

CHAPTER 3: WORK EXPERIENCE IN SCHOOLS: CASE STUDIES

In this chapter, case studies will be presented of schools in Africa and the Caribbean which have programmes that expose students to actual situations on the school premises, be it in course of the study of practical subjects or as part of an arrangement in which a socially and economically meaningful component of education or training is integrated with one of production.

In presenting these case studies, the context that gave rise to the particular case of work experience being brought on stream is described, followed by a description of the infrastructural requirements or inputs. Where the information exists, the study indicates what the processes were, and what evaluation has revealed.

Production for Economic Self-Reliance in Zambian Schools

Context

In Zambia food production by the people themselves is a vital necessity. Since the majority of the people get little formal vocational education, it has been argued that production should be included in schools' curricula alongside practical subjects with a vocational orientation. A major justification for this is that the traditional academic curriculum does not satisfy the needs of most pupils who will terminate school at an early age. Given the shortage of resources, it is also incumbent on educational institutions to be as self-reliant as possible.

The Educational Reform document of the Ministry of Education and Culture in Zambia identifies vocational goals for grades 8 and 9 related to production. The pupils 'will be engaged in actually making useful products rather than token items in their productive activities, such as agriculture, carpentry, metalwork, or supplying services...the curriculum of the new grades 8 and 9 should, therefore, cater for those who will enter the world of work, and those who will join vocational training programmes.'(1)

The programmes of general senior secondary education are also vocational in orientation. The document states that they, too, should prepare students for life since most of them, 'after completing their National Service, join the world of work. The introduction of practical skills and the idea of education and production are even more relevant here and should be pursued in more depth than at the first stage.'(2)

The traditional way of organising food production in schools has been to keep it as an extra-curricular activity by, for example, attaching Young Farmers' Clubs to schools or getting pupils in boarding schools engaging in 'useful work' at week-ends or during afternoons. This approach met with a measure of success particularly in mission schools with the necessary resources and with knowledgeable staff committed to making it work. In many other cases, however, as Shanks points out, this approach 'degenerated into compulsory labour for the pupils working on a school garden in no way more educationally beneficial or productive than many experienced at their home.'(3) Shanks points out some main conflicts which this 'extra-curricular' approach to production brought about. Not only are few pupils and staff willing to participate, he says, but it also becomes difficult to maintain high academic standards while managing a worthwhile production unit which involves many persons in the school community.

Following the policy that all schools in Zambia should have production units, production is now included on the timetable and treated as a separate subject. The Educational Reform document states that, 'production which undermines or counteracts the learning function of an education institution will not be acceptable.'(4) In detailing the possible educational and social benefits of production work in schools, the document stresses the need for productive work to be organised as an integral part of the teaching and learning programmes. There should, for example, be a link between the syllabuses in the practical subjects and production unit work.

Objectives of Production Units

The Educational Reform document stresses the formation of attitudes and increasing motivation towards national development. Also emphasised are objectives relating to the teaching of personal qualities, e.g. discipline, self-reliance, leadership, respect for labour, self-satisfaction, a sense of belonging and achievement through appropriate activities, and collective endeavour. Other objectives include a demonstration of the relationship between theory and practice of food production and the development of individual talents which would otherwise not have emerged through the normal curriculum subjects.

Inputs

The amount of land available to schools vary. Shanks reports that one urban school had to cultivate around and between classrooms due to lack of land space while other schools had as much as 20 acres. Other essential inputs for the production units are:

- (a) Adequate water supply.
- (b) Adequate finance for initial establishment of enterprises as well as working capital needed to cover items such as foodstuff, seeds, pesticides, fertilisers and marketing costs.
- (c) Equipment, tools, machinery.
- (d) Special buildings for livestock, food storage and storage of tools and machinery.

(e) Enthusiastic leadership on the part of the principal or the organisation.

(f) Adequately trained personnel.

Organisation and Management of Production Units

All the schools utilise some form of committee system for the control of production unit work, but this varies from school to school. For example, a school could have both a steering committee and a management committee. The appointed head of the food production unit usually acts as the chairman of the committee, but otherwise his responsibilities may be within any department in the school. The principal and deputy may be ex-officio members of the committee. The number of other staff members varies from two to four. The school bursar or representative of the commerce department is usually a member. The agricultural science department may be represented on the committee or its staff serve as advisers. Some schools also have student representatives on the committee.

The function of the committee is to plan the general policy and arrange for the supply of materials, etc. The head of the unit issues termly or weekly directives to the teachers in charge of work groups. Work may be organised on a class basis within the timetable, or on an hourly basis for afternoon or evening work (e.g. vegetable garden, field crops, poultry, pigs). Although in a few schools only teachers with light teaching loads are required to be involved in production work, in most schools everyone is involved as part of their normal work load. The number of production periods varies from one to three a week. Many schools exclude or reduce the involvement in production of pupils preparing for external examinations.

Shanks reports a problem in the organisation of the day-to-day production tasks in that there are sometimes many more pupils available than the tasks demand. For example, there is a limit to the amount of digging, hoeing or planting that needs to be done, and such tasks only become intensive at certain times of the year.

Evaluation

From an evaluation of Zambian schools with production units, Shanks concluded that only four of those visited could be considered as approaching the standard of production and educational benefit necessary to really justify the efforts expended on them. Of the remainder, nine were clearly attempting to build up a satisfactory production unit with educational aims in view. Nine others were considered to be of limited value, although they were producing some food. Six were definitely falling short both in terms of productivity and educational benefit.

Shanks makes special mention of one school - a boys boarding school in a rural area - that had an efficient and comprehensive production unit. Its produce included broilers, layers, eggs, beef and pork, rabbits, carrots and green bananas. Although its expenditure on field crops and broilers exceeded income, its income from layers, rabbits, cattle, pigs and vegetables exceeded expenditure. In terms of produce sold to cover costs, and that consumed in the school, the output of the production unit was

considerable. In addition, says Shanks, 'the range of activities and interests such a unit as this generate demonstrates well the potential educational value of production units in schools.'(5) Factors that contributed to the success of this school are identified by Shanks as follows:

- (a) An exceptionally enthusiastic and well-informed principal.
- (b) The involvement of the head of agricultural science department in the production unit work.
- (c) Promotion of self-reliance measures through the exploitation of the expertise and interest of other staff members.

An example given of the latter is the construction of a biogas generator using animal dung as fuel which enabled the school to do away with the use of costly bottled gas.

In many of the schools visited, the following were identified as difficulties which prevented the effective operation of the production units:

- (a) Inadequate land space and poor soil quality.
- (b) Poor water supply: inadequate funds to buy pipes, build tanks, etc.
- (c) Absence of adequate financial capital for the initial establishment of the unit, and working capital to cover the cost of seeds, pesticides, fertilisers, etc.
- (d) Inappropriately designed buildings erected for housing livestock, food storage, etc.
- (e) Inadequate organisation of the supply of tools; haphazard distribution.
- (f) Poorly maintained equipment.
- (g) Inadequate yields in crops due to thefts and use of improper planting techniques and after-care.
- (h) Expense and shortage of feeds leading to decline in livestock rearing.
- (i) Minimum or non-existent involvement of agricultural science departments in food production.
- (j) Negative attitudes on the part of parents, students and teachers.

With respect to the last point, questions have been raised as to the usefulness of work in production units in terms of material output and the educational value to the pupils. Zambian parents have consistently regarded school gardening and agriculture as a waste of time. The students, whereas they like practical subjects in the curriculum, generally do not like production unit work. The teachers question how they, with their training in subjects quite unrelated to food production,

can be expected to become good managers of food production activities which require specialised knowledge, technical ability and some business competence. Many teachers believe that educational objectives are inevitably sacrificed in production unit work where, by the nature of things, the aim is to be productive and profitable.

Training for Self-Reliance in Lesotho

Context

Before Lesotho became independent in 1966 almost all schools founded and run by churches stressed Bible reading and the arts rather than science. After independence, the shortcomings of the educational system were thrown into relief when the country needed teachers of the science, doctors, engineers and technicians of various kinds. The government submitted a proposal to the World Bank to set up workshops and other rooms for practical subjects in six pilot schools. The World Bank agreed and the Training for Self-Reliance Programme was implemented. The subjects were agriculture, typewriting, bricklaying, basic handicrafts, home economics, metalwork, needlework, technical drawing, and woodwork. The last of these is the subject of the next case study.

Woodwork Teaching Objectives in the Training for Self-Reliance Programme

Himmelheber(6) identifies seven objectives that can be pursued through the teaching of woodwork. These are:

- (a) To provide pre-vocational training in skills in joinery and carpentry which provide a sound base for vocational training in schools (e.g. LTI Maseru, Leloaleng, Leribe).
- (b) To teach the virtues of craftsmanship (e.g. accuracy, tidiness, simplicity, economy) alongside technical and craftsman's skills.
- (c) To give students the skills that would enable them to tackle commonplace problems such as how to repair a jamming door or replace a broken window-pane.
- (d) To enable the practical application of knowledge from other subject areas (e.g. physical science, mathematics).
- (e) To develop creativity.
- (f) To teach students to treat craftsmanship with as much respect as white-collar work.
- (g) To teach co-operation.

Inputs

Given that the Training for Self-Reliance Programme was a World Bank project, new buildings were erected and workshops equipped in the six pilot schools at a cost of several million dollars. Experts were called in to develop syllabi for the new programme. Himmelheber writes:

The incoming experts slightly modified the one used 'back home' and then introduced it into the school. No discussion took place about the objectives and teaching methods of subjects such as woodwork or domestic science.(7)

Programmes were introduced for teaching woodwork and metalwork at the National Teachers Training College. Due to lack of adequate land space for agriculture and inadequate supply of typewriters, no training was provided in the areas of agriculture and typewriting.

Process

The students, in preparation for the Junior Certificate examination, study woodwork practical, woodwork theory and woodwork drawing. In woodwork practical, the students do exercises and undertake project work. The exercises involve practice in the making of joints out of small pieces of timber. Project work is supposed to serve a functional purpose (e.g. the making of a coat hanger or key stand). In woodwork theory, students learn about the various tools in a workshop as well as about timber technology. During woodwork drawing the students draw articles they are going to make in the practicals. The teacher does the planning and designing, and students, for the most part, are simply required to copy down the drawing or model designed by the teacher.

Evaluation

Himmelheber points out that in the second phase of the Self Reliance Programme another ten schools were added to the original six pilot schools. At the time the article was written (1983) the consolidation phase had been reached. Now, says Himmelheber, 'we are heading for Phase IV and still nobody seems to really know what 'self-reliance' means....'(8) The didactic form of instruction that dominates woodwork classes does not serve to develop the kinds of skills and qualities that foster self-reliance (e.g. how to work with others, how to design and plan a project, how to make decisions individually or collectively, how to use existing techniques etc). In fact much of what is taught in practical work is considered irrelevant by the students since the sorts of projects they are required to do are what was required of the O-level syllabus in Britain some twenty years before. In short, if the project work were organised as a team effort, involving groups of students working together to produce marketable goods on however a limited scale, then these young people could be said to be experiencing in a workshop situation the processes of the workplace in the 'real world of work'. As it stands, according to Himmelheber, the teaching of woodwork in Lesotho schools is rapidly becoming established as just another academic subject.

The West Indies College in Jamaica

Context

The West Indies College (WIC), a Seventh Day Adventist institution, prides itself in being the initiator of the work-study concept in Jamaican education. Established in 1919 it started off with only 27 students, but from the outset several industries such as baking, farming, dairying,

sheet metalwork and printing were established. Students worked part-time in the laundry and kitchen, and all students had to put in two hours of unpaid labour a day.

The worldwide economic depression of the 1930s adversely affected the school, but the poverty of the time was alleviated by the production of the school farm and bakery. In the late 1930s, Wednesday was declared a non-instructional day at the school when students had to put in a full day's work in the industries, especially the farm. The farm thrived, producing vegetables and crops of all kinds. This helped to lay the groundwork for later years.

From humble beginnings, the institution has flourished. Today it is a complex housing a college, a primary school and a high school with an enrolment of approximately two-and-a-half thousand. Among the students, especially those in the college, are some from about 30 countries.

'To cultivate within students a wholesome respect for the dignity of labour' is one of the objectives of the West Indies College (Bulletin 1978-1980, p.7). Work, study and religion, according to the philosophy of WIC, combine to make up the whole person, because all three contribute to the cultivation of body, mind and spirit.

Inputs

WIC spreads over 200 acres, most of which is given over to farming. Crop cultivation has declined in recent years, largely on account of heavy losses due to theft. A number of students, however, still obtain employment on the farm.

Self-sufficiency is a marked feature of the institution. WIC is able to meet 93% of its expenses from the community, the alumnae, and the sale of products from the farm and industries. The remaining 7% of expenses is met by the Governing Board.

WIC provides opportunities for students of Seventh Day Adventist faith whose families cannot afford to pay the cost of their education, to work their way through school right up to university level if they so desire. There are instances of students working full-time for a year on campus to save up to continue their high school or college education.

The current practice is that needy students who gain on-campus employment work up to four hours per day. Whatever money they earn is credited towards their account with the college. Such outstanding amounts of their account that students are unable to meet by their labour have to be provided by the students themselves, their relatives or by some other means. If a student leaves the College with credit to his account, the money can be transferred (within two years) to the account of an immediate relative. If this is not done within the two-year period, the credit reverts to the college.

Work may be assigned in the service departments (i.e. cafeteria, laundry, maintenance), in the administrative offices of the college, on the farm, or in the industries (i.e. college wood products, WESTICO products - bakery, food processing, cannery - the printing press, sheet metal shop and college store). The sheet metal shop makes beds, burglar bars, galvanized roofing etc. for use at the college, while WESTICO makes

cereals and canned products consisting of vegetable protein meals made from soya. These are distributed by two local distributors to all parts of the island, and have become standard products on supermarket shelves.

The college press is another thriving industry, printing Seventh Day Adventist materials for all parts of the world, as well as printing yearbooks for local schools and a variety of books, periodicals, calendars and stationery for use throughout the island as well as abroad.

Process

The day begins early at WIC, usually at 5.30 a.m. followed by worship at 6.00 a.m. The high school students do academic studies between 7.30 a.m. and 12.30 p.m. during which time the college students man the services and industries. Between 12.45 p.m. and 5.00 p.m., the high school students do their work duties while the college students engage in their academic studies. This work-study routine is followed except on occasions when, for example, the college press has orders to fill which necessitate certain students working much later hours.

The writer interviewed past students of WIC, now employed full-time at WESTICO and in other industries, who recalled the exacting nature of the work-study programme in the high school which, by evening, left many of them quite exhausted. They expressed no regrets and were convinced that without the opportunity offered them by WIC they would not be where they were.

Obviously, over the years, WIC, has had its fair share of 'drop-outs'. A major reason given for this is that some students enter under the misapprehension that life at WIC is easy and are unprepared for the stamina, determination, self-less service and dedication that the college requires of them in order to succeed.

Though the use of student labour has advantages, there are also disadvantages. During the examination periods especially, a number of students request time off work to study or do not turn up for work at all. This inevitably leads to disruption in industrial activity. As a result, there has to be constant retraining of new student workers which does not facilitate optimum efficiency and productivity.

Evaluation

The work-study programme at WIC is judged by top administrators at the college to be cost-effective. Undisputedly, institutions with work-study programmes like that of WIC do lessen the burden on a government's purse strings. For example, funds for a new library were raised by the alumni and by businesses and private citizens. Needless to say, too, the economic burden on parents is lessened by the work-study programme because it enables students to support themselves in fair measure.

What is striking about WIC's work-study programme is the variety of useful skills that people can attain in the process of their education - skills they can use later on when pursuing further academic studies. For instance, a well-known Member of Parliament worked in a printing press to help pay for his expenses while studying abroad. Medical students have worked in bakeries; theologians have done carpentry; and there are many other examples.

The Jose Marti Secondary School

Context

That the Jamaican government in the 1970s was bent on emphasising education and productive work is evident in the Five Year Education Plan (1978-83). The Plan envisages that throughout the five years of secondary education, each student will pursue 'Studies and work experience in at least one technical/vocational area.' Special emphasis was to be placed on attitudinal changes with a view to developing positive attitudes towards work:

To achieve the necessary attitudinal changes special efforts must be made to redress some of the imbalance chronic in the educational offerings. Thus, productive work will be given emphasis so that the school can be seen to be a functioning economic unit, with each student having a role in the productive process. Production in the education system is linked to overall national goals.(9)

Thus, one of the objectives of five years of secondary education at the time was 'developing and implementing a school production programme with accent on economic production and co-operative activities.'(10) The goals of the productive work programme were further delineated as follows:

The first goal of the productive work programme in secondary schools is self-sufficient. The programme will concentrate on producing foodstuff for the school cafeteria, as well as maintenance of the buildings, grounds, equipment and repair and replacement of furniture. In accordance with the second goal of producing a surplus, students and teachers will seek to produce and market food, goods and services in the community. The third goal is to influence parents and families to take part in food production programmes and other productive work programmes on a community basis.(11)

The school in which these goals were most effectively implemented was the Jose Marti Secondary School, a gift from the people of Cuba. It was built by a group of Cubans along with Jamaicans, and was almost fully equipped before it was handed over to the Jamaican government in 1976.

The Jose Marti Secondary School incorporated features of both the high school and new secondary school systems in Jamaican education in that it constituted an amalgam of academic work and practical activities. It was geared towards counteracting the stigma against academic failure and instilling in the students a feeling of self-worth together with the conviction that they all had something of value to offer the world. Involvement in all types of work necessary for the functioning of a community was geared to instilling in students an appreciation of the value to society of all persons, regardless of the type of work they do.

Inputs

The design of the school building was modelled on that of the Cuban school in the countryside as described by Morales and Araujo.(12) It was 'people-oriented' in that it took into consideration the fact that the

students and some of the staff had to live there for most of the year. Its two blocks - one, the living area, the other, the study area - were linked together by an attractive recreation area. There were six dormitories for boys, four for girls (housing altogether 560 students) and two dormitories for staff members. There was also a health centre with male and female wards and facilities for medical and nursing staff. A large, spacious kitchen and a dining area completed the outlay.

The study area, apart from classrooms, contained three well equipped science laboratories, an industrial arts unit, and a home economics unit equipped with tables and other furniture made by the students. There were four staff rooms, a lecture theatre used for both study and recreation, and facilities for track, football, hockey, cricket, basketball, volleyball, and other sports.

The school was situated on 177 acres of farm land. The farm itself occupies 150 acres with piggery, dairy, poultry and agronomy units all managed by students with the help of supervisory staff. Fish ponds were constructed and an aquaculture programme began in the 1983-84 school year.

Although all the teachers in the school were trained, their only experience of a productive work programme was a visit they paid to Cuba to see how the programme worked in the Cuban educational system. The principal had a strong commitment to the ideology of education with production.

Process

The curriculum was based on a work-study programme which combined work on the farm with academic studies. 'Work' consisted of typical everyday duties which a child or adult could be expected to do in a normal daily routine. Duty rosters were posted on the notice board identifying students who were responsible for doing such things as washing, cooking, cleaning, and serving in the dining area. Every three weeks the canteen and household duties were rotated. Groups of students were also assigned to whatever jobs that were necessary for the smooth running of the community, no distinction being made between boys and girls.

Students did agricultural work for two-and-a-half hours a day either from 7.30-10.00 a.m. or from 1.30-4.00 p.m. Times in between were spent on the usual subjects in the New Secondary school curriculum, but at Jose Marti there was an emphasis on the vocational subjects - home economics, accounting, farm management and business education.

When the school opened in January 1977, it was geared to a roll of 700 boarding and day students. For two terms it had 500 students, 150 of whom were day students and the rest boarders. In order to have island-wide representation, students were selected from every parish.

The admission of day students was eventually suspended for a number of reasons. First, there was the problem of transporting students to school by 6.30 a.m. Second, day students developed a habit of getting to school late on purpose to avoid doing their share of duties on the farm. This often led to feelings of resentment on the part of the boarders who had to

take on additional tasks. Third, differences in the academic performance of day and boarding students became apparent because day students had to travel considerable distances which reduced their study time while boarders had special times scheduled for 'prep' in the evenings. However, the factor which prevailed most against the government's attempt to maximise the use of the school, related to the structure of the school plant itself. The septic tank had been built for a maximum capacity of 500 students.

Much has happened since 1977. When the government lost the 1980 election, one of the first actions of the new government was to break diplomatic relations with Cuba. In the years that followed, pressure was put on the Jose Marti school, dubbed since its inception the 'Cuban school', to increase its intake and revert to taking in day students. The principal resigned at the end of the 1984-85 school year. His successor, who had taught at the school since its inception, served as principal for one year and then resigned. Neither could bear to see a school that had achieved considerable success at self-sufficiency disintegrating before their eyes for political motives.

Evaluation

The principal, in an interview with the writer, described the advantages of the residential facilities at Jose Marti which eliminated the transportation problems that beleaguered many Jamaican school children in rural areas and overcame problems of irregular or late attendance, Friday absenteeism and the 'drop-outs' suffered by other schools. Furthermore, in the days when the productive work programme was functional, students were better off physically in terms of diet, nutrition and adequacy of living conditions, and emotionally in terms of the bonds and relationships that developed. For many students Jose Marti was more 'home' than their real homes, as witnessed by the reluctance of many to return home during the holiday periods.

Another advantage of the Jose Marti curriculum, pointed out by the principal, was that costs were low since the students did much of the work themselves. It was not that their labour was exploited since the students only produced enough for their own needs, but by generating a degree of self-sufficiency, much of the burden of keeping children at school was removed from the taxpayer.

The recurrent cost of maintaining the upkeep of the school premises was kept to a minimum by the students who, besides paying a maintenance fee each term, undertook whatever electrical, furniture and structural repairs they could. Furthermore, because the school was residential, the students developed a pride in it as their home and maintained vigilance for any act of vandalism.

An evaluation of the work-study programme in 1984 revealed that the school was operating under certain constraints, such as inadequate funding from the government and lack of equipment. This situation arose because of severe losses in the productive work programme experienced since 1980. Foodstuffs, cattle, fish and other produce were stolen, resulting in the loss of thousands of dollars which were needed to meet the recurrent costs of the programme. The study further revealed that the objectives of the programme were being met in terms of preparing students for the world of work, achieving some degree of self-sufficiency, and maintaining a balance

between the academic and the practical. However, the objective of encouraging young people to enter agricultural careers was not being realised.(14)

The Role of the Principal

The success of the school's work-study programme was due in no small measure to the quality of leadership given by the first principal. He had a genuine belief in the ideal of self-reliance and an unquenchable thirst for trying out new ideas. The aquaculture project was a witness to this. He saw it not simply as a means for self-sufficiency in the school itself, but as a way of reaching out to the community. In addition, eggs were supplied at prices much below the market value, and the school dairy provided both the school and the immediate community with milk.

The principal envisaged that in time the various projects would yield such profits that the school would be able to generate its own budget. Had he continued in the school, and had the school received the support of the government, such an objective might well have been realised.

The Rural Education and Agriculture Programme (REAP) in Belize

Context

Belize, with an area 8,866 square miles and a population of only 152,000, is a land of tremendous potential. Since the early 1970s the government has made special efforts to orientate its educational system to agriculture in an attempt to harness this potential. For example, it has decreed that secondary school syllabuses should be orientated towards those sciences which are relevant to the development of agriculture.

There are some 203 primary schools in Belize, about 78% of which are located in the rural areas. As in other ex-British Caribbean territories the primary school curriculum follows the British model of academic training mainly in mathematics, language arts, science, social studies, the arts and religion. Drop-out rates, however, are high, and for almost half of the pupils primary education is terminal. Between 40-50 per cent of the rural children do not go beyond the eighth grade.(16) Reasons given for this have ranged from the quality of instruction and poor educational facilities to the low level of teacher education. Only about 35% of Belize's primary school teachers are trained.

Rationale and Objectives

In a system that has for so long structured school curricula towards college and university education, only a very small percentage of rural children can be expected to overcome the economic and social constraints that block their aspirations. It is hardly surprising that many of them leave school ill-equipped for further education or for the world of work. In the hope of redressing the plight of these rural youths, the Belizean government in 1976 launched the Rural Education Agricultural Programme (REAP), 'a project that will create the attitudes and provide the skills necessary for young people to make meaningful contributions to the agricultural development of the country.' (Government of Belize, 1977, p.54).

The main objectives of REAP are:

- (a) Counteracting a perceived tendency for rural school-leavers to aspire to living and working in urban areas or abroad by encouraging, through REAP, a positive interest in and respect for rural careers, and a pride in living and working in rural communities.
- (b) Making it easier for children to learn traditional subjects by integrating REAP areas of study with these, to make a bridge between the children's rural experience and the academic subjects.
- (c) Making use of action-based teaching methods to encourage children to develop their own learning and problem-solving skills.
- (d) Encouraging better nutrition by including practical learning of how to grow and eat nutritious food (e.g. vegetables, small animals, poultry).

(Undated Ministry of Education and Sports document pp.3-4)

Inputs

Each pilot school had an Outdoor Education Centre (ODEC) consisting of a new building, garden, crops, rabbit hutches, etc. for the practical application of learning in an agricultural setting. These ODECs were later replaced by more secure storage units. A number of these units were built during the 1981-1982 school year. Heifer Project International (HPI) supplied at cost, feeders, wire, chicks, baby rabbits and some feeds. CARE (the Co-operative American Relief Everywhere) supplied project schools with equipment, some agricultural supplies, transportation support and some financial assistance in the construction of the ODECs. Peace Corps volunteers served as both technical support/co-ordinators of the pilot schools and as lecturers in the REAP training programme. The Belize Ministry of Education had the responsibility for training teachers and principals in the pilot schools and supplying an education officer to manage the project.

Training of teachers was done largely through workshops, the length of which varied from two weeks to two days. Between July 1976 and February 1979 some ten workshops were held at which teachers were trained in the use of equipment and record-keeping. They were also given agricultural skill training and introduced to principles of curriculum development. Twenty similar workshops were held between July 1979 - June 1982.

Programme Implementation: Process

REAP was instituted in 1976 by a unique intra-ministerial and international agency group comprised of representatives from the Ministry of Education and Sports, Social Welfare and Natural Resources (Agriculture), CARE, HPI, and the U.S. Peace Corps. This group later was formalised into the REAP Advisory Committee (REAP-AC).

REAP was conceived in three phases. During the pilot phase (July 1976 - June 1979) it was agreed that the international aid agencies would provide

the buildings, technical and material assistance, and logistical support. During this phase, REAP was piloted in eight primary schools in three of the six districts in Belize and in one secondary school. The latter, however, withdrew in 1977, largely on account of difficulties in articulating the REAP curriculum with its traditional academic curriculum. The main thrust of the district level phase (July 1979 - June 1982) was the expansion of REAP to all six districts in Belize with the gradual transfer of much of the technical and material assistance and logistical support from foreign agencies to the government ministries, community groups and service organisations. This transfer is expected to be completed sometime during the national level phase which began in July 1982 'and will be an on-going programme of undeterminable length.' (REAP in Belize - Ministry of Education, Belize publication, October 1983, p.6). During this last phase, REAP is expected to expand into as many rural primary schools as possible as well as into urban schools. One urban school joined the programme in 1984. In 1983, there were 51 REAP schools throughout Belize with 7,984 pupils involved in the programme (Overview of REAP, Ministry of Education, Belize publication, 21 November 1983, p.2).

The core of REAP consists of Learning Activity Packs (LAPs) which are outlines of lessons for appropriate grade levels in which teachers are given performance objectives related to a REAP area of study, suggested activities, instructional materials required and reading references. These LAPs are developed around nine areas of study: land and water; soil; health and nutrition; ecology; animals; village study; weather; plants; agricultural practices. These serve as the 'threads' to integrate the academic subjects - language arts, maths, social studies, science, art and craft, and music. Teachers are required by the Ministry of Education to plan their lessons and to blend these LAPs with their lesson plans. Students in REAP schools are required to spend 50 hours per school year doing supervised agricultural practice.

Evaluation

Massey reports that various measures were taken to assess the learning outcomes of pupils in REAP schools in comparison with those at non-REAP schools but these proved unreliable. A comparison of the scores of REAP and non-REAP students in the maths and language arts portion of the primary school leaving examination, revealed significant differences between the scores of REAP and non-REAP students in the language arts tests. But the fact that the scores of REAP students were higher than those of non-REAP students could not be attributed to REAP.(17)

The objective of teaching children scientific problem-solving methods has not been achieved since none of the LAPs were designed with that end in mind. Furthermore, the formal integration of the REAP curriculum with the ongoing curriculum was not accomplished. A survey of parents, teachers and students from a representative sample of REAP schools revealed in excess of 90% positive responses to REAP. Parents said that the programme had influenced their children's diets, and that the new agricultural methods learnt could improve efficiency, thereby making farming a worthwhile occupation. All eight pilot schools were successful in growing vegetables and raising chickens. Seven made profits and the other broke even. Community involvement (e.g. in building of the ODECs) was 'impressive and worthwhile.'(18)

In terms of REAP students opting to work in rural areas, a survey was conducted of 148 school leavers from eight pilot schools and 11 non-REAP schools. These were the first group of school leavers to complete a REAP programme. The survey revealed that most REAP graduates wanted to proceed to further education in the Belize College of Technology. Almost all the girls from REAP schools wanted to pursue careers in secretarial and commercial fields, while most of the boys wanted training in a skilled manual trade. Out of 36 REAP students who responded to the item on the questionnaire, only three expressed interest in further studies in agriculture. When asked about their employment preferences, only two boys expressed interest in farming. The writers of the report (Ministry of Education, Belize, 1982) said, 'This is perhaps a disappointing finding in a view of the hopes that a REAP education might encourage more young people to move into careers in this field.' (p.11)

REAP, however, may have had some influence on attitudes towards the community. More REAP than non-REAP school-leavers were involved in the community and had some project going (e.g. poultry-raising, bee-keeping).

A study by Edmond (19) which investigated the influence of REAP on attitudes to agriculture and rural employment, revealed no significant difference between students in REAP and non-REAP schools. However, students and teachers in REAP schools considered the programme valuable in helping families to prepare better diets and teaching the young how to become self-employed. Edmond also found that of a random sampling of REAP students, 80% had remained in rural Belize. Opportunities for rural employment, however, were limited, and some of the students had had to resort to such occupations as child care. The main problems experienced by students in REAP schools were lack of proper clothing for doing agricultural work, scarcity of tools and equipment, inadequate cleansing facilities, poor first aid provision, and theft of crops.

Overview

Six of the 9 countries responding to question 2 of the questionnaire (see Appendix A) said that work experience on school premises is organised mainly in practical subjects, as in the case of the study of woodwork in Lesotho schools. But which practical subjects lend themselves best to work experience of this nature? Typical responses were:

Technical skills e.g. carpentry, masonry, plumbing - Tanzania, Botswana

Agriculture - Tanzania, India

Any subject, but especially practical subjects like woodwork, metalwork, automechanics, building construction - Mauritius

Home economics, industrial arts, agricultural science - Western Samoa

Industrial arts, carpentry, home economics, motor mechanics, agriculture, business studies - Guyana

Interestingly, Western Samoa also identified 'cultural studies' and 'language arts - English and Samoan' as practical subjects and 'science and biology' and 'environmental studies' were identified likewise by India.

In terms of the ways in which each subject incorporates work experience into pupils' learning, the responses were not very specific. Nevertheless, some indication was given by Guyana:

In Industrial Arts pupils construct school furniture and other articles which prepare them for the experience of the world of work. Catering for mass games and other social functions do likewise for students of Home Economics.

This trend is also evident in a number of secondary schools in Jamaica where in industrial arts classes students make school furniture and do electrical repairs and similar types of work in the wider community. Earnings from such services are put back into school projects.

As has become evident from the case studies, in-school work experience has a long history, but not many programmes have survived as long as the West Indies College. Why they were discontinued is instructive. Brizan,(20) for example, describes the Bernadette Bailey Secondary School which was established in Grenada in 1980. Work-study, he tells us, is the guiding principle of the school but no indication is given of how it was implemented in practice. Maurice Bishop, the late Prime Minister of Grenada, once said that 'Education and production are inextricably linked and in fact productive work is the only real foundation of true knowledge.'(21) But with his death, that thrust in the educational system came to an end. In the late 1960s Knox College, an elite, partly boarding high school in Jamaica, was hailed as 'a centre of education innovation.'(22) In those days it operated a co-operative work programme which required students to spend between 8-15 hours a week on the school farm or in work centres engaged in food production, food processing, food preparation and serving, laundering, maintenance and construction. Thirty of the college's 100 acres of land were intensively developed for farming and livestock rearing. A small food processing plant was established with facilities for slaughtering livestock, processing milk, making baked products and storing vegetables and fruits. The work programme, which sought to eradicate contempt for work, met with the same sort of negative attitudes on the part of students and their parents as Shanks identified in Zambia. A main reason for its eventual collapse was parental resistance to their children having to work on the farm and doing the sorts of duties which maids and gardeners were employed to do at home. However, the construction and maintenance work centre had a far-reaching impact on the school community. Classrooms, office furniture, staff housing and other buildings are still monuments to the achievement of students who worked in that centre.

Although the evaluation of in-school work experience programmes - as in the case of all innovations - tends to be weak or non-existent, there is sufficient evidence to lead to the reasonable conclusion that such programmes do achieve a blend of the practical with the academic in secondary school curricula. Research has revealed the positive impact of certain programmes (e.g. in terms of influencing the diet of the children and their families as in the case of the REAP programme in Belize). There is no doubt that leadership in the institution is a crucial factor. However, it has to be noted that some in-school work experience programmes have been discontinued not because of a failure to achieve objectives or any inherent weakness in their conception, but largely for political reasons.

Summary of Main Points

1. In-school work experience programmes often meet with initial difficulties on account of lack of adequate inputs such as inadequate land space for agricultural programmes; inadequate water supply, especially in urban areas; inadequate finance to purchase foodstuff, tools, machinery, etc; and lack of trained personnel to implement programmes effectively.
2. The success of some in-school work experience is impeded by negative attitudes on the part of students and their parents towards practical/manual work.
3. Theft of produce on an excessive scale has thwarted the success of some in-school work experience programmes.
4. There is a danger of the educational goals of a school being sacrificed for the economic goals of production.
5. The instructional methodology employed often does not foster the achievement of ultimate goals. For example, self-reliance as an ultimate goal can hardly be achieved in situations where the form of instruction is didactic and teacher-centred.
6. Leadership in the institution is crucially important if an in-school work experience programme is to succeed.
7. Evaluations of in-school work experience tend to be weak or non-existent. Nevertheless, some evidence exists that these programmes have succeeded in creating a balance between the academic and the practical in-schools' curricula; enabling schools to become at least partially self-sufficient; and influencing the lives of children and their families (e.g. in their diet).
8. Some in-school work experience programmes are discontinued for political motives.