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Working papers

Skill Formation and Rural Industrial Development

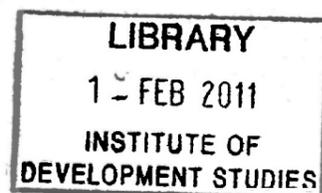
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SKILL FORMATION AND RURAL INDUSTRIAL DEVELOPMENT

by

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ABSTRACT

The purpose of this progress report is to raise for discussion propositions about how so-called "informal" skill formation relates to rural industrial development.

Four issues have been demarcated as central for commencing to conceptualize skill formation and rural industrial development: i) Consequences of the prevailing subsistence economy for the development of rural industries in Kakamega District, ii) influence of the general labour market situation on employment situation of rural industrial entrepreneurs and labourers and the consequences for skill formation in this labour force, iii) consequences of workshop organization in different rural industrial branches for the methods of training of labour and iv) Impact of institutional technical training on the quality of workmanship and productive employment opportunities.

The stratum of industries which are reckoned among "informal sector" activities are a major source of skill acquisition for the majority of rural industrialists. Unsystematic on-job-training may qualify labour for industrial employment rather than for selfemployment. The first attempts to systematise technical training at the lower ranks of the industrial structure are seen in the Village Polytechnic Programme. The potential quality of workmanship may thereby increase but the possibilities for selfemployment not necessarily so. The prevalence of the subsistence economy by which rural industrial labour is partly maintained on the one hand, and the "formal sector's" absorption of basically skilled labour on the other, prevents the creation of a stable industrial skilled labour force in rural areas.

It is attempted in this study to provide basic information on skill formation in the "transition" from modest subsistence-supplementary industrial activities to more progressive industries. The approach is to analyse the process in particular industrial branches.

SKILL FORMATION AND RURAL INDUSTRIAL DEVELOPMENT

INTRODUCTION

The present paper is an intermediary status report of a study of Skill Formation and Rural Industrial Development. The study is carried out in Kakamega District, Western Province. Field work started in September 1974 and the first two months of the study have been divided between: a) testing two pilot questionnaires - one for owners and/ or managers of rural industrial enterprises, and one for labourers in the same enterprises, b) collecting information from relevant ministries: Ministry of Labour - information on wages, variations in jobs offered and jobs applied for, Ministry of Cooperatives and Social Services - Youth Training and Adult Education, from Ministry of Commerce and Industry trade licensing data, and from Ministry of Agriculture provincial production statistics, c) Information about distribution of local, national and imported products has been obtained from local businessmen and d) interviews carried out with key persons directly engaged in small business development - i.e. Rural Industrial Development Centre and Partnerships for Productivity - and with people in related research work.

The research unit of the project is the rural manufacturing and processing firm. 11 firms covering 9 different branches have been visited within Kakamega District, and 30 interviews with entrepreneurs and labourers have been conducted. It is attempted to include in the survey rural industries representing different branches within manufacturing (e.g. smithing and carpentry), processing of agricultural products and maintenance industries. But strictly speaking the study is not a sample survey. The sample includes industries which are run by previous Village Polytechnic trainees. Training (content and form) in Village Polytechnics within the District will itself be subject to research in the coming phase of the study.

The purpose of this paper is to present for discussion the first findings of the field work. These will be presented in relation to the propositions and hypothesis on which the study is based. It is believed that labour skills which are relevant in rural industrial production cannot be interpreted as a result of education alone. In our interpretation skill formation in the informal sector is conditioned by a number of factors

which are not educational but are basic "components" of the economic structure. Primary among these factors which we think can contribute to an explanation of informal skill formation/are: i) the prevailing structure of production with subsistence agriculture as a dominant characteristic, ii) organization of production in those workshops which provide practical work experiences, iii) conditions of the labour market - i.e. for labour with basic technical knowledge, and iv) the form of training in institutions at the lower ranks of technical training.

The methodological approach of the survey is not first of all designed to test hypothesis about relationships between technical education and rural industrial development.

At this stage of research we think that the ~~explorative~~^{approach} must still be dominant. This explains why we base our preliminary interpretations of skill formation on observations which go beyond, however maintaining, the rural manufacturing enterprise as the unit of analysis.

It is evident that the formulation of working hypothesis takes into consideration relevant studies of the small-scale businessman which other researchers have previously undertaken. (1). Considering that substantial work still has to be done in this field it ~~requests~~^{requests} a feed back on preliminary observations and explanations which would improve the research approach in the remaining field phase ending April 1975.

Clarification of Central concepts.

"The informal sector"
The stratum of industrial enterprises on which this study concentrates belong to that sphere of the economy which has been characterised as the informal sector. (2). When we talk about skill formation in this sector some would therefore prefer to call this "nonformal education" (3) or informal training.

are, no matter how they are defined,
Ambiguous as these terminologies /there is hardly anyone who would profess the idea that informal sector activities are not influenced by the general political and economic situation in the country. That there is a connection between formal and informal sector activities is at least indirectly admitted when the choice of products to be manufactured by small-scale industries - but competitive /with/ large /scale/ manufactured goods - is discussed.

We have found a few items produced in rural industries which seem to have a market of their own as f. ex. brown sugar for changaa brewing made in rural jaggeries, tin-lamps, jikos a.o. scrap metal products. But generally the products of rural industries appear in a market situation where they compete with products fulfilling the same function but produced by modern manufacturing methods. Bread, f.ex., manufactured by small bakeries in the District appear on the breaddealer's shelf next to Elliot bread. A few locally produced items appear in Kakamega hardware stores - knives, karai, watering cans.- But even if the blacksmiths' products generally do not reach the distribution from hardware stores they must compete with similar products manufactured in Nairobi/Mombasa or imported from overseas: U.K., Japan, Taiwan and China appearing as the most frequent suppliers of hardware goods. Exempt from this general trend of competition may be manufacturing of furniture. In this branch the market appears by and large undisturbed from competition/between small and larger local carpenters seems to make up for what is not caused from outside.

Just as the market for goods is not divided into two independent markets we maintain that neither is the market for capital and for labour specific for the formal and the informal sectors: The civil servant of the formal bureaucracy is free to invest his savings in a duka in his home village. And the worker who was previously employed by the village fundi can seek employment by Firestone if he so wishes.

Even within the very small sample we have surveyed so far there is plenty of evidence supporting both of these propositions. Several of the owners of manufacturing enterprises whom we have talked to held higher posts as civil servants before or are now holding influential posts in local politics. Some have previously been employed in large-scale urban firms. This also holds true for a number of the labourers in the rural industries we have visited.

It can of course be argued that the freedom to move from the informal to the formal sector is nominal rather than real. But in spite of the restricted employment possibilities in the formal sector it can at least be hypothesised that he who has acquired a basic skill in the informal sector stands a better chance than his unskilled age-mate in getting industrial employment in the formal sector.

We have asked the local manufacturers whether they know the whereabouts of their former employees and a frequent reply has been that they are now employed in larger firms in f.ex. Nakuru, Eldoret and Nairobi. Not all, however have managed to find the better remunerated employment in towns which both workers and owners of smaller workshops at one time or another have been looking for. The alternative to formal employment has in several cases turned out to be starting own business at a very low scale.

Basically it must be assumed that the informal sector including rural industries is affected in such a way by the situation of the labour market in general that it will affect the flow of "skilled" labour between the informal and the formal sectors. The attraction of the large-scale manufacturing firm which in general offers regulated employment and much better pay is so visible that it seems reasonable to hypothesise that rural industries provide a labour reserve for larger industries. Rural industrial enterprise.

The usual interpretation of informal sector activities includes a variety of non-agricultural activities: small-scale manufacturing, retail and services. Although a clear-cut distinction between these activities is often not found in reality we make a limitation in this study to those activities which involve manufacturing or processing of some kind: manufacturing of house-hold goods and farm implements - processing of agricultural products s.a. hides and skin bandas, sugar jaggeries and bakeries - repair work which involves processing s.a. f.ex. garages and - specialized processing s.a. tailoring, cloth- and paper printing just to mention some.

In pervious studies of the ^{business/}African/creed (4) but not in all (5) an implicit distinction has been made between marginal industrial enterprises and progressive enterprises. The division line between what could be called relief and progressive rural industries is certainly difficult to define. But there seems to be so much evidence of variance within this stratum of production that neglecting it may oblivate explanations of phenomena relating to this sector.

Our sample so far includes industrial enterprises with a monthly turnover ranging from less than 100 shs. to 40,000. These enterprises are certainly at different stages of progressiveness. We do not operationalise the distinction between enterprises of different progressiveness in detail. However it is evident that a few of the industrialists contacted view their present business as providing a short-lived intermediary employment before they close down to engage in another activity.

These are usually the less prosperous manufacturers. The more progressive manufacturer's firm on the other hand is still small compared to the modern large-scale factories, but is large enough to produce a substantial profit for investment in labour or in more and better equipment.

In the previous pages we emphasised the connections between the formal and informal sectors regarding the potential flow of labour. Despite the restrictions on labour flows between these two sectors we think the link between them contributes to an explanation of the skill-formation process which takes place at the lower ranks of production.

But equally important for the explanation is the fact that production in rural industries even within the same branch takes place at different levels of sophistication. The contribution of rural industries to the creation of skilled labour and their need for qualified labour differs with the organisation and methods by which manufacturing is carried out, and on-the-job training in rural industries must be assumed to vary accordingly.

Labour Skills - Seen From Different Viewpoints.

Scientists' and planners' view.

When the discussion has touched upon necessary qualifications to run a rural enterprise it has often been a discussion about entrepreneurial skills(6). Also the argument has been put forward that Kenya does not lack people who possess the entrepreneurial spirit (7), - an argument which is no doubt valid.

That entrepreneurship should be the prerequisite for running small business is based in the assumption that individual initiative and imagination is the pivot around which development progresses. Secondly it rests on the assumption that the small-scale entrepreneur is able to beat the system before it beats him by manipulating the factors of production with his entrepreneurial talents.

It is not the intention here to downgrade the importance of the entrepreneur. On the contrary. In our view he is a most necessary component of capitalist development. But the fact that a number of hardworking entrepreneurs have failed in their honest attempts to enterprise requires an explanation why entrepreneurial skills alone are not sufficient to spur off the much desired rural industrial development.

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The point can be illustrated by examples from our own material. We talked with 3 tinsmiths whom we would not hesitate to identify as entrepreneurs. They worked as partners for a while. Two are now running onw tinsmith businesses next to each other, both at a very modest scale. The third person is not practising manufacturing at the moment but runs a beer club. All three are manifestations of entrepreneurs although by different criteria:

a) The club manager Mr. A. started as a balcksmith-trainee for 3 years by an Asian in 1949. Being paid a monthly allowance of 100 shs. from his second year of training he decided to look for another job in order to increase his wage. (Compared to the allow-ances paid to trainees today an allowance of 100 shs. a month in 1950 seems extremely good. Today it would seem as a luxury to leave a similarly remunerated training-place in Kakamega - provided the training is acceptable. Could this indicate that the demand for trained smiths in 1950 was higher than it is today and wages therefore kept higher?)

Although Mr. A. had still one year to ^{to}go/be fully trained he was employed as a qualified fundi in an Asian's sugar factory in Uganda. Here he worked as a smith and also learned welding, but again due to low pay he decided to look for a better job. In the sugar factory his wage rose from 250 shs. per month in 1952 to 300 shs. in 1956. He was then employed in a large Asian owned engineering workshop in Nairobi, working as a blacksmith and welder. This firm was also doing turning and fitting and on his own initiative he tried to learn these operations. Due to his enthusiasm to learn he was accepted as a learner of turning and fitting for 2 years, while maintaining his job as a skilled fundi.

In 1968 he decided to go into private business. He expected to earn more than the 650 shs. he by then earned in the engineering workshop. Together with 6 partners he started an electircal contracting firm in Nairobi. Mr. A. worked as a supervisor of 6 fundis, did practical managing the firm. After 2 years the firm went bankrupt. A temp- work and participated in/manager disappeared with the firm's capital. ted/ Mr. A lost everything. He returned to Kakamega and in 1971 he opened a tinsmithing workshop and a beerclub near his home. The workshop was run together with the two other mentioned smiths, until they broke up in 1972 and he concentrated on the club. Mr. A. said he found it too

demanding to run two businesses at the same time.

Since we talked with him Mr. A. has resumed the partnership with Mr. M. Their renewed start is indeed modest - marked off by a pile of scrap metal in front of Mr. M's intermediate workshop where they will resume work together and later negotiate about the terms of partnership. If they can raise capital for welding equipment welding will be part of their future work.

b) Mr. M. and Mr. D. have had somewhat similar working experiences but different training background, neither as impressive as Mr. A's. Mr. M. was trained in mechanics, black - and tinsmithing and welding in a technical school for two years. After training he was employed for a couple of years in a blacksmith workshop in Uganda.

Mr. D. was trained in tin-and blacksmithing in a large Asian owned metal workshop in Uganda for 3 years. Afterwards he worked as a fundi for 2 years in the same firm. Due to rumours that Asians would not get their working permits renewed he left in 1967 to find employment as a smith in Nairobi. He looked in vain in small and large engineering workshops for 6 months, worked as a shamba boy and then returned to his home in Kakamega. He looked after his 7 acres of land and did a little tinworks in his home.

Mr. M. was a victim of the ~~expulsion~~ of Kenyans from Uganda in 1970. He had to leave overnight, leaving his tools and personal effects behind. Later back in Kakamega he met Mr. D. whom he knew from Uganda and they decided to start a tinsmith workshop as partners.

The beginning was modest indeed but a good example of their entrepreneurial talents. Each of them contributed 2 shs. to the partnership. For the 4 shs. they bought a box of 24 tins worth 1 shs., a chisel was bought for another shs., sandpaper and polishing liquid for another few cents. This was in 1971.

The partnership broke up in 1972, when Mr. D. had to stay in his home due to family problems. Today both are in business again, this time in private business. Compared to the modest start their present situation is certainly a sign of progress. Both work in premises - however extremely poor - both employ a few labourers (including family labour). They produce the same scrap - or sheet metal products to order, for stock or for selling in larger markets around. Mr. M. maintains that his monthly turnover varies from 100-500 shs., Mr. D. that his turnover per month is on average 200-300 shs.

By a superficial glance the two shops look alike. It is however significant to notice how different these two entrepreneurs view their own situation. Both say they are faced by hard competition from producers of similar scrap-metal products who bring their goods to the larger markets ^{from} around Momabasa, Kisumu and Eldoret. Also products imported from large-scale firms in Nairobi or from overseas limit their sales. But while Mr. D. says "there is no strength in this business", Mr. M. maintains that "anything I can produce can be sold".

Their plans for the future are similarly different. Mr. D. thinks seriously of going into retail business. He will open a duka in Kakamega town. Mr. M. concentrates on expanding his workshop by means of different equipment, which he hopes to obtain for a loan. Their plans may be equally hypothetical.

We will return to possible explanations of this situation below and here just leave the cases to illustrate how different uncontrolled factors put limits to otherwise progressive entrepreneurship.

If the scientists concerned about small business development have been preoccupied with the formation of entrepreneurial skill it should not be overlooked, however, that a vivid discussion has taken place in Kenya about the necessity to create technically qualified people (8) In the post Independence period a cadre of skilled people for the higher posts in society has been created. But basic technical training for the common man has been limited and has primarily been provided by voluntary organisations or through informal sector employment.

If one should therefore speculate about the need for qualified labour at the lower ranks of the production scale it must still be in postulative form. Such postulates about skill formation in rural industrial enterprise must include: (i) On-job training is responsible for most of the skill-acquisition that takes place at the "stratum" of rural industries. - In our sample we include former Village Polytechnic trainees who work in the trade they learned. It is the impression that these trainees when in wage employment are treated as learners until more on-job experience has been gained and they are not automatically taken in as fully qualified labourers. Among the entrepreneurs acquisition of skills by systematic or institutional means follow the scale of business in our small sample. (9).

(ii) Due to the unregulated organization of production in rural industries no formalised graduation of skill - s.a. highly skilled, skilled, semi-skilled, unskilled is relevant. Skills in these enterprises can better be understood as relative to what is demanded by the type of production in which the labourer is engaged. I.e. it depends on the level of investment in the enterprise, the sophistication of technology and production methods and the way labour is organised in production.

Employers' and workers' views.

In the very small enterprise the necessary quality of labour is concentrated in one and the same person. He must know all the steps of manufacturing a product: getting access to raw materials, control the different operations involved in making his product and he must secure whatever limited market is necessary. He must combine a minimum entrepreneurial talent with a sufficient technical skill. In these industries income is limited and we postulate it is directed towards consumption rather than investment. Considerations about investment in skilled labour is therefore not very relevant. But a secondary function of the work can be an improvement of the industrialist's skills by practical experience which may benefit him in other productive employment later on.

The more progressive enterprise, we postulate has a potential for producing a profit. Its primary aim is expansion. The employer - in this case a capitalist, is faced with the choice of investing in more machinery to increase the productivity of his labour force, or investment in skilled labour. Investment in machinery may require investment in labour also - at least in retraining of already employed labour.

It is of course premature to draw conclusions at this stage of the research. But as small industries in Kenya seem to develop, industrialists even at modest levels of operation are more inclined to invest in machinery than in labour qualifications. Skill acquisition is time consuming while machines give immediate returns. Only one of our respondents, the owner of a very prosperous carpentry workshop, had seriously considered to send two workers for skill upgrading courses (Industrial Training Centre in Kisumu.) From talking with the workers of the firm it turned out that this was still unknown to them.

Seen from the worker's point of view skill has the primary function of making his labour marketable. Limited alternative employment possibilities may force him to sacrifice immediate returns in the belief that his skill may enable him to find employment which will be better rewarded later on. But also the expectation that present on-job training will qualify him for setting up his own workshop may be a driving force in his acceptance of otherwise unsatisfactory employment conditions.

All permanently employed labourers interviewed so far have expressed the hope of setting up own business one day. Some have included in their reply the awareness of financial problems of starting a business and the problem of securing a reliable market once business is running. Fewer have mentioned the problem of personal competence.

The considerations which lay behind the rural industrialists' as well as the labourers' investment in training for skills we postulate are centred around the potential chance of employment in the formal sector. For the employer investment in qualifying labour is weighted against the chance that the worker will use the skill he has obtained on his expense to seek employment where skills are better rewarded.

We have found this consideration behind the practice of masters either a) paying for labour training and later deducting the outlay from the labourers wage. or b) letting the labourer pay for his own training since his skill is seen as his personal property.

For the labourer his level of skills makes his labour more or less marketable, and his access to formal employment is facilitated with the amount of investment in and the subsequent quality of his skill. We have found the same attitude towards skills as a property of the individual - or of the family - among masters and workers. Several workers have expressed the idea that they themselves, a brother or father should pay for their learning if they got a chance to enroll in a training course.

We think that the practice of letting labour bear its own cost of acquiring skills is an indication that neither masters nor workers consider informally trained labourers as a steady labour force.

Since labour must be paid according to its value which depends on its level of skills there will be ^{a/}contradiction between the aim of the individual employer and the group of potential employers: Each employer will have as his aim: The best qualified labour for the smallest amount of money. All individual employers will try to make other employers bear the cost of ~~qualifying~~ the labour force and minimize their own costs.

It could be maintained that the surest way for an employer to minimize own costs of training labour was to take in apprentice learners who pay for their own training, a practice which is commonly observed.

We found, however, in one firm so far, that the employer identified having trainees, no matter the terms of payment, with a loss to the business. The employer previously practiced apprentice training but after having acquired relatively advanced machinery in his carpentry workshop he had discontinued the apprentice training. His arguments were: that unexperienced learners and machinery should not be combined for security reasons or because trainees would break the machines. Next the work of trainees ruined the reputation of the shop and finally trainees were irresponsible and could not be left to work on their own.

Seen from the individual employer's point of view - whether he is in the informal or in the formal sector - it will be an advantage to let labour get its skill where the cost of obtaining it is lowest, which we maintain is in informal employment.

Propositions about skill formation and the production process.

One characteristic of much enterprising in the informal sector is that the necessary capital for starting business is limited. Start capital in our small sample varies from a few shillings to 10.000shs. when start capital has been low it has usually been saved by the entrepreneur himself. Larger sums for starting business requires assistance from loan organizations.

For small-scale manufacturing enterprises it means that production is carried out with relatively simple technology. Tools usually belong to the producer himself and the production process does not require much division of labour. The individual artisan must possess the skills of a handicraftsman: He must know the specific characteristics of his material and all operations involved in producing his goods. His craftsmanship must enable him to produce goods of a quality competible with goods produced with more sophisticated technology provided the goods are sold in the same market. Or he must compete on prices if he cannot compete on quality. The quality of his work is however not only a question of personal talents. It is also embedded in means of production. The very small enterprise that operates with limited capital and thus simpler equipment has to compete on prices rather than quality, we assume.

(An auto-mechanic we have visited in a rural market centre kept prices for repair work low by charging for labour alone. He lets customers bring spareparts themselves. - The traditional blacksmith sells a jembe 5 shs. cheaper than the imported jembe. - From a quality point of view the local bakeries have the advantage of selling fresher bread than the imported bread. This may count for the customer who consumes the bread at once.

But against this quality difference the argument has been put forward that the imported bread stays fresh longer than the locally manufactured. The result is that locally manufactured bread and imported bread is sold at approximately the same price - the difference being in the range of 5-10 cents - but the local manufactured bread exceeds the weight of the imported loaf.)

Basically versatile skill is supposed to be the characteristic need of the rural manufacturing enterprise whatever branch of manufacturing is concerned. The specific qualifications will of course depend on the materials used and the types of goods produced. Both master and worker are involved in production and the learner is trained to know all operations undertaken in the particular workshop.

The quality of wood work depends to a large extent on the worker's knowledge of how to optimise the specific qualities of his materials. The same is true for traditional blacksmithing which involves processes of extracting the raw material, forging and finishing of a product by means of very simple tools. It is different with the black - and tinsmith and the mechanic who works with already processed raw materials. The quality of his work depends on his ability to use different tools for processing an already given raw material: iron bars, galvanised sheet metal scrap-metal etc.

The picture is a little different for processing industries. Tanning of hides and skin f.ex. would require control of a number of processes and thorough material knowledge. But the general situation of processing of agricultural products in the District is that it remains at the stage of first step processing. Demand for skilled labour in these enterprises is low. Examples are hides and skin drying bandas, sugar jaggeries, posho-mills, with bakeries as one exception.

When scale of production increases beyond the level of what can be undertaken by a master and a few assistants the first signs of specialization occur. First of all the function of administrator, organiser of production and salesman are separated from direct production.

In the rural industries we have visited, the role as manager if separated from production is usually filled by ^{the} initiator of the firm. He spends an increasing amount of time looking for orders, doing internal administration and participates less and less in production. His role as a teacher for his workers ^{diminishes} simultaneously.

Increased productivity of labour becomes an aim of the enterprise to which end division of labour in production is a first step. The first division is between simple feeder (unskilled) jobs and those demanding a full knowledge of more complicated technical operations. Introduction of machinery in a workshop as a means to speed up further the productivity of labour, may increase the division of labour tasks, but this does not necessarily happen. A power-operated tool may replace a former hand-operated tool, but may be handled for the same purpose by the same labourer. With the single-purpose, semi-automatic machine the function of machine operator will be isolated to one or a few labourers. This does not mean that versatile operations may not be maintained in other parts of the workshop. But a combination of labour possessing the versatile handicrafts skill and the single - purpose labour^{er} has occurred.

We postulated above that the tendency of the capitalist enterprise to invest in better technology rather than in skilled labour - provided skill acquisition induces a cost to the enterprise - also characterises the more progressive rural manufacturing enterprise. But the consequence of mechanising former manual operations we maintain is not detrimental to quality of products as it may be at the stage where technological progress starts to be associated with lower quality mass-produced goods. We postulate that where the introduction of machinery in rural industries has been and will be successful is where it first of all replaces burdensome manual operations without basically changing the production method or the quality of goods produced by manual work-methods. If machine operations influence quality, at this stage it is still adding to the quality of goods rather than lowering quality. This could be called appropriate technology application.

At a first glance of f. ex. products manufactured in carpentry workshops using more and less sophisticated technology it is impressive how similar in quality products from these workshops appear. Tables, table-chairs, cupboards, sofa-sets etc. of same design are being manufactured by handtools only in one shop, by use of machinery in another. The difference between products of the simple and the more advanced shop appears to be one of finishing with varnish, formica, plastic etc. rather than one of basic construction differences.

If our proposition is valid that machine operations in rural industries is first of all a substitute for burdensome manual work this implies that the dequalification of labour skills which is characteristic of the most modern automatic production methods is not widespread in mechanised rural industries. What it means is that the general level of technical skills in the labour force may increase with the rate of progress of rural industries. But the skill formation process is not a uniform and continuously progressive process. Technological progress is inherently associated with dequalification of certain manual labour functions.

Our material so far is too limited to justify generalizations about the relationship between technological progress, division of labour under various methods of production and the formation of labour skills. But our field work so far confirms that an analysis of these relationships should be central in the ongoing research.

Propositions about technical skills and skill independent of production.

At the stage of production when a number of people cooperate in the workshop, quality of labour which is not only technical, but skills independent of the production process is a minimum requirement: Besides technical knowledge the general ability to adjust to the organization and division of work in the workshop is necessary. These qualifications which follow from the form of production must be learnt as well as technical skills. They influence the form of the skill formation process as well as its content. We assume however that this is much more pronounced in large-scale industries where systematic training methods and formalised work-contracts secure that these abilities are incorporated in the labour force.

None of the workshops contacted so far have formalised employment contracts. Oral agreement about wages is usually reached before employment is effected. One manager told that he increases wages by 10 per cent from one year to another. But in most cases wage increases would depend on the profit of the firm.

The tendency to engage in several activities simultaneously in the informal sector makes adjustment to cooperation in production a somewhat haphazard affair. However, expansion of production in this sector will also be accompanied by a minimum requirement for work-discipline.

In a labour shortage situation these qualities will tend to be secured by higher payment. If the relevant type of qualified labour is abundant reward for qualifications will be lowered. Other factors do influence the price that must be paid for skilled manpower and sometimes in contradictory ways. Among these are the structure of the prevailing economic system and the formalization of skills.

In the informally organised enterprise skills are basically being rewarded in accordance with competence and in relation to their importance in the production. In the formal sector wages generally correspond to formal measures of skills s.a. tests and certificates. However the possession of a certificate of skill is so widely accepted as an automatic justification for a correspondingly higher wage that this "law of wages" is also valid in the rural industrial enterprise.

In the rural enterprise labour-costs take up a relatively high share of total costs, and further increases of labour costs will therefore be a case for stricter calculation than in a large-scale enterprise. Under these conditions a worker who has obtained a formal test may find it more difficult to get employment in the same sector where his same skills, before they got formalized, secured him a job. Several owners of workshops mentioned that they could not afford to employ labourers who had qualified for a trade test. One of these owners of a carpentry and wood-splitting workshop was considering to sit for a Grade test himself, since he would then qualify for getting contracts for Ministry of Works, he said.

Propositions about return to skilled labour as a consequence of the prevailing economic structure.

The form of the economy, particularly so in a given area, is another factor which influences the price paid for labour. When the question of wages was undergoing a thorough reappraisal in the 1950's (10) it was accepted, that family wage rather than individual wage was a more relevant basis for calculating a labourer's wage. A worker, it was accepted, need not only to reproduce himself but also his family, and statuated minimum wages had to be set accordingly.

In certain geographical regions and particularly so in the informal sector in these areas, we postulate that wages still correspond to individual wage calculations. This is particularly true in areas where subsistence farming is still dominant. Wages of non-agricultural labour will reflect the situation that reproduction of the family is primarily

maintained by its own subsistence production. This will be so no matter who works the land: a wife, family - or hired labour or whether the industrial worker participates in subsistence farming himself.

The consequence of maintaining subsistence farming as a dominant form of the economy is that industrial wages can be kept below the level necessary to reproduce not only the family but the individual worker himself. Prevalence of the subsistence economy is a reason why statuated minimum pay-rates can be undercut. This we have found is true not only for unskilled workers but also for ^{the}skilled labourer who for good reasons choses to stay with his family instead of the uncertain but potentially better rewarded employment of the migrant labourer.

Basic consolidated minimum wages in Kakamega District by October 1974 is 245 shs, per month for ungraded artisans, but many labourers who are considered to be skilled fundis by their managers are paid below 200 shs. per month.

Although the agricultural economy of Kakamega exhibits different characteristics: A cash crop producing area around Mumias Sugar Factory, Settlement schemes in the fertile nothern part of the District, a densely populated Division under the Special Rural Development Programme in Vihiga, it holds generally true that, "Farming in Kakamega District is primarily of a subsistence nature, holdings are small, and any cash incomes are minimal and derived directly from the soil." (11)

The tendency to keep wages at so low a level that reproduction of the individual not to say the family is undercut we hypothesise will be even more pronounced in the case where family labour is employed. A family-member is expected to contribute his share of work to the family's subsistence, and individual rewards corresponding to the amount of work delivered is either not possible or is considered to be excessive use of common funds. Family-labour wages will tend to resemble pocket-money rather than a fixed salary. This is so far confirmed by our data.

The maintainance of subsistence farming as a supplement not only to self-employment but also to wage-employment in rural manufacturing may partly explain the different opinions of the previously mentioned tinsmiths of their own situation. Both Mr. D. and M. have a plot which they participate in maintaining. Mr. D's plot is 7 acres Mr. M's 14. Mr. M. employs very cheap family labour and ⁱⁿaddition to this Mr. M's

wife and other family members have permanent jobs. His judgement of his business may reflect his family situation, rather than his business situation alone.

In the remaining phase of this research we will work on the proposition that prevalence of subsistence agriculture, its contribution to maintenance of rural industrial labour and its impact on the form of rural industrial development is central to explain the formation of skill in rural industries.

Historical conditions for skill formation in rural industries in Kenya.

It need not to be repeated here that the chances for Kenyans to get education of any kind in the colonial days were very poor. It is also well known that much of the education given was provided by the missions. Although the primary educational aim was to make people literate so they could read the Bible and spread the gospel, some missions did emphasise the importance of practical training. In this respect Kakamega has been relatively well supplied with training facilities due to the early establishment of quaker missions.

It is also a well known fact that wherever the colonial economy got a strong foothold it not only ruined indigenous industry and handicraft but also hindered the development of new industry (12).

A limited amount of simple manufacturing - but primarily repairwork - had to be undertaken locally for the colonial settler-economy to function more smoothly. Whether these functions were undertaken within the settler farms or in independent workshops they were almost exclusively reserved for Asians or Europeans. Within the Asian community there was again a distinct division between business and manual activities according to place of origin of the businessman/artisan.

Consequences of the strict division of work according to ethnicity must of course be inherited in the first generation of African businessmen and manufactueres to start business of their own after Independence. It must be expected that those African businessmen who have set up own enterprise since Independence have had some learning from the respective ethnic groups or subgroups who professed a certain trade. Alternatively their learning may have been acquired abroad. There is evidence of both cases in our small material.

What is interesting in this respect is whether the training methods which were professed by the respective traders is continued by their former learners and in which direction they develop. As the rigid ethnical occupational structure dissolves the impact of learning from other ethnic groups will also be discontinued. Moreover the content and sources of training will have to be found in a different environment when diversification of rural industries starts - where until recently carpentry, smithing and repair-work were almost exclusive.

It is reasonable to raise some questions about the possible implications of Kenyanization of small-scale business. Previous studies suggest that today's Kenyan businessman who has acquired his skill on the job has acquired his technical knowledge either from a) apprentice training or b) from employment which enabled him to observe the work of skilled fundis. (13)

The first form can be interpreted as systematic learning no matter how informal the apprentice contract may have been. The second type is unsystematic learning where self-learning has been the most important means of skill-acquisition. The questions that can be asked are; 1) Does the small-scale African entrepreneur undertake systematic - however informal - apprentice training of his employees? or 2) Is on-job learning first of all a self-learning process also when the training arrangement is called apprentice training? and 3) What implications do these two training methods have for the quality of a learner's skill, subsequently for his employment chances or his ability to succeed in self-employment?

It can be hypothesised that the quality of on-job-training is dependent on the organization of work in the following way: As long as the total production process can be overlooked by the individual worker he is able to learn most operations by observing. But as soon as division of work specialises certain functions the self-learners' technical knowledge will be limited relative to the operations he can overlook. The need for systematic training therefore increases as the enterprise exceeds a very small stage, provided the goal is to obtain versatile labour skills. The type of systematic training that can be provided will depend on the specific way in which a certain workshop can vary its organization, how labour will be moved from one section of the workshop

to another, the duration of the total learning period etc.

If it is assumed, as other studies have confirmed (14) that the ultimate goal of the majority of industrial workers is to start own business, a fourth question can be raised: 4) Does a worker recognize how his own skills compare to what is required to start a business? I.e. does he recognize whether he is a "specialist" in certain limited operations, that starting a business demands the comprehensive overlook of the total production process and a minimum of entrepreneurial skills? If he recognizes the limitations of his own skills does he realize how they could be made more complete?

From what we have gathered so far a worker's belief that he knows enough about his trade to start own business does not stand in relation to whether he works on specialized functions or works as an all-round fundi.

Whether the usefulness of skills - i.e. the applicability of skills in productive work - is seen from the point of view of the labourer or the planner of rural industrial development it must be measured against the chances that the skills will be applied in self-employment or in wage employment and against the specific demands of such employments.

The policies that have been applied in Kenya by planners of rural industrial development clearly rest on the assumption that self-employment must be the way out for most rural manufacturers. Vocational training for self-employment is also the basic policy of the Village Polytechnic Programme (15). But differences in opinion about the probability that self-employment in very small business is a realistic development trend makes it reasonable to assume that a number of rural industrialists will also come into other work-situations. Studies by David Court (16) f. ex. confirm that a number of Village Polytechnic leavers who were trained for the purpose of setting up own business either profess their trade as wage employees or are in other trades altogether. In the words of Emil Rado, "Accurate forecasts of even short-term trends in occupational demand seem to be unattainable and consequently the education provided should be no more specialised than the forecasts" (17). What this implies is that from the individual industrialist's point of view, skills which are sufficiently flexible to be applied in different work-situations will make his labour most

marketable. We will now turn to propositions about the potential contribution of institutional training to the formation of labour skills.

Propositions about Institutional Training and the Formation of Industrial Workmanship.

Our propositions so far have been concerned with the formation of skills on-the-job and how this is indirectly determined by the prevailing economic structure and labour market - conditions which do not promote creation of a steady labour-force. We stated that training in the very small enterprise is training by observing and hypothesised that systematic training of labour becomes necessary to develop appropriate skills when specialization of different work functions begins.

From what we have observed so far some workshops do apply partly systematic training methods. In one carpentry shop two experienced fundis had the responsibility for training each 2 apprentices. But the general impression is that even apprentice arrangements provide only casual instruction.

The first attempts to institutionalise systematic vocational training for prospectant rural industrialists are taken by the Village Polytechnic programme. We do not want to give the impression that vocational education as such leads to better employment and earning opportunities. Village Polytechnics are still struggling with financial, management, curriculum, recruitment, placement, relevant training forms and other problems (18) to make their work more appropriate. Neither can it be denied that with the problems of training-form and content unsolved institutional training may do more harm than good, dequalifying labour and blocking the chance of trainees to gain practical experiences.

But these considerations aside institutions s.a. Village Polytechnics have a potential for contributing to systematic training, and in many cases do so by arranging practical on-job training, give basic theoretical learning, work-shop training and to some extent social training.

It is however significant to note that simple technical institutional training is given only to the newcomer into the industrial field. It could be assumed that the reverse situation where people

already engaged in manufacturing were subjected to more systematic learning of somewhat wider scope would prove beneficial to the formation of skilled labour.

The fact that no initiatives have come from rural industrial entrepreneurs or for that matter their labourers, to institutionalise systematic training beyond what is given on the job may be another indication that the small-scale manufacturing labour force is yet an unstable labour force.

As Village Polytechnic training is almost the only alternative to pure on-job-learning - systematic or casual - it provides a unique material for analysing the consequences of systematic training forms for the quality of work-manship and productive employment possibilities.

Kakamega District has 4 Government aided and 2 unaided Village Polytechnics under NCKK. In the remaining phase of the study we will include a number of former trainees who are now professing the trade they were taught in one of these Village Polytechnics and relate their situation to the training methods they have been subjected to.

The issues on which the remaining field work will concentrate can be summed up as follows: i) Consequences of the prevailing subsistence economy for the development of rural industries in Kakamega District, ii) Influence of the general labour market situation on employment situation of rural industrial entrepreneurs and labourers and the consequences for skill formation in this labour force, iii) Consequences of workshop organization in different rural industrial branches for the methods of training labour and iv) Impact of institutional technical training on the quality of workmanship and productive employment possibilities.

Notes:

- (1) Central studies are:
 - a. P. Marris/A. Somerset: African Businessmen, Nairobi 1971
 - b. R. Sheffield (ed): Education, Employment and Rural Development, Nairobi 1967.
 - c. I. Inukai: Rural Industrialization - A Country Study, Kenya, Nairobi 1972.
 - d. I. Inukai/J. Okelo: Surveys of rural industries and small business in Nyeri and Kakamega, Nairobi 1972 and 1973.
 - e. K. King: Skill Acquisition in the Informal Sector of an African Economy - The Kenya Case, Edinburgh, 1973.
 - f. Small Scale Enterprise, Occasional Paper no. 6, IDS, Nairobi 1974.
 - g. Unpublished material on Rural Industrial Development Programme collected by Institute for Development Research staff 1971-1974, Copenhagen and Nairobi.
- (2) Employment, Incomes and Equality, ILO, Geneva, 1972
- (3) J.R. Sheffield/V.P. Diejomaoh: Non-Formal Education in African Development, N.Y. 1972.
- (4) P. Mbithi: Non Farm Occupation and Farm Innovation in Marginal, Medium and High Potential Regions of Eastern Kenya and Buganda, IDS, Nairobi, 1971.
The distinction is explicit in Marris/Sommerset, op. cit.
- (5) F. Child; Employment, Technology and Growth - the Role of the Intermediate Sector, IDS, 1973.
- (6) Kenya Industrial Estates Report: Rural Industries Development Programme, Nairobi 1970.
IDS, Occasional Paper No. 6 op. cit.
- (7) J. Okelo: The African Entrepreneur, *ibid.*
- (8) As a result of the widely accepted need for skilled personnel an extensive apparatus for collecting manpower statistics has been established. Central in the debate has been: (Wamalwa) Report of the Training Review Committee, Nairobi, 1972.
As an example of an academic's contribution to the debate can be mentioned: G.C. M. Mutiso: Technical education and change in Kenya, EAJ, 1971 August.

- (9) Institutional training in this study means training which qualifies for a specific trade. We do not include academic learning which Marris and Somerset in their study of the African Businessman found did not correlate with success in business.
- (10) Report of the Committee on African Wages, Nairobi, 1954
- (11) Kakamega Plan, Nairobi, 1970
- (12) S. Amin: *L'accumulation a l'echelle mondiale*, Paris, 1970
- (13) K. King: *op. cit.*
- (14) P. Maris/Somerset *op. cit.* and I. Inukai *op. cit.*
- (15) *How to Start A Village Polytechnic*, Nairobi, 1971
- (16) D. Court: *Village Polytechnic Leavers: The Maseno Story*, IDS, Nairobi, 1972
- (17) *Jobs and Skills Programme for Africa*, ILO, Kericho 1971
- (18) *The Kenya Village Polytechnic Programme*, Nairobi, 1974.