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ALTERNATIVE APPROACHES TO SMALL INDUSTRY PROMOTION: TANZANIA, KENYA AND BOTSWANA

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FOREWORD

This paper on comparative aspects of rural industry promotion was prepared by Professor Ian Livingstone of the University of East Anglia, School of Development Studies. The study will also be published as Discussion Paper No. 62 of the School of Development Studies.

Professor Livingstone has drawn some interesting comparisons and contrasts of the rural industries promotion schemes of Tanzania, Kenya, and Botswana. We feel that the lessons and experience of the three countries provide some useful insights into problems and prospect of the various development schemes that are either existing or proposed.

The author assumes responsibility for the contents of the paper and the IDM is pleased to assist the dissemination of the findings of Professor Livingstone through this publication as part of the IDM's Occasional Paper series.

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ALTERNATIVE APPROACHES TO SMALL INDUSTRY PROMOTION: TANZANIA, KENYA AND BOTSWANA.*

Ian Livingstone **

Throughout the 1970's governments in Africa and the developing countries as a whole and international agencies such as UNIDO and the ILO, particularly, have shown an increasing interest in small industry development. Within the category of small industry increasing attention has fallen specifically on rural industry. Reasons for the interest include:

(1) a desire for localization and local control of industry;

(2) the increasing emphasis on rural development;

(3) a search for more labour-intensive appropriate technology, and concern regarding the slow growth of employment opportunities associated with import-substituting formal sector industry development; and

(4) the objective of dispersal of industry.

Early approaches to small industry promotion in Tanzania are shown here to provide an interesting contrast to the 'extension' approach pursued in the mid-1970's in Kenya. These programmes are examined first, in order to assess their relevance to current efforts at rural industry promotion in Botswana.

The Tanzanian Approach: Workshop Clusters

In Tanzania the National Small Industry Corporation was established in 1965 as a subsidiary of the National Development Corporation, with an authorized equity capital of £80,000, 80 per cent of which,

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* The section on Botswana has benefitted from discussions with Lloyd Addison of the School of Development Studies, University of East Anglia.
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was held by the NDC and 20 per cent by the Workers' Development Corporation (WDC). Its aim was to promote small-scale industry, cottage industry to 'improve the working conditions of artisans'.[1] Subsequently this structure was reorganised and the institution renamed the small industry Development Organization (SIDO). SIDO has become more involved with a wider spectrum of small industry than was NSIC (Phillips, 1976). Nevertheless the Tanzanian experiment with workshop - estates focusing on craft industry is of considerable interest. Many small industry development programmes in Africa have come to focus on craft industry, intentionally or unintentionally, rather than the whole range of small industry. In order to begin to answer this, we need to start with some definitions relating to small industry.

The size of the firm may be measured by the amount of capital used, by the numbers employed, the value of output (value added), or the form of energy used. Information on the value or physical and financial assets is generally not available, but for other reasons also the most convenient measure may be the average number of employees per establishment. This gives a good visual impression of the kind of establishment under discussion. Thus if an industry is characterised by firms employing less than 10 employees it is likely to be either a handicraft industry producing e.g. furniture or leaderwork, or a workshop of some kind employing some skilled labour, such as a tailoring establishment. If a firm employs anywhere between, say, 10 to 100 employees it is likely to be a small factory using 'production - line' methods on more or less modern lines. Establishments with more than 100 employees can be considered medium or large-scale factories.

There is likely to be a further difference between the three categories on the basis of business and financial organization. Handicraft industries may be carried out in a family's home, perhaps largely with family labour. Small factories will hire more labour, but are quite likely to be owned as family businesses or as partnerships and private companies. Large-scale factories may well be owned by joint-stock companies issuing shares. Thus we may make a division between:

(1) craft or household industry employing say under 10 employees or family workers in a typical establishment.

(2) modern small-scale industry employing 10 to 99 employees in a typical firm;

(3) medium and large-scale industry employing 100 or more people per establishment.

This was the division made by Staley and Morse (1965) in their classic text emphasizing the prospects for modern small industry development, meaning small factory production. The NSIC/SIDO programme in Tanzania, intentionally or therwise, focussed on (1), covering artisan-based enterprise, rather than (2). Even in Kenya, where manufacturing is more developed than in neighbouring countries, a quick glance at the statistics for manufacturing industry shows that a large proportion of 'modern' industry establishments are in the range of 10 - 99 employees with a concentration, in fact, at the lower end.[2] Thus in East Africa a factory employing 90 or 100 people would appear a relatively large concern, and it is not surprising that such an enterprise would, in Tanzania be the concern of the NDC rather than NSIC or SIDO.

Initial promotional efforts in Tanzania centred upon an industrial estate for craft industrialists (artisans) located in Dar es Salaam at Kisarawe Street, with a smaller version at Singida. The workshops in Dar es Salaam consisted of very rudimentary prefabricated buildings housing a collection of 140 'cubicles' which could be rented by artisans carrying out their own independent work with the help of minimal supporting facilities provided by management, particularly sawing facilities for wood-working. This scheme was very much a prototype, and the 1969-74 Development Plan made provision for some 250 industrial workshops and 10 additional common facility centres of this type spread throughout Tanzania. Since that time some progress, albeit slow, has been made in this direction.

A survey of artisans at the workshop may be briefly summarised (for more detail see Livingtone, 1972) to bring out the most interesting aspects. Of the 98 'enterprises' occupying the simple workshop spaces, 59 were woodworkers or carpenters making furniture and 39 were metalworkers, making small metal products such as charcoal stoves, buckets or implements. Recruits from the locality had been obtained out of large numbers applying to a simple advertisement, numbers sufficient to fill the workshops several times over.

The median earnings of partners in woodworking were 323s per month and in metalworking 193s, comparing favourably at the time with a minimum wage applying in the formal sector in Dar es Salaam of 150s. It was possible to earn much higher earnings in woodworking and some 12 per cent of woodworkers earned over 500s a month. These figures are probably subject to some underdeclaration and this particularly at the upper end of the scale, among the more successful woodworkers. This data indicates the possibilities for earning useful incomes within the informal sector, first, and also that there is need to see this sector as a diversified one with a variety of different income opportunities some substantially better than others.[3] This is evidenced also at the lower end of the scale where 53 per cent of metalworkers earned less than 200s monthly, compared to only 21 per cent in the case of woodworkers.

A second feature was the very wide dispersion in the value of tools and equipment owned: for instance, in woodworking 29 per cent had equipment worth less than 200s while 17 per cent owned a value over 600s. Undercapitalisation was much greater in metal-working, 54 per cent owing less than 100s' worth of equipment (equal at the time of UK £5). A similar pattern was revealed in the value of materials used. Value of equipment and materials used were also shown to have a clear correlation with gross revenue obtained. In the case of the metalworking units the supply of materials (sheet metal) by the NSIC management was crucial to the artisants: NSIC did not organise the supply or wood to the furniture-makers.

The variable endowment of tools and equipment among the artisans, and the effect of this on profitability was reflected in the statement by 86 per cent of the units that they would like credit. However the allocation of the simple premises themselves represented an important increase in capitalisation of these entrepreneurs. Beyond the provision of these the Corporation had not done a great deal to improve the businesses, in terms of training, product development, marketing or the like. But in contrast to the sorry tale told by so many development schemes, only 17 per cent of artisans contemplated leaving the scheme at the time of the survey, and these probably because of a need to expand. About half the wood-work enterprises wanted either a second unit or a bigger workshop (only 15 per cent in the case of metal), this also showing the scope which exists for the development and upgrading of craft enterprises.

In addition, tenants were asked to indicate which of the following advantages they considered most important: selling, supplies of materials, space, common facilities, and learning of skills. The most important, in four cases out of five, was space, including perhaps lockability, despite the simple and economical nature of the premises. Tenants were also asked what difficulties they would have if they were forced to leave: again, 80 per cent said this would be finding a workshop, easily the greatest perceived problem.

Two other advantages of the estate emerged which one might not have anticipated. First, there appeared to be a quite marked demonstration effect on the supply of effort by the tenants, from working in close proximity. The tenant system of independent businesses did, of course, permit the free operation of incentives, but this would have applied anywhere. Here about 60 per cent of the units put in 65 hours of more per week [4] - something of a contrast of the often alleged backward-sloping supply curve of African labour.

The second most important advantage of location at the estate mentioned by tenants was selling. 53 per cent of tenants gave this as an advantage of the estate, while 34 per cent listed it as one of the major problems which would arise from leaving the estate. However the NSIC itself gave little assistance in marketing products. The fact that the majority of woodworking units sold a large part of their output at the estate itself indicates that traders were attracted by the concentration of production in the estate to bid for the products on the spot, and to offer contract jobs.[5]

Training was not provided by management on a significant scale, although clearly the concentration of partners and more junior 'helpers' at the estate would have provided the ideal vehicle for upgrading skills. Even without this, some such development did take place, some tenants, particularly those of many years' experience, operated relatively systematic apprenticeship training for young assistants. There was an observed tendency (limited by the availability of units) for apprentices and helpers to split away from the parent to set up in pairs in other units. As will be seen later, this is significant from the point of view of the problem in Botswana of assisting Brigade movement trainees to establish themselves in business after 'graduation'.

In summary, the estate arrangement for organising artisans in Tanzania can be seen as a means of facilitating the injection of capital into craft industry, offsetting the undercapitalization of the African artisan.

A second general advantage is the divisibility of the managerial element involved and the possibility of progressively increasing the managerial contribution. Starting with simple workshops and a common facility centre, training and hire purchase expanded. Initially, however, relatively small managerial and capital inputs are possible, with correspondingly small risks of financial loss.

Finally it may be observed that the 98 workshop enterprises on the estate employed some 350 persons, equivalent to a medium-sized factory: a significant contribution compared to most manufacturing concerns in Tanzania. It should be stressed, of course, that this is a net increase in employment, as many of the artisans would already have been engaged in businesses elsewhere. Nevertheless 20 such units could engage some 7,000 persons.

Kenya: the Extension Approach

There have been three elements in the promotion of small industry in Kenya:

(1) Modern small industry is included among the 'larger' businesses which may be given loans through the Industrial and Commercial Development Corporation (ICDC).

(2) A programme of industrial estates exists under the KIE (Kenya Industrial Estates Ltd), which is itself a subsidiary of ICDC. This programme was established as long ago as 1966. In 1974 estates existed only at Nairobi and Nakuru, but others at Kisumu, Mombasa and Eldoret were to be set up over the period of the

1974-78 Development Plan, with five others subsequently. The existing estates were criticised by the ILO Mission in 1972 (ILO, 1972) for 'featherbedding' inefficient producers. The Mission recommended instead an emphasis on rural industrialization, including agricultural processing, a recommendation which makes our discussion of Kenyan experience with rural industry promotion more relevant.

(3) The Rural Industrial Development Programme (RIDP) is under the agis of KIE but operates indepenently outside the main towns. Launched about the end of 1971, it has been operational since January 1973. The programme benefitted principally from Danish Technical and financial assistance under an agreement between the Danish and Kenyan governments for the period 1972-77. It is this programmes, which parallels closely efforts in Tanzania and Botswana, which will be considered here.

The strategy of the RIDP was to establish Rural Industrial Development Centres (RIDC's) in the smaller townships located in the centre of agricultural areas, comprising central workshops, offices, and classrooms, to serve as bases for extension efforts to scattered local artisans. In 1975 there were four such centres, at Machakos (40 miles east of Nairobi), Embu, (north-east of Nairobi), Nyeri (due north) and Kakamega in West Kenya.

Mention may also be made of a largely separate experimental programme for the promotion of rural business run by an American organisation, Partners for Productivity (P.F.P.) as part of the Special Rural Development Programme at that time in the Vihiga-Hamisi Divisions of Kakamega District. P.F.P. currently has a programme in Botswana.

The 1974-78 Kenya Development Plan proposed the establishment of 23 RIDC's in all by 1978, involving a total expenditure on the programme by the end of 1977-78 of K£2 million, a very substantial commitment.

The RIDC's service 'clients', some of whom may be based at the centres themselves and a larger proportion through business 'extension services' in their own locations. The data of Table 1 shows them to have been concerned largely with 'craft' industry, as NSIC was in Tanzania, rather than modern small industry as defined earlier. The activities were furniture-making and metal-

Table 1: Distribution of clients at RIDC's individual activity, Kenya, 1973.

Activity	Clients No.	Clients %
Furniture	146	30
Sheet metal work	53	11
Other metal working	22	5
Auto/bicycle repair	81	17
Tools and machines	5	1
Sawmilling	41	8
Posho milling	28	6
Other + unkon	109	22
Total	485	100

working (as at the NSIC estate in Dar es Salaam), together with motor repair: perhaps accounting for as many as 80 per cent of clients. Taking data from three of the RIDC's reporting in 1973, only $17\frac{1}{2}$ per cent of enterprises serviced employed 10 or more persons and 66 per cent employed less than six (Kristensen and Kongstad, 1973). The most common size of unit embraced 3 to 5 persons.

In order to assess the effectiveness of the centres a detailed investigation was carried out of their activities over a period of 12 - 14 months (Livingstone, 1976). This was possible because job cards are made in respect of all equipment used at the Centres. A count of job cards carried out at three of the four centres, together with examination of client record cards, permitted a fairly accurate picture of the activities of the Centres to be built up. We consider first the use of Centre facilities, then success in reducing the undercapitalization of craft industrialists, and finally the effectiveness of extension services away from the Centres

Use of Centre Facilities

The workshops were generally equipped with some very expensive machinery, provided through donor assistance, which proved to have been barely utilized. Thus at Embu four machines which had cost 41,800s (approximately UK £2,600 historically, now perhaps costing £5,000)) had been used twelve times in ten months. In contrast a simple electric welder accounted for 91 out of 153 machine jobs in the same period. Other jobs mostly involved simple power tools, whilst the expensive machinery lay idle.

This would seem to have resulted from a failure to appreciate the true nature of the (craft) enterprises that would be catered for, and the type of machinery which their requirements could sustain. Most industry in the rural areas of Kenya is at present of a very simple type. A rough survey of local small industry carried out by Embu RIDC soon after its establishment, summarised in Table 2, gives a realistic picture of the current rural manufacturing and repair activities which it was the task of the RIDC's to develop. To emphasize this simplicity we may list the kind of products made by 29 of the sheetmetal workers: these were

Table 2: Local Manufacturing and repair activities in the Embu area, 1973, (number of establishments).

	Embu town	Shauriyako (near town)	Manyatta	Runyenjes	Other	Total
Sawmilling	3	0	1	0	1	5
Woodworking	21	2	3	8	15	49
Sheet metal working	10	11	2	3	8	34
Bicycle repair	2	0	1	4	2	9
Panel beating	1	0	0	1	0	2
Garages	1	0	1	2	1	15
Leather work (shoes and bags)	6	0	4	2	4	16
Posho mills	0	0	1	2	6	9
Tailoring	1	0	0	1	0	2
Dry cleaning	1	0	0	1	0	2
Mattress making	1	0	0	0	0	1
Mansory	0	0	0	0	2	2
Concrete blocks	1	0	0	0	0	1
Total	58	13	13	24	39	147

water tanks and containers (by 23 workers), charcoal braziers (21 workers), wash basins (12), buckets (11), bicycle repair (9), steel windows (9), watering cans (2), dustbins (2), water-heaters (1) panel beating (1), brooders (1), ox-carts (1), pipe chairs (1) and gates (1).

A second feature of the use of facilities was the concentration of jobs among relatively few clients. Thus at the Nyeri Centre just three clients accounted for 179 out of 222 jobs in a 22 - month period, 80 per cent of the total. These were in effect resident clients. The position at other Centres was similar. RIDP administrators strongly resisted any increase in number of such semi-residential clients, favouring an extension approach aimed at reaching much larger numbers. But the fact that the heavy equipment and static facilities were not very relevant to the mobile approach meant that those few clients who were accepted as semi-residental enjoyed lavish facilities at subsidised rates. There is a marked contrast between the intensity of capital utilization in the 'appropriately' designed Dar es Salaam craft industry estate and that here. With a total cost per Centre of over a million shillings (S160,000), the cost per job 'created' (taking into account clients served by extension), in an activity noted for its labour-intensiveness, was estimated at 7450s in 1973. At that time 61 RIDP employees (including two at the Head Office) served 205 clients (Kristensen, 1974). The programme in effect fell between two stools, the heavy equipment not being particularly relevant to the mobile extension approach and the number of resident clients being kept to a minimum to avoid the development of anything like an industrial estate.

The Provision of Capital

Evidence regarding the undercapitalization of craft industrialists in East Africa has already been given in respect of Tanzania. A scrutiny of clients' files in Machakos indicated strongly that their main interest was in financial assistance (as opposed to business advice, etc). Files at the Machokos Centre also gave details of the nature of the 'premises' owned or used by clients served by the extension service. These showeed that a considerable proportion of artisans lacked proper premises and were working under 'shades' as protection against sun and rain. This likely to be typical of the rural informal sector in Kenya.

Not surprisingly access to power, related to the problem of premises and lack of capital, was also a crucial constraint.

In the situation as just described, the non-provision of capital in the form of basic working premises implied by the absence of residential clients is a major disadvantage of the Kenyan approach. Further evidence is a given by an inquiry into client's problems at the RIDC's in 1973, summarised in Table 3. If lack of power is considered to be associated with lack of capital, the latter could be taken to account for at least two-thirds of the problems mentioned.

Very little creuit was extended to clients via the RIDC's. More important was the supply of materials under bulk purchase. The main material stocked was wood, a stock of which was main-

Table 3: Clients distributed by recorded problems, all Centres, 1973.

Problems	% of clients mentioning
Plots and premises	13
Raw Materials	15
Production methods	10
Lack of skilled manpower	3
Lack of tools and machinery	32
Lack of electricity	6
Bookkeeping	5
Marketing and sales	5
Unknown problems	12
Total (882 problems mentioned)	100

Source: Kristensen and Kongstad, 1973.

tained by the Centres and financed by a small revolving fund. This was particularly heavily utilized at Machakos, due no doubt to the availability of short-term credit at this Centre for this purpose: reflecting again the shortage of even minimum working capital among artisans.

The Extension Approach

As already indicated, there was a deliberate attempt in the Kenya RIDP to pursue a different approach from that of industrial estates, by emphasizing extension. Underlying this was the hope that a larger number of entrepreneurs would be reached, spreading the benefits of the Programme more widely and equitably. An especially great effort in this direction was made at Machakos: here in 1975 16 out of 33 clients were located more than 40 kilometres away from Machokos and 3 were more than 140 kilometres away.

This approach turned out to be extremely expensive, as shown by the costings of Per Kongstad (1975). He estimated (p.44) direct costs to average 7000s per client given field (extension) assistance under the programme, a vast sum in comparison with the annual income of the average craft enterprise. Kongstad's data also showed free field assistance (FFA) to be very expensive as compared to free assistance at the Centre (FCA). Details are given in Table 4. This shows the direct cost of field assistance excluding overheads to have been 60 shillings an hour.

Three problems of the extension approach may be distinguished. A major one is that of transport cost. First of all, this requires organisation, which here appears to have been poor: the 1973 RIDC evaluation report (Kristensen and Kongstad, 1973) stated that "a really systematic planning of the extension services

Table 4: Direct costs of free field and Centre assistance in the Kenya RIDP, 1974

	Average, all Centres			Machakos RIDC (yearly basis)		
	Hours	Direct Costs	Costs per hour	Hours	Direct costs	Costs per hour
FFA	642	38,661	60.2	1,283	77,262	60.2
FCA	2,243	63,905	28.5	1,833	52,222	28.5
Total	2,885	102,564	35.6	3,126	129,484	41.4

has not been possible due to lack of transport facilities, especially transport of small machines, tools and materials". As regards costs, it is significant that over 40 per cent of field assistance hours were actualy spent travelling to the client's workplace. Costs of advice thus vary directly with distance of the client from the Centre, as shown in Table 5.

Table 5: Cost of a Visit depending on distance to client

Distance client (km)	Travelling time (hours)	Time spent with client (hours)	Total time spent (hours)	Cost of vist (K.shs)	Cost per hour spent with client (K.shs)
0–	0	3	3	180	60
10–	1	3	4	240	80
25–	2	3	5	300	100
50–	3	3	6	360	120
75 100	4	3	7	420	140

Source: Kongstad, 1975.

This factor affected one of the main objects of the extension approach, that of reaching a large number of clients. RIDP clients are divided for extension purposes into 'intensive' and 'extensive' categories, the former being eligible for more contact hours and much closer support. The number of intensive clients per centre was in 1974 no more than 25 to 30, while progress with intensive clients had in general not gone far beyond their registration.

The second set of problems relate to the amount of benefit obtained to offset these costs. A 1974 RIDP evaluation (Kristensen, 1974) judged that 131 out of 205 clients in February, 1974, had not made progress as a result of extension. This might be due to unresponsive clients or lack of concrete advantages offered. As regards the first of these a separate evaluation of results at Machakos (Edebe and Geels, 1974) concluded that:

> "it must be considered a reality that RIDP is not able to raise the general level of the entrepreneurs and their employees. It is difficult to measure any improvement of the employment situation etc. over a relatively short period when work is done with already established entrepreneurs.. They are satisfied with their present situation, are too old to be receptive, etc... Any advanced (established) client considers the presence of the technician as a disturbance".

It is interesting to compare this with the programme in Botswana which is centred upon school leavers of between 16 and 20 years of age.

As regards concrete advantages, it is clear that considerable uncertainty existed as to what extension advice was appropriate to craft industrialists in rural areas and townships. An important aspect of the extension approach at Machakos was the attempt to introduce clients to profitable new product lines. This was done as a matter of routine, using a 'standard working plan' (SWP) under which at least two new products were to be introduced to all 'intensive' clients. This, together with bookkeeping advice, were the main elements of extension at Machakos. Not a great deal of success was achieved in product development in the period 1974-75, however. The two main products advocated were a maize-sheller and a wheelbarrow, which clients were prepared to accept only with some reluctance. Given that, apart from a few samples purchased by the RIDC itself, the records showed only three successful sales, of one wheelbarrow, a folding chair and a folding table, this was not surprising. Other experiments with new products, particularly low-cost small-scale production of standard tools at Embu, appeared more promising. A major obstacle here associated with the preference for the extension approach, directed to scattered rural enterprises, over the residential estate, was the lack of a 'production line' at the Centre to gurantee production if interest in the product was obtained.

A second ingredient was bookkeeping and management advice, a common element in small industry promotional programmes all over the world. Of about 100 clients at Machakos about 12 received fairly intensive assistance in bookkeeping and price calculation during 1974, amounting to some 20 or 30 hours. These efforts were clearly unsuccessful in five cases, and no results were reported in another three: partial results appear to have been obtained in no more than three or four cases. It may well be the case that management advice in the form of extension assistance is simply not appropriate to craft industry, as opposed to somewhat larger enterprises. The offering of advice on layout of the workshop for instance, appears more appropriate to factory layouts and plant design than to rural artisan establishments employing three or four people, an example of misplaced transference from 'modern small industry' to craft industries. Other technical and economic advice which the RIDC's were in a position to dispense was probably quite limited, given the heterogeneous nature of the craft enterprises.

The third problem of the extension approach was that it failed to recognise the artisan's greatest need, which was capital rather than advice. This is apparent from the discussion above. This would have been alleviated if working capital in the form of materials could have been provided, but in general Centres lacked the capacity to deliver materials to enterprises located away from the townships. As already stated, this is a major potential advantage of workshop - estates.

The term 'extension approach' is based on an analogy with the agricultural extension service, an analogy which is superficially attractive but not necessarily appropriate. It assumes that the problem is to make the small-scale 'industrialist' - who is generally no more than a skilled artisan - into a better 'entrepreneur' by teaching him bookkeeping or providing him with ideas for more rewarding products, rather than giving him access to a minimum amount of capital. Unlike the agricultural case (or to a greater extent) it exaggerates the technical or economic advice which the service is likely to be able to dispense, given the nature of craft industry and the limited expertise likely to be available in practice.

Trusts, Brigades and Technical Training in Botswana

It is not surprising that there is comparatively little small or medium scale industry in Botswana, given the small national market in terms of population (some 750,000 people only) and cash income, given its locational disadvatages as a land-locked country, and given intense competition from a relatively efficient, establishedd South African manufacturing sector. Nevertheless Botswana is almost unique among African countries for its extreme paucity of informal sector activities and village craft industries. This is compounded by the underdeveloped state of the commercial system which penetrates only very weakly the rural areas. Many village artisans find it difficult to obtain materials, parts and other supplies and in any case lack the finance to purchase them. The relative weaknesses of the informal sector in Botswana in respect of productive activities, trade, transport and other services undoubtedly reduce the standard of living for the mass of the population in the rural areas particularly, and especially those lacking wealth or income from livestock. It also sets special problems for craft and small industry development.

This weakness is almost an immediate impression in Botswana, but has not been systematically measured. One or two village surveys give some indication if it, however, as for instance a survey of five villages in the Southern District carried out in October 1978 by the Extension Service of the Rural Industries Innovation Centre. The five villages, Mabutsane and Samane in the west, Manyana in the north-east, Goodhope in the South-east and Ralekgetho, in the central lands area, represent geographical areas within the District. There is no reason to think that other districts would be better endowed and many would most likely be in a worse position. The survey revealed 62 craft enterprises in all. However this included 15 tanners (an activity to be expected in a livestock economy) and 16 knitters. Beyond these were just 6 carpenters, 4 tailors, 3 mechanics, 3 bicycle repairmen, 2 shoemakers, and one builder, miller (not functioning), basketmaker, and painter: not a large number in relation to population.

In addition, a serious employment problem is emerging in Botswana (Lipton 1978). The low labour-intensity of both the country's main economic activities, mining (which is capital-intensive) and livestock which is land-intensive), has produced growth but comparatively little employment. At the same time productivity in arable farming is low and production both risky and arduous, rendering self-employment in the main employing sector unattractive, and encouraging rural-urban migration.

The absence of an established artisan sector, together with the need to create employment opportunities for increasing numbers of primary-school leavers, underlies the distinct feature of Botswana policy towards rural/small industry, which is the emphasis on training and orientation towards the training of school leavers in particular, articulated through the Brigade movement.

This movement, which aims to provide primary school leavers with vocational training in a variety of trades, was initiated in 1965 by Patrick Van Rensburg, a liberal South African refugee, when the Swaneng Hill Secondary School was constructed on a self-help basis by students forming the Serowe Builders Brigade. The movement has expanded rapidly since that time and in addition to individual brigades has a number of 'brigade centres' which constitute a cluster of brigades centred on different activities. At the end of 1978 there were said to be over 40 brigades and 15 brigade centres (Chilisa 1979). [6]

Great enthusiasm and idealism surrounds the Brigade movement not only on the part of those directly involved in management and of the Government of Botswana, but also of donors, who have given it substantial financial support. The movement certainly has some attractive features, and has introduced a number of useful-looking ventures. Yet this enthusiasm has been somewhat uncritical, not to the best advantage of sound long-run development.

For example, a widely-quoted success in the Kweneng Rural Development Association (KRDA), a community organisation which first came together in 1969 as an informal discussion and pressure group. It has certainly shown an impressive rate of development since that time, diversifying its activities into training programmes for handicrafts and textiles, builders, mechanics and (recently) woodworkers; the manufacture of school uniforms; the supply of building materials and general hardware; a vehicle maintenance and repair centre; a forestry unit; small-scale market gardening; a bee-keeping pilot project; and a hotel. Further ideas exist for the future.

If these activities are viewed more critically, however, one might say that the training activities at the KRDA fall between the two stools of training artisans in a genuine work situation (the environment at KRDA is of a training centre, not a realistic village situation where artisans work independently) and training artisans in sufficient numbers, as might be done in a technical college. Moreover the KRDA has not concerned itself with the situation of artisans away from the enterprise itself, or with the subsequent careers of its own 'graduates'.

To consider specific enterprises, the production of school uniforms is entirely dependent upon a government - guaranteed market and has yet to break into the 'free' market. The vehicle maintenance and repair unit is a highly capitalistic enterprise useful, perhaps, in the small township of Molepolole, but divorced from the objective of producing large numbers of effective 'bush mechanics'. The forestry unit represents a valuable iniative, but afforestation and the provision of wood-lots might be considered a more appropriate function for a Ministry of Natural Resources. The small hotel may pay its way in the absence of effective competition, but is based on expatriate management and access to capital. While current revenue is stated almost to cover costs, a main source of revenue stems from the supply of building materials (the success of which again depends in part on the provision of capital and expatriate direction). Finally the allocation of common costs to different activities is not clear, particularly the costing of external assistance. More generally a strong top-down element is involved in KRDA, rendering the replicability of the enterprise and its relevance to genuine village industry uncertain.

Brigades as a whole are not such large organisations as the KRDA but have many of the same features. We can distinguish the following:

(1) The policy-making body of a brigade is a Board of Trustees, comprising elected and nominated members, including the brigade manager, all of whom have voting rights.

(2) An important function of the manager is to secure donor assistance, on which brigades are highly dependent. Much of the manager's time is said to be spent on preparing project memoranda for securing such aid.

(3) Training at the brigades takes the form of one day a week in the classroom and four days practical training in the course of production. The normal academic subjects, Mathematics, Science, English and Development Studies are taught, on the basis of an agreed curriculum. Brigade centre staff and facilities may also be involved in adult education activities and community services projects such as nutrition and libraries.

A disadvantage of the dominance of the training function is that it increases reliance on aid and subsidy and may obscure the business and production objective. According to Lloyd Addison[7] this policy has brought many difficulties through people being unaware of their roles and responsibilities, and has resulted in large financial losses. All brigades have financial or cash-flow problems of varying severity, and have difficulty in finding surplus-generating projects. (Addison, 1979). Once obtained rather than permit capital accumulation within the enterprise, they are likely to be used to fund service projects such as a literacy programme, say, which might have been left as the responsibility of a well-endowed government. At the same time moral attitudes have affected the debate - perhaps because of the role played of volunteers - as to how far brigades should stress the revenue earning as compared to the training of service objectives (Addison, 1979).

(4) The umbrella - type of organisation, embracing a variety of activities and projects, which is typical of the brigades, makes for complicated administration. The Serowe brigade, for example, keeps 27 separate bank accounts.

(5) The management structure, with manager and board of trustees, taken in conjuction with the age of most trainees, between 16 and 20 years, produces a tendency to paternalism. All brigades employ expatriate volunteers as business advisers to provide marketing, book-keeping and other commercial skills, including the entrepreneurial role of initiating new activities. These are often on short contracts and do not always have the most relevant business or industrial background. While they may do excellent jobs, there is an obvious problem of continuity in management.[8]

(6) As in the case of KRDA the most serious problem is that brigade finishers are given very little, if any, assistance in job searching or setting themselves up in business. This itself, together with the training emphasis, may contribute to an insufficient focus on activities in which artisans have the greatest chance of establishing their own productive enterprise. There is no guarantee that the skills produced are those in demand, or that the quantity produced of different types of skilled worker will be proportional to the quantity required.

As regards needed assistance to 'finishers', the evidence provided earlier from Kenya and Tanzania suggests that the chief handicap affecting informal sector (rural and urban) artisans is undercapitalization, extending to premises, minimum tools and equipment, and basic materials. The situation in Botswana is clearly similar or more severe, and is compounded by a shortage of skilled and experienced artisans themselves. The Botswana Village Survey cited earlier showeed the average amount invested to be P87 (£51) among 33 producers, out of which 20 had invested no more than one pula each (60p) and 27 had invested an average of P3 (£1.89)[9]. Asked what the main problems they were facing were, 30 per cent of village producers referred to lack of capital and access to credit. The full list of problem areas cited is given in Table 6.

Table 6: Problems faced by Village Producers in the Southern District of Botswana.

Problem Area	No of recipients facing problems
Acess to credit or investment capital	18
Inability to purchase raw materials in bulk	14
Inability to acquire basic raw materials required for production	32
Access to transport facilities for either supply of raw materials or distribution of finished goods.	26
Access to further technical training	8
Problems relating to the marketing of goods	17
Pressure associated with competition from other village producers	27
Problems related to licensing	3
Total number of respondents	56

Source: Survey of Village Production Activities, Extension Services of the Rural Industries Innovation Center, 1978.

Note: The numbers in this table should be considered as no more than indicative. The question as asked leaves its interpretation and the possible response much too open.

In addition to the acquisition of fixed capital, problems in paying for or securing raw material as working capital are shown to be very great, confirming direct impressions quickly obtained.

While trainees are not helped to establish themselves as village producers, existing artisans in the villages fall outside the ambit of the brigade movement. 29 village producers in the survey responded to a question on how they had acquired their skills. Answers included family or friends (41%), clubs (10%), village producers (13% presumably through some form of apprenticeship or low wage employment), South Africa (13%), government work (11%), and advisors, schools, and hospital (11½%). Again without putting too strong an interpretation on this small sample, this suggests that the skills of actual village producers have been picked up informally, in the village, or indirectly, through other jobs, with little contribution from formal training. The paucity of village skills does give support to the strong training element in the brigade movement, but at the same time raises the question of neglect in the upgrading of existing village artisans.[10]

All these considerations do suggest that there would be considerable advantage in the Botswana context of a modified approach based on some form of craft-industry estate on Tanzanian lines. Advantages would include:

(1) action in respect of the severe capital constraint affecting informal sector artisans;

(2) emergence of a clearer network or framework of activities under which the deficiences of the existing distribution system in making available supplies of inputs and distributing locally-made products could be circumvented through, for instance, bulk-purchase arrangements;

(3) a stronger link between training and current or subsequent productive activity, and

(4) greater urgency in identifying and concentrating on the most profitable lines of activity.

This would differ from the conventional programmes which already exist in Botswana alongside the brigade movement: a system of industrial estates for small enterpreneurs sponsored by the Botswana Enterprises Development Unit (BEDU), and a Factory Shells Programme for Rural Industrialization. The former programme is probably even more open to the criticisms of feather-bedding made in respect of industrial estates in Kenya. According to Lipton (1978), p.98) "few BEDU entrepreneurs have left the estate-with its expatriate expertise-and prospered".

One element in this feather-bedding is the award of government contracts. The Directory for BEDU Assisted Enterpreneurs (BEDU, 1979) contains 13 establishments in the 'garment sector', 7 in leatherwork, 10 in metalwork, 7 in woodworking, 14 in building and construction, 7 in jewellery and pottery, and 3 in allied sectors: 61 establishments altogether. 7 of the garment establishments produce school uniforms as one product while 9 of the metalwork and woodwork enterprises produce school furniture. These most obviously offer scope for favoured treatment, though this would apply also to builders and contractors, for instance, or printing services (in the allied sector).

The Factory Shell Programme under the Ministry of Commerce and Industry is for the construction of a limited number of single and double factory shells over the second half of 1979 at six industrial estates, located at Pilane, Mogoditshane, Palapye, Ramotswa, Mahalapye and Maun. The latter were identified in 1978 among 12 secondary growth poles for rural industrialization[11] supplementing the primary growth poles of Gaborone, Francistown, Lobatse and Selebi-Phikwe.

The sites mentioned are all very small rural townships and it would seem unlikely that 'modern small industrialists' who are already scarce in the major townships would emerge. For local artisans as in the Kenya case, these appear inappropriate. The sheds, of standard design, are to be $140m^2$ (1500 sq. feet) single, and 280m² (3000 sq. feet) double. The rent for a single shell would be P55 per month (£32) or P660 p.a. (£385), with P165 (£96) payable quarterly in advance. If the rent charged covers the capital cost of the building depreciated over five years, the capital investment involved would be P275, to be seen alongside the investment of P1 made by 20 village producers in the survey of village production cited earlier. Though the industries which might occupy the factory shell remains unspecified, there is at least a suspicion of the tendency already mentioned with respect to Kenya and Tanzania of a failure to distinguish clearly between craft industry and modern small industry.

Conclusion

Household and craft industry (0-9 employees) is only the tail of the whole range (0-99 employees) of what constitutes 'small industry' according to the standard definition.

The scarcity of large-scale, indigenous entrepreneurs to promote, perhaps, has nevertheless led small industry promotional programmes in Africa in many cases to focus on this sector.

The lack of explicit recognition that such programmes will be dealing with craft industrialists and other informal sector activities has, however, frequently produced elements of inappropriateness in the design of such programmes, and in particular neglect of the problem of undercapitalization of craft enterprises.

Approaches which deal with this problem, such as the workshop-estate approach of Tanzania, offer more hope than those which offer extension advice and education in book-keeping.

Programmes which focus largely on training, understandable in the context of Botswana, without direct concern for the establishment of effective independent craft enterprises, have the same disadvantage, with the risk also of needing permanent subsidy and dependence on external management and direction.

A workshop-estate approach would need to concentrate on appropriate standards and technologies and avoid the generally-recognised disadvantages of ordinary industrial estates, but could be used to upgrade informal sector artisan enterprise in both rural and urban areas.

Footnotes

1. See I. Livingstone (1972) for a fuller account of activities of NSIC over the period of 1965-72.

2. See I. Livingstone (1980, forthcoming Figure 23.1).

3. This corroborates the findings of Bienefeld (1975) for the informal sectors of Dar es Salaam and other Tanzanian towns.

4. In one workshop, two workers with full time jobs elsewhere put in some 40 - 45 hours here.

5. In contrast the majority of metalworkers had to spend considerable time away from the estate hawking their wares.

6. 17 by end - 1979.

7. Personal communication.

8. For example, the Tshwaragano Brigade was established at Gabane during 1976 as a craft for post-primary school girls by Helen Young, a lecturer at the University who however had to leave at the end of her contract in 1977. Administrative problems followed inevitably upon her departure.

9. The high overall mean was due to a few entrepreneurs having made more substantial investments, a mechanic with an investment of P1000, two knitting mechanists with investments of P700 and P320 respectively, and a miller with a mill costing P560 (but no longer functioning).

10. According to Lipton, "NCVT (National Centre for Vocational Training) and NDB (National Development Bank), BEDU (Botswana Enterprises Development Unit) and the Brigade movement have done almost nothing to upgrade the techniques or business skills of the village carpenter" (Lipton, 1978, vol. 1 p.xii.

11. Except for Mogoditshane which is not mentioned. The others are Kanye, Molepolole, Serowe, Serule, Orapa, Kasane and Ghanzi.

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