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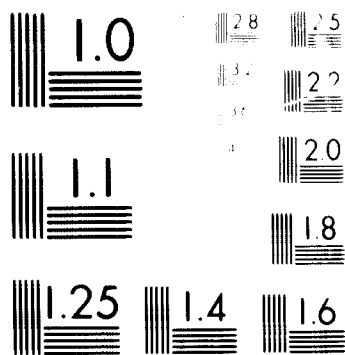
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Expert Group Meeting on Institutional Infrastructure
for Industrial Development in the Least Developed
African Countries

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VOCATIONAL TRAINING AND INDUSTRIAL DEVELOPMENT *

prepared by

International Labour Office
Geneva, October 1978

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Background

It has been acknowledged that in addition to their weaker socio-economic positions, the general conditions of the least developed countries in Africa are characterised in varying degrees by somewhat weaker administrative machinery and less well-developed infrastructures than other developing countries. In addition to problems such as drought and other natural limitations, the landlocked and island countries suffer from the special problems of transportation which can affect industrial development. Within the limits of their resources, substantial allocations are being made by these countries in manpower development and research.²⁾ There are however indications of skilled manpower deficiencies of one form or another which should be tackled as a part of the strategy for any expanded industrial activities. The problem of skill development is further exacerbated by the absence in general of the industrial environment and traditions which act as stimulants to vocational training.

Industrial Training and the major Problems Encountered in the Implementation of Institutional Functions [Agenda items II (d) and III (d)]

Globally, the policy statements which followed each of four important conferences³⁾ in 1976 indicate a consensus that development should be self-reliant and based upon autonomous technological capacity. At the national levels the quest for autonomous technological capacity must of necessity be accompanied by a growth of national training capacity to satisfy ensuing demands for trained manpower. Furthermore, training is essential if industrial development is to be people-oriented and satisfy one of its social objectives of generating employment through self-sustaining entrepreneurship development for the creation of jobs.

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- 1) In 1971, 25 such countries were identified by the UN on the basis of their having the lowest per capita income, lowest literacy rates, and relatively smallest manufacturing sector (General Assembly Resolution 2768 (XXVI) 18 December 1971). Four countries were added in 1975 (GA Resolution 3487 (XXX) 12 December 1975). The eighteen African countries are Botswana*, Burundi*, Chad*, Benin, Ethiopia, Guinea, Lesotho*, Malawi*, Mali, Niger*, Rwanda*, Somalia, Sudan, Uganda*, United Republic of Tanzania, Upper Volta*, Gambia, Central African Empire*. To these must be added the countries which have recently acquired their independence.
*landlocked
 - 2) Education for Development, a report prepared by the ILO for the Fifth African Regional Conference, Abidjan, September-October 1977, Page 21 and 22.
 - 3) UNCTAD IV (Nairobi May 1976) HABITAT (Vancouver, June 1976), World Employment Conference (Geneva, June 1976) and the Non-Aligned Summit (Colombo, August 1976).

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In many ways training can be regarded as an agent of industrial development, especially in the least developed countries where the evidence shows both shortages and mis-matches between available skills and the requirements for industrial development. The well designed training system, carefully planned to meet the needs of both industry and the individual, can provide a useful source of manpower for all aspects of basic industrial supervisory and managerial skills, and, in addition, emphasise the development of indigenous skills and the use of indigenous materials.

For example, in one small enterprise project development in Swaziland, the conclusion has been drawn that the main thrust of the project should be on training and entrepreneurship development rather than industrialisation per se.¹⁾ On this particular project it was also recommended that small business management training and technical extension services including direct consultancy should be a continuing activity and part of the entrepreneurship development programme.

In another case, in an approach to rural development in Lesotho²⁾ the value of building up an economic enterprise at a Centre has been demonstrated as a means of developing human resources which provide a foundation for future development. In this case, experiments were initiated and resulted in the production of a satisfactory mixture of clays for earthenware products. This was regarded as a major achievement by the evaluation team, which reported that the pottery department had been brought to a take off point for significant production in a previously untried area.

Policies and Co-ordination

Initiatives to create, operate or re-organise training for skilled manpower which is required at all stages of industrial development, can have the desired impact only if action is taken within a national framework of a co-ordinated training policy, based upon inter-sectoral interests. An integrated approach is essential to combine training, infrastructural development, the provision of extension services, credit facilities, "seed money" for commercial ventures, land reform, and the various other elements of the development pattern.³⁾ Training can thereby be made more supportive to the process of industrial development.

Learning has two principal objectives of supplying skilled manpower at various levels in accordance with the demands of the economic and social structures, and satisfying the personal needs of the individual. Learning is therefore seen as a life-long process and as a factor which generates the total involvement of people in the active life of their countries. Thus, the developmental aspects of training demand considerations which go beyond the capacity of industry.

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- 1) Swaziland - Small Enterprise Development UNDP/ILO/SWA/71/505
Technical Report I - Pages 19 and 20 (ISBN 92-2-1-101820-2).
 - 2) Thabana Li Mele Handicraft Centre, Lesotho.
Finding of an evaluation Mission (SIDA/ILO/Govt. of Lesotho)
ILO Report Geneva March 1976 - Pages 14 and 20
 - 3) Education for Development op. cit. pages 13, 44 and 61.

Likewise the training system cannot function in a vacuum since there is the constant risk of institutions finding themselves out of touch with the requirements of industrial development. Learning needs also change and a flexible system is necessary to satisfy new demand for skills, to overcome problems of irrelevant training and to increase productivity.

This would require collaboration and co-ordination at various levels to develop and maintain a training system with policies and programmes which are compatible with the needs of the individual, industrial development and relationships within industry itself as well as other sectors.

Where development has been fragmented, sometimes of necessity, questions will always arise on the need for linkages to reduce the risk of overlap and to develop stronger complementarity between various training activities.¹⁾

The principal stages at which collaboration is considered necessary are :

- the policy and planning level, including feasibility studies; the various stages of manpower and training needs assessment, and the specification of programmes, curricula and technical syllabi;
- the delivery system including the many learning situations which are considered later.

At the policy and planning level a principal consideration is the establishment of overall training policies and a framework within which various activities can be developed, national priorities determined with, to a very large extent the function and roles of the various training institutions. Other issues which are considered include provisions for learning and training as a part of any proposals for industrial development.

At this level, broad based interest should be brought to bear to allow representation from government, workers, employers and other interests throughout the formulation, implementation and evaluation stages.

The various stages of manpower and training needs assessment, and the design and specification of programmes, curricula and technical syllabi all demand specific technical inputs which may be secured through various technical committees comprising representatives from industry, workers education, training and labour authorities. This is a stage at which close working partnerships can be fostered and developed between industrial, training and education authorities.

1) Institutional Infrastructure for industrial Development
UNIDO/ICIS 36 (July 1977) page 168.

The overall responsibility for training may lie with one ministry or with several, but the organisation and management of programmes are frequently delegated to various boards, committees, chambers of industry and artisan trades, etc. The role of the public authority may be limited to co-ordination, and the laying down of rules.

Where a training levy is made, tripartite training boards may be formed for the purpose of establishing training programmes, working out guidelines for training and the administration of the system of levies and training grants. Many African countries have now opted for this system.

There are a number of examples of national planning institutions and bodies which deal with problems of employment and vocational training in both industrialised and developing countries.¹⁾

Designing the training Programme

The ILO Human Resources Development Convention 142 and Recommendation 150 (1975) relate to the vocational guidance and vocational training of young persons and adults for all areas of economic, social and cultural life, and at all levels of occupational skill and responsibility.²⁾

The Recommendation deals with vocational guidance and vocational training in the identification and development of human capabilities for a productive and satisfying working life.

Bearing in mind conditions in the least developed countries, it may not be easy to implement all of its provisions. Nevertheless, they may be regarded as goals which may have to be attained in several steps, priorities varying according to needs and the specific problems encountered. Some of the major problems of implementation which have been identified are examined below in the spirit of the Lima Declaration.³⁾

While the objectives and types of training will be discussed later, an attempt is made below to outline some of the critical stages in designing and implementing a comprehensive training programme.

In summarised form these are as follows :

1. - assessing training needs;
2. - developing and designing :

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- 1) See Employers' and Workers' Participation in Planning (ILO 1971 - page 79 et seq.).
 - 2) International Labour Convention 142 (1975) and International Labour Recommendation 150 (1975). In giving effect to the recommendations, members were enjoined to take account of any guidelines which may be formulated by regional conferences, industrial committees and meetings such as this convened by UNIDO.
 - 3) The Declaration and Plan of Action Programme of Lima (1975) TD/143 (pages 15, 16 and paragraph 41).

- (a) appropriate programmes and curricula for each area of skill/knowledge,
- (b) appropriate training materials and software,
- (c) courses for new employment opportunities being created by industrialisation,
- (d) recruitment procedures in keeping with the job requirements,
- (e) evaluation and certification procedures.

3. - the training of :

- (a) staff for vocational guidance and vocational training activities,
- (b) industrial and other workers.

4. - the establishment of any physical training facilities to include :

- (a) buildings,
- (b) equipment,
- (c) hiring of staff,
- (d) consumable materials, power supply, etc.

5. - budget and administration.

1. Assessing Training Needs

Assessment of skill requirements and the availability of industrial supervisory managerial and entrepreneurial skills form the foundation upon which learning situations are designed. In the least developed countries of Africa it is not an easy task to identify and to quantify needs and availability of skills. Traditional methods of assessing skills are unwieldy and the past trends cannot provide accurate guidance for the future.

Several attempts are being made to solve this problem but so far no really satisfactory mechanism has been devised. Experiments are being carried out to identify activities from which technological learning needs can be determined, and further studies are proposed to provide policy makers in developing countries with guidelines for interpreting labour market signals as indicators of employment perspectives and training needs for specific skills and qualifications.

In this respect the view is held that modern sector skills are not the only aspect of skill development which should be considered, and that there are indigenous skills which can be fostered as a contribution to industrial development.

2. Developing and Designing appropriate programmes and curricula

Effective training programmes reflect accurately employment requirements and the needs of the individual in a manner which should satisfy both present and long-term needs. The principles and standard procedures for programme and curriculum design are fairly well established. In practice major problems centre around the difficulties of establishing

the linkages between industry and the learning situation. Modern programme and curriculum designs for practical training are based upon accurate analyses of job requirements from which skill requirements are derived. These are then related to the average educational profiles of would be employers. Such analyses and design procedures are normally the responsibility of the training institution or educational system, preferably with assistance and support from industry.

In the least developed countries both educational and training systems are generally overburdened. Existing capacity would therefore have to be strengthened in order to take into account multiple requirements and to introduce greater flexibility than at present.

2(b) - Designing appropriate training materials and software

Appropriate instructional and teaching materials ensure that training objectives and standards are attained in a straight-forward manner, particularly where instructional staff is inexperienced; provide a quick means of launching training programmes especially in 'new' skills and an effective method of controlling the quality of training including even cost of consumable stores. Of significant importance is the fact that suitably prepared training materials can be used for both the pedagogical training of instructors as well as trainees. In some countries, initial work is being undertaken to develop materials based on modules of employable skills linked directly to the training of industrial workers, and which may provide useful examples of the application of training materials in skill development. Using this method, considerable progress has been reported in the training of trainers for construction workers in Egypt.

2(c) - Developing and designing courses for new employment opportunities being created by industrialisation

Although learning needs and qualitative needs for skilled workers may be estimated with reasonable accuracy for specific activities, the determination of qualitative needs presents problems in practice, since trainers may themselves not have enough knowledge of the range of technology to be developed.

2(d) - Recruitment procedures

In developing countries, a high premium is placed upon academic qualifications which often become the only basis for the recruitment of trainees. While valid in some situations, this method rules out a large proportion of the population who may have greater potential for skill development. In this process industry loses out in its search for recruits with aptitudes and the potential for leadership which is necessary at the various occupational levels. Poor recruitment also contributes to wastage.

Wherever practicable therefore, appropriate tests of capacity and aptitudes would be necessary to widen the field of selection and to open employment opportunities to the disadvantaged group that may have been deprived of an earlier education.

2(e) - Evaluation and Certification Procedures

If it is accepted that industrial development cannot take place in a vacuum, it would be desirable to have training for industrial development

related to national standards. Establishing and maintaining high standards improves productivity, contributes to the principle of life-long learning, and improves the mobility of personnel.

3(a) The training of staff for vocational training activities

Staff for vocational training activities include all persons responsible either full-time or part-time for planning, organising, administering, developing, supervising or giving vocational training.

Qualified instructors are required to have comprehensive theoretical knowledge and proficiency in particular skills as well as substantial work experience. For public training institutions, instructors are required to have in addition, technical and pedagogical training. All are expected to show some leadership qualities and have language proficiency. It is conservatively estimated that on completion of eight to ten years at school, a further period of six to nine years is required to become a fully qualified instructor.

Trainers and instructional staff are generally recruited from among competent skilled workers. Another source of supply is the academically qualified teacher who may lack skill proficiency. There is a marked inadequacy of training facilities for staff development. New approaches such as the utilisation of learning material based on the principles of modules of employable skills could both reduce the period of training and broaden the catchment area of staff. In Egypt, recent ILO reports confirm that an experiment in the design of material for the training of trainers for the building trade is showing encouraging results.

Manpower development, in-service training and staff motivation are major problems of information-intensive institutions where the intensity of work is not driven by client demand or by a profit motive. Industrial development and promotion institutions fall into this category and consequently require special management systems for personnel attraction and motivation to maintain efficiency and effectiveness.

The qualified trainer provides a vital multiplier effect in skill training for industrial development and can contribute directly to improved productivity. For trainers whose earning powers are affected by virtue of their employment, some form of encouragement is necessary to compensate for limited promotional prospects, for any reduction of earning power and in order to reduce staff turnover. In the development of trainers, industrial support is necessary to provide in-plant training opportunities and even direct financial support.

3(b) The training of industrial and other workers

Having determined the objectives of training and having established policies, programmes, curricula, adequate teaching materials, etc., training can be provided on a formal or non-formal basis, full-time or part-time, in an institution or on-the-job. It is proposed to examine below some of the learning situations and the roles and potential of the various delivery systems.

Industrial Vocational Training Centres

In addition to the normal role of providing initial training, upgrading and accelerated courses and the supplementary training of apprentices and

other in-plant workers, industrial vocational training centres can be utilised to a far greater extent as a focal point for other vocational training activities. The principal areas in which its services can be more beneficially utilised are:

- improving the employability of the unemployed by imparting skills relevant to development plans,
- the design and development of methods for introducing skills which relate directly to new industrial activities and the transfer of technology,
- the design and development of training materials for other training methods such as in-plant, accelerated courses, etc.,
- the practical training of instructors and teachers,
- the design of testing and evaluation procedures,
- providing industry, as training programmes would permit, with workshop equipment and facilities for industrial experiments and tests,
- in collaboration with educational authorities, assist in the introduction of practical skills as a part of curriculum diversification activities¹⁾,
- by developing technical competence in the design of approaches which link training with job requirements and in the design of training materials suitable for local conditions, vocational training centres can provide a cohesive force and reduce some of the overlap in training²⁾.

In-plant Training

There is throughout the industrialised world, revived interest and belief in in-plant, in-service and on-the-job training and in job rotation, or group apprenticeships, not because they are "second best" but because they may provide more effective learning and be better ways of achieving occupational competence.

Unfortunately, in Africa, with the exception of a few countries, schemes for training through planned experience have as yet not followed this world trend.³⁾ The natural limitations to this type of training are the size of undertakings and the ratio of skilled workers to apprentices. In any case, where old legal structures exist for apprenticeship training, it may be necessary to up-date the laws to permit life-long training in keeping with modern concepts.

Apprenticeship in the informal sector provides opportunities for training with a high potential for industrial development. This type of

1) Education for Development (op- cit.) P. 62.

2) Institutional infrastructure for Industrial Development - UNIDO/ICIS.36 (20 July 1977), page 168.

3) Education for Development (op. cit.) pages 26-32.

apprenticeship may offer more relevant training since it does not foster illusions of unlimited employment opportunities; it does demonstrate, however, the virtues of enterprise and self-help.

Training-cum-production centres

Experience in the development of training-cum-production centres is growing in Africa, as exemplified by the Boys Brigade in Botswana, the Village Polytechnics in Kenya, and various plans to provide more training opportunities through this type of training.

An important aspect of developing these centres is the ever present risk of one objective superseding the other and low production standards. If established as an integrated part of the total training system, some of these constraints can be overcome with the full technical support of the other branches.

Entrepreneurial Training Centres/Management Institutes

Education for entrepreneurship should start during the formative years.¹⁾ Entrepreneurial motivation involves a development process which must be integrated throughout one's training. Experience has shown that entrepreneurship development, when integrated with vocational training, can develop new, young and fairly adventurous entrepreneurs.

Key functions assigned to industrial training institutions should include the development of management skills, entrepreneurial skills and supervisory skills. In their efforts to transmit technical skills, too few industrial training institutions provide opportunities for their trainees to learn how to set up, supervise and manage an industrial organisation. But the majority of failures of industrial organisations is due, not to technical shortcomings, but to lack of managerial capacity. For example, vocational institutions should provide knowledge of finance and accounting, personnel management, and in-plant supervisory skills to at least part of their graduates. To assist industrial training institutions carry out this role, the collection and development of training material and the training of trainers would be called for.

4. The establishment of physical training facilities

An approach which may be found most effective in establishing training facilities is that of developing and utilising to the full existing facilities in the public or private sector. With the limited skilled manpower available in the field of training this may be the only course available.

Mutual confidence and collaboration must be developed between employers and training institutions.

1) Small Enterprise Development policies and programmes -
ILO Management Development Series No.14, page 60.

5. Budget and Finance

Due to capital cost of workshop and equipment, the recurrent costs of consumable materials and the need to keep abreast with technological changes, the cost of vocational training is high and shows signs of increasing. The classical means of financial support exclusively derived from government sources may therefore no longer suffice.

The adequate supply of skilled manpower is of as much concern to industry as to government. To this end, such devices as the levy-grant system which has been in operation for some time in the U.K. needs to be considered. Many African countries have already shown their interest in this scheme. The success of such a scheme, if implemented, depends largely upon the capability of the social participants who are required to make meaningful contributions to its operation.

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Institutional requirements for industrialisation of rural areas:
Small and medium scale industry institutes
[Agenda Item IV (d)]

Small industry promotion institutes exist in most African countries, and assume responsibility for progressive industrialisation of rural areas. They assist in the establishment of new small and medium scale enterprises and the consolidation of existing enterprises. The services range from basic training and skill promotion to administrative assistance and efforts to gain financial and political support. These institutes are in the main funded by Governments, although some raise funds through special courses and events for which fees are charged.

The inter-related constraints include lack of education, finance, appropriate technology, access to inputs and markets, information, entrepreneurial motivation, managerial skills, and, often, the political will. A variety of innovative, decentralised approaches are required to attack the complex constraints. The institutes must be given the opportunity to experiment with different approaches and learn from one another. Of particular importance are "animateur" programmes, designed to simultaneously place resources, technical skill, and ideas about managing organisations into the hands of rural inhabitants to stimulate self-development and self-help. A priority issue is the enhancement of management of institutions directly serving rural areas, so that goods and services arrive on time and as needed. In promoting labour-intensive technologies, special attention must be given to supervisory skills, procedures for training and managing large groups of people and maintaining uniform product quality standards.

When looking at the actual operation of these institutions, one is struck by the amount of time devoted to securing credit. This inevitably entails lesser attention to other related needs, in particular skill development programmes. It has also been observed that where provided, training programmes fail to attract a sufficiently high number of participants, and that the training methodology could be improved. Further long term training policies are not established. Very often those courses which are provided create high expectations which cannot be met. It has also been found that extension services are restricted and on-the-job consultancy is inadequate.

Communication to the less developed small enterprises has proved difficult. A certain amount of "bottom-up" organisation has to be stimulated so that small industry can benefit from action such as block purchases of raw materials and tools. In some countries, Uganda for instance, efforts have been made to reach new enterprises through radio programmes, in others through correspondence. For these efforts, regional, as opposed to national institutes, may prove a more effective vehicle to develop programmes of this type especially where language, culture and values do not differ.

ILO has been engaged in the exploration of the informal sector, the value of which has been highlighted in the ILO Comprehensive Employment Mission to Kenya (1971)*

Co-operatives

The role of co-operatives as institutions for industrial development in both rural and urban sectors should not be overlooked. As a necessary follow-up to the completion of skills training, they have a part to play in facilitating productive operations and therefore employment, especially for small-scale, including self-employed producers.

Co-operatives for industrial producers may provide such services as credit, raw material supply, finishing and marketing, especially where the institutional approach is more effective and of lower cost. Facilities may include the provision of common workshops as well as, for example, equipment for common use, where such equipment is beyond the means of, or uneconomic for, the individual small producer. Through the co-operatives also, entrepreneurial skills (management, marketing, etc.) can be made available to producers by an institution over which they themselves will have some control.

**Development of small scale or appropriate technologies
[Agenda Item IV (c)]**

1. Under the World Employment Programme on Rural Industrialisation, Technology and Employment, which is still in its early stages of development, the ILO is making efforts to obtain a critical evaluation of the rural industrialisation programmes in selected countries. One aspect of the evaluation, will be on the role of institutions in rural industrialisation.

2. Some of the preliminary findings based on work already completed suggest that there is a great need for co-ordination among various bodies within a given country, which are directly or indirectly responsible for promotion of rural industries in developing countries. Where rural industrialisation is pursued through the development of small scale enterprises, there is even a greater need for co-ordination because of the variety of assistance extended to them. For example, the banks play a role in extending credit; co-operatives or government agencies are important for marketing certain types of products; industrial development agencies not only attempt to provide infrastructural facilities for small enterprises through the establishment of industrial estates, but also try to develop appropriate technologies. Likewise, vocational training centres can design programmes to develop skills needed for rural industrialisation.

Discussions focused on this aspect of the problem could provide some useful guidelines for future policy making.

International Co-operation

The emphasis of ILO's activities is determined by requests emanating from member States, which over the past two decades have concentrated on the leading sectors of the economy. In the recent past there has been a growing emphasis to spread development throughout all segments of the population. ILO has been engaged in assisting member States to develop their own capacity to promote vocational training and guidance activities for rural development, the informal sector, the modern sector, vulnerable groups, co-operative cadres, workers education, managers and employers; and in the development of new techniques in training methods, and curriculum development linked to employment. Indeed a number of ILO assisted training centres have served as "centres of excellence" from which trainees from neighbouring countries have benefited.

In July 1978, the inter-African Research and Documentation Centre on Vocational Training (CIADFOR) was started with the objectives of improving employment opportunities and productivity of African countries as a part of their economic and social development plans. Activities are aimed at assisting and developing all aspects of regional and national vocational training programmes including personnel development and providing a means of exchanging ideas and experiences throughout Africa. CIADFOR is envisaged as a means of establishing continuous co-operation among national vocational training agencies, eventually to assist in elaborating programmes to meet individual country needs, keeping abreast of technological developments.

In co-operating with developing countries, technical collaboration and co-ordination is maintained with the agencies inside and outside the UN system.

Conclusions and Recommendations

In looking back at the progress which has been made by many African countries since their independence, considerable progress can be seen in the development of the infrastructure and staff for training across most sectors of the economy. This progress, it must be recalled, has been made over a comparatively short period of time, and in the face of many obstacles¹. However, much remains to be done to deal with the problems caused by rapid industrialisation and technological changes, indigenisation, localisation, Africanisation of the economy, the unprecedented rates of inflation, rise of energy cost, the absence of middle and high level trained personnel in a number of key sectors and population growth. These well known problems are exacerbated by the rural exodus and its deleterious effects on urban conditions. Vocational guidance and training is intimately related to these socio-economic trends and has important roles to play in any attempt to solve the problems.

In planning for industrial development, vocational training should be regarded as an integral element. In view of the relatively small industrial sectors and limited training facilities, the strategy demands special efforts to expand national training capacity to provide a source of supply for industrial, supervisory, managerial, and entrepreneurial skills through approaches combining both the public and the private sectors.

To overcome some of the constraints and problems which have been identified, to maximise the use and development of existing resources and to accelerate the growth of institutions to support industrial development, urgent steps should be taken as circumstances would allow in each country to:

- establish comprehensive national training policies incorporating the objectives of economic and social development as a part of the strategy for industrial development,
- establish effective machinery for the participation of all interested parties in order to secure maximum co-operation and collaboration at each of the various stages of implementing training schemes and programmes, as well as to strengthen the relevancy of curricula, syllabi and training practice,
- develop new approaches in the training and motivation of staff,
- strengthen and develop national capacity to produce training materials, especially for indigenous skills and materials,

¹Education for Development op. cit. page 22

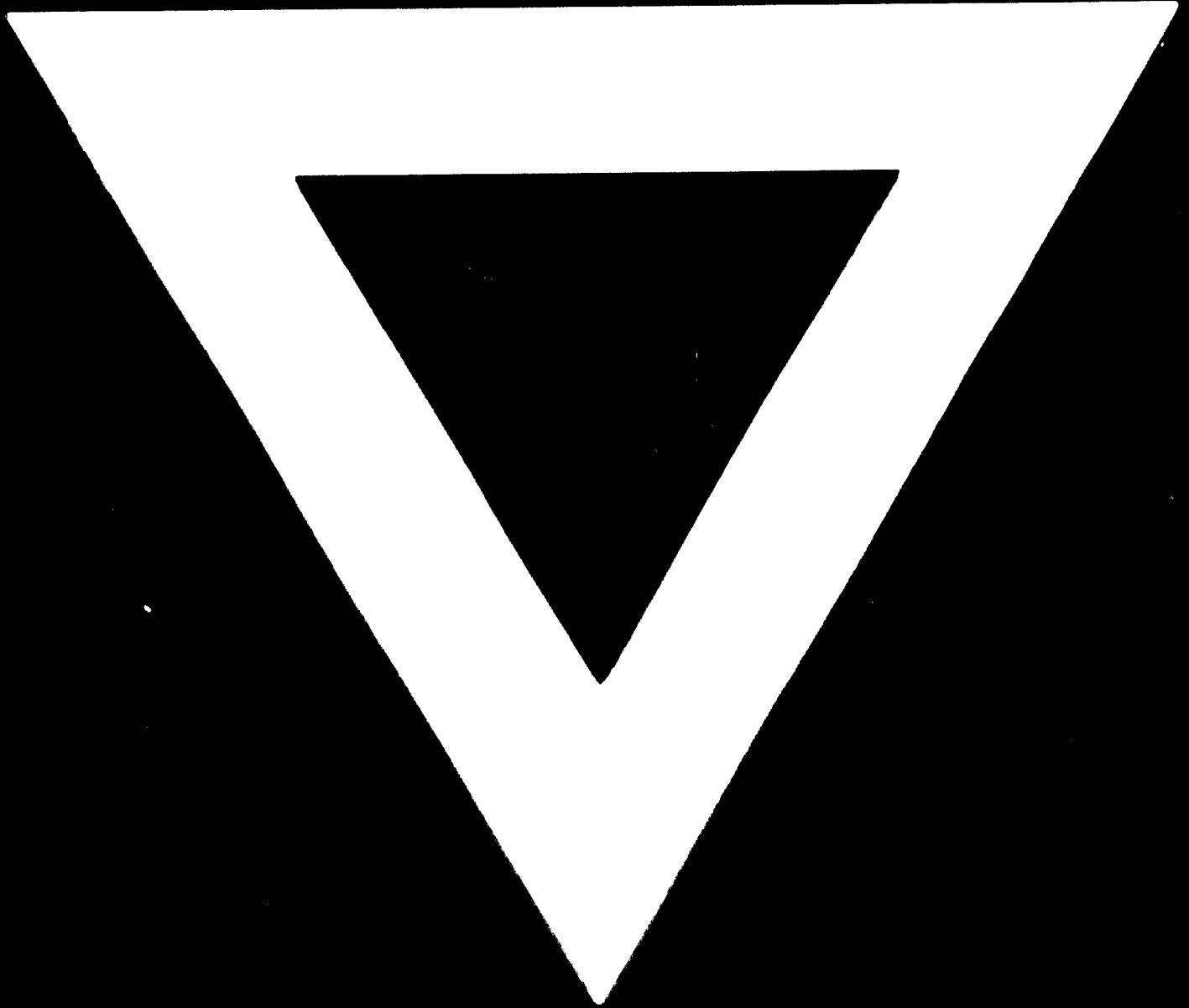
- utilise to greater advantage potential of existing training facilities, including vocational training centres,
- utilise and develop in-plant training capacity to a greater extent,
- encourage the establishment of training-cum-production centres,
- establish additional physical facilities as may be required,
- develop small and medium scale industries institutes in a manner which emphasises management development as the stimulus to other activities,
- broaden vocational training curriculum to include management, supervisory and entrepreneurship training,
- co-operatives should be considered as an institution suitable for industrial development.

There are many other problems¹ which have not been considered in this paper. Questions such as the determination of national priorities, allocation of budgets and comparative costs between the various systems, special urban and rural requirements, etc., have been omitted in an effort to highlight the main features and likely problems to arise in the development of facilities for practical training.

The apparent direct economical benefits to be gained from industrial development can be an important factor in promoting a favourable attitude towards solving the various complex problems.



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