

OUTLINE OF A STRUCTURE OF EDUCATION IN RURAL AREAS

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1. For your consideration, I am circulating a supplementary document to this address. It contains suggestions for a modified structure of education for rural areas which is briefly as follows: as regards formal education, a primary cycle of seven years (comprising two sub-cycles of 4 years and 3 years successively) is suggested. The first sub-cycle aims at teaching basic communication skills and number operations; the second at practical, prevocational education related to agricultural, rural constructional and manufacturing activities, which will enable school-leavers to engage in productive employment and receive further training on the job.
2. Some authorities have suggested postponing the entry of children into the first grade to about the age of eight or nine so that at the terminal stage of the primary school, they are fifteen or sixteen, and therefore mature enough to utilize the prevocational training in productive work. You may wish to discuss this.
3. A junior secondary sub-cycle of 3 years and a senior sub-cycle of 2 years, offering a diversified curriculum in comprehensive rural schools is suggested. Technical, vocational, commercial and home science courses based on rurally relevant syllabuses, with emphasis on practical accomplishments are suggested. The proportion of primary school certificated pupils to be allowed into the next secondary cycle will have to be carefully worked out in relation to the resources of the country, its planned economic growth and manpower requirements, the absorptive capacity of the labour market for varying skills (which includes, of course, the supply of teachers and intake into post-secondary education).

Rural post-secondary tertiary level facilities, offering flexible programmes of instruction and training should be provided, with emphasis on the applied sciences and arts, and undertaking problem-orientated research related to rural development. It is also suggested that an extensive system of non-formal education be organized for the out-of-school youth, the adult active labour force, and women.

A. Primary level - Duration 7 years

- (i) The primary cycle extends over seven years, and comprises two sub-cycles of 4 years and 3 years. The first sub-cycle of four years (lower primary) is intended essentially to achieve a minimum level of literacy, including elementary number skills. It may be regarded as a preparation for the next sub-level of primary education (senior primary), and in cases where this is terminal its objective is also to prepare the mind to be receptive to new ideas. Educational attainment at this level does not prepare one for much more than unskilled labour, It will be noted that the duration, content and objectives of this sub-level are the same for the town and country child.
- (ii) The second sub-cycle of three years (senior primary) is common to all town children and the objective is to provide a general education, with emphasis on the further acquisition of language and number skills. In so far as the country child is concerned, there are two streams of educational experience offered:
 - (a) a small percentage (which is a matter for political decision) of children will pursue the same general education course as urban children in preparation mainly for an academic (or grammar school type) secondary education or secondary commercial education;
 - (b) the great majority of rural children will receive a practical type of prevocational education in rural farm schools, concentrating upon activities related to farming operations, rural handicrafts, and home-craft (for the girls), though instruction in

language and number skills will not be neglected. The objective of this sub-cycle is to orient the mind of the child to a knowledge of the rural environment and rural activities in which he is likely to find the source of his livelihood. The sub-cycle is a preparation for the vocational education and training of the next secondary cycle, but it is more than likely that it will be terminal for many a youngster at the age of 13 or 14 (especially girls), in which case, further training will have to take place on the job. It is hoped that the methods of instruction and the content of the course will be sufficiently interesting to prevent the alienation of the rural child from his environment, and stimulate him to exploit the economic possibilities of small or large scale farming (perhaps through co-operatives).

In terms of occupational fitness this level of educational attainment may be regarded as the minimum for employment as drivers, junior shop assistants, messengers, postmen, petty repairmen, semi-skilled factory machine operators, apprentices, tailors, seamstresses, junior agricultural assistants, etc.

B. Secondary level - Duration 5 years

- (i) The secondary cycle extends over 5 years, and comprises two sub-cycles of 3 years and 2 years. It should be noted that the end of the secondary stage is reached after twelve years from the admission of the child into the first grade. There are many developed countries whose stock of educated manpower was built upon a 12-year primary-secondary cycle, and at this stage of economic development it should also prove adequate for the needs and resources of African countries. The savings effected by a one-year reduction in the 13-year primary-secondary cycle adopted in some African countries, following the practice in industrialized countries,

could be diverted to other educational purposes. It is important for African educational development to examine critically the need to adhere to traditional cycles or duration of successive stages of education. What is important is not the length of a course but the relevance of its content to the local situation.

- (ii) The first sub-cycle of three years (junior secondary) is common to both the urban and rural sub-system. It represents the end of 10 years of schooling, and a big fall off in school enrolment beyond this stage, when young people enter the labour market (if they had commenced at the age of five or six). A diversified curriculum is offered in the urban and rural sub-systems. In the urban sector there are the usual general education, commercial, technical, home science, and vocational(trades) streams, which can be designed to be terminal for those who would wish to leave school and receive on-the-job training. In the rural sector, pupils completing the upper primary level (general or prevocational farm schools) have three broad optional streams of education with a technical/vocational bias. If comprehensive schools are set up, as I would propose, then a commercial stream may be added to these options. Some boys will enter the junior agricultural school stream to learn the theory and practice of agriculture (crop and animal production), and the related sciences, plus some language and literature; others more inclined towards engineering and constructional activity will enter the rural technical/vocational (trades) school and learn such things as engineering drawing, wood and metal work, brick-laying, etc.; and, others, clerical skills. In many ways the skills learnt in the rural technical/vocational junior high schools are applicable in urban industrial employment, if the growth in industries does exert a pull on the skilled rural labour force. Therefore, there is not much advantage for the rural youth to seek this kind of education and training in the urban system when it is readily available in the rural system.

However, if the occasion should arise, junior secondary rural trades graduates will qualify to follow appropriate courses at the senior level in the urban system. On the other hand, urban secondary certificated school pupils may also be able to utilize their education and training in the rural economy.

Girls, in general, will follow the junior home science courses, in the rural areas, and this should qualify them to enter a nursing school or a teachers training institute exactly in the same way as urban girls; but some would also enter the commercial stream.

In terms of occupational fitness, the junior secondary level of educational attainment may be regarded as the minimum for employment as sales assistants, junior agricultural extension workers, clerical assistants, machine operators, craftsmen and journeymen, policemen, small farm operators, etc.

- (iii) The next sub-cycle (senior secondary) is of 2 years duration, and takes the student to the matriculation or university qualifying entrance stage, i.e. the end of the high school stage. The same diversified curricula are offered as continuation of the junior secondary school. Graduates of the senior secondary school would constitute the core of the supply of the middle level manpower, and thus the courses are designed to be terminal at this sub-level, both in the urban and rural system. At the same time, the completion of the courses at this level would qualify for further academic, professional, scientific and technical education and training at the tertiary level.

In terms of occupational fitness this level of education would overlap with the post-secondary undergraduate level of studies, and may be regarded as a minimum attainment for positions carrying a fair degree of individual responsibility as technicians, supervisors and foremen, nurses, stenographers, office machine operators,

salesmen, sub-professional assistants, production engineers, draughtsmen, laboratory assistants, clerks, etc. In the rural sectors they could also be trained in management science to take charge of farming operations and small-scale rural industries.

C. Tertiary level - Duration 1-6 years, or more

- (i) The tertiary cycle, ranging from 1-6 years or more, provides for progression from the secondary graduate level to a wide variety of education and training in the pure and applied sciences and arts. The terminal courses may also range from one-year to three-year diplomas of technical institutes in certain professional and technological studies and in applied sciences with undergraduate status; and from three-to-six-year degree courses at universities.
- (ii) An important feature of the proposal is to eliminate the dichotomy that exists in the status between the kind of academic studies undertaken at traditional university-type institutions, and the kind of studies and training undertaken in the applied sciences and technology at advanced polytechnics, institutes or colleges of technology. The tendency - a carry over from the pre-industrial past - is to regard the practical and applied studies as being somewhat inferior to the so-called "pure", "theoretical" studies. African countries which are trying to develop their economies and societies as rapidly as possible by the application of modern science and technology cannot be hampered by this artificial status division between the "pure" and the "applied", the "mental" and the "manual". Hence the proposal is to follow a uniform practice of awarding "certificates", "diplomas", and "degrees" irrespective of whether the tertiary level courses completed are in the "academic" or "applied" fields. Secondly, the proposals provide, in particular for transfers from the "academic" to "applied" courses, and vice versa, depending upon the growing interests and aptitude of the

individual for specialization. Thirdly, the proposals also provide for continuation of specialist studies and training for research in university-type institutions (academic or technological) from the undergraduate institutes, e.g. technical institutes, agricultural institutes rural engineering institutes and teacher -training institutes. Fourthly, the proposals allow for mobility from the rural institutes to the urban advanced universities, in the appropriate field of specialization. For example, if the educational objective is to enable the rural population to throw up scientists or technologists whose area of interest continues to be in the development of rural economic and social activities, opportunity is provided for them to proceed from the agricultural institute or rural engineering institute to an academic type of university or a technological university. This assumes concurrence between the educational institutions of course credits, which is not impossible if the educators would take an integral view of education and national development needs, and are less tradition-bound. It is also feasible to establish completely autonomous rural universities when developments justify this, with the focus on rural development needs and problems.

- (iii) Another feature of the proposals for coherent parallel sub-systems of education is the provision made for teacher-training institutions both in the urban and the rural sectors, thus ensuring a supply of teachers, whose minds are adjusted to the rural environment, for the rural system of schools, colleges and institutes. The same applies to the training of rural nurses and social workers in the agricultural institute or the teacher training institute. There need be no hard and fast lines of institutional separation in the early stages, at least of the training of agricultural production specialists, agricultural extension workers, community development workers, nurses and social workers for there is much to be said for taking an integral and inter-

disciplinary view of the development of human resources.

- (iv) Both the agricultural and rural engineering institutes will provide a variety of one-year, two-year and three-year diploma level courses in accordance with the high-level and middle-level skill requirements of the rural development plan. It is intended that the attention given to the basic agricultural sciences, as distinct from their applications to production, will encourage some young men and women to continue their studies with a view to engaging in pure or applied research of relevance to agricultural production, e.g. plant and animal genetics, plant and animal pathology, the conservation and utilization of soil and water resources, plant and animal pests, preservation, etc. Similarly the rural engineering institute could provide engineering courses (civil, mechanical, electrical) of relevance to rural agricultural production as well as for the industrial processing of agricultural products. However, the needs of rapid development suggest a sharing of the curriculum time between the classroom/laboratory and the field or workshop. The field and workshop assignments can be made a real life experience if the students are allocated for appropriate periods in production enterprises, very much along the lines in which teachers, nurses, doctors, lawyers and accountants, for example, are trained.

D. Adult Education

Arrangements for (i) part-time education, and (ii) adult education programmes, especially functional literacy programmes, for those who are employed. Continuing education services should be available in the rural sector, and reinforced through the use of mass communication media (radio, television, films, newspapers, etc.). The emphasis of adult education will be on vocational training, on upgrading skills, and on creating receptivity to change. Farmer training

centres, offering full-time courses of 2-12 months duration for producing farmers should be established.

Implementation

4. The reorganization of the rural sub-system of education so that it may become a realistic system, oriented to development needs and priorities is a long-term programme which should be, for each country, preceded by detailed surveys, studies, planning and preparation of administrative and teaching personnel. It is important that we should proceed cautiously, step by step, lest the whole programme founders through insufficient understanding and appreciation of the new goals set for rural education by the community at large and the educationists. It is exceptionally difficult to bring about a conceptual change in educational practice modelled for generations on alien systems, and the resistance to change affects parents as well as the professional themselves who are products of the archaic system. Perhaps, what we ought to do first is to stimulate a dialogue on our university and teacher-training campuses on this concept of development education, of examinations and standards of achievement, of the alleged antinomy between the cultural and vocational in education, and so on. The curriculum of teacher education is not complete without a course on development education. It is paradoxical that such courses are more readily available in developed countries than in the universities of the developing countries.

5. The bottleneck in changing an educational system is not so much money as the lack of a suitably prepared teaching force. We often make the mistake of trying to introduce changes in educational practice without having taken the necessary steps to retrain the existing teachers in terms of content, attitudes and capabilities, and to ensure the adequate preparation of the future supply of teachers. It appears to me that because the development of the rural areas has not had the kind of attention it should have had, the theory and practice of rural education itself tended to be neglected. This state of affairs would have to be remedied first by the establishment in rural areas of teacher-training institutes, staffed by teacher-educators of high calibre who will train teachers for the special needs of integrated rural development and will also promote and undertake research into the specific problems of rural

education. Organisationally, I think these teacher-training institutions should be incorporated within the framework of the rural agricultural/engineering colleges or institutes. Pilot projects of this kind should be established in selected areas before expanding the system. Since the emphasis in rural education, at this stage of the socio-economic development of most developing countries, would be on practical, work-oriented training in the farms, workshops, offices, clinics, laboratories and homes, we would need a large corps of instructors and demonstrators of vocational subjects or skills. The gross shortage of teachers of practical trade courses is likely to be the main constraint to the development of the rural education programme. The urban technical and vocational schools and the industries themselves are competing for the services of such trained personnel. Sufficient experience has been gained in the last World War and since then in the industrially-advanced countries, on short-intensive training of personnel in manual, mechanical and technical skills. The highest priority should be given to this part of the programme.

6. Rural secondary schools should be organised on the lines of comprehensive schools offering a variety of courses. One might also look into the possibilities of devising a core curriculum exposing boys to both agriculture and mechanical arts, the girls to home science and agriculture or clerical skills. This is a complex operation full of problems, especially of location and accessibility to rural students. They would have to be established for their success in some central location such as rural towns, or village complexes planned for rapid urban development. We see in this instance alone how important it is to co-ordinate the educational development programme with other social and economic development programmes. This suggests the early establishment of co-ordinating machinery at local, rural, and national levels.

7. I also think that the management of secondary and tertiary education institutions should be closely associated, as partners in development, with the design supervision and evaluation of integrated rural development projects. In this way, the educational institution will get to know whether it is turning out the type and quality of manpower skills required and whether or not its educational content and methods are having the anticipated impact on individual motivations and attitudes.

8. What I have left for my last point is, perhaps, the most feasible area of educational action; and this is the development of non-formal educational services for the school-leavers who have left without any working skills and for the actively employed adults, men and women. Firstly, functional literacy classes should be started for farmers and industrial workers, men and women. Extension work - both agricultural and industrial - will have its best effect only if it is directed to a literate population. Some countries are finding that training of active farmers - men and women - at farmers' centres, for short periods yields immediate results in the way of increased farm production, which is the demonstration effect on which rural development can be brought about more quickly. The young school-leavers may also be enrolled at these centres and taught agricultural vocational skills, including some mechanical skills. In this field of action, the mass media of communication (news-papers, radio, films, television) also offer great possibilities for imparting techniques and general information, and for changing attitudes.

9. In conclusion, I might, perhaps, be allowed to observe that unless the people themselves are motivated ideologically and take to development as a religion committing themselves to effort and sacrifice for a future life of abundance for themselves and their children, the results attending any scheme of education or economic progress are likely to be meagre.

EDUCATIONAL SYSTEM

