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CASE STUDY ON IN-SERVICE TRAINING IN ZIMBABWE\*

Information Document

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FOREWORD

This Paper has been prepared as a preliminary study in the context of a Project concerning four detailed case studies on In-Service Training in four African Countries, namely, Burundi, Cameroun, Côte d'Ivoire and Zimbabwe, for consideration as an information document at the Second Consultation on the Training of Industrial Manpower to be held in Paris, France, 14-19 September 1987. The final and more detailed study, which will be completed in early 1988, will also comprise the results of and recommendations arising from a survey of up to 60 enterprises, and national and sectoral training institutes, etc. in each of the above-mentioned countries.

It is hoped that other developing countries will stand to benefit from the findings of these case studies.

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Education, Training and Industry in Zimbabwe:  
A review of the issues, with particular  
reference to in-service training

Introduction

In a country that was so recently run on the basis of European skill and African semi-skill, in-service training is at the centre of many debates and political initiatives. High status in-service training was available in colonial Rhodesia, but was disproportionately so for European workers. Rhodesia's dependence on a very significant cadre of immigrants with fully formed skills undermined any major national planning of upgrading, professional development, or worker improvement. Quite suddenly in 1980, with Independence, the terms of the discussion were changed. European skills and knowledge left the country at every level, from apprentice, to journeyman, supervisor to junior manager. This affected very directly the world of production, but it also removed whole segments of skill and experience from the public service. Vacancies were filled in the public sector quite rapidly, often on the basis of very considerable educational qualifications, but inevitably with very little working experience. There has been virtually no attention given to how industry made good its losses of skill, but what is clear is that it followed a very different path from the public sector. At the lower levels it sought to upgrade and promote many of those who had been semi-skilled (with strong encouragement from the government); at higher levels, recruitment was much less rapid, but industry and commerce profited from a second haemorrhaging of high level skills and knowledge from the public service just a few years after Independence. This internal migration, from public to private sectors, carried over both Europeans and Africans 1/ - the former with years of experience in administration, and the latter with at least several years of responsibility in the exercise of authority. While this migration did not make good industry's losses of technological, engineering and management skill, it did allow it in a small way to profit from skills and experience for whose training it had not been responsible. In the process, the public service had to sustain a double shock, losing significant numbers of those who had just begun to offer it some continuity.

These movements very directly affected the main instruments for government provision of in-service training - the technical colleges - but they have also affected the government departments and sections responsible for the planning and execution of many measures touching on in-service training. At the very point when the government has wanted to stake out a much greater area of policy responsibility for itself in the area of in-service provision, it has had to acknowledge its very real difficulties in delivering effective teaching, supervision, and control.

Several factors have served to make the discussion of in-service training much more than a technical or a pedagogical matter. Unlike the school system which has been directly in the hands of the State, local communities and the voluntary bodies, and which it has been possible dramatically to expand in line with popular aspirations, the training system had traditionally been very closely linked to the production system, with the technical colleges having very few students who were not directly sponsored by firms. With apprenticeship traditionally dependent on the needs and the sponsorship of the employers, government found itself confronted by a training system that was actually continuing to contract, while the education system expanded at almost exponential rates. The expansion of in-service provision appeared to depend on a private sector that was predominantly foreign-owned. Even though it was appreciated that apprenticeship numbers could reflect the serious recession in industry, this close linking of training positions to the fortunes of the private sector only served to confirm the view that national manpower development policies could not afford to be so dependent on the interests of private capital.

From this viewpoint two approaches developed. First, there was a much more interventionist policy pursued by the State in respect of apprenticeship as well as a search for other instruments to encourage in-service training by industry. And second there was a realization that as such measures seemed unlikely dramatically to increase numbers under training it would be necessary to develop new and imaginative pre-service policies. Such initiatives could be much more directly controlled by government, and would therefore potentially allow greater freedom of manoeuvre than policies dependent on the goodwill of the private sector. It is essential to recognize that the policy shift from in-service to pre-service training is fueled by the much larger politics of educated unemployment. With apprenticeship numbers (new starts) at just over 1,000 in 1986 (and still falling), and other initiatives still numbered only in hundreds of trainees, the sheer arithmetic of Form Four (96,000 in 1986) and Form One (169,000 in 1986) has made many policy makers examine the transition from education to training. No less than 110,000 young people applied for apprenticeships in 1986, and just over 1,000 got taken on, for what has traditionally been seen as the main form of in-service training in Zimbabwe.

We shall note later on how these pressures have made the Ministry of Labour Manpower Planning and Social Welfare examine pre-service, institutional training both in the technical colleges and in other settings. But it should also be noticed that the Ministry of Education has recently become aware that if the numerous products of the secondary schools are to fare better in this transition from schooling to employment, then they too should seek to anticipate some of the skills of industry and commerce within the schools. What this means is that both ministries have been rather actively exploring the various options and models for pre-employment, pre-service and pre-vocational education and training. These developments may appear to be conceptually distant from a study of in-service education and training; in reality they are intimately connected. Once the State had decided to be responsible for an expanded programme of pre-employment vocational training (and education), it is not impossible that employers, presented with an abundant supply of both apprentice applicants and vocational school/college trainees of various sorts, will opt for the latter, for whose training costs the government or parents have been responsible. In-service training, in the form of apprenticeship, may further decline in that situation.

From a policy perspective, it must be appreciated that if the numbers of positions in industry at a skilled artisan or skilled worker level are finite and are growing very slowly, then the applicants in the apprenticeship mode are in fact likely to be in direct competition with applicants in the vocational school or prevocational training mode. The same ministry may turn out to be offering industry two rather different forms of post-form four leavers - apprentices and institutionally trained young workers - and to be allowing industry to decide which it prefers. Then, once the Ministry of Education has brought on stream its own versions of pre-vocationalization, the choice will be even wider, since both the apprentice applicants and those being institutionally trained by the Ministry of Labour will have had some additional orientation to the practical.

In addition to sketching out the various models of preparation with which government is involved (and these include several ministries other than labour and education), we must also be aware that industry and commerce have not necessarily been waiting to see what developments government would come up with. There is evidence that industry has been, in some sectors, exceedingly active in developing its own training capacities. There have been very significant investments in training managers, training systems and training centres. The scale of these developments is not easy to quantify, and it has been particularly difficult for government to follow and understand the dynamics of these changes, such have been the demands of their own emergent systems. But it is probably an appropriate

moment to recognize what has been attempted by the private sector, and to seek to understand the extent to which industry's contribution complements that provided by government, or is attempting to provide a substitute that is completely within the control of industry itself.

In this arena, there is very considerable room for suspicion and distrust. Government is frequently characterized as desiring to control all vocational preparation, classifying and registering all workers according to a national system of categories. While the historical justification for this was the need to break the bond between skill and race, and to reclassify those cadres who were downgraded during the late colonial period, the image of government to many employers continues to be that of a body determined to take under its control and regulation more areas of training than it can possibly oversee. On the other side, there remains with some sections of government a fundamental distrust of the training policies and activities of the private sector. Industry is conceived to be deliberately obstructing the expansion of apprenticeship, partly by refusing to take on more than a few candidates, and partly by developing alternative systems of skill development. As part of the internal brain drain to which we referred, lecturers that were once staffing the technical colleges of the public sector, or even administering parts of the Ministry of Labour, are seen to be running the private sector's training centres or managing its companies. Again, there has been no serious research on this trend, but it only takes a handful of well-known cases to support an image. (On the general issue of internal brain drain, see footnote 1).

In summary, there seems on both sides (industry and government) to be an inadequate understanding of what the other's motives are. To some extent the technical colleges illustrate aspects of this distrust. If they are satisfactorily to be responsive to industrial and commercial needs, colleges in Zimbabwe as in other mixed economies must have an intimate sense of their clientele - in the hotel industry, electronics building, automotive and engineering, as well as in business, banking, accounting etc. Representation on curriculum planning committees by industry and commerce needs to be frequent and routine, and the mechanisms for encouraging new courses and getting reimbursement for their costs have to be open and well understood. It is widely held that the only problem with the colleges is that their salary levels are insufficient to attract or retain staff. This is certainly true, but behind this obvious cause is the deeper question of who the colleges are serving and who should be consulted on their development.

Before closing this introductory section, it is worth pointing to a third crucial factor in the whole area of in-service training and education - apart from government and industry. And that is the individual client, the student or aspiring trainee. Zimbabwe has a quite extraordinary tradition of interest in professional and educational improvement. There are part-time students from the very highest office holders in the land down to the operators of hand-made machinery in the informal economy of Mbare and Magaba on the outskirts of Central Harare. Despite one of the most rapid and comprehensive extensions of formal primary and secondary education in the third world, this tradition of self-improvement through education and training survives, and is possibly getting even stronger. It is an essential element in any understanding of in-service training, for the great majority of those tens of thousands pursuing part-time professional development are actually working, as employees or on their own account. The mechanisms that are used to satisfy these educational and professional aspirations are the correspondence colleges and the independent education and training centres which offer direct tuition. These networks of correspondence and tutorial colleges are almost as extraordinary a tradition of Zimbabwe as the aspirations of their clients. Several of the better known have the

very powerful credential of having enrolled thousands of indigenous Zimbabweans for examinations that the stratified schooling of colonial Rhodesia made inaccessible, as well as for vocational qualifications that allowed some progress in the workplace. They now cater for a much wider range of professional qualifications, and serve a much wider range of clients.

But here too there have been suspicions (on the college and the government sides) of each other's intentions. The colleges are sometimes characterized as preying on the gullible, while the government is perceived sometimes to be more concerned with control and regulation than with understanding the populations the colleges are serving. There are however in the heart of this matter some very powerful issues for policy, and not least in the area of educational financing. Private and community initiatives have been crucial to the expansion of basic education in Zimbabwe, as have NGOs to the whole realm of non-formal skills training. At the level of the private tutorial and correspondence colleges, a service is offered to many areas beyond the reach of government provision without putting further burdens on the strained education and training budgets of the State.

In subsequent sections, we shall examine some of the most significant aspects of the world of in-service education and training. More attention will be paid to the areas of technical skill than to management expertise, and some industrial sectors will be given more space than others. The issue of the in-service training for industrial maintenance will be referred to wherever it is relevant. But, like the term in-service training, industrial maintenance is not a technical matter in Zimbabwe. Historically, industrial maintenance was predicated upon European skill and supervision and upon African semi-skill and unskill. With the collapse of that equation, a whole series of expedients have underlined how fragile was the systematization of maintenance. But researching the role of maintenance training in the economy is made extremely complex by the fact that the emigration of those who had played a crucial role in the organization of maintenance coincided almost precisely with the foreign exchange crisis, the consequent impossibility of importing spare parts, and the arrival of large numbers of inexperienced artisans and technicians in positions of significant authority. These elements continually come together in any discussion of the economy of maintenance, and nowhere more clearly than in the analysis of the crisis in the Central Mechanical and Equipment Department (CMED) which seeks to maintain and provide no less than 12,000 items of equipment to Zimbabwe's government ministries and departments:

The two major problems facing CMED were the lack of foreign exchange, particularly affecting the level of availability of spare parts and preventing the effective repair and maintenance of the fleet, and the continuing critical shortage of experienced and skilled staff at all levels. 2/

A. Government initiatives in in-service training, 1980-1987

The rationale for government intervention in the sphere of vocational preparation has already been alluded to, and it is nowhere more forcefully set out than in volume I of the National Manpower Survey 1981 (July 1983). 3/ Most of the instruments in the government armoury are anticipated in that document, and these include the centralization of apprentice recruitment, the bonding of apprentices, the development of (regional) vocational training centres, the upgrading system and the trade testing of those classified officially as semi-skilled, the interest in regulating private sector training institutions, the development of (pre-employment) institutional training, and the notion of a national grading system, comprising within it a new categorization of skilled workers. A new National Manpower Council (NAMACO) was proposed and lastly, the existing levy system on employers was consolidated and the rate raised to one per cent of the wage bill. The Manpower Survey remains a remarkable document, and is essential



reading for anyone wishing to understand the original basis of the State's concern with vocational preparation. This is not to say that the explicitly socialist and political economy analysis of labour and capital is necessarily shared by the agencies charged with implementing some of the policies charted by the NMS. Indeed, it could be argued that in some instances the concern is more with extending the role and regulatory functions of the State than with the alteration of the relations of production. Implicit in the NMS is an anxiety that vocational training (including in-service training) predicated upon the Africanization of the existing relations of production will eventually reproduce a pattern of employment, salaries and wages that will not be dramatically different from the colonial dispensation. 'For example in the public service the ratio between the highest paid (the Permanent Secretary) and the lowest paid (the messenger) is 75:1.' <sup>4/</sup> By implication, it would be a rather different form of in-service training that would challenge the existing wage differentials.

There is no space here to develop some of these larger issues raised by the Manpower Survey, but one area may be relevant for historians and social scientists to pursue. And that is the question of what particular elements in the larger scheme of national manpower development were actually implemented, and whether the State has taken on board a number of roles and responsibilities in vocational preparation whose original rationale lay in a vision of socialist transformation.

We shall turn now to look at just a few of the mechanisms that make up the in-service training policy of government. In particular, we shall examine the development of apprenticeship, new forms of institutional preparation, and the instrument which the NMS hoped would 'act as an added incentive to those private sector organizations that are undertaking progressive training programmes.' - the new levy for training. <sup>5/</sup>

(i) In-service training in the apprenticeship mode

In terms of the attention paid to it, there seems little doubt that the apprenticeship system has been one of the priority areas for the Ministry of Labour. Historically, apprenticeship had been predominantly European in most of the seven designated trades; it had also meant that, because of the tight linkage between apprenticeship and college attendance, the technical wings of the existing colleges were also European. Apprenticeship seemed the obvious gateway to skilled manpower development and beyond. Hence the measures mentioned in the Manpower Survey. Some of these were to ensure that young people who were likely to emigrate did not simply avail themselves of Zimbabwe's limited facilities for in-service training, only to leave and work in another country. This was effected by bonding apprentices for four years after the termination of their four years of training. Another concern was to try and break the exclusive right of the employer to take apprentices of his choice. This had resulted in the predominantly European apprentice profile to which we have referred. As a matter of historical fact, it should probably be stressed that it was organized labour more than the employers who were responsible for these particular patterns of recruitment; it could be argued for a number of industries that employers were in the colonial period actually seeking to weaken the stranglehold of these European unions by encouraging Africans to enter fragmented skill positions. The motive was not so much manpower development as profit, but it will be worth noting a possible parallel with this colonial trend in the post-Independence period.

In any event, with the Manpower Planning and Development Act of 1984 a number of these measures anticipated in the Manpower Survey of the previous year were put into effect. The centralization of apprentice recruitment meant that, in future, applicants would apply to the registrar of apprentices. Applications would be screened and then pre-selected groups would be sent to interested employers for the

final selection to be done at the level of the firm or establishment. This measure may have initially been thought of as an instrument to break the colour line in apprentice recruitment; in fact, by the time it was implemented, the ratios of Europeans to Africans had already dramatically altered. In 1982 there were two European apprentices being taken for every African; by 1984/5 there were five Africans to one European. If the racial issue was no longer the dominant factor, the centralization procedure was justified on other criteria. It was felt that urban dwellers and particularly those who lived near the major industries taking apprentices had an undue advantage over young people in the rural areas. Many employers in steel towns from Scotland to USA to Zimbabwe have preferred to take on the sons of the fathers who have worked in steel. In terms of the adversarial relations between government and industry, this practice can be characterized as nepotism by government, but from the point of view of industry, it brings into the workplace someone who is socially conditioned to industrial life.

With the centralization of recruitment, the State felt it might be able to make apprenticeship a more national provision, by sending to employers not only young people from the rural areas but also girls. Employers still had the right of refusal. Even though the practice was to send along to interested employers at least twice as many candidates as there were places, it was not uncommon for large numbers to be rejected. Again this made for poor relations between government and employers, especially when employers in some cases insisted on actually testing the candidates whom the ministry was already meant to have screened.

However, standing back for a moment from the actual procedures of recruitment, it is worth noting that of the approximately 1,000,000 people in the formal sector of the economy in the mid 1980s, new apprentices across the entire country (population 8 million) made up just about 1,000. In other words the State had taken on an extraordinarily complex task to deal with just a one-thousandth part of the formal economy. As we have already mentioned, no less than 110,000 young people applied to the registrar of apprentices in 1986, and yet there were only just over 1,000 apprentices actually taken on. The sheer size of the applicant body meant that with the best will in the world, it would have been an enormous task to sort out manually (no computers were involved) small groups from the mountains of applications and send them along to employers, according to the criteria of rural origin, sex, excellence etc. In the event, the volume of applications meant that very large numbers simply could not be processed at all.

We shall return to the issue of recruitment later, but arguably there are several much more significant matters that emerge from a close study of this key group of future in-service trainees. These concern the pattern and number of establishments that are actually involved with the apprentice mode of training. Very little work has been done in Zimbabwe on which firms are taking on new apprentices, and it seemed therefore worthwhile to get some sense of the population of establishments involved. Against a pattern of overall shrinkage in apprentice numbers from some 2,000 new entrants in 1981 and in 1982 down to around 1,000 by 1986, 6/ it can be anticipated that the number of firms involved in this form of in-service training was also shrinking. It may be useful to indicate the order of magnitude of involvement of firms in this training across the main seven designated trades:

Number of establishments taking on new apprentices in 1984-86 7/

<u>Trade</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Printing	15	11	15
Hairdressing	20	36	10
Building	13	4	12
Automotive	72	58	49
Electrical	67	81	63
Mechanical	133	128	107
Aircraft	4	3	4
<u>Totals of firms</u>	<u>324</u>	<u>321</u>	<u>260</u>
<u>Total new apprentices in these firms</u>	1 186	1 394	1 164

Several points need to be made about the patterns that underlie these figures. The first is that the apparent total of 260 firms involved in taking new apprentices is misleading; the individual total of firms involved in each designated trade is fairly accurate, but a significant number of firms and establishments take apprentices in each of the three areas automotive, electrical and mechanical. This is particularly the case in the firms in electrical and mechanical. Hence the actual number of firms involved in taking apprentices is well beneath the apparent total.

A second issue is more important for the overall picture. Within most of the designated trades a very small number of establishments is responsible for a large number of the apprentices. For instance, within electrical trades, just six firms have over the three years - 1984 to 1986 - taken on more than 50 per cent of the 1,000 odd new apprentices. And what are these six establishments? Zisco Steel, Zimbabwe Electrical Supply Authority (ZESA), National Railways of Zimbabwe (NRZ), Harare City Council, the Army, and finally the Registrar of Apprentices itself. In automotive trades, one institution, the CMED, took on a third of the entire new apprentice body in the same three-year period. In mechanical, three institutions took more than a third of the entire new intake - NRZ, Zisco, and the Registrar of Apprentices. In the building trades, just three institutions were responsible for 184 out of the 225 apprentices taken on in this period. These institutions were NRZ, the Registrar of Apprentices and the Ministry of Construction. What is striking about the pattern is that it is the public and parastatal institutions that are taking the large numbers of newcomers.

If we look across the trades in the most recent year, 1986, for which figures can be found, the pattern is even more clear. Just four bodies in the public or parastatal sector are responsible for half of the entire intake of 1,164. These four are CMED, Zisco, the National Railways, and the Registrar of Apprenticeship. It is worth noting the significance of the role of the Registrar of Apprentices, which in 1986 took on no fewer than 216 new apprentices. What this implies is that given the continuing shrinkage of apprentice numbers the State itself has taken on the role of the employers, and has proceeded to register apprentices in the expectation that they could be placed after training. In other words, with the

reluctance of regular employers to recruit (especially given the recession of recent years), the State has felt it should intervene to continue the production of skilled labour in the event of a later recovery of demand. In the process, however, we can observe a shift from the older pattern of in-service training to something much nearer a version of pre-service training. This pattern has been clear in the building trades for quite some time where the Registrar has been responsible for almost 3/4 of the new recruits for the last two years. Another version can be detected in the National Railways Training School. The very large numbers of apprentices taken on by NRZ in the last three years (over 500) points to the fact that there has been a gradual shift within the railway training system from training for their own needs exclusively towards a form of training for the nation. In fact the Railways Training School is already formally an annex of Bulawayo Technical College, and with this latest development, it is really becoming a new kind of vocational training centre; it is taking on apprentices that are clearly surplus to the requirements of the railways, but it is exposing them during their training period to a much wider range of skilled trades than could be found in many other small establishments. Just how these arrangements work out in practice has not been examined, but it would be valuable to monitor this form of training. It could be argued that through the close association to a working enterprise, trainees might benefit in a way that they might not in an ordinary vocational training centre. On the negative side, it may be worth noting that in institutions taking on a very large number of apprentices such as the Railways and the CMED, the ratio of artisan (or master) to trainee is likely to be significantly diluted, with deleterious consequences for learning on the job.

The other aspect of the apprenticeship mode of in-service training is that it is meant to involve release to the technical colleges, ideally during the first year. The staffing difficulties which have continued to plague the colleges since the early 1980s do mean that in many cases they simply cannot accommodate and teach the apprentices off the job. Sometimes, apprentices are being offered their related period of theoretical training at the college two or three years late. Some have even finished their training before they can get access.

Reviewing the status of apprenticeship in the late 1980s, we can see that there are a number of trends pulling it in different directions. From the government side, a great deal of thought (and much legislation) has gone into an attempt to secure this form of training, change its composition, and bolster the numbers of young people who get an opportunity to enter. Even though rebates from the levy fund are automatically available to cover the first two years of training, the numbers are still running at about half of what they were in the early 1980s. And without the Registrar of Apprentices taking on almost 1/5 of the entire cohort in 1986, numbers would have sunk well below 1,000. With the very important role played by public and parastatal bodies, also, it means that the completely private sector is really only taking on something like 500 new apprentices a year. There is evidence that the retreat from apprenticeship is still continuing in the private sector. Several firms have stopped taking them, and others are contemplating doing so. The major issue is the complexity and time-consuming nature of the recruitment process, and the unavailability of college space for the related training. The question perhaps needs to be asked whether the situation could really be turned around by the government abandoning the centralized recruitment system, or perhaps modifying it so that the emphasis was on monitoring the training being offered in industry rather than attempting to recruit and monitor. With the staff that are currently on hand, it would appear to be difficult effectively to do both. On the other hand, experience from other countries (including industrialized) would suggest that once the State has begun to intervene and take on the task of taking trainees under its own wing, employers may be content to let them do so, and select those they want at the end of the training period.

(ii) Upgrade training of skilled workers as in-service training

The second model of in-service training for industry also has its origins in the National Manpower Survey. It was mentioned earlier that due to the obstruction of European dominated trades unions, the employers had actually encouraged Africans to undertake a number of fragmented skilled tasks. This trend became more widespread during the war years at the end of the 1970s, when Europeans were called up. There was a case to be made for a system that would allow for a re-categorization of some of the semi-skilled. A new set of skilled worker grades was developed, and people could apply to be trade tested and be graded, if successful on a scale from skilled worker grade 4 to skilled worker grade 1. The highest grade (class 1) was deemed to be equivalent to an apprentice who had successfully completed his full term of training. This trade testing and upgrading system came into operation in late 1982, and has continued to play a role in re-categorizing some 2,500 workers each year since then.

Initially, a relatively high proportion of those applying were actually awarded class one status (55 per cent in 1982), which possibly testifies to the accuracy of the NMS in analysing the existence of this group. Since then however the numbers reaching class one by trade testing alone have progressively fallen, and in 1986 only 13 per cent of the applicants were awarded this class.

Trade-testing (and on-site assessment which has also been implemented) may encourage training, but they clearly are not a form of in-service training by themselves. At a certain point, however, a connection was made between the grading system, and the notion that the grading might be taken as a starting point for in-service training that could carry a worker up to a higher grade. Interestingly, the motor industry had started doing operator training (at skilled and semi-skilled levels) in 1981 at two sites, Msasa in Harare and Westgate in Bulawayo, and it was these which were taken over in 1983 to become the focus of the in-service training component of the upgrade programme. With the takeover, the new vocational training centres (VTCs) were to branch out into other trades, greatly assisted by French and German bilateral co-operation. But in terms of tracing the development of the in-service training of employed workers, it is instructive to see how, within a five year period, the conception shifted from an industry initiative designed to meet the skill shortages within their own categorization of labour to one with a much broader orientation towards multi-skilled training.

In its first incarnation, the motor industry's concept was linked to their system of semi-skilled operators (grades 5, 4, 3) and skilled operators (grades 2.1), all of which were beneath the skill of the journeyman. In an attempt to accommodate the 4 skilled worker classes of the government, a conversion exercise was carried out which made grade 5 into a workshop hand, made the motor trade's grade 1 into a skilled worker class 1, and squeezed the others in between. The detail is only worth attending to because it relates to a much larger discussion about the industry-based systems of job categories and their implications for mobility and training; and to these we will return.

But to continue the progress from an industry-based training centre to a government centre used by industry. We should note the lengthening of the training cycles. The old semi-skilled operator grade 4 had received 1 week training; the conversion to skilled worker grade 4 had altered the training manuals to 4 weeks; and finally with the bilateral co-operation the systematization and lengthening of training had gone further, with each training year comprising two training cycles, and with a growing concern that the centre-based training should also become part of a more general understanding with the employer about what kinds of experience need to be acquired on the job.

The upgrade training, however, once it had acknowledged that trade-testing by itself, while useful, would not develop the skills of people in industry, soon turned into a scheme which would carry a worker from class 4 right up to class 1, over a period of four or more years. In other words the VTC model as it developed in Msasa must be seen as properly a dual system in which a worker, once identified as able to profit from the scheme, will routinely stick with the project till he/she reaches class 1. During classes 4 and 3, two blocks of 6 weeks are spent in the VTC, and during classes 2 and 1, two blocks of 12 weeks are spent there. What this means is, inevitably, that there have to be something of an understanding with the employer. The employee is engaged in a really major piece of in-service training that stretches over four to five years. This is something fundamentally different from being sent for a week or two of upgrading. It is for this reason that there has been discussion of formalizing the whole process through a series of 'traineeship contracts', so that the employer is aware of his side of the bargain.

Taking the long view of the VTC mode and comparing it with the apprenticeship mode is instructive. Both were born in a somewhat adversarial relationship with the employers - the one through the centralization of recruitment, and the upgrade scheme through the encouragement of the individual worker to come and get him/herself trade-tested, regardless of the wish of the employer. However, in the case of upgrade training, there is obviously no way that it can continue over the full cycle without the active commitment of the employers to their side of the bargain. In effect this means that for a parallel system of vocational training to apprenticeship the employer is given a great deal more say in the case of the VTC mode than in the other. Admittedly, no one can go to the VTC without first being trade-tested or assessed on site, and then being registered with the registrar in the Ministry of Labour. But it seems now quite likely, as employers get a sense of the quality of the VTC training, that they will be even vying to get their own candidates accepted.

Several other points are worth making about the VTC mode of upgrade training. Unlike the pool of applicants for apprenticeship, we have no sense of the size of the group who would like to attend. We do have accurate figures on numbers who have been tested and assessed, and these run at about 2,500 each year (probably more a reflection of the manpower and facilities available for testing than of the real demand from industry). But we do not know how many of those tested actually wanted to proceed for upgrade training. Secondly, as the upgrade training moves towards a coherent scheme of traineeship contracts, the same young people will be attending the centre over at least a three-year period, with obvious consequences for the size of the total throughput. What this implies for the VTC system nationally is that two institutions will only be able to cope with a small element of the potential market. Thirdly, there is some evidence that the VTC system is becoming younger, and although the regulation period of attendance in industry prior to release had been three years, a precedent has been set for reducing this to just one.

(iii) From upgrade training to pre-employment training in the VTC mode

At the very point that the upgrade training model is just finding its feet in its new Msasa premises (it moved from the old motor trade location), yet another model of VTC is being born. On the same site as the headquarters of the Directorate of Industrial Training at Belvedere in Harare, a new form of direct entry training will be started in early 1988. The students have been selected, the premises are ready, only the instructors are hard to come by. As we have implied at various points in this account, the shift from an in-service to a pre-service mode has tended in Zimbabwe (as in other countries) to be driven by the politics of

youth employment or rather youth unemployment. In addition, it may appear that the direct entry mode is not dependent on employers, whether public, parastatal or private, in the way that apprenticeship and upgrade training are.

In reality a very serious attempt has been made to conceptualize direct entry training (straight from school) in a way that accords with the principles being hammered out in the Msasa VTC. This is certainly facilitated by the bilateral agency - the West Germans - being involved with both. 8/ But it is a very different model: a 1 1/2 year compulsory training phase can lead off either directly to the labour market, to a reduced apprenticeship contract, or into a training process of four years (in all) which will carry the young person through to the same goal of class 1 skilled worker as the apprenticeship or the upgrade training system. This four-year system is probably seen as the ideal option since it marries the initial institutional training to two periods of work on the job with release for advanced training in the second and the last year. However, like all institutional training it places a much heavier burden on the institution to locate the work placements in industry, and to ensure that the initial training carries industry along with it.

Once this new version has come on stream, there will be no less than three versions of vocational preparation on offer to employers, all under the authority of the Directorate of Industrial Training of the Ministry of Labour. All will require the co-operation of the employers to become viable. It therefore seems exceedingly unlikely that employers will not be encouraged to recruit freely from the direct entry system. In this situation it may well then appear anomalous for two of the systems to offer a rather free hand to employers in approval and selection, and the other (older) system of apprenticeship to be surrounded by the complexities of the centralised arrangements.

One thing is certain, and that is that the sheer novelty and diversity of options will imply a great deal of dissemination to employers, and the development of rather active systems of consultation on curriculum, placements, rotation, etc. But as systems proliferate, it becomes increasingly important not to talk generally of employers but to have a clear idea of the specific patterns which employers are involved with. For example, in the automotive industry we mentioned that a single institution - CMED - was taking no less than a third of all new apprentices over the past three years. The remaining apprentices were being taken by some 70 different firms. In the VTC Msasa by contrast, a sample of some 160 different automotive trainees taken from the last several years suggests that almost 90 firms have been involved, and a preliminary review would indicate that the upgrading scheme has been able to tap into a somewhat different part of the labour market than apprenticeship. For in-service training schemes to flourish, it will be essential for the organizers and the instructors to be aware of the needs and interest of the particular employers' constituency. But even more important, for in-service schemes to flourish, the instructors themselves have to earn the respect and confidence of the employers. We have already noted how the sheer absence of instructors in the technical colleges has threatened the very framework of apprenticeship, and the same could easily happen with upgrade and direct entry VTCs if this does not get regarded as the single most vital component of the whole exercise.

(iv) Other versions of institutional training and their relationships with in-service training

Beyond the three models already discussed, the Ministry of Labour has further versions of vocational preparation in operation. These are worth briefly alluding to since they do illustrate something of the delicate balance that exists between the pre-service and in-service modes of vocational preparation. They also

exemplify some of the issues and problems involved in developing a multi-level, and multi-institutional form of vocational preparation that still retains a degree of unity and coherence. The first of these is a Vocational Training School (as opposed to a VTC) and the flagship of what was expected to develop into a series of these is clearly St. Peters Mubatana, just outside Harare. In the original blueprint for this kind of institution, it was conceived of as really a kind of post-school training system which would take some of the many drop outs at the end of form II and offer these school leavers an alternative education system with a practical bias hence providing pupils with a foundation from which they can progress up the technical training ladder to artisan, technician and professional levels. 9/

However, what was conceived and executed in the late 1970s by the Catholic Church as a three year full time training centre was later overtaken by the dramatic expansion of four years secondary education. By the time the Ministry of Labour identified it in 1984 as a 'model vocational training school', it was having to face a different pattern of educational aspirations, and was in effect offering skill training in two years part time. The participants were no longer school leavers but form III and form IV youngsters who were also trying to pursue their O-levels. The sheer speed with which institutions get overtaken by events is perhaps inevitable in situations where educational access is being democratized on the scale of Zimbabwe, but it does mean that a skill training centre may well have to rethink its clientele, curriculum, and connection with national certification as much as three times within a decade.

St. Peters has in fact been endowed (by Misereor in West Germany) with the kind of equipment on which a very thorough grounding in vocational and industrial skills can be acquired. It also has a level of trained instructor (and a level of commitment) that could ensure the transfer of such competence. Where only a third of a student's time is being used directly with these facilities, it could be argued that there is an under-utilization of the technological capacity of the available plant. Of the three crucial factors of production (plant, instructors and clientele), it may be that St. Peters does have the first two, but could perhaps serve the needs of the high density areas around it more directly at the form IV leavers' level. While plant and instructors of the quality of St. Peters are not going to be common-place at the school level in Zimbabwe for some time to come, it does at least raise the question of whether this model vocational training school ought not to be following very closely the curricular and linkage developments underway in Belvedere and Msasa.

On the question of whether the VTS will gradually develop a network of such institutions around the country, it is still too early to say. There is apparently at least one other (in Honde Valley) also linked to the church, 10/ but a good deal would seem to depend on whether the VTS model shifts upwards to post form IV, or whether it remains in school, running in parallel with the O-level classes. Of course, the latest set of events to overtake the possible future planning of any network of vocational training schools is the national initiative to vocationally orient all secondary education. To this we will return later.

The second model of institutional training worth noting is at Mutare Technical College. This too, like St. Peters, and all the other technical colleges, is under the Directorate of Institutional Training, as opposed to the Directorate of Industrial Training with which our first three models were connected. What makes Mutare important in any discussion of the balance between in-service and pre-service modes of vocational preparation is that it is in fact direct entry craft level training, such as is shortly to start at Belvedere. After one year of solidly college-based training (in 1986 when the scheme started), the students can go different ways - trying for apprenticeship, entering technician classes, or continuing with artisan training in the college, interspersed with, ideally, long



sandwiches in industry. It has not in fact been possible to visit this new model and assess how the crucially important links with local industry have developed, nor what is the pattern of options that has finally emerged. But clearly because it does constitute another version of direct entry training, it is essential to be able to conceptualize it within the same framework of vocational preparation as the other options.

It seems likely that the tensions between the in-service and pre-service use of technical college facilities are certain to take some time to settle down. On the one hand where plant has been built at considerable expense (whether with local or external funds) there will be pressure to fill up classes, and make use of the scarce lecturers, especially in situations where the college is new and industry not sensitized to its use. The same thing has actually happened in other colleges than Mutare, where small classes of sponsored students have been joined by 'in-fill' students not sponsored by any employers. This produces presumably a situation in which both pre-service and in-service students are being taught at the same time, the one with guaranteed access to an industry setting and the one perhaps having to find a location, by himself or with the help of the college.

What needs to be monitored in this situation of a shifting balance between pre-service and in-service training are obviously the actual quantities of students involved, and the new patterns of access to industry or commerce that they manage to develop. What also should be anticipated (whether at the craft level in Mutare or at the graduate level (of B.Tec) in Harare) is the need to involve the potential employers in a major consultative exercise across the whole range of new courses that are being piloted. Such has been the rate of development of new initiatives in the field of vocational preparation that it cannot be assumed that the national employment councils of the various industries are aware of the implications for their own membership of the following developments:

- The emerging patterns of functional, upgrade training at Msasa (and Westgate)
- The January 1988 start-up of direct entry training at Belvedere
- The 1986 start-up of direct entry training Mutare
- The shrinkage in apprentice numbers (outside the public and parastatal sectors)
- The distinctive quality of the St. Peter's Kubatana vocational training school.

(v) The Zimbabwe Manpower Development Fund (ZIMDEV) as an instrument of in-service training

Although there had been a small levy operating in the late colonial period, it was again the National Manpower Survey and the new activities of the then Ministry of Manpower Development\* that brought in the notion of an expanded levy of 1 per cent of the wage bill. This became effective in January 1983, and it was anticipated that the money thus raised could be used as an added incentive for private sector firms undertaking 'progressive training programmes'. By 1986 this levy, operating across a population of some 15,000 establishments, was bringing into ZIMDEV a levy income of just over 24,000,000 dollars in one year. Crucial to any study of in-service training must be an understanding of what leverage this rather large source of funds has proved to have. Is it possible to detect patterns of 'progressive training programmes' in industry which have received rebates as the National Manpower Survey anticipated? Can the ZIMDEV levy be held to have had any

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\* Manpower Planning and Development.

direct effect on apprentice numbers? Has Zimbabwe managed to be any more successful than several other countries where it has been found that levy funds mount up, either because employers choose to regard it as a tax or the procedures to get the money back are simply too complicated? It is not intended here to make any serious evaluation of these matters, which would clearly require a major research inquiry, but just to give some indications of trends that are perhaps detectable from what data can be found.

There is in fact little published work on the levy fund, but it is clear that in respect of certain categories of training there is something approaching a standing obligation to reimburse. For a whole series of other courses, however, it would appear that the ZIMDEV 'list of approved training eligible for rebates', which is issued each year, can actually be deployed as a manpower planning instrument. 11/ Thus, apprenticeship and upgrade training are now automatically reimbursed without the need for the employer to make much more than a notification of the fact that workers are at Msasa or Westgate. The fact that all apprentices and upgrade trainees are already registered with the directorate of industrial training doubtless facilitates this.

By far the largest part of the money that is actually paid out goes to the reimbursement of apprentice-costs in their first and second years, during which time it is assumed that they are learning to be productive. In 1986, the first and second year apprentices cost the fund 11.2 million dollars. This presumably covers the approximately 2,500 who were either in their first or second year of training. It is not known however whether the intention is eventually to cover the costs of other kinds of direct entry recruits such as those at Belvedere (in 1988) or even those doing craft training in Mutare. It could perhaps be argued that there isn't much difference between the 25 per cent of the 1986 apprentices who have no employer, but are under the umbrella of the registrar of apprentices and those who are direct entry recruits. But the issue could be put the other way round: Is there a rationale for some direct entry craft level trainees to be paying their own fees, while another group would appear to be being charged to ZIMDEV at approximately 4,400 dollars per person? (11 million by 2,500). With the possibility that direct entry training, initially unlinked to employers, could rapidly expand, these questions are worth raising. For instance, two years of direct entry at Belvedere and at Mutare could come close to 2,000 students, which reimbursed at the same rate, would take the bulk of the available moneys.

It thus becomes crucial to understand to what extent the ZIMDEV money is covering at the moment many of the other forms of training in industry and commerce, whether company training schemes, supervisor training, development of junior management or whatever. To this end, the available data for the last two years have been examined in respect of employers who applied for training rebates other than for VTCs and apprenticeship. In the first year for which data is available (1984), the categorization was insufficiently precise to allow any judgement to be made, but the picture for 1985 is a good deal more clear:

Number of firms successfully applying for rebates,  
and numbers of trainees 12/

	<u>1984</u>	<u>1985</u>	<u>1986</u>
Firms	76	77	77+
Trainees	416	640	?

(The closing date for 1986 training was 20 July 1987; the final figure will be a little higher. Number of trainees is not yet processed; so the employer figure in 1986 is applications rather than successful applications).

The first point that is rather startling is that apparently the total number of employers who applied for any category of training other than those that are almost automatic (VTCs and apprenticeship) was steady at around 77 out of 15,000 over a three year period. It is possible that in earlier years perhaps more employers applied than finally were successful, but if the 1986 applications are an indication to go by, then the total may not have been much greater. In point of fact the figure for successful applications is likely to fall well below 77 in 1986, since this number has not yet been weeded out.

Employers at any rate have not been applying in large numbers over this three-year period, and their readiness to do so must be attributed to a combination of what is laid down in the details of approved training and to their experience of earlier years. As far as the 1985 trainee numbers are concerned, employers will have been guided (or discouraged) by the 1984 and 1985 eligibility rules and by their earlier experience. It may therefore be useful in summary form to lay out the broad categories which were intended to attract rebates for in-service training during that time:

- (a) Ex-combatants and ex-refugees engaged in apprenticeship training
- (b) Regular apprentices (this was handled automatically)
- (c) Recognized training to acquire a professional qualification in management courses offered by the following institutions/associations. (Here followed a list of 20 professional institutes, societies and associations. Also one line mentioning Government Institutions - National Intermediate Diploma, National Diploma and Higher National Diploma. And a further line mentioning any other courses with the approval of the Ministry of Labour. My underlining added).
- (d) Post-qualifying practical training necessary to acquire a professional qualification or membership of a professional institute registered or recognized in Zimbabwe. (Here followed: Engineering cadets (Society of Engineers); pharmaceutical cadets; Institute of the Motor Industry; City Guilds of London Institute; Learner Miners; and any other technical training approved by Ministry of Labour ..) - my underlining.
- (e) Training given in the following trades and professions. (Here followed a list of 4 technicians: dental, lab., survey and pharmacy; 3 mechanics: agricultural, typewriter, cash-register; shoe designers and dress designers; electronic engineers, flight engineers, pilots, horticulturalists and opticians; and then watch repairers, loom tuners and sewing machine mechanics, and well-sinkers (at least 60 ft.)

Some further notes were added in the 1985/86 edition which may have had an impact on those who applied for that year ...

For a training programme to be considered, it should either:

- (i) Have a clearly structured training schedule - showing both theory and practical content, organized preferably on a competency based training programme
- (ii) Culminate in an acceptable assessment and accreditation system reflecting both practical and theory aptitude level
- (iii) Have clearly stated and realistical set time period of training logically proportioned between the practical and theory training
- (iv) Be administered by qualified trainers.

Several messages come across rather strongly from this set of guidelines. First, there is a very strong support for the notion of a full professional qualification, and for the induction training necessary to lead to membership of a professional institute. Second, there is not a very strong steer towards government institutions, though their diplomas are mentioned. Thirdly, there is a possibility that other courses meeting the approved conditions could be agreed by the Ministry. In the event, the great bulk of successful applications in 1985 were those pursuing induction or examination for professional bodies and institutes. Approximate figures for some of the most popular of these were as follows:

	<u>Approx. totals</u> <u>for 1985</u>
Chartered Accountants (CAs)	177
Chartered Institute of Secretaries and Administrators (CIS)	82
Zimbabwe Association of Accounting Technicians (ZAAT)	53
Institute of Administration and Commerce (IAC)	31
Institute of Bankers (IOB)	23
Chartered Institute of Insurance (CII)	21
	<u>387</u>
In the technical field, there were large numbers of learner miners (152), engineering cadets (24) and assayers (11) .. a total of	187
<u>Overall</u>	<u>574</u>

This means that the six professional associations and the three more technical induction periods took by far the bulk of the 640 successful applicants in 1985. There were in addition some 15 other professional institutes which had numbers ranging from one to seven. There were only two technicians. The other interesting point that may be noted is that just ten firms and establishments were responsible for no less than 277 out of the 387 successful applications in the professional field. While just four mining companies along with the National Railways were responsible for virtually all the technical applications. In other words - like the pattern of apprenticeship sponsorship - some 2/3 of the entire successful applications were drawn from about 14 individual companies.

In terms of the ability of the ZIMDEV levy to act as an instrument for privileging and encouraging certain activities and discouraging others, there are a few lessons to be learned from this admittedly rather thin data set. First, the sheer act of specifying by name the 20 professional institutes was obviously influential in getting the training managers or personnel managers of those particular companies supporting such activities to apply. Equally, however, the absence of any specific reference to particular courses in the government's technical colleges was possibly also influential in a negative way. In addition, the absence of any specific examples of rebateable in-plant training may have discouraged training managers from trying to make a case for their training centres. They would have been further discouraged doubtless by the very heavy emphasis upon long term courses and professional qualifications. In point of fact, several firms did both in 1985 and in 1986 apply for all kinds of short term (1 day to 2 week) training courses, but these were in general disallowed.

Possibly learning a lesson from the pattern of applications from 1985, the 1986/7 approved rebate regulations have sought to be very much more specific. Instead of a one-line reference to government institutions and their diplomas (in the 1985 rules), there are almost two full pages of very specific courses to be taken at the National Certificate level (7); at the National Intermediate Diploma (19); at the National Diploma (19); and at the National Higher Diploma (3). By contrast the suggested support for courses offered by professional institutes and societies has shrunk from 20 to 10. The clear thrust of this very major change in specificity must be an attempt to encourage attendance at national training institutions. Unfortunately it will not be possible to discover this year whether the changed direction of the publicity was really effective, since the guidelines on what would be supported for 1986 went out just a few months before the closing date. It will be a further year before it will be possible to gauge any impact.

A second interesting lesson learnt from the previous years is perhaps that industry and commerce's continuing preference for short management courses should be diverted into the Management Training Bureau (MTB) which is run by the Ministry of Labour. In view of the fact that the whole array of tailor-made short courses offered by the private and voluntary sector have not attracted rebates (presumably because of their shortness and alleged high costs), the following note in the new guidelines is perhaps indicative of this same concern that the private sector should be encouraged to use public sector courses:

N.B. MTB courses have not been listed for rebate because they are in fact heavily subsidized by both State and ZIMDEV hence the very low fees, and are for short durations, to minimize many hours lost to the employing organizations while addressing specific management problems to improve the efficiency and effectiveness of the organization. 14/

We return at this point to something of the adversarial quality that has animated private sector discussion of centralized apprenticeship, and here is concerned with the private sector's preference for management courses run by the Zimbabwe Institute of Management, the Institute of Personnel Management, and many other both profit-making and non-profit-making bodies. Such courses are generally not able to attract rebates, and yet ZIMDEV funds (from the private and parastatal sector) were used for the Management Training Bureau, in the hope that it would attract clients from both the public and private sectors. The key issue, it would appear, is not the shortness of the courses (to judge from the above note) but their sponsorship. In terms of in-service training of both junior and senior management which many would argue is actually a higher priority in the private and public sectors than the vocational preparation of skilled workers, it seems unfortunate that there should be this polarization. With the longer courses, there is possibly less of a problem since the rebate regulations suggest both the management courses in the technical colleges as well as the diplomas of the Institutes of Marketing Management, Industrial Management and Cost and Management Accountants.

taking the longer view of the role of a levy grant system in a mixed economy, a number of summary points could be made about the present impact of the scheme on in-service training and education.

1. The scheme has achieved some sort of stability in respect of apprentices and VTC upgrading which in combination, in 1987, will probably account for almost half of the \$24 million likely to be raised. However, we have noted that other direct entry schemes are going to pose policy dilemmas for government as their numbers conceivably rise to challenge apprentice numbers.

2. On the management and induction training side of the scheme, the take-up by employers has been constrained to a minute fraction of the potential clientele, and in the most recent accounting (1985/6) of grants for these areas, 884,000 approximately was paid out. Arguably the take-up has been inhibited by the lack of clarity about what could be rebated, and at what levels. The impression that nothing except professional courses leading to recognized qualifications is likely to be funded is widespread, and is to some extent justified by the only available data.

3. In the most recent year's regulations there is strong evidence of encouragement to use national training institutions such as the technical colleges and the MTB. While this is entirely justifiable, it is also true that more has been written on the chronic shortages of qualified staff at these government training institutions than on any other single aspect of training. So long as block or year long release for apprentices and other trainees cannot be guaranteed, industry will continue to be tempted to make its own training arrangements. The speed with which much of industry has appointed training managers is in marked contrast with the instructor vacancies in the public sector.

4. ZIMDEV funds have been very significantly in surplus since the inception of the scheme. Prior to the 1987 additions (of approximately 24 million), there was 50 million in surplus. Most of this had been theoretically allocated to building programmes in the technical colleges for the period 1986/87, but expenditure has been minimal thus far. Many industrialists and policy-makers concerned with the quality of training regard the recruitment and retention of instructors and lecturers at national institutions as being one of the first calls on ZIMDEV funds.

5. Lastly, and possibly as important as any other point, the ZIMDEV fund has in many ways had the result of souring relations between government and industry and commerce. There would appear to have been little consultation on the rules and regulations for rebates. The National Manpower Advisory Council would be one obvious focus for such discussion, but that body has just, in late 1986, begun to meet in a regular way, and its specialist industry committees who could well be charged with detailed advice on courses and training within particular trades are only in the formation stage. There is thus something of a policy vacuum, and very little of routine consultation amongst government, employers and unions on the most urgent training needs by sector. In the absence of such mechanisms, it should not be surprising that there is the wildest speculation about the utilization of ZIMDEV funds - much of it quite irresponsible.

#### B. Private and parastatal sector initiatives in in-service training

One of the private sector's commonest complaints to government is that since Independence they have done a great deal of training, very little of which has attracted any recognition, let alone rebate, from government. The impression given apparently is that in the eyes of government many of these private sector initiatives have been in competition with national schemes, or have even been designed to subvert or circumvent government provision. Industry, on its side, may well feel that it cannot afford to wait year after year for the government to put its training house in order. This is obviously not the easiest situation in which to attempt an analysis of in-service training in industry, since, as we mentioned at the outset, the concept can be understood to be more than just a technical or pedagogical issue.

Nevertheless, there are a number of broad issues which may be mentioned. The research base for some of these observations is slender. Only a relatively small number of industry based training schemes, centres and schools have been visited.

The views of employer associations and confederations have been sought, but it has not been possible to review at all satisfactorily the position of the unions on training policy. Visits have been restricted to Harare. In view of these many shortcomings, the concentration in this much shorter section of the paper will be more on the tendencies and trends that would profit from closer examination and further research and less on detailed discussion of preliminary data.

Perhaps the first point that needs to be stressed in the present economic climate of industry in Zimbabwe is that the skills and manpower issues are by many industrialists perceived as being almost the least important factors responsible for constraining output. <sup>15/</sup> Foreign exchange, materials and spares are light years in front of factors like labour skills - whether managerial or technical. We have in fact suggested at the beginning of this paper that this may be too simplistic a way of stating relative priorities. It also seems clear that the absence of spares and foreign exchange has wreaked dramatically more havoc in organizations with an already weakened repair and maintenance capacity. There is no more vivid testimony to the negative interaction of these two factors than the four volume management study of the Central Mechanical Equipment Department. <sup>16/</sup> A very fragile repair and maintenance facility can be devastated by the need to switch from a replacement mentality to the need to adopt policies of preventive maintenance. The implications for staffing in a preventive maintenance regime are very major, and involve every level from management, to accountant to skilled worker. Admittedly the sanctions imposed on the UDI economy had accustomed much of industry to thinking local in terms of technological adaptation, use of materials etc. But with Independence, Zimbabwe lost a great deal of its hard won 'tradition' of repair, maintenance and technological adaptation.

Here we shall look briefly at a small number of issues that seem important. Amongst these, it will be worth noting some of the developments in job grading and job evaluation - and the implications of these for training as well as for the government's skilled worker classes. It may also prove useful to give some sense of the diversity of 'industry', examining the different training traditions within particular sectors. Finally, it could be valuable to point to a number of issues that are simply not getting much attention.

(i) In-service training of workers other than skilled

One of the paradoxes of Rhodesian and Zimbabwean history is that too much attention in both regimes may have been paid to the skilled worker. For different reasons, but with the same effect. We have already noted that journeyman skill was in deliberately short supply in the colonial period, with the result that employers actively began to circumvent European skill by fragmented African semi-skill. With Independence, the new government naturally regarded the Africanization of apprenticeship as one of its first targets, but arguably has paid almost as much attention to controlling this particular tiny cadre as did quite different forces in the colonial era. The result has been the continuation of the tendency towards the use of fragmented labour which was seen earlier. European journeyman unions were the thorn in the flesh of the colonial employer; the regulations, centralization and paraphernalia surrounding predominantly African apprenticeship is a thorn in the flesh of the Independence employer. Accordingly the attractions of other forms of labour became clear.

The fascination with the Africanization of skill we noticed led to the development of four skilled worker classes, to the notion of upgrade training, and to ideas about a national grading system of labour. This topic is large enough for several research projects, but it would appear that the national dissemination of the skilled worker categories has not made a great difference to the composition of the modern sector labour force, except at the margins. We have noted that the reclassification and trade testing process has encompassed between 10- and 12,000

since Independence, but it should be remembered from the National Manpower Survey that there were allegedly 176,000 semi-skilled and half a million unskilled in the formal sector in 1981. Not to mention the much larger numbers in the agricultural and informal economy.

There has been some progress in some industries in accommodating traditional industry-specific job categories to the new order, but there appears to have been little analysis of what has transpired in this process. We have noted already that the motor trade sought to squeeze most, but not all of its existing categories into the new grades. The classification process has not been finished but there are a little over 1,000 journeymen (employers and employees), some 700 in the band that might correspond to the new classes 2 and 3, and some 10,000 in the lowest categories, which would include the new class 4, the unclassified workshop hands, garage attendants etc. etc.

A quite different process has gone on in the building industry. They have retained their traditional worker grades, running from 1 up to 4; there is then a category which is allowed to do certain elements of skilled work; finally there are the government's four skilled worker classes. These two groups of workers have two quite different job pyramids: the worker grade pyramid has a huge base (10,600) and a small top (600), while the skilled worker pyramid stands on its head: its base is tiny (250) and its top (class 1) is quite large (2,200). Indeed the shape of the skilled worker classes is more in the shape of a T, since all the classes except class 1 are 400 or less. There is a further group of 2,000 approximately lying in between.

These two very different industries thus illustrate very diverse approaches to the process of recategorization, and they underline the fact that classification cannot be separated from the existing relations of production. Equally it is possible to reclassify skilled operators (or operatives) as skilled workers, without this altering the nature of the work. Or it can be done in a way that can emphasize new career tracks, upgrading possibilities etc. On the other hand, the whole exercise cannot be carried on without paying some considerable attention to the pay levels, existing technology in the industry, and to the education and skill levels of those already in post.

In the engineering industry, the process of skill fragmentation has gone rather far, and the present situation is buttressed by collective bargaining agreements about skilled worker and graded job categories. The industry has also been one of the early ones to apply the Paterson job evaluation system to the whole system. This is a job evaluation scheme which is rather widespread in Zimbabwe (being originally introduced by Anglo-American, and based on Prof. Paterson of Strathclyde University, Scotland). It breaks all jobs down into six bands of decision making: Policy-making; Programming; Interpretive; Routine or Process; Automatic or Operative; and finally, Defined. The non-existent and automatic bands start with A and B, then the system goes up through the alphabet to F. 17/

A glance at the Collective Bargaining Agreement (1985) for this industry which brings together no less than 80 pages of graded job categories illustrates the way in which these are spread across the A and B grades, with a scattering of Cs. 18/ There is nothing particularly sinister about any of this, but it must be remembered that a job evaluation system works by judging the skill or decision-making content of jobs as they exist. It stands to reason that the Paterson system was applied to a situation which, as we have said, was already characterized by a long-standing process of fragmenting skill in the colonial period. It could therefore be argued that job evaluation systems reinforce and solidify the existing relations of production. These are of course also powerfully affected by decisions about technology. But it must be borne in mind that the concerns and preoccupations with skilled labour status may have meant that insufficient attention has been given by government to the classification of other workers.



It goes without saying that an in-service training system predicated on a fragmented skill base is likely to be rather different from one that examines anew the processes of job mobility within job categories.

(ii) In-service training provision in the private and parastatal sectors

It is impossible to generalize about the provision of in-plant training in Zimbabwe. The scale runs from groups like Anglo-American whose annual estimate of 'training man days' is costed at 4.5 million dollars, to groups with purpose-built training complexes (ZESA with French technical assistance), to systems where there is virtually no off-the-job training at all. It is only sensible here to indicate a few of the trends, especially those that might be important for NAMACO and other training policy groups to be aware of.

One of the first of these has been a realization that the educational level of the workforce can now progressively rise, as increasingly the ordinary applicant for work will be some kind of form IV product. Some of the more training-conscious firms are currently developing training systems that bring directly into the company young people from school, and expose them on a contract basis to the rough and tumble of unskilled work on the shop floor before making a very careful decision about those with talent and flair and those without. Such handpicked groups (who survive company selection procedures after one or two contract periods) are then introduced to training courses which in many cases have been given a great deal of thought.

These are absolutely distinct from the old practices of learning on the job, and are also very different from the apprentice system. They involve, interestingly enough, a high degree of learner self-direction, in which trainees work their way through course maps, career tracks and follow purpose built manuals. The emphasis has to be on a relatively high degree of literacy, and on self-pacing, adjusted to the intelligence and motivation of the trainee. This is certainly true of the 'learner directed training' schemes, which are now running in parallel with the apprenticeship system in one or two sites. And in a different way, much of this applies to the Criterion Referenced Instruction (CRI) which has come in via some of the mining companies, but is now spreading out into other industry sectors. 19/

This latter system comes from USA (Mager Associates, Arizona), and its strength and attraction as an in-service training system are that it seeks to work backwards from precisely what a particular job requires in knowledge and performance to specify the exact ways in which those desired behaviours can be defined and tested. CRI is not concerned with frills (what are termed 'nice-to-knows' in the jargon), but with the very precise specification of what terminal behaviours are required, and what earlier skills are essential to ensure satisfactory performance of the terminal objective. The system is thus concerned with building up a whole series of graduated performance checks that will ensure that a particular final operation is done to perfection. In this sense it has some important implications for training officers who are beset with problems of slipshod work, inadequate maintenance schedules, or with youngsters who are overtrained or undertrained. It offers by contrast a vision of a world where the maintenance mechanic for a particular sub-system will have mastered all that needs to be known and done in order to do a particular job to perfection - and nothing more.

It may be something of a caricature to suggest that CRI and similar mastery-learning systems are necessarily very restrictive; they obviously could be applied to higher levels of performance, including apprentice skills. Their peculiar attraction however is in the ideal of mastery, accuracy, and cost efficiency. Why bother spending 4 years learning 10 times more than can be applied on the shopfloor?

As far as their status in Zimbabwe is concerned, these systems certainly do qualify for very serious attention from the bodies like NAMACO and its specialist trade committees when these get eventually set up. They are important because they do take very seriously the learning needs of workers at many levels. It is understood, in fact, that CRI, for instance, has been in principle approved by the Directorate of Industrial Training as qualifying for rebate. This could be an important precedent for several of the other in-service training systems which are coming on to the market. Many of these in fact offer a better deal for the operator or semi-skilled worker than what was there before. But it would be entirely appropriate for such schemes to be openly discussed at the training policy committees, and for care to be taken about how they do and do not intersect with the apprenticeship training system and with the VTC system. It does seem likely that this kind of discussion does have to take place on an industry by industry basis, which makes it even more crucial that the representational and consultative mechanisms attached to NAMACO get off the ground.

In examining the diversity of training systems that industries as different as textiles and clothing, building and automotive are currently developing, it seems essential that the whole process of judging, accrediting and monitoring be not something that is done by government alone, but increasingly involve all three main parties (government, employers and workers' representatives). It would seem that the last of these three groups have until this point been conspicuous by their absence from many of the debates about training.

The tendency to regard the development of training systems by industry as something necessarily antagonistic to governmental initiatives in training does seem unfortunate. This adversarial dimension is probably accentuated by the absence of a document that looks coolly and steadfastly across the entire training policy domain. Such a document (which might be the product of a high level Commission on the Vocational Preparation of Young People) would be able to look at the complementarities of government's present initiatives with industry's initiatives, as well as at the rationales for particular industries developing virtually self-reliant training systems. This kind of consultative document would also be able to examine the scope for some of the really major training centres of both government, commerce and industry becoming resources for surplus capacity training - in the manner of the Railways Training School in Bulawayo.

C. In-service training and education in the informal economy: the challenge to schools and to formal training institutions

The last section of this paper contains a few observations on in-service training and education seen from the perspective of the client, and particularly those clients who are not situated in a major company with a whole apparatus of training officers, training manuals and ongoing training programmes. This group of potential clients may shortly constitute the bulk of all form IV leavers (since only a small proportion of these will get access to any of the systems we have thus far been preoccupied with). It must also include the growing numbers of young people currently working in the informal economy, and for whom there is no formalized access to in-service training or education. Since those working in the formal economy are predominantly male, this client group should contain a large number of young women.

The school system has, since its virtual universalization at the secondary level, been apprised of the likely fate of its products reaching form IV and leaving to face a variety of uncertain futures. The sheer absence of in-service training facilities for those who are not in service has meant that the Ministry of Education has decided that the schools should at least in some measure help their

pupils to anticipate the demands of a world without ready access to jobs, or work experience. Accordingly in the new structure and content of education, there is a commitment to offer in the pre-service mode some orientation to a world where 100,000 young people will be competing for 1,000 apprenticeship slots. 20/

There are no easy remedies for this particular equation. Which is why it is almost certainly not the case that schools should follow one model of pre-vocational preparation. There are already a number of models well known to the education policy community: the education with production innovations of the ZIMFEP schools; the practical subjects done in the theoretical Cambridge mode; the emphasis on design technology with which several teachers are now conversant; and the many 'grey area' vocational experiments in schools which the Ministry of Labour is currently interested in, following the St. Peter's model. In addition, there are low cost distance education models using technical kits, in the manner of ZIMSCI.

In what is frankly a quite new education situation, there is clearly no room (and indeed no evidence) to judge any of these models, in advance, as vocational school fallacies. But as they get planned, the planners need consciously to remind themselves that their priority cannot only be so to prepare school children that the handful who finally get apprenticeships manage to get a few months' remission of time. Their image of life after school must also include a picture of form IV pupils entering some of the best known firms as contract workers at the very lowest levels (as now), and having the opportunity to prove themselves by their attitudes and orientation to the practical etc. No question here of negotiating remission of anything, but of getting a chance to start at the bottom and enter some of the company training programmes. But the vision of work after form IV must also include, realistically, the work situation and training options of those in the informal economy, whether in cities or in smaller towns.

There has been no work done at all in Zimbabwe on the pattern of in-service training and education of those who are currently engaged in self-employment or wage labour in the informal economy. Nor has there been any significant attention given to other workers in both private and public sector who are very far from being considered as candidates for ZIMDEV rebates as articulated clerks, learner miners or whatever. But what is surprising about even the most superficial examination of in-service training amongst what could be called ordinary workers, or the working poor, is how dedicated large numbers of them are to self-improvement.

Amongst a random sample of some 50 young people working in the informal economy with their families, in co-operatives or on their own account, by far the majority were engaged in professional development. Some had been to Oxyco to the Welding Skills Centre, others were planning to attend Mbare's various vocational training centres, others again were enrolled on small business courses with some of the many correspondence colleges and tutorial colleges. Some had heard tell of Belvedere and Msasa and were wondering how to get access. But in the main they had already a rather developed map of in-service provision that could be accommodated to their very full working times (usually 6 or 7 days a week at the workplace).

In some ways the characteristics of this map of in-service training and education are very different from the models with which we have been concerned earlier in this paper. Its principal features are that in-service training or education needs to take place outside working hours, that its pace needs to be in the control of the client and not the institution offering it, and that it may need to depend on self-learning rather than direct instruction. Paradoxically, the very things which the public sector institutions currently find it hardest to deliver - tuition in the evenings or at weekends, are the very things that the private vocational training centres and the correspondence schools often find easiest. In the current crisis of instructors at the technical colleges, the hardest slots to fill are those for the evening classes.

As the schools begin to sharpen up the meanings of pre-service preparation for the facilitation of later patterns of continuing education and training, they could do worse than analysing what several thousands of form IV leavers are actually studying and learning off-the-job (and without jobs) in Zimbabwe in 1987. The question could then be asked whether the schools could anticipate some of this, and thus ease the transition from full-time study to part-time study.

In such an economy of job scarcity, the schools will be very ill-advised to nail their colours to a particular mast, a particular vocational syllabus, which will have the approval of any single authority. Their obligation, rather, may be to orient young people to what the opportunity structure is really like after form IV. What is a VTC? What possibility of apprenticeship? What is the work and study pattern of the DDF centres? What are some of the names of approved correspondence colleges? How can one take Pitman's whilst still at school? In one way, the most effective vocational preparation of young people would be an absolutely first rate text, annually revised, which showed who went where after school, and how many people applied for what options. That could be more vocational than the struggle to buy one lathe.

On the other hand, schools should expect to help children orient themselves to the practical, to the mechanical, to the exploratory, and to the technological. There must be just a little bit of truth in industry's criticisms of youngsters as insufficiently conditioned to technology. But this kind of familiarity with the technical need not be attempted only via technical subjects as conventionally conceived. It could as readily be acquired by 'tinkering' over the whole four years of secondary on a single project in applied science or design technology. If youngsters in school were exposed to a critical examination of informal sector technology, through work experience visits, or through group projects, they could well acquire a perspective on technological adaptation which would be very different from trying to follow an old vocational curriculum in a non-vocational setting.

The importance of situating the analysis of the national provision of in-service training and education finally within this user perspective is precisely because this potential clientele is much larger and more diverse than the small numbers getting the full advantage of the rebate system at the country's national institutions. This potential clientele may only be able to afford a few months of car mechanics, evenings only, or a few days of welding instruction. Hence in the accreditation and monitoring of the fortunately many private, community, and NGO training centres by the Ministries of Education and Labour, it must be remembered that the in-service needs of tens of thousands of young people (and adults) are being served by the present system. There is an urgent need for the State to develop its own apparatus of evening courses in all its major teaching institutions, from university to college to VTC. Many thousands of students would turn to such facilities once they became more of a going concern. But as the State moves more in this kind of direction, there is certainly much to be learned from the present pattern of low cost, user-oriented in-service training and education, available through the welter of small and large colleges.

#### In conclusion

We end with a quotation and a comment:

meanwhile the Authority is becoming increasingly convinced that there is a need for centralized co-ordinated control of all training efforts throughout the country. There are many well-meaning organizations entering the training field but some appear to have inadequate objectives, with consequent dissipation of finance and effort. Lack of co-ordination and overall direction is leading to duplication of effort and individuals are being tantalized by training which in many cases will not fit them for the employment which they seek. 21/

This quotation is taken from the first page of the Annual Report of the Apprenticeship Training and Skilled Manpower Development Authority for the year ended 31st December 1976. Ten years ago the Apprenticeship Authority was apparently frustrated at how much training was going on that they were not able to control. It was in many ways a good thing that they were unable to control so many of the independent training initiatives, since there was precious little training available through the formal channels. Today, of course, things are very different, but it is still the case that fully subsidized vocational training is for the few rather than the many. For the foreseeable future, the State is unlikely to be able to afford to organize in-service training for the many, but as its own capacity increases, it will become increasingly important to be aware of the totality of in-service training and education offered by different bodies, and to be able sensitively to examine and plan for complementarities.

Harare, 28th July 1987

References and footnotes

1. B. Raftopoulos, 'Human resources development' in I. Mandaza (Ed.) Zimbabwe: the political economy of transition 1980-1986 (Codesria, Senegal, 1986), pp. 310-311.
2. Crown Agents and Coopers Lybrand, Management Study of the Central Mechanical Equipment Department. Draft Report in 4 Volumes, vol. 1 (Nov. 1985), p. 1.
3. Ministry of Manpower Planning and Development, National Manpower Survey 1981, vol. 1 (Harare, July 1983).
4. Ibid., p. 37.
5. Ibid., p. 63.
6. The actual apprentice numbers are more complex than what is suggested here. In colonial Rhodesia, the Apprenticeship Authority was seeking to expand numbers, but in fact other pressures (from white unions) were keeping them down to often less than 1,000. Numbers did move up significantly at Independence, but by the mid-1980s they were down to not much above the older Rhodesian figures.
7. Figures are derived from annual registers of new apprentices, Directorate of Industrial Training.
8. Functional Planning for NVTDC Harare Training Sections in Msasa and Belvedere (Harare, July 1983) and Training of school leavers at NVTDC, Harare: Course structure (Harare, 1987?).
9. Ministry of Manpower Planning and Development: Model Vocational Training School: Proposal (n.d.) p. 1.
10. Altogether three other potential VTS schemes (all church related) were planned to become VTSs in 1987: Marist Brothers in Dete; St. Columba's Bulawayo; and Ziva Zano in Honde Valley (to which we refer in the text).
11. See the memoranda from the Zimbabwe Manpower Development Fund of 1984, 1985-6, and 1986-7, on rebates.
12. Data derived from the register of trainees for whom successful applications were made from ZIMDEV.
13. Memorandum on Approved Training Eligible for Rebates, 1985-1986 (Zimbabwe Manpower Development Fund).
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15. Confederation of Zimbabwe Industries: State of the Manufacturing Sector Triannual Survey for the period August 1986 to March 1987 (Harare 1987), pp. 4, 7.
16. Crown Agents, op. cit.
17. Adaptation of the Paterson Manual can be found in several private sector training centres.

18. National Employment Council for the Engineering and Iron and Steel Industry: Collective Bargaining Agreement, Supplement II. Schedules of Job Titles, Descriptions and Grades (Harare, 1985).
19. CRI Criterion Referenced Instruction. Analysis, Design and Implementation (R. Mager Associates, Arizons, 2nd edition 1983).
20. D.B. Mutumbuka 'The structure and content of education', seminar, Belvedere Teachers College, 29 July 1986.
21. Annual Report quoted in text, p. 1.

### III. Approved Projects

1. DC/DP/BRA/82/020 Metrology, standardization and industrial quality - Phase I and II

Completed 1987  
Total: \$782,712

The immediate objectives of the project are (a) to consolidate the national metrology, standardization and industrial quality system, focusing in the two phases of the project on special product lines; (b) accelerate industrial standardization activities at the national level; (c) promote the use of standardization quality control and quality certification at the industrial level; (d) enlarge scientific, industrial metrological services in the country; and (e) accelerate the national metrication process for industry and commerce.

The project was the subject of an in-depth evaluation in November 1986. A new project proposal was suggested to concentrate on industrial quality. The project activities were ended in June 1987.

2. DP/BRA/82/030 Consolidation of the existing capacity of the Institute of Food Technology (ITAL) through the creation of a National Food Packaging Centre

Completed 1986  
Total: \$783,959

The aims of the project are to identify the structure of and business trends in the main food and food processing industry markets consuming primary and secondary packaging; to quantify the current (1982) consumption of packaging materials and package types in each of the food and food processing industry markets identified above; to identify the structure of the packaging industry; to evaluate the long-term trends (to 1990) in the consumption of these trends; and to generate capacity for institutional technical assistance to packaging manufacture and user industries.

3. DP/BRA/82/002 Enzymatic hydrolysis of cellulosic materials and production of other liquid fuels from biomass

Associated Agency: FAO  
Completed 1986  
Total: \$467,248