endogenous Development

From the moment in which the function of educating was transferred from natural traumatic community practices to social institutions, up to now. education has been carried out in many diverse forms, less or more direct, less or more structured but none of them seems to possess those qualities required by an educational process conceived in function of endogenous development. Certainly not the institutionalized system, at present adopted by the majority of the world countries. This kind of education cannot engender development from within, being, in its nature and in its modes, exogeneous, narrowly

vocational and corporative. Exogenous : in the sense that its contents and messages, in the majority of the cases, are divorced from the natural bias, the instincts, the reaction of love and hate, the ideals, the work, the existential problems of the human environment in which the system operates. Vocational : because it serves, prepares and trains selected individuals for very narrow occupational roles, those of white-collar or high level technical manpower. It can be compared, by using the words of Ki Zerbo, to : "a sacred forest into which enter only a certain number of initiates, charged to perform esoteric rites escaping from everyone". (from Ki Zerbo's "Education and Development"—The Bellagio Conference Papers—Ford Foundation, New York—1974). Its social function, therefore, becomes that of perpetuating pre-established unjust reports of forces in benefit of the few and against the many. Corporative : because the agents of its delivery often act as bureaucrats and not as educators : "imparting knowledge—I quote "Paulo Freire—as a gift to be bestowed by those who consider themselves as knowledgeable and imposed to those they consider to know nothing" (from P. Freire's Pedagogy of the Oppressed—1970).

If we accept the assumption that the main objective of education for endogenous development should coincide with that of "human growth", then its structures, programmes and modes cannot correspond to those adopted by preceding or existing approaches, and must possess their own originality. First of all, education must become a function and an instrument of a clear, firm political will. Education is essentially a political act but in this context we intend that it has to be a function and instrument of a given policy, aiming at a radical transformation of the national society. If so the education, as emphasized by Freire, will become the very process through which that transformation can be realised. Consequently educational programmes will be included within a national development plan emanating from the above-mentioned political approach, not as a subsidiary addition to its various economic components, on the contrary, as its very core.

In technical terms: its organizational structure ought to be liberated from its pyramidal geometry and horizontally expanded; its management from its centripetence and decentralized down to village level; its services from their officiality and articulated in various interrelated formal and non-formal programmes, equally provided by public and private bodies; its access articulated in multiple points of entry, its walls open to community life,

its delivery conferred upon any person in the community having the capacity, the willingness, the social morality demanded from an agent or mediator of education; its temporal activities from the artificial and rigid frame of the scholastic rhythms and schedules and carried out at the time of the year and the day more suitable to the participants; its spatial grounds from all stereotyped enclosures and established into the local environment, wherever required; its curricular contents from the alchemy of theoretical subjects and opened to life skills; its methods and techniques from their didascalic liturgy and transformed into interactive practices.

A kind of education, indeed, that should reconquer its primeval catartic nature and recapture its original communitarian force, which was described by J. Kenyatta, in his "Facing Mount Kenya", as : "pervading and preparing from birth to death each of its members to fulfill community tasks and to realise its particular objectives."

Another indispensable premise is that it has to be able to reach a diffusion corresponding to the totality of the country's population. Its frontiers must coincide with the social frontiers of the national community. "It is only by universal education, *literacy and its employment* – states I. K. Galbraith in his "The Nature of Mass Poverty" – that individuals gain access to the world outside the culture of poverty and its controlling equilibrium". There is indeed a coincidence between massive, cumulative, continuing literacy and universal education for development.

Literacy, therefore, should no longer be taken as skillfullness in scholastic reading and writing but as a behavioural pattern of the society by which each one of its members ought to be able to take part, consciously and fruitfully, in organized social, economic or political activities. Universal literacy ought also to represent a strong social integrating factor among the various groups of a society by bridging the distance between the low and the high, the close and the far, the present and the past. Moreover, it can offer a valid support to the success of those mass compaigns aiming at improving health and nutritional conditions of the people, at increasing agricultural production or at solving emergency situations; in fact, they can be better implemented and their efforts optimized when operating in totally literate environments. This, because by the use of

written communication their messages will have more speed, larger coverage as well as stronger impact and durability. In such environments neo-literate community workers can also be easily trained in taking charge of the delivery of those basic services which are needed by their communities.

Finally, it can be said that literacy, in its value of universal basic education, may also play a crucial role in over-coming the dichotomy, very peculiar to all processes of endogenous development, between imported science and technology on one hand and cultural identity on another hand. How can the two terms of the dilemma be harmonized ? There is a certain intimitation that it might be possible to surmount this antithesis by establishing communication channels between the opposing fields through which reciprocal exchanges could be incentivated. Thus, science might encourage culture to adopt behaviour models that are innovative and enterprising, without undermining the principle of cultural identity, being in its turn, enhanced by the patrimony of traditional wisdom and by the creative spirit of the people. At present, it is true, a portion of mankind makes no use of written communication, which means that their culture cannot be transmitted to others in a permanent, objective and precise form, similarly, science is a closed book to them since they can neither read nor write. Literacy, therefore may represent a hinge between science and culture.

In the preceding paragraphs we have tried to infer from the concept of endogenous development some of the characteristics which should be possessed by an educational action aiming at ensuring it. The truth of the above-mentioned deductions has been already manifested in the course of the experiences going on at present in several developing countries, about which we will refer to in the next part of this paper.

C. Facts and Experiences

Among the major facts which have characterized the educational action for endogenous development during the past decade we need to mention the experiences carried out by several countries such as : Cameroon Ethiopia, Guinea, Somalia, Tanzania, Zambia, in Africa; Algeria in the Arab States: Burma, China, Indonesia, Thailand, Vietnam in Asia: Brazil, Colombia, Gautemala Mexico, Jamaica, Peru in Latin America. Results in in some countries have been good; in others fair; in some dis-

appointing. The cases which are of interest to us are those showing how education has enhanced popular participation in the social, economic and political life of a nation. In Guinea Bissau, e. g., where: in the early '70s, firstly in the liberated areas and then in the newly independent state, under the outstanding leadership and legacy of A. Cabral, a rapid march towards new understandings, new ideas, new individual and community behaviours, as well as towards new modes of democratic participation of the people to the building of their own free society, were achieved through cultural progress and voluntary, endogenous processes of education.

In Somalia, where all intermediate and secondary school students and their teachers were requested to leave their classrooms for one year, and travel all over the country, approaching the entire nomadic and peasant population, near the wells, in the farms, to teach them literacy, to train them in the prevention and treatment of human and animal diseases and, what was more important, to give them a new political consciousness. Their motto was : "a school at the foot of every tree". Their efforts were coordinated by a Central Committee composed of five Ministers (Education, Health, Local Government, Transport and Planning) as well as by local community and sub-community councils. Their actionc overed an area of 650,000 Km and touched more than one million people.

In Burma, where : in conformity with the Burmese Way to Socialism charted out by the Party, which has the responsibility of the political conduct of the country, all national efforts were directed towards : human development in priority to the economic one, two educational actions were launched at the same time one aiming at expanding schooling in its various level and the other one at eradicating adult illiteracy. As a result of these actions, on one side, the students' population has increa ed from 1,959,313 in the 1960's to 4.357,000 in 1975, out of which about 96 percent attending schools for basic education and, on the other side adult illiteracy was drastically reduced. The literacy campaign, started as a massive voluntary operation at the very eve of the '70s and, like in Somalia, it was conducted by secondary and university students, who were organized and coordi nated by multisectoral committees at central, divisional and township levels, and by People's Councils at village level. Today after ten years from its inception the Burmese literacy campaign

is going on with the same enthusiasm in the few still uncovered zones of the country.

But it is the Tanzanian approach, because of its globality, which represents the most exceptional example of education for endogenous development. We will give in the following lines a brief account of it.

The ideological and political foundations of the Tanzanian way to development were defined by the 1967 "Arusha Declaration" as follows :

— Social equality, spreading the benefits of development widely throughout the society.

— Ujamaa : emphasizing the development of forms of activity which encourage collective and cooperative efforts and avoid wide differences of wealth and incomes.

— Self reliance : emphasizing development through maximum mobilization of domestic resources, particularly through mobilization of the people.

— Economic and social transformation : emphasizing rapid expansion of productive capacity to create the basis for future economic and social transformations.

— African economic integration : emphasizing the extension of economic links, with other African states.

Its organizational strategy was from 1972 based on a firm policy of decentralization, of all planning and operational phases. The power of decision was brought down from the top to the peripheral level. In 1975, by the "Ujamaa Village Act", the villages were given the legal power to establish a Village Assembly as well as the Village Councils; the latter composed of five committees, respectively for Finance & Planning, Production and Marketing, Education, Culture and Social Welfare, Works and Transport, and Defence. These Village's institutions took the responsibility of all activities needed for the socio-economic development of their communities and a village was called Ujamaa when the majority of its activities were undertaken on communal basis. In 1976, the organized villages, which were 1000 in 1971, became 7568 in 1978, covering 13 million of people, i. e. 85 percent of the Tanzania total populationt(c. 16,553,000).

In 1974, by the "Musoma Resolution" education was

declared basic and universal and articulated towards meeting family and community needs rather than providing high level manpower. Education, therefore, was considered the main contributing factor to the national development and it was conceived by Nyerere as to be : "provided by Tanzania for students of Tanzania and to serve the purpose of Tanzania... It must encourage the growth of the Socialist value we are establishing. It must encourage the development of a proud and free citizenry which relies upon itself for its own development and which knows advantages and the problems of cooperation".

In implementing its education policy for development, Tanzania concentrated in the beginning, all efforts on adult education. In 1970 Nyerere wrote in his introduction to the "Adult Education Handbook" that : "...first we must educate adults. Our children will not have an impact on our economic development for five, ten or even twenty years. The attitudes of the adults on the other hand have an impact on it just now". This approach giving in the first instance less attention to the children education and priority to the adult literacy was absolutely an innovative one and it has been adopted, to our knowledge, only by Tanzania. Thanks to it, the participatory capacities of the people were enhanced and, at the same time, after few years, some of the neo-literate adults were able to assume teaching responsibilities at primary level, permitting then the rapid expansion of basic education to all the children of the nation. The Adult Education action started in 1971 with a universal literacy campaign which in five years, should have wiped out illiteracy from the country. There were in 1967 in Tanzania, 8.1 million illiterate adults representing 69 percent of its total population. In 1975, the percentage of illiteracy was reduced to 39 percent and it is estimated today at 15 percent. At the same time several national mass campaigns were launched from 1972 to 1976 to educate and mobilize people on current development issues such as : health, food and life and productive work.

The educational organizations, as stated before, was decentralized so that any decision about education was taken by the communities. The teaching was held in farms, in poultry units, in workshops; the basic curriculum was centred of five clusters of topics : a (literacy and numeracy), (b) cultural studies (music, dances; crafts and handicrafts); (c) political education (Tanzania socialism, principle and practice of Ujamaa, structure and

function of the local Government), and (d) environmental studies (science, geography, domestic science and history, agriculture and work). Parents and community members were called to contribute to the education of the children and young adults, taking charge of teaching of local history, political education and crafts, while pupils were called to take active part in the various national campaigns. The methods were based on interaction with the environment, by practical experiences, made outside the school and conducted by the learners themselves divided in small groups. In the case of an area where people were suffering by endemic malaria, children joined the adult members of the community in cleaning drains and stagnant water, while trained, at the same time, in the use of prophylactic drugs and simple preventive and curative measures. Meanwhile, they were also learning in the school, within the science curriculum, about the life-cycle of the mosquito and other organisms living in the streams, and, within the geography curriculum, about processes of rivers formation.

Thanks to its enlightened and strong political guidance, to the high involvement of its population, to an educational strategy based on autonomy, decentralization and on a synergic relationship between formal and non formal provisions, Tanzania has achieved, in its thrust towards endogenous development and self reliance, results of a unique value, as shown, on the following page, by an astonishingly atypical graphic presentation.

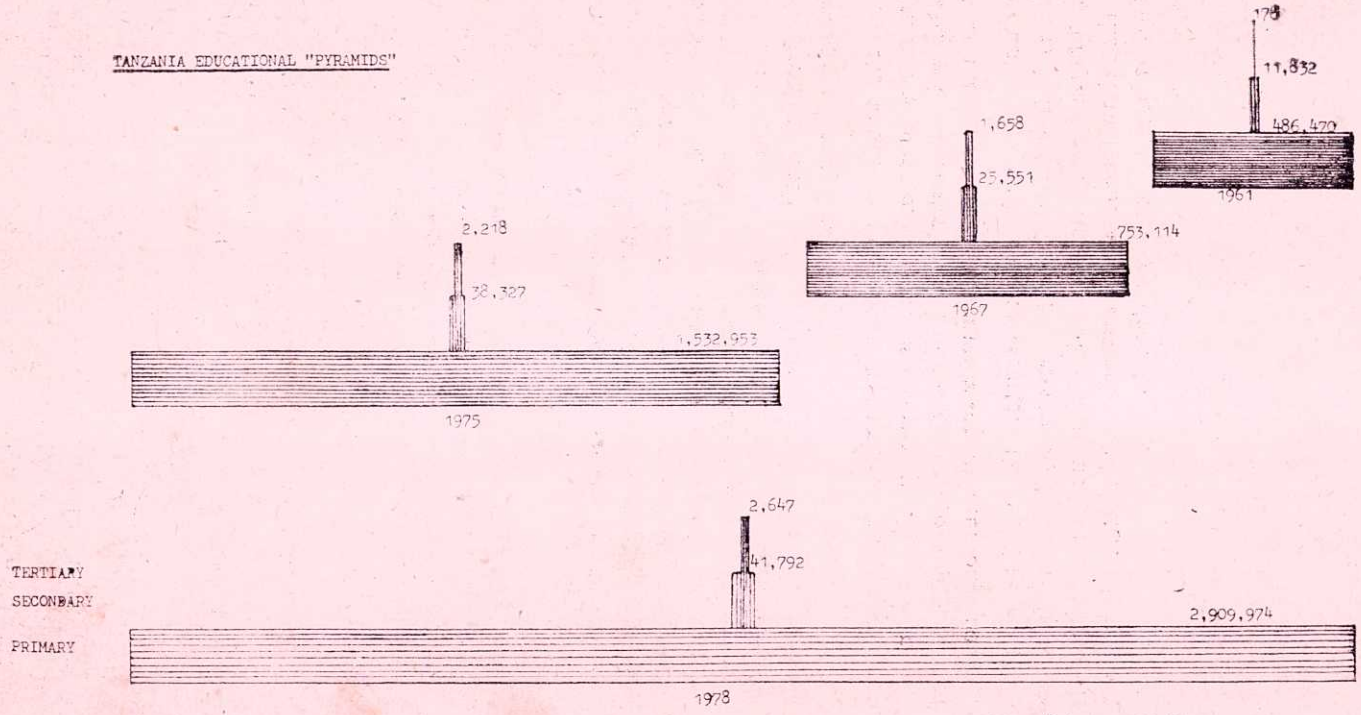
Conclusion

The cases introduced in the preceding pages reveal that recent initial experiences of endogenous development have been particularly successful in political situations characterized by enlightened despotism. This may lead to the conclusion that a strong inter-relationship exists, today in the Third World, between despotism and endogenous development, as it existed, not long ago in Europe, between despotism and equality.

Many country-members of the international community refuse, however, such a model of development and advocate a people's process of change emerging from the bottom and not imposed from the top, based on a sum of individual choices expressed in total freedom.

A similar dichotomy can also be found when looking at the historical roots of the concept of development. On one hand:

TANZANIA EDUCATIONAL "PYRAMIDS"



SCALE: 3/8 inch = 100,000

Condorcet, Smith and Spencer foster a human progress meant as the accomplishment of a full, extreme individual freedom; on the other hand : Rousseau, Hegel and Marx see the human progress as function of power and assign to "freedom" not an individual but a global communitarian value.

The second conception, in its exasperated forms, became responsible for the "gulags" and "lagers,, of the '30s and '40s and now, because of them, for the fear that any despotic approach to development, even if enlightened, could generate analogous tragic experiences.

At the same time, there is a growing recognition of the fact that a development rooted on individual freedom could hardly be attained in our present time; this, because the levels of calories, health, income and knowledge owned today by the majority of mankind are still below that minimum threshold from which only individual freedom can be felt as a need. In fact millions of men live, "hic et nunc" in conditions of emergency and despair, and for this reason their capacity of autonomously designing their own destiny—which is, of course, potentially unlimited —cannot be carried out in actuality, at least for the time being. Maybe they will be able to fully and consciously master their transformational paths at a further stage : when the politico-educative intervention, for them but external to them, will succeed in breaking their state of homeostasis and the negative equilibrium of their poverty.

If so, the actual despotic ways towards development could be taken as first steps of a laborious process, paniful but necessary, leading towards the genesis of endogenous changes induced from within the various basic communities of a national society.

But how could we be able to ascertain the validity of these hypotheses ? In reality only the lesson to be drawn from the ongoing pragmatic experiences could permit us to answer yes or no to the above mentioned question. And that lesson will not be known before two or three decades.