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LABOUR MARKET INFORMATION SYSTEMS - TOWARDS AN INTEGRATIVE, EFFICIENT, AND EFFECTIVE APPROACH FOR HUMAN RESOURCE PLANNING

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She Understood

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LIST OF ABBREVIATIONS

BOP	-	Balance of Payments
CPTE	-	Council for Professional and Technical Education
DANIDA	-	Danish International Development Agency
EDB	-	Economic Development Board
ESSJ	-	Economic and Social Survey of Jamaica
GDP	-	Gross Domestic Product
GNP	-	Gross National Product
HEART/NTA	-	Human Employment and Resource Training Trust/National Training Agency
HRP	-	Human Resource Planning
ILO	-	International Labour Organization
IMMIS	-	Indonesia Manpower Information Service
LFS	-	Labour Force Survey
LMA	-	Labour Market Analysis
LMI	-	Labour Market Information
LMIS	-	Labour Market Information System
LSU	-	Labour Statistics Unit
MOEC	-	Ministry of Education and Culture
MRA	-	Manpower Requirements Approach
NTUC	-	National Trade Union Council
NWC	-	National Wages Council
PIOJ		Planning Institute of Jamaica
PSC	-	Public Services Commission
ROSE		Reform of Secondary Education
STATIN		Statistical Institute of Jamaica
TVET		Technical and Vocational Education and Training
UNDP		United Nations Development Programme
UNFPA		United nations Family Planning Agency
UNICEF		United Nations Children's Fund
USAID		United States Agency for International Aid
VET		Vocational Education and Training

CHAPTER I

Introduction

1.1 Preamble

Some of the major challenges facing many countries, particularly those commonly referred to as 'developing', or 'less developed' revolve around their human resources - significant imbalances in the demand for and the supply of labour. Additionally, these countries are usually characterized by, inter alia, serious employment problems, low and declining per capita income, and low standards of living. Differing policies and strategies have been developed and pursued with mixed results. Some countries have demonstrated some evidence of economic improvements, experiencing growth as measured by the traditional indicators eg. GDP, GNP, BOP, etc.

However, serious labour market issues still persist, and there is growing acceptance that human resource planning (HRP) must be seen as an 'inseparable' component of comprehensive development planning, and the process must be informed by reliable and appropriate data if it is to be successful. Another dimension of the issue is that related to the growing lead role played by the informal sector in providing jobs, particularly in the urban sector. The problem is further exacerbated by the limited data on this important sector.

1.2 Nature of the Research Problem

It is now generally acknowledged that orthodox approaches to development planning whereby economic growth is translated into employment generation and ultimately the eradication of poverty have been premised on tenuous foundations. In short, the 'trickle down' effect has not been realised, despite instances of impressive and some not so spectacular 'economic' performance by some countries. The contemporary focus on economic variables, therefore, does not provide a comprehensive strategy for achieving development objectives - as the real meaning of

development is the creation of an environment in which every individual is able to expand his/her capabilities. This requires a new paradigm of development in which the 'human/people/labour' element, forms the core rather than the periphery, and which views economic growth as a means, not an end.

It is within this scenario that effective human resource planning, utilizing an 'integrated framework' is being advocated, with one of the key ingredients being an efficient and a comprehensive labour market information system. The importance of specific, disaggregated, timely and reliable data and information - both quantitative and qualitative must be underscored. This integrated approach, requires modifications to the conventional planning process, with greater collaboration and co-ordination between the different actors in the labour market. Furthermore, a comprehensive LMIS must also include inputs on and from the informal sector - there is urgent need to generate data relating to areas such as the measurement of informal employment; earnings in the sector and techniques for monitoring changes.

1.3 Justification

For more than three decades, manpower planning and more specifically the manpower requirement approach (MRA) has been the dominant method of planning for the human resource needs of most countries. Simply put, the MRA has sought to make projections of manpower demand and supply for a given time period, these projections have in turn formed the basis for developing employment, education and training plans. The evidence is that the methodology has met with limited success, as the lack of adequate information concerning the labour market and a co-ordinated system for the collection and dissemination of the information has impacted negatively on the technical capability of the techniques. Forecasts are therefore, not generally based on empirical, and objective data, but more on subjective assumptions and judgements. In addition the long-term nature of

the projections indicates that changing labour market conditions are not taken on board. Consequently labour market distortions still persist as evidenced by significant human resource imbalances in many countries. On the one hand, there is an abundance of unskilled, untrained, unemployed and under-employed labour, co-existing with critical shortages in manpower supply, hard to fill vacancies, and demonstrated demand for highly skilled labour force equipped with the right work attitude and work ethics to service a modern economy. Against the background of the criticisms and scepticism of past human resource planning methods and approaches, it is the intention of this research to investigate, examine and propose an appropriate, yet compatible strategy which will complement and strengthen existing techniques for the efficient planning and utilization of a country's human resources.

1.4 Objectives of the Research

The main focus in the research is to investigate the importance of and contribution which the LMIS can make to Human Resource Planning. The paper will attempt to demonstrate that successful HRP can be enhanced by the development and implementation of an efficient and integrated LMIS by:

1) reviewing the primary 'traditional' approach to manpower planning, viz. manpower requirements approach/manpower forecasting and evaluating the experience of some countries which have used these methodologies;
2) defining what is meant by labour market information (LMI) and a labour market information system (LMIS);
3) examining the advantages and benefits of LMI and an LMIS for HRP;
5) exploring the institutional framework for the development of the LMIS;
6) indicating some areas for further research.

Working Questions

1) What are the tenets of manpower planning, and what are the inherent weaknesses?
2) What are the main elements of the LMIS?
3) How will the LMIS impact on human resource planning?
4) How can a cost-effective LMIS be developed?

1.5 Scope and Limitations of the Paper

The research will cover the human resource planning strategies in use in the recent past, as well as the LMIS experiences of Indonesia, Tanzania, and Jamaica, supplemented by references to attempts to design and develop frameworks for labour market analysis in other countries. It should be noted that the notion of a Labour Market Information System and its significance extend beyond the sphere of human resource planning. Indeed, labour market information encompasses other equally important labour market aspects, e.g. labour legislation and regulations, wages, and wage policies. Notwithstanding, this paper will not be informed by nor make an assessment of these features of the LMIS. In addition, the cognizance that human development is much wider than human resource planning; that the expansion of a nation's wealth must be harmonized with expanded human development; and the importance of political will in implementing the requisite policy recommendations is recognized by the writer, but well beyond the scope of this research. The paper is further constrained by the unavailability of information on any given country which has transformed its approach to human resource planning from conventional manpower forecasting to the labour market information system. Consequently, a different set of countries appear in the chapters which present empirical evidence as case studies.

1.6 Methodology and Data Sources

The paper will draw on secondary data and information generated primarily by the International Labour Organization (ILO) in the fields of labour market, human resource development planning and labour market information, namely in the form of project reports, working papers, country reports, and proceedings from conferences and seminars. The research will also cover some theories of human resource ("manpower") planning.

1.7 Organization of the Paper

This work will consist of five chapters, the first of which shall be the introduction to the nature of the research problem.

The second chapter will review the fundamentals of human resource planning and discuss the limitations of the manpower requirements approach.

The third chapter will describe the status of labour market information in developing countries with special reference to Indonesia, Jamaica and Tanzania.

The fourth chapter will analyze how the LMIS has been used to enhance human resource planning. It will draw on the experience of the countries under consideration.

The fifth chapter will discuss methods of achieving a cost effective LMIS. It will therefore present an outline of the institutional framework and management of the LMIS. Using the information from the country cases, it will attempt to design a 'composite' institutional model. Issues concerning the financing of the LMIS will also be discussed.

CHAPTER II

FUNDAMENTALS OF HUMAN RESOURCE PLANNING

This chapter provides an overview of human resource planning[1]; assesses some of the major factors which have mitigated against the desirable results; and briefly assesses some country experiences in the light of the 'failures' of manpower planning.

2.1 Introduction

Planning for the human resource development of any given country is comprised of several components, including employment, manpower, education and skill acquisition. The recent past has been replete with literature which has questioned the credibility of orthodox manpower planning which uses various forecasting techniques to prepare a picture of the manpower requirements of an economy in terms of occupations and skills at a specified future date, and to further assess whether the skill-formation process will match the estimated demand. The most commonly used technique is what is known as the manpower requirements approach, which in summary converts projections of output and productivity into employment targets at the occupational level. Critics of manpower planning have put forward the view that this approach has proven to be an ineffective and inefficacious tool for designing strategies for human resource development. (See for example, Psacharopoulos (1984); Youdi and Hinchliffe (1985); and the World Bank (1991).

Furthermore, the discussions have proffered an alternate and in some cases a complementary tool, **viz.** labour market analysis (LMA). In brief, the concept is associated with the study and integration of information on the labour market from multiple

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[1] In this work, human resource and manpower planning are used interchangeably.

data sources (where available) with the objective of preparing coherent assessment of manpower and employment trends and situation in that particular labour market. LMA is highly dependent on the mechanism of 'labour market signalling', defined as "the flow of labour market information which is significant and of direct and immediate use for decision making... (signals) are the most recent indicators of situations and trends in the labour market...(providing) early warnings of significant changes to be expected or confirm tendencies recently observed" (ILO, 191: 164). Labour market signals are in turn transmitted from continuous, short to medium term labour market analysis of information and data on areas such as population, labour force, migration, unemployment, output from training institutions etc. The approach has been heralded with much expectation and has "recently gained eminence owing primarily to the call for a diminished role of the public sector in general, as well as to the rapid economic restructuring that is reflected in fast changing skills requirements" (Muqtada and Hildeman, 1993: i).

What then are the fundamentals of HRP? What too are its weaknesses, and what have been the results in countries which have been using these tools in their planning process? It is these questions which guide the discussion which follows.

2.2 Manpower Planning

The process of manpower planning primarily involves the analysis and forecasting of the future skill requirements within the different sectors of an economy. It is at the same time both 'demand' and 'supply' driven - the former element relating to the levels and composition of manpower necessary for fuelling economic growth within a specified time frame, while the latter is associated with the estimation of the skill production capabilities of the education and training system with a view to determining to what extent this production will meet the anticipated demand. Amjad identifies another goal of manpower

planning in that it serves as a policy guideline for "making appropriate investment in education, training and manpower development" (1987: 17).

Manpower planning has several important roles to perform in a country's developmental goals. Adams, Middleton and Ziderman, (1992) have identified four such roles. Firstly, it guides private training decisions by analyzing and disseminating information relating to training incentives; they argue that the unavailability of information on employment trends, wages, and training costs results in the use of 'informal networks' which serve to reduce social equity in the choice of training on the part of individuals and groups who cannot access the network. Manpower planning also contributes to improved and strengthened management training systems particularly in the areas of curriculum design and staffing decisions; in identifying areas of demand growth or reduction, while up-to-date information on new technologies and industries will furnish an insight into the future demand for skills. Additionally, the assessment of training costs incorporated in the evaluation of "economic returns to alternative skills investments ... can also produce valuable information on cost norms for managers of training programmes, enabling them to match skills supply and demand more effectively, to improve the quality of the training provided" (1992: 262). The authors also contend that manpower planning pinpoints 'bottlenecks' in the labour market which hamper its smooth operation, thereby enhancing the efficiency of the market. The final role which is ascribed to manpower planning is that of aiding the planning of public investment in training. In this regard, the public sector's involvement is limited to instances where the dynamics of the market have failed to anticipate the demand for and supply of skills, where equity of access to the public system is questionable, and where there is capacity limitation on the part of private education and training facilities.

It is said that rather than restricting individual choice, the process expands choice and assists the market in operating more effectively as serious manpower imbalances are anticipated and ameliorative measures implemented. Furthermore, governments, enterprises, and individuals, equipped with appropriate information concerning future manpower requirements, can make more 'intelligent' decisions with respect to training, location and careers. The essence of manpower planning then, is to facilitate the "intelligent preparation, allocation, and utilization of human resources in [the] economy" (Lester, 1966: 5-6).

In spite of different techniques and concepts associated with manpower planning (the projection versus forecasts debate, and the distinction between descriptive and normative forecasts, being points in case), manpower planning is usually a sequential procedure. For Lester, the first stage requires the development of research to "improve the forecasting, by skill categories, of demand and supply" (1966: 6). This is done both at an aggregated level for the entire economy, as well as at the disaggregated level of industrial sectors.

Stage two requires that the projections be disseminated in an understandable and useable form to individuals and agencies which have an influence on employment and career decisions. The view is that vocational guidance counsellors, educational and training agencies, trade unions among others, all need to have access to the information. Lester asserts that this is an important aspect of manpower planning, as at the level of the individual, students with the requisite aptitude can be guided into 'shortage' occupations; the capital investment, training and workforce plans of enterprises can be adjusted in line with projected developments; and vocational training programmes would be expanded in areas of anticipated scarcity to address the likely imbalances. Labour mobility would also be enhanced by the provision of information derived from manpower planning; employment services and workers' representatives being the agents

in this process. In the case of the former, special attempts are made to encourage occupational shifts and to discourage mobility in areas which may further exacerbate the demand/supply imbalance. Trade unions and employers can also aid mobility by altering their employment and compensation practices and structures in order to foster movement into shortage and growing occupations.

The methodologies and techniques used in the planning process are extremely important, to the extent that under or overestimation might prove to be very costly and wasteful. The techniques utilized are many and varied and include the manpower requirements approach, the rate of return approach, employers' estimates, international comparison, manpower/population ratios, and projection of manpower/output ratios. The discussion which follows, focuses on the manpower requirements/manpower forecasting approach.

2.3 Manpower Requirements/Manpower Forecasting

The foundation of this 'classical' form of manpower planning is the empirical modelling of the relationship between output and employment to provide approximations of the demand for skills in the future. Colclough (1990) summaries the primary activities in the 'typical' manpower model as being:

(a) Simultaneous analysis of the current state of employment and estimation of vacancies and the level of unemployment.

(b) Estimation of the future supply of manpower over the projection period - this to include output of both the formal and non-formal education and training system, as well as on-the-job training. Such calculations should incorporate assumptions concerning labour force participation and attrition rates.

(c) Forecasting and specifying the composition of future manpower demand not only for the target year, but also for the intervening years.

By reconciling the first two activities with the last, an indication is given of the extent of the requisite expansion in the education and training system (Colclough, 1990).

Manpower forecasting converts future output into manpower requirements to meet the production targets of the economy. The point of departure is the estimation of proportions of output (GDP) by industrial sector and employment by occupational category, which are in turn allotted to anticipated or target GDP by skill levels. The first step of the procedure is to calculate for the base year of the projections, overall GDP for each sector of the economy, i.e. the monetary ratio of value added per sector, and then forecast future output for each sector. (Such projections are usually provided by econometric modelling using an input-output model). The second stage derives the ratio of overall employment to the GDP of each industry, i.e. labour productivity for each sector; while stage three applies labour productivity to GDP to determine future manpower requirements. At the end of this procedure, future employment levels for the different industrial sectors of the economy are available. Further refinement is done by applying an industry/occupation matrix to convert the data to occupational projections; the labour requirements are then translated into educational requirements on the assumption that each and every job corresponds to a distinct occupational level requiring a specific type of education. Finally, the forecast of labour supply is compared with the stock of educated labour (with adjustments for new entrants and attrition); from this policy decisions are taken in terms of relevant changes to be made to education and training facilities.

2.4 Assumptions of Manpower Planning

As is common to other planning approaches, manpower forecasting is based on different assumptions which some researchers and critics contend do not hold for any economy in reality. These assumptions include: (a) a functional relationship between future educational and occupational structures and that which currently exists, to **ad interim** increase in sectoral output, and to the growth in labour productivity at the sectoral level; (b) the formal education and training system creates productive human skills which cannot be created by alternate methods quickly or easily (Colclough, 1990); (c) developmental prospects are constrained by the lack of training; and (d) the unavailability of skills will negatively impact economic growth (Kelly, 1991). In addition, manpower planners in individual countries have developed their own 'rules of thumb' about conditions and expectations within their respective economies to assist with the process.

2.5 Critique of Manpower Planning

Manpower planning and particularly the popular manpower forecasting approach has come in for heavy criticisms in recent years, primarily because of the high degree of inaccuracy associated with the forecasts. Consequently, its efficacy as a tool for policy formulation and development has been thought to be of dubious and questionable value. Much of the controversial debates on the subject have centred around the aspect of the process which forecasts future demand. This is borne out by severe overestimation and/or underestimation of manpower requirements especially in developing countries.

Colclough (1990) has taken the debates on manpower planning into the realm of current development theory as he is of the view that such debates "stem from rather different beliefs about the way the world works." Against the background of Hollister's

comment that the arguments for and against different approaches to manpower planning had not advanced much nor had been satisfactorily resolved over the past twenty years (Hollister, 1986 in Colclough, 1990), he has designated two broad categories of critics - 'neoclassical' and 'structuralist'.

According to Colclough, the world is viewed as a "highly flexible, responsive, mobile place" by those who subscribe to 'neoclassical' beliefs. The rational population of such a world seeks to maximise their personal utility; they are knowledgeable about present and future possibilities; and most importantly, they work for wages (or employ others to do so) in organizations in which their remuneration is commensurate with their contribution to overall output. Those desirous of acquiring new skills do so at a "cost which is exactly justified by the discounted expected future differential in earnings between those who, in the labour market, possess this skill and those who do not" (1990: ?)

The contrasting world view of the 'structuralist' is one which is 'inflexible, immobile, and rigid'. The individual expects to encounter serious obstruction while seeking to maximise his own utility. These obstacles in turn affect and influence the market, and include imperfect knowledge of markets and technology; an aversion to risk-taking by individuals, albeit an exaggerated one; and the lack of perfect substitutability of the factors of production. These 'imperfections' therefore affect optimal resource use in the market in the short run; however in the medium and long term 'history, skills, experience and bureaucratic structures' also affect the efficiency of the market. Consequently, "where we are today" is thought to have an influence on "where we are likely to be tomorrow". One of the results of this view is that state intervention is necessary "to promote structural change, to change income distribution, to execute projects to plan ahead so as to remove, or minimise the damaging effects of future bottlenecks." The 'constraints' to development are believed to include manpower, with the relevant

solution to be found in estimating the magnitude and characteristics of the disparity in the demand/supply equation, and developing education and training facilities to provide both the quantitative and qualitative skill needs of the economy. Colclough therefore concludes that the 'attack' on manpower planning has largely come from those with a neoclassical perspective, and points to the costs of any interventionist strategies, that it is perilous to ignore market signals; and that likely 'second best' alternatives may further exacerbate the problem.

The antagonists of manpower planning have been classified into three groups. Group one includes those for whom the exercise is not necessary. Adjustments in terms of wages and scarcity of skills will be done through the market which is thought to be much more efficient and responsive than any planning process. The second group is comprised of those who contend that manpower forecasting is well nigh impossible given the false assumptions with regard to 'technological determinism', 'fixed co-efficients' etc., or to the omission of important variables such as relative factor prices from the models. Those who argue that manpower forecasts are fraught with inaccuracies and are no more than educated guesses, constitute the third group. Moreover, they claim, the detailed requirements of manpower forecasting are too stringent in terms of 'data, time and effort', and the forecasting exercise is incapable of representing complex interactions of the real world.

2.5.1 Limitations of Manpower Planning

In practice, some of the criticisms of manpower planning are well founded, as it is widely acknowledged that there are inherent weaknesses and limitations in the methodologies; the limitations becoming apparent when a comparison is made between the forecasts and the actual country experience. In addition to being at variance in terms of the quantitative aspect of the

forecast, there have been instances of inappropriate policy design and wasteful use of resources in the education and training system to expand skill production which were projected to be in short supply.

One of the shortcomings of 'orthodox' manpower planning has been its oversimplified assumptions which inter alia, assign a "fixed relationship ... between the number of persons with specific educational attainments ... and the volume of production and the economy" (Mehta, 1976: 109). This 'fixed coefficients" assumption is thought to be mythical; so too the assumption concerning the relationship between the level of education and labour productivity. As Adams et. al point out, the production of goods and services can be achieved with a different quantity and quality of labour, this to be determined by the economic climate as well as the other factors of production including technology; and to a certain extent, this is determined by the relative labour and capital costs. By assigning an inflexible and unchanging status to theses variables, there is the risk of ignoring the possibility for substituting high cost labour and this can result in the estimated labour requirements being distorted. Thus the use of constant ratios by the manpower requirements approach denotes that skill, occupation and/or sectoral distribution of employment do not change over the period of the forecast. Predicting future output by simple extrapolating past trends usually turns out to be erroneous especially in small and open economies which are highly susceptible to external factors beyond their control, and which cannot be factored in the planning process.[2] The projected targets are simply linear averages which exclude the fluctuating effects of business

[2] The criticism against extrapolation of past trends as a forecasting technique is not restricted to developing countries, however. Reynolds (forthcoming) stresses that a fundamental flaw is that they do not take account of new products and services which are being introduced at a 'hectic pace'; that methods to incorporate such changes are yet to be invented, is one of the reasons why the Bureau of Labour Studies projections have tended to underestimate actual employment growth in the United States. (OECD, 1994)

cycles, and are often politically 'optimistic', not necessarily constituting objectivism. (Kelly, 1991)

Another limiting factor is the belief that the manpower needs for any given occupation can be transformed solely into educational requirements; this is faulty as there are various sources of recruiting for jobs. The expansion of educational facilities is but one way of overcoming skill deficiencies. Besides, formal education is required as the entry point for a relatively insignificant proportion of occupations, with the resulting effect of over investment in a specific type of education using the manpower requirements approach. (Adams et. al, 1992) Also, many occupations are not clear-cut in terms of the linkages with subject offerings in educational institutions.

But the main weaknesses of manpower forecasting lie in the long-term nature of the projections (the typical forecast period is usually twenty years), and its data and information needs. Psacharopoulos (1991) argues that long-term forecasting is unrealistic as there is not much room for the inclusion of flexibility, and labour markets are, contrarily, in a constant state of change and adjustment. Another inadequacy of long-term forecasts is the real possibility that employers will find methods of making adjustments to compensate for skill shortages, one such being through increased wages. In addition, capital can be used to substitute for skilled labour and new technologies requiring different skill combinations can be introduced (this may even lower production costs). Such methods serve to circumvent the necessity for protracted education and training and at the same time reducing public expenditure and investment. The process of skill acquisition, for Psacharapoulos (1991), is better served by developing private, specialized vocational training facilities, as these are more geared towards the dictates of the market, are more likely to be more cost effective and efficient, with subsidy (if any) coming from employers rather than the taxpayer.

Data limitations also negatively impact manpower planning, and Blaugh (1973, cited in Kelly 1991) puts it quite succinctly by asserting that given the quality of data, especially in developing countries, to predict a future picture of the labour market is just not feasible. The data requirements for manpower planning are quite demanding, and where they are available they are usually not reliable. Labour market data are fraught with errors - from data collection through to processing and reporting. Not only are there problems with labour market data on the 'formal' sector, but Richter reminds us that "a cardinal problem of manpower planning is the almost complete absence of continuous, reliable and useful manpower information from the vast informal sector, both in rural and urban areas" (1989: 662). Thus if the estimates used in the base year of the projections are erroneous, then it follows that the projections must be inaccurate. The concern therefore, is whether the results are inaccurate enough to invalidate the purpose of the forecasts.

Other aspects of the data constraints are related to: (a) the macro level/aggregate focus of manpower planning, rather than micro/sectoral/regional forecasts; (b) the exclusion of other important variables such as wages and salaries (the typical forecasting model assumes that wages and prices are constant); and (c) distortions within the labour market such as segmentation and inter-occupational mobility.

The short-comings of manpower planning are borne out by evaluations of the forecasts and what happens in reality. To further substantiate some of the opponents' claims, the following section will briefly refer to some countries which have been undertaking manpower forecasting in the past few years.

2.6 Manpower Planning Experiences[3]

Notwithstanding the deficiencies of manpower forecasting, developing countries have traditionally utilized this approach for planning for the human resource needs of their economies. This fact continues to baffle the critics, not least of whom is Psacharapoulos for whom it seems incomprehensible; he proffers 'human inertia' as the reason why the activity has not been completely abandoned, and compares it with other activities "which [have] maintained [themselves] in society despite the abundance of more intelligent alternatives" (1991: 470). That aside, the case of Malaysia and Singapore, and the African experience, will now be considered.

2.6.1 Malaysia

Malaysia has used the survey method; statistical extrapolations and regression estimates; and computer-based banking techniques to forecast future manpower requirements. The Fourth Malaysian Plan contained an evaluation of the 1973 Manpower Survey. There were mixed results of the planning exercise at the aggregate level; relative success was achieved in the forecasts of professional, technical, clerical, service and agricultural manpower, but for the other major occupational groups, serious anomalies were evident. There was a 29.2 per cent underestimation of demand for production workers; it has been suggested that the level of inter-sectoral shifts was not anticipated by the planners. Similarly, there was an 18.4 per cent and a 13.1 per cent underestimation in the increase in employment of sales, and administrative/managerial occupations, respectively. With regard to specific occupations however, the projections were 'very accurate' within the 5 per cent range for mechanical engineers and mining engineers, veterinary assistants

[3] This section relies largely on information presented in Amjad's edited work on the manpower planning experience of selected Asian countries, and Eleazar C. Iwuji's expose on the role of manpower planning in Africa.

and pharmacists. But other occupations did not fare as well; there was a 492.5 per cent underestimation for agronomists and related scientists; electrical engineering assistants were underestimated by 231.8 per cent; systems analysts by 137.5 per cent, and architects and town planners by 101.4 per cent. Overestimation was also detected but with much smaller margins. Amjad (1987: 20) suggests that these results point to the underestimation "of structural and technological shifts which unfolded rapidly as a consequence of the Malaysian industrialisation drive after 1970." Thus while the planners achieved relative success in the areas of public sector and 'high-quality' manpower, they were less successful in forecasting the needs for the sectors which experienced structural and technological changes.

2.6.2 Singapore

The country's experience is not dissimilar to that of Malaysia. Projections were made for two five year sub-periods, 1977-1981, and 1982-1986 as well as for the entire ten years. The focus of the exercise was aimed at providing policy makers and educational and training institutions with 'systematic and integrated' information on the future manpower demand and supply. The occupational groups covered were Graduates, Technicians and Skilled Workers. In the case of the 1977-84 period, the 'prediction error'[4] for the manufacturing, commerce and services sectors was much less than 10 per cent while that for construction was between 20 and 70 per cent. At the disaggregated level, the prediction error for graduates over the 1977-81 period was approximately 15 per cent, but was more significant for some individual occupations within the group - for example engineers, doctors and 'other' graduates registered errors ranging from 19 to 32 per cent. The forecasts for Technicians were more on target, the prediction error was 7 per cent, but much larger for

[4] Amjad (1987), defines this as the percentage difference between the actual and projected estimate

different occupations - mechanical engineering (27 per cent); and electrical and electronic engineering (84 per cent).

2.6.3 The African Experience

Whilst the evaluation of manpower planning on the continent has not been conducted at the same comparative level as the Asian countries, different countries have attempted to assess their efforts (See, for example, Yesufu (1969), and ILO (1991). Suffice to say that manpower planning in Africa has been less that efficacious. Iwuji reports that "the impact of manpower planning on policy formulation in Africa can ... be said to be minimal" (1994: 75). A number of contributory factors are cited; these include the lack of confidence in the forecasting exercise by senior government officials; a lack of understanding of the planning techniques and methodologies; and the real possibility of manpower projections being overruled by political considerations. In the case of Botswana, Colclough's investigation revealed that for the 1965-90 period, "it is clear that manpower plans in [the country] have fairly consistently underestimated the demand for professional, technical and other skilled workers ... over these years, the manpower shortage became more severe in important respects ... deficiencies in, and errors of, planning were partly to blame for this" (1994: 109).

2.6.4 Jamaica

In projecting the demand and supply for skills over the 1989-1994 period, the manpower requirements approach was used to arrive at employment forecasts for each of the major sectors of the Jamaican economy, and incorporated the scenario technique. Thus two different employment levels were projected - under rapid and slow employment growth scenarios. Correspondingly, estimates were made of average annual job vacancies (adjusted for attrition and labour force participation rates) ranging from a low to a

high estimate. These were compared with the estimated average annual output from local training institutions to identify: (a) potential manpower shortages/surpluses, and (b) gaps in the provision of training. To date there has been no systematic assessment of the accuracy of the projections, but to the extent that continued shortages and surpluses are still evident in the labour market, then questions could be raised concerning the effectiveness of the exercise. However, it could be said that there has been some measure of success, as a few new training programmes have been designed in light of the identification of gaps in the training system.

2.7 Alternative Manpower Planning Approaches

In response to the shortcomings of traditional manpower planning techniques and methodologies, alternative approaches have been developed. But these too, have their own methodological and measurement limitations; for example the rate of return approach still has not found a way to impute social costs and benefits. (Muqtada, 1993) One emerging 'approach' advocates the use of labour market/manpower analysis in which labour market signals and information are expected to play pivotal roles. The fundamental premise of labour market analysis is "education and skills development should be based on signals from the labour market " (Muqtada, 1993: 64). The sources of such signals and information are many and varied and will be covered in the next chapter. However it is very important to note that labour market analysis should be seen not as utilizing 'new' content, but rather a 'new' form of manpower planning. As Muqtada observes:

> "labour market analysis simply contends that MRA is rather discontinuous, faulty and the forecasts are often wider off than even "best guesses", whereas the labour market approach is more continuous and takes care of shorter-term details in the labour market functioning" (1993: 65).

2.7.1 Labour Market Analysis (LMA)

The concept of labour market or manpower analysis is thought to be 'ambivalent', encompassing wide ranging issues which only become appropriate and operational within the context of the realities of different economies (Muqtada, 1993). It has been suggested that LMA is not new, and emerged out of attempts at sectoral manpower and employment planning, as a result of:
(a) divergences between the employment promotion component of national development plans economy-wide, and sectoral plans and programmes, resulting from inadequate assessment and planning data on trends in sectoral employment; and (b) deviations from sectoral targets and performance (Richter 1989). These factors were particularly noticeable in the energy sector which, in many developing countries, was significantly affected by the energy crisis of the early to mid 1970s. Energy-saving and energy development programmes soon fell victim to manpower planning exercises which were inadequate in identifying skill shortages amid the uncertainties and rapid changes experienced by the sector. This led to the combination of projection work and analysis. Thus, the "focus of manpower planning in the ... sector became increasingly directed at analyzing and monitoring critical manpower bottle-necks against the background of prevailing patterns of manpower use, and on this basis, examining options for effective solutions" (Richter, 1989: 26).

The more recent variant of LMA is used for the identification of "obstacles to a fuller utilisation of the human capital stock as well as the social processes underlying labour use, and their implications for both production and distribution" (ILO, 1991: 13). The 'social' aspect of LMA places emphasis on the role which social structures, eg. household, cultural and ethnic factors, play in (a) the individual's choice of acquiring education and training, (b) in limiting labour mobility, and (c) distributing economic benefits (Rodgers 1986, cited in ILO, 1991). In essence therefore, LMA recognizes the segmentation of the labour market, and while the factors which contribute to

segmentation are difficult to resolve, some recommendations may be possible.

2.7.2 Labour Market Signals

LMA is said to be comprised of signals - the most recent indicators of labour market situations and trends which provide 'early warnings' of anticipated significant changes or confirm recently observed tendencies (Richter, 1986). In addition to signals, LMA also requires medium- and longer-term indicators garnered from surveys and research to enhance decision-making; it therefore incorporates regular reporting on 'labour market transactions', or labour market 'monitoring' - "the continuous assessment of the changes in the supply of and demand for labour with a view to facilitating optimum development and utilization of human resources" (Papola,1993: 127). Furthermore, signals contribute to identifying "labour market processes, their dynamics and transitions, i.e. longer-term labour supply and demand relationships" (Richter, 1986: 28). Labour market signalling is widely utilized in industrialized countries; Kelly (1991) reports that signalling has been developed through the use of "leading economic indicators", which signal turning points in the economy and which may need policy intervention. Examples of signals include negotiated wage settlements, man-days lost through industrial disputes and work stoppages, data on resignations or lay-offs, and job vacancy notices in newspapers. Such data and information are generally administrative by-products and are available in developing countries, but are rarely used for analysis and policy making.

It is the 'monitoring' aspect of LMA which supplies the raison d'etre for the LMIS, as monitoring is comprised of three essential elements - information, analysis and action; effective labour market monitoring is accordingly subject to the coverage, reliability and timeliness of information. These considerations are taken up in the next chapter.

CHAPTER III

LABOUR MARKET INFORMATION IN DEVELOPING COUNTRIES

This chapter attempts to outline the concept of labour market information (LMI) and the labour market information system (LMIS). It provides a working definition for LMI and LMIS; delineates the major elements, uses, and data sources of LMI; and assesses the general status of LMI in developing countries, with a focus on three such countries.

3.1 Introduction

The 'new' and incipient approach to human resource planning, labour market analysis, has a two-pronged genesis. In the first place, this was necessitated by the limitations of manpower planning (outlined in the previous chapter), and is summarized by Pscharapoulos:

> "Historically, manpower planners have locked themselves into long-term time horizons which leave little room for flexibility. In contrast, labour market analysts are constantly adjusting short and medium-term analyses to reflect changing conditions, while always keeping the long-term in mind" (1991: 461).

The second factor is related to developments in the labour market resulting from the recent economic downturn and the accompanying adjustment policies; the process of enterprise restructuring and the rapid rate of technological change. Labour markets have therefore been plunged into turmoil and chaos, and it is therefore essential and important to "capture early signals about the onslaught of these turbulence and the underlying causes, as well as appropriate ways of dealing with them" (Richter, 1989: 228). It is this aspect of labour market analysis[5] which is

[5] The scope of labour market analysis is recognised to be much wider than is here indicated. However, these issues cannot be accommodated within the confines of this study. Richter (1989) and Muqtada (1993) both provide

significantly correlated to and gives rise to labour market information and a labour market information system. The premise is that not only is human resource planning highly dependent on reliable and timely data on the labour market, but it also requires a comprehensive and integrated system for its management.

3.2 LMI and LMIS - Definition

LMI, in its widest sense, is defined as:

> "any information concerning the size and composition of the labour market, or any part of it, the way it or any part functions, its problems, the opportunities which may be available to it, and the employment related intentions or aspirations of those who are a part of it" (Jones, 1980).[6]

But LMI is much more than statistics as it also "encompasses material on legislation and labour regulations, administrative records and the results of research, both empirical and theoretical" (Standing, 1993: 3). This is particulary important, as the misconception in many people's mind is that LMI refers only to complicated figures and statistics.

The LMIS, like other information systems, is firstly an 'abstract construction reflecting conceptual notions'. It is therefore a set of guidelines and procedures for the processing of data to produce useful results and acts as the 'vehicle' between the machinery for gathering the statistical data and other information, and the final users of the information. Strachan provides the following specific definition for the LMIS:

> "a comprehensive manpower management information tool which is adequate to facilitate a wide range of policy-making and operational decisions in areas such as vocational training,

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interesting expositions on the 'wide spectrum' of the subject.

[6] Cited in Richter, L. (1989) p. 2.

manpower planning, employment services and vocational guidance activities" (1993: 4).

The concept of LMI and the LMIS therefore, is one which speaks to a comprehensive system with adequate machinery for collecting, analyzing, and disseminating quantitative and qualitative information on levels and trends of labour supply and demand; it addresses the factors which give rise to the supply/demand imbalance in the different industrial sectors, occupations and regions of a given country both within the formal and informal sectors (ILO, 1990). By implication therefore, this refers to "past, present and future size, composition and characteristics of the supply of and demand for labour, methods in which the supply and demand interact or are likely to interact in the future, and the macro and micro imbalances or likely imbalances, in the supply and demand situations ... of the economy" (Nigam, 1988: 1).

3.2 Users and Purposes of LMI

The following broad categories of users and uses of LMI have been identified.[7]

1. Policy-makers and planners - information on the composition, levels and characteristics of the components of the labour force **viz.** employment, unemployment and underemployment is essential for the design of strategies and policies to improve the development and utilization of the country's human resources. LMI is therefore used in economic development planning and to assess progress; for national employment policy design to ensure the optimal productive employment of the labour force; and for national human resource planning.
2. Employers' and workers' organizations - the information needs of these institutions is related to

[7] This section is heavily dependent on material included in the ILO's Employment and Manpower Information in Developing Countries: A Training Guide

income/earnings levels and differentials, manpower shortages/surpluses, and labour turnover rates, as important inputs not only for the specific process of collective bargaining and wage determination, but also in relation to their general manpower and employment policies.

3. Planners of educational and vocational training - such persons need to have an insight into the future labour and skill requirements in the short and long run and at a detailed and disaggregated occupational level in order to better align policies of manpower development with the estimated requirements. Such information contributes to the efficient planning of training programmes to ensure that the economy is supplied with the necessary skills and to avoid manpower shortages and surpluses.
4. Vocational guidance and orientation services - in order to provide useful advice on job opportunities and possibilities, this group of users should have access to occupational information which comes from regular labour market analysis.
5. Employment services - the existence and location of likely job vacancies, and job-seekers' qualifications are included in such agencies' information needs. This will serve to better match job-seekers with vacancies, thereby reducing the waste which is usually associated with this process.
6. Firms and enterprises require information on the current employment levels as well as employment trends, factors which are likely to affect manpower structure and performance, to inform their own manpower planning exercise.
7. The general public - all participants and labour market actors, whether individuals or groups, as well as the general population need up-to-date information on current and anticipated manpower demand and supply. Such information is invaluable in guiding career

decisions and promoting equity in employment search and job access.

In addition to the identified national needs of LMI, statistics on the labour market are required for international and regional comparison, given the accelerated process of globalization and creation of regional blocs. Standing (1993) argues that in a 'typical' market-oriented economy, there are three dominant types of labour market statistics which correspond to labour demand, labour supply and "intervening mechanisms". Generally, information on labour demand is collected from establishments; labour supply from the level of the household; whereas the third type is provided by employment 'services'. Additionally, information is available on wages/incomes and living conditions, and is linked to involvement in the labour market.

3.3 Types and Sources of LMI

A country's LMI can be classified as macro and micro data, the former refers to national level statistics while the latter provides regional/local level data. The macro/national level information includes aggregate data on:

- Employment and manpower trends and developments; occupational and industrial structure, income distribution; and manpower shortages and surpluses.
- Skill and manpower availability and on wage levels.
- Levels and changes in productivity; wage structure and wage differentials.

At the micro/regional/local level, detailed data are provided on:

- Occupational and skill shortages/surpluses; manpower availability and requirements.
- Medium-term and regularly up-dated manpower projections.
- Numbers of job vacancies, job-seekers and job placements.
- Working conditions, training requirements, remuneration patterns and career opportunities for different occupations.
- Wages.

Papola (1993) suggests that the details and level of disaggregation of LMI is influenced both by the specific economy or country and the nature of its development, manpower and employment policies. Thus, for example, he argues that aggregate information in broad categories may be adequate for industrialized economies characterized by relatively high degrees of "homogeneity in labour force, technology, organisation and employment conditions in different economic activities" (1993: 129). By contrast, developing countries which have a more varied economic structure, and significant labour market segmentation etc. would require more disaggregated data .

The sources of LMI are many and varied, distinguishing between quantitative and qualitative data; the main sources are:

a. Data from censuses and sample surveys, usually conducted by the Statistical Office. These include the population census and sample labour force surveys, and are used to measure labour supply, employment structure and human resource utilization.
b. Data provided by other types of studies and surveys, eg. surveys of training institutions, employer surveys, tracer studies, labour turnover surveys, conducted by agencies other than the statistical Office.
c. Administrative data (or by-products of daily administrative duties) generated by government ministries such as Labour and Education.
d. Data from occasional and irregular 'one-off' studies, conducted by private research consultancies, universities and international organizations.

Qualitative data by contrast, tend to include information on employment problems, reasons for labour shortages/surpluses, social and labour legislation and their impact on the labour market. This information is equally important as quantitative indicators, as they "provide the context in which quantitative data can be assessed" (Strachan, 1993: 6). One source of qualitative data and information is "key informants", experienced

persons who are considered to have an informed view on employment and manpower issues. Richter, the main proponent of this type of labour market information, claims that this knowledge can be used effectively through structured interviews. The approach is thought to be inexpensive and well suited for collecting information on the informal sector in developing countries. However, some developed countries such as New Zealand have applied the method to complement formal sector information particularly to support planning for vocational training. Nonetheless, scepticism still surrounds the use of "key informants" due mainly to personal bias and the view that it is unscientific and lacks objectivity. While the importance of qualitative data and information are well recognized and accepted within the overall concept of the LMIS, the view is that quantitative data have a more direct relationship with HRP, hence the discussion is skewed more in this direction. The main sources of quantitative LMI are summarized below:[8]

Demographic

a. Population census
b. Registers of births and deaths
c. Records of internal and external migration

Labour force

a. Labour force surveys
b. Household surveys
c. Establishment surveys
d. Records of work permits

Labour market

a. Records from public employment services
b. Records from private employment agencies
c. Job advertisements in newspapers etc.

Production

a. Agricultural census b.Industrial Census

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[8] Compiled from information provided in Employment and Manpower Information in Developing Countries: A Training Guide

c. Census of trade/commerce/distribution

Education and training

a. School reports on enrolment and attendance
b. Reports on tertiary level enrolment
c. Reports from training agencies
d. Reports on training within industry
e. Tracer surveys

Professional organizations

a. Reports from employers' organizations
b. Reports from workers' organizations
c. Registers of licensed professionals

Labour market information represents the foundation and linchpin of labour market analysis and of human resource development and planning. Indeed, knowledge of how the labour market functions, the bottlenecks, the shortcomings and the successes are essential for policy making which is itself an iterative process. The sequence therefore, is to first assess and evaluate the available information; the second step involves making choices and the adoption of policies. The effects of these policies can be measured, and this in turn, expands the level of knowledge thereby leading to a new cycle of decision making. But this is not an ad-hoc process; it must be managed by a well defined, efficient and effective mechanism to collect, process, analyze and disseminate relevant information - in essence this is the LMIS. What then are the features of the LMIS?

The LMIS should be suitably comprehensive to facilitate decision-making; it should provide up-to-date information, functioning as an "early-warning system" on labour market developments to ensure that ameliorative strategies are designed; the LMIS should also be economical, utilising the available but reliable information; the LMIS requires the continuous collaboration, support and direct involvement of all major producers and users of LMI (this includes both political as well

as economical support); and the work of the LMIS should be administered within a relevant and adequate institutional framework.

The effectiveness of a country's labour market information management is greatly enhanced within a structured and systematic plan of action which takes cognizance of the needs and financial resources available for generating the requisite information. Such approach is also useful for facilitating the ordering of priorities in light of the variously identified potential users and their own data/information needs. Given the resource constraints of many countries, this 'priority-oriented' approach is also very useful. The following stages have been recommended as being essential for either upgrading or establishing the programme of activities for the LMIS.

1. Defining the objectives of the programme and assigning responsibilities to participating organizations and institutions.
2. Identifying the main consumers of LMI and the information which they require.
3. Assessing the current 'stock' of available LMI and making a comparison with the identified needs.
4. Identifying the major gaps in the current production of LMI and designing ways to fill these.

Once the programme is in the implementation stage, it is essential to assess the constraints and problems being experienced and to identify possible solutions; to implement these remedial measures; and to obtain feedback from the users whether the programme is meeting their needs.

The inputs into the LMI programme must be balanced by outputs, that is the information generated by the system should be widely disseminated as possible. Such instruments include Labour Market Information Newsletters and Bulletins that target specific users - these should not only make the LMI accessible, but could also serve as a monitoring and feed -back mechanism to ensure that the consumers' needs are being met. Position papers,

workshops and seminars are also additional channels for circulating information.

Both industrialized and developing countries have come to recognize the importance of LMI and the LMIS for more efficient functioning of the labour market. However, the statistics collected, the frequency and detail, the instruments used and the organization of the LMIS can be said to be influenced to a large degree by the North/South divide. Generally, industrialised countries have had a long tradition of involvement in the regular and timely collection of LMI, and their system tend to be somewhat more diversified than that of developing countries. The International Labour Organization has been the vanguard in assisting developing countries to build, strengthen and upgrade their labour market information capabilities, and since the latter half of the seventies has been providing technical assistance, financing of projects and training of personnel involved in LMI and LMIS related activities. In conjunction with the Danish International Development Agency (DANIDA), a number of tripartite regional and inter-regional seminars have been held with the expressed objective of "bringing together high-level national delegations to discuss problems they were encountering, to exchange experiences and to enable them to learn what could be done to improve the situation" (Celestin, 1989: v). These fora have been invaluable in supplying information on the status of LMI and LMIS in developing countries. The remainder of this chapter is devoted to first discussing, in a general way, the LMI and LMIS situation in developing countries, followed by more detailed exposition of the situation in selected countries.

3.4 LMI and LMIS in Developing Countries

Despite significant improvements in some countries in advancing their capability in the collection, analysis and dissemination of information on the labour market, several still

experience major constraints and limitations.[9] Richter (1991) suggests that these include coverage deficiencies, lack of timely publication of data, sparse information on the informal and rural sectors, inadequate data on labour demand and labour supply, unreliable manpower forecasts owing to data limitations, insufficiently disaggregated data, shortage of skilled personnel to perform LMI related tasks, insufficient financial resources and weak collaboration between producers and consumers of LMI.

Some countries have nonetheless been able to acquire a considerable LMI base and are therefore satisfied with the available LMI. There have been successes in broadening the scope of LMI particularly in the assessment of training needs and the dissemination of LMI. Still others have made advancements in providing macro-level LMI, while some have experienced improved labour demand reporting.[10]

3.4.1 The Tanzanian Experience

The United Republic of Tanzania has had some collaborative arrangements between the government, the ILO and the UNDP in an attempt at developing its LMIS. The programme has been implemented against a background of economic deterioration since the middle of the 1970s, and which had worsened within a decade. This was evidenced by significant unemployment problems, declining public sector employment (the state has traditionally been the major employer of formal labour), deterioration in per capita income and living conditions. The country does not have a history of systematic manpower and employment planning - during the immediate post-independence era, employment exchanges were

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[9] It should be noted that while these problems could be considered to be universal, irrespective of the countries stage of the development; it is instead, the degree of the problem which is a function of development.

[10] For a detailed account of developing countries' LMI experience, see Celestin's edited version of Richter's work on New and Old Issues and Remedies Regarding Labour Market Information in Developing Countries, 1991

utilized to perform the task of job matching for the unskilled labour supply, but by 1976, it was recognized that these were inadequate in meeting the employment needs of new entrants, particularly school-leavers, to the labour market. This situation was exacerbated by the serious lack of relevant labour market data which were needed to guide policy formulation to counter the problems. Some sources of LMI are reported to be: Ministry of Manpower Development and Administration which conducts surveys on skilled manpower; data from the Employment Services offices (this has been discontinued for the past few years); detailed information about courses and students at educational institutions, eg. dropouts, repetition rates, produced annually by the Ministry of National Education; and the Central Statistical Office which conducts an annual survey of employment and earnings - the latest available data from this source however are for 1978.

The promulgation of the Human Resources Development Act in 1983 was one mechanism to counter the rising levels and rates of unemployment, and could therefore be seen as an attempt at human resource planning. Specifically, the Act seeks to "make provisions intended to regulate and facilitate the utilization of human resources available within Tanzania in the best economic interest of the nation" (Gilbert, 1993: 1). In this regard, one provision is that all employers and residents within the country who are capable of working, are required to register with the network of local government authority operated by the Ministry of Labour throughout the country. In addition, a National Human Resources Deployment Advisory Committee, comprised of persons experienced in manpower management was also established. Despite the shortcomings of the legislation (it has been seen to be in contravention of the ILO convention on forced labour), and financial constraints with regard to the implementation of provisions, the Act is thought to represent a relatively good foundation for the establishment of a LMIS (ILO/UNDP, 1991).

Government's efforts were complemented by assistance from the ILO, UNDP, UNFPA, UNICEF among others, and while it is acknowledged that much is still left to be achieved in filling the LMI gaps, some achievements have been registered. The collaborative efforts of these external agencies and national institutions such as the Human Resources Planning Department the Central Bureau of Statistics (divisions of the Planning Commission) and the Labour Department, have resulted in upgrading LMI in some areas. Thus for example, under a UNDP funded and ILO executed project since 1988, the first national Labour Force Household survey and a national Informal Sector survey, covering both urban and rural areas have been conducted, providing data on important labour market indicators. Work has also commenced on the compilation of administrative data such as work permits, and the development of an occupational classification system for the country. Other outputs of the project include the establishment of Labour Statistics Unit (LSU) in the Labour Department; a Labour Statistics Advisory Committee has been set up to co-ordinate the collection and analysis of LMI; formal and informal (on-the-job) training has been provided for the LSU's staff; and computer facilities have been acquired (Gilbert, 1993).

Despite this fairly impressive start, there is much more to be done. One of the major disadvantages of externally funded projects is that activities tend to be discontinued once the donor assistance comes to an end. Tanzania should endeavour to avoid this trap, and ensure that enough resources are provided not only to continue the work but also to make improvements. Areas identified for further and more intensive work include the analysis of labour cost and labour productivity; incorporating gender and other 'disadvantaged' groups in the analysis; the continuation of the LFS (the next round is planned for 1995/96); follow-up surveys on the informal sector; widening of the 'key informants' system which was initiated under the ILO/UNDP project; broadening of the Consumer Prices Index to include the rural areas and for special groups; timely dissemination of

information through more up-to-date publications; and greater commitment to financial and human resources for LMI activities. (ILO/UNDP Employment Sector Review Mission, 1991)

However, since LMI for the government is not an end in itself, as among other functions, it serves as a tool for human resource planning, it is important to examine the existing structure with a view to incorporating the LMIS with the human resource planning machinery. The first attempt at manpower planning in Tanzania was the 1962 middle level manpower survey. From 1963 manpower plans were developed concurrently with national development plans, and prior to the latter's development national manpower surveys were conducted with five such surveys being implemented over the period 1964 to 1985. Subsequent to 1985, the tendency has been towards sectoral surveys. Despite the manpower planning efforts, labour shortages still persisted at all levels, but the main limitation of the manpower planning exercise has been the focus on the public sector. Given the recent structural economic changes in the country, the public sector can no longer be seen as an important source of labour absorption and indications are that the private formal, and rural sectors are likely to play a dominant role in employment generation. It is in such a scenario that LMI and the LMIS become crucial, with the pivotal responsibility of providing reliable information for policy development.

Current efforts at human resource planning in the country are fragmented and lack a co-ordinating mechanism. The agencies/bodies involved in the process variously are: (1) the Advisory Committee on Higher Education and Training; (2) National Management Development Advisory Council; (3) National Technical Training Advisory and Co-ordinating Council; (4) National Committee on Adult Education; and (5) National Human Resources Development Advisory Committee. Responsibilities include providing advice on priority areas for out of country training, management development needs and technical education and training. In the main, there is very little consultation and

collaboration among the bodies and it is believed that there exist serious overlapping and duplication of effort. The situation can be greatly ameliorated with the further development of a comprehensive LMIS which would be in keeping with the ILO/UNDP's recommendation for the establishment of a Human Resource Action and Co-ordinating Council with high level representation from the major related agencies/institutions including employers' and workers' representatives and from academia - the major producers and consumers of LMI.

3.4.2 The Case of Jamaica

The current process of establishing a comprehensive and integrated LMIS in Jamaica can be said to have its antecedents in the initiatives of the early 1980s under a joint Government of Jamaica and United States Agency for International Development (USAID) manpower planning, training and employment project. The objectives of the project included, **inter alia**, the assessment of employment and training needs through the analysis of manpower demand and supply for the Jamaican economy through to 1987, using data garnered largely form a survey of large establishments employing ten or more persons and from the labour force survey.

This was followed by a later effort of preparing a comprehensive manpower plan covering the 1985-1989 period, with assistance from the World Bank. The plan included analyses of data on demographic structure and trends, labour force, employment, unemployment, underemployment, the education and training system, and economic developments, as well as forecasts of manpower supply and demand. That these efforts have met with limited success is evidenced by current levels of labour underutilization, given the relatively high levels and rates of unemployment - the unemployment rate which was 19 per cent, peaked at 31 per cent in 1979, since then it has demonstrated a downward tendency, falling to a low of 16 per cent in 1990. This situation has co-existed with serious manpower shortages for

certain professional, skilled and semi-skilled occupational categories. For example, the results of the 1982 Large Establishment Survey indicated that managerial, executive and related skills; health diagnosis and treatment; stenography and related; and engineering accounted for 35.0 per cent of all reported vacancies (Buttari, 1982). The Manpower Plan, 1985, also presented similar findings - over the 1985-1990 period, average annual job vacancies for executive and managerial occupations were estimated to range from 2,777 to 3,328 while the average annual supply from training institutions was a mere 310; for clerical and sales personnel, vacancies ranged between 13, 927 and 15,879 with supply being 4,420; and those for skilled and semi-skilled workers were 12,466 - 15,682 with training output standing at 3,265.

A significant institutional achievement however, is the creation of the current Manpower Unit in the Planning Institute which is the primary agency assigned with the responsibility for human resource planning. This Unit has been working with the ILO's Caribbean office in recent years to establish an integrated LMIS for the country.

The production of LMI in Jamaica is similar to that of other developing countries - fragmented and lacking in cohesion. Since 1968, the Statistical Office has been preparing a series of reports on the labour force, based on the results of household labour force surveys, initially semi-annually but with increased frequency to a quarterly reporting period. The agency also provides other sources of LMI, mainly employment and earnings in large establishments; informal sector survey; and the population census.

Other LMI producers include the Human Employment and Resource Training (HEART) Trust/National Training Agency which provides data and information on labour supply particularly relating to technical and vocational education; the Ministry of Education and Culture represents the main repository of enrolment

and attendance at the primary and secondary levels of the educational system; Ministry of Labour and Welfare produces data on work permits, local employment services and industrial relations issues - work stoppages, industrial disputes etc.; the Ministry of the Public Service and the Environment provides employment and wage/remuneration levels for the civil service; while the Planning Institute of Jamaica supplies demographic data (including population projections), analysis of output of major training institutions, labour force developments and projections of manpower demand and supply. In addition labour market research is conducted by numerous other bodies, for example, the annual wage surveys conducted by the Jamaican Employers' Federation.

The LMI problem in Jamaica is multi-faceted. There are significant gaps in the current data and information series; sometimes there are lengthy delays in data processing hence the timeliness of the data cannot be guaranteed; there is a lack of standardization and harmonization of concepts and definitions particular in the area of occupational classification; the consumers of LMI and the wider public are unaware of the type of data which are available; and there is substantial duplication of effort.

In recognition of the deficiency in the production of LMI and the absence of a formal LMIS the Planning Institute, in collaboration with the ILO, has initiated an upgrading programme. In this regard a Labour Market Information System Working Group was established in January 1993, and given "responsibility for promoting and co-ordinating the collection, analysis and dissemination of information concerning the country's labour market ... to facilitate an understanding of the dynamics of the labour market in order to assist in policy formulation" (LMIS Working Group, 1994: iii). Representatives of pertinent agencies and institutions form the core membership of the Working Group. These are: Manpower Unit, Planning Institute of Jamaica; University of the West Indies; College of Arts, Science and Technology; the Ministries of Labour, Welfare and Sport; Public

Service; Education and Culture; Statistical Institute of Jamaica; private sector companies - LABCOM (International) Ltd.; Hamilton Knight Associates Ltd.; Jamaica Employers' Federation; Joint Trade Unions Research Development Centre; University Council of Jamaica; and HEART Trust/National Training Agency.

3.4.3 Indonesia's Experience

Indonesia has been the recipient of a fair amount of technical and financial in the task of improving its LMIS, and several reports have been prepared. The ILO has been instrumental in supporting the government to achieve its objective. The ILO's involvement commenced with a Preparatory Assistance Project in 1979, with three other related ones covering the ten year period 1982-1992.

The establishment of an integrated LMIS was one of the seven priority areas for the Department of Manpower (Depnaker) during Repelita VI - the sixth National Development Plan, April 1994-March 1999, and is set within the context of the overall plan objective of creating "sufficiently high levels of employment to meet the Plan's sectoral targets for employment as well as to increase incomes and labour productivity" (Bartsch, 1993: 3). This aim is considered to be of paramount importance, given the major labour market challenges for the government: an annual net increase of over 2 million new entrants to the labour market for the remainder of the decade; high rates of under-employment; manpower shortages among professionals and skilled occupations; increasing levels of open unemployment; and critical limitations in the education and training system (Hugo, 1993).

The primary sources of Indonesia's LMI include the Census which is the main benchmark for studying trends in the labour force and employment. The country has so far conducted four censuses in 1930, 1961, 1971, 1980 and 1990. Regular labour force surveys have also been implemented from the mid 1970's with

published quarterly national level results which are aggregated to provide annual estimates for the provinces. The Intercensal Surveys (conducted in 1976 and 1985) give some idea of changes in the labour market, and the National Social and Economic Survey also supplies limited labour force information. Aggregate employment information can be garnered from the different establishment surveys eg. the Agricultural Census and the Census of Establishments (Economic Census). Data on legal, international migration are obtained from the Centre for Overseas Employment, whereas administrative data and information on job seekers, vacancies and placements are supplied by the Ministry of Manpower.

The country's LMIS is at a relatively advanced stage (at least compared with the other countries already discussed). One significant feature is the Indonesian Employment and Manpower Information System within the Department of Labour and which incorporates four major data bases - (1) books and other documents and which can be accessed at the Bureau of Planning; (2) an internal statistics base comprised of annual, quarterly and monthly departmental activities; (3) external data from the Central Bureau of Statistics and other sources. The co-ordination of the LMIS is managed by a Steering Committee with representation from the Bureau of Planning, Ministry of Manpower, Central Bureau of Statistics, and the Ministry of Education and Culture.

There are still areas in which the LMIS can aspire to achieve even greater effectiveness. Included are improvements in the quality and timeliness of the data and information; disaggregation of data with more focus on the regional and local levels; greater involvement of the private sector; incorporation of other relevant labour market indicators; and better dissemination of the information.

CHAPTER IV

ENHANCING HRP WITH THE LMIS

The objective of this chapter is to assess how LMI and the LMIS can enhance the process of HRP. Accordingly, it incorporates discussion on the impact of the LMIS on HRP; it will provide some evidence of how some of the countries under consideration have used the LMIS for HRP, and where possible, an assessment of how the lack of labour market data and information has retarded HRP. Also, the chapter will present an evaluation of some of the gaps which need to be filled to improve HRP in these countries.

4.1 Introduction

"The relevance of an LMIS for [human resource planning] stems from the need to accurately diagnose labour market problems; analyze labour market issues sufficiently well to provide a firm basis for policy formulation; and to provide improvements or alternatives to conceptual and analytical tool as applicable to the operational aspects of planning" (Lisk, 1990: 6). Accordingly, the LMIS represents a more comprehensive approach to human resource planning than conventional manpower planning and forecasting techniques, including **inter alia**, demographic trends and developments, the dynamics of labour supply, labour mobility, and skill levels, factors previously assumed to be constant and unchanging by manpower planning. Furthermore, the elements of this wider approach assign parity to the two components of the market for labour - demand and supply, these are treated as relative and 'more rigorous' concepts than manpower planning which focuses on an absolute and subjective concept of the 'skills need' of the economy (Psacharopoulos, 1991).

Efficiency improvements of the LMIS for HRP are also manifested in its ability to capture emerging signals and the

dynamism of the labour market. Informed by the regular analysis afforded by the LMIS, interventions would tend to cover shorter time periods, therefore increasing accuracy and reliability. Human resource plans are no longer locked into lengthy time spans, and there is a reorientation of their focus more towards modification and correction of current labour market distortions gradually, with on-going reassessment and the design of further ameliorative strategies for achieving the desired goals.

The 'non-traditional' data sources of the LMIS also contribute to the development of human resource plans which have the potential for achieving greater congruence and balance between labour demand and supply. Tracer studies, labour turnover surveys and the 'key informants' approach provide a wealth of key labour market indicators of particular relevance and importance for decision-making in the sphere of vocational education and training. For example tracer studies serve to assess the external efficiency of the training system; they can also identify "technological changes and their effect on occupational skill patterns and for assessing the training required to adapt to them" (Richter, 1989: 30). These 'new' types of LMI are therefore beneficial in so far as they provide an understanding of not only quantitative but also qualitative issues crucial to HRP.

The structured, integrated and systematic approach which is facilitated by the LMIS represents another important element which can strengthen HRP and make it more relevant to national social and economic development. The collaboration between LMI producers and users within an institutional framework can only result in better co-ordination among those responsible for designing human resource plans. Richter (1986: 17), expresses this quite clearly: "training needs assessment and monitoring that is to make full use of labour market signalling (supplied by the LMIS) requires the building up of a real partnership between manpower planners and vocational training planners."

In essence, the significance of the LMIS as a tool for HRP is premised on the collection, analysis and dissemination of data and information on the labour market. It provides a holistic method for human resource planning with backward and forward linkages to employment needs and the training system, thereby facilitating the choice of appropriate investment in skill training with regard to both the quantitative and the qualitative aspects of labour supply. It could be argued therefore, that the LMIS facilitates 'targeted' training, which is nothing more than promoting 'occupation specific- skills', a process that some researchers view as a complementary policy for 'industrial targeting' being pursued in some Asian countries in recent years (See for example, Islam, 1990).

4.2 LMIS and Past HRP Efforts

Increasingly, countries are recognizing that human resource planning is more than forecasting or projecting the labour requirements in terms of its demand and supply. The importance of labour market analysis (with emphasis on sectoral analysis) and the use of hard data and information on the labour market information in understanding the functioning of the labour market are critical elements for the design of 'better' human resource plans. What is interesting and important to note is that even in the absence of a formally established LMIS, elements of the type of data which the system has the capacity to generate are being used in HRP. It is not difficult to comprehend therefore, that programmes to strengthen and upgrade the LMIS can only serve to increase its efficiency as a tool for HRP. The discussion now focuses on country cases.

4.2.1 Singapore

Indeed, as earlier discussed, deficiency of the requisite data has been a serious limiting factor for human resource planning. In the Singapore case earlier discussed, the manpower forecasts were prepared in an era prior to efforts at establishing regular collection of LMI. Islam (1987) informs that the majority of the current data series were initiated only in the recent past. It would be safe to suggest therefore, that the identified prediction errors may be associated with insufficient and inappropriate data, among other things. To remedy this situation, the production of several annual series of LMI commenced in the early to mid 1970s. Available LMI includes data on the labour force; wages; job vacancy; educational statistics; and data from tracer studies of educational and training institutions, collected by a variety of agencies with the Ministry of Labour being the leading government body. These data are complemented by earnings and wages data generated by the national employers' federation. Despite this positive development, gaps still exist in the provision of LMI particularly for HRP (Islam, 1987).

(i) <u>LMIS and Industrial Restructuring</u>

Singapore's industrial restructuring in 1979 posed an excellent challenge for the human resource planning mechanism; this required the production of relevant skills to meet labour market demands as the restructuring emphasized the use of a highly skilled labour force for industrial production in targeted sectors such as electronics, chemical processing and metal engineering. Such a policy was informed by labour market signals such as the reduction in the unemployment rate; population growth declines and an increase in labour force participation rates among both males and females; more rapid growth in employment vis-a-vis output implying low rates of productivity growth (Lim, 1984). Against this background, the quantity and quality of the country's labour supply was augmented by training programmes for

'practice-oriented' engineers at the newly established technological institute, complemented by apprenticeship training through industrial training centres. Another important facet was the establishment of the government operated Skill Development Fund in 1979, financed by a levy on employers and which is available for skills upgrading of the employed labour force, so too technology and equipment acquisition (Islam, 1990).

(ii) Manpower and Educational Planning Framework

Support for LMIS-recommended integrated approach for HRP is demonstrated in the establishment of a more co-ordinated framework for manpower and educational planning. The first such development was the creation in 1979 of the Council for Professional and Technical Education (CPTE), the chair of which is the Minister of Trade and Industry, is supportive of this view. Membership of the CPTE consists of (a) Ministers in charge of major tertiary and vocational institutions, the Minister of Education and the Vice-Chancellor of the National University of Singapore; (b) chairman of the National Wages Council (NWC) and the Secretary-General of the National Trade Union Congress (NTUC); and (c) chairman of the Economic Development Board (EDB) and Public Service Commission (PSC). A second related development was the Subcommittee on Manpower (a sub-group of the Economic Committee) founded in 1985 with a private sector dominated composition. Generally, the mandate of both groups is to assess the country's manpower demand and make recommendations for the appropriate labour supply.

Positive human resource gains emanating from the implementation of some recommendations from these bodies include changes in the skill profile of the labour force. Thus, for example, of the new entrants to the labour force in 1979, approximately 4 per cent had tertiary level training, this had grown to 9 per cent by 1984; for those with secondary and post-secondary education, the proportion had increased from 54 to 65 per cent. This was accompanied by a reduction in the relative

size of new entrants who had 'low' educational qualifications (primary level and below), down from 43.0 to 26.0 per cent over the same period. The policy emphasis on increased university education contributed to the relative employment growth among professional and technical; and administrative, management and executive personnel. Whereas the former group accounted for just under 9 per cent of total employment in 1980, this had risen to 10 per cent by 1988; the latter group experienced a similar increase from 4 to 6 per cent.

(iii) LMIS/HRP Gaps

The outlined progress notwithstanding, there still remain areas which require attention if even greater success is to be achieved in HRP. Firstly, the effectiveness of the LMIS as a tool for HRP is not based solely on the availability of LMI; it is measured also by the utilization of the outputs of the LMIS in policy decisions. While Singapore has displayed 'encouraging' results in this regard, (for example the adjustment in entry level salaries for some pubic sector workers based on evidence that the pay for such workers was increasing faster than their counterparts in the private sector), the conclusion is that policy initiatives informed by LMI are ad hoc, spasmodic and piece-meal (Islam, 1987).

The absence of formal administrative and co-ordinating framework specifically for the LMIS also negatively affect human resource planning; there is the need therefore, for the kind of co-ordination afforded by a central organization. An additional issue is that related to the accessibility of LMI, as distinct from availability. Government-based and generated statistics are usually beset with issues of confidentiality thus affecting the accessibility of relevant data which may be contained in restricted documents, the implication being that there needs to be more openness in the circulation of official data and information. A further shortcoming of the LMIS is the unavailability of comprehensive employment related data on the

public sector; while data on employment in the civil service are available, there is very little information on statutory bodies.

In terms of specific data requirements, deficiencies associated with the labour force survey data include the failure of the labour force survey data to distinguish between existing workers and new entrants; and incomparability between the occupational classification used for labour force data and that required for educational planning - remnants of conventional manpower planning.

4.2.2 Jamaica

Over the past decade, planning for improving the country's human resources has to different degrees been influenced and informed by labour market data and analysis, and in some instances, the lack of LMI has retarded the planning process. Analysis of quarterly data on the labour force, employment, unemployment gathered by the statistical office, has served to identify vulnerable labour market groups which require special policy attention to improve their situation.

(i) <u>LMI and Technical Vocational Education and Training (TVET)</u>

Developments in the country's vocational education and training system have, to a large extent, been initiated by labour market information and analysis. One important contributor has been the problem of youth unemployment. Persons aged 14-24 years have traditionally been identified as one vulnerable demographic group in need of special consideration in overall HRP. An indication of the magnitude of the problem can be seen from the following LMI. Of the 252,000 unemployed persons in the country in 1980, approximately 56 per cent was under the age of 25 years; this represented an unemployment rate of 48.8 per cent, compared with a rate of 38 per cent for adults. The 14-19 age cohort was even more disadvantaged with an unemployment rate of 60 per cent.

Young women were the worst off with rates of about three times that of their adult counterparts.

Other labour market indicators based on assessment of signals from labour force survey data, administrative data generated by relevant government ministries such as Education and Labour, other sources such as special studies which served as inputs in the TVET's evolution included: (a) low and declining levels of productivity; (b) a significant proportion of the unemployed who have had no training (over 80.0 per cent), with a similar situation among first time job-seekers; (c) labour market imbalance whereby critical shortages in manpower supply especially among skilled and semi-skilled occupations co-exist with high levels and rates of unemployment and underemployment; (d) demographic factors such as substantial increase in the working age population, changing age profile and structure of the population, a growing labour force, and a rise in labour force participation rates; and (e) a shift in the demand of the job market from mainly unskilled workers to skilled and trained manpower.

It is against this background that the Human Employment and Resource Training (HEART) Trust was established in 1982 to "develop, coordinate, monitor, encourage and provide finance for training, employment and placement of various levels of skilled personnel" (Gregory, 1994).[11] The HEART Trust operates several skill training institutions, and the recent downturn in unemployment among the youth[12] has been partially attributable to the success of such programmes as measured by the increases in the graduates of the programmes which up to 1988 numbered some 30,000, with an employment rate of just under 70.0 per cent.

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[11] It should be noted that TVET is but one policy measure to tackle the problem of youth unemployment; other measure include the expansion of secondary level education and employment creation schemes.

[12] Youth unemployment was recorded at a level of a little over 82,000 representing an unemployment rate of 27.3 per cent in 1994.

The designation of the HEART Trust as the National Training Agency in 1992, and the creation of the National Council for Technical and Vocational Education and Training in 1994, are measures aimed at ensuring standardization, rationalization and articulation of the TVET system, generally as an important facet of overall HRP and specifically in "producing and maintaining a competent workforce responsive to the needs and dynamics of the labour market" (ESSJ, 1994: 21.1).

The process of HRP, as has been demonstrated, must be seen not as static but as a dynamic process, reflecting and incorporating changing social and economic conditions. Among other factors, HRP should contribute to a situation in which skill formation is more closely related to labour demand. In this regard, HRP and the provision of TVET have in the past few years benefited from 'non-traditional' LMIS instruments, namely tracer studies and employer/sector surveys. The former has sought to assess the external efficiency of the training system through an assessment of the labour market experience of graduates from the perspective of the relevance of the training, earnings and remuneration, employment history since graduation, the length of time they took to secure employment, and the nature of the work in which they are currently engaged. Sector studies have focused on indicators, largely collected from employers and 'key informants', variously identified as shortage occupations; labour turn-over; training needs among others. The studies so far conducted have, in addition, explored collaborative arrangements for providing training by the use of a combined approach of institutional (off-plant) and in-plant, on-the-job and apprenticeship methods. The Economic and Social Survey of Jamaica reports that in 1994, in response to the identified shortage of machine operators for the Apparel and Sewn Products sub-sector, a pilot project was established between HEART and a leading garment manufacturing company.

(ii) LMIS and Secondary Education

Human resource planning to address the problems already discussed has not been restricted to the development of vocational training programmes, but has focused too on formal education[13]. One key objective for secondary education over the period 1990-1995 was to "improve the quality of school leavers and make their skills more relevant to the requirements of the society and the economy" (Jamaica Five Year Development Plan, 1990-1995: 91). The Reform of Secondary Education (ROSE) project, a five year joint endeavour between the Government of Jamaica and the World Bank, has been seeking to do so just that by improving and expanding first cycle secondary education for the 11-13 age cohort. Components of the project include upgrading of physical plants; a core curriculum; rationalization of examinations for that level of schooling; teacher training; and provision of relevant texts and other support material. (Economic and Social Survey, 1993)

But the use of the LMIS to enhance HRP is a relatively new development and it can be argued that the unavailability of data and information on the labour market has in fact led to a situation whereby education and training plans were not in accordance with labour market needs. Gregory (1994: 12) argues that "in the not too distant past, education was regarded more as an avenue for social mobility and as a status symbol than as a meaningful contributor to industry and the economy." Training for "white collar" occupations was the choice pursuit of many, with vocational training for "blue collar" skilled jobs being relegated to those "mentally incapable" of serious academic training. Consequently, "the level of (vocational) training offered was often useless and without reference to the needs of

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[13] In Jamaica, TVET is viewed largely as "non-formal"; the distinction being the "formal" system refers to education and training facilities and programmes operated under the administrative umbrella of the Ministry of Education, whereas "non-formal" refers to all other education and training programmes inclusive of those falling under the purview of the HEART Trust/NTA (Gregory, 194).

the employment sector" (Gregory, 1994: 12). This general observation was widely known and accepted in the post-independence era through to the 1970s, and there have been repeated calls for the system to be more relevant, and to provide adequate training for the labour market. But what were the needs of the labour market? What occupations were in short supply, and in what areas were there surplus labour? What kind of training did employers expect recruits to have? The lack of relevant labour market information to provide the answers meant that HRP continued to rely largely on output from an 'anachronistic' education and training system. While it is impossible to say what would have been the outcome had there been an adequate and reliable LMIS, there can be no denying that there would have been more congruence in skill formation and labour market demand.

(iii) Current LMIS Gaps

The recently formed LMIS Working Group is the first step in bringing about a closer relationship between the main producers and users of LMI, and to set up a co-ordinating framework for the LMIS, and should contribute to improved HRP in finding solutions to the problems of skill development and labour utilization, but there other areas which require further attention. Human resource planning and LMIS activities are persisting without an adequate national occupational classification system. Some agencies rely on the ILO's International Classification of Occupations (ISCO), others use the Trinidadian Dictionary of Occupational Titles, whereas some survey results, particularly those conducted by private consultancy firms base their classification on the internal job description of individual firms and establishments. The importance of a standardized occupational taxonomy which is used by all who collect and analyze LMI for HRP needs not be outlined here; but suffice to say to the extent that the promotion of the harmonization and standardization of concepts is one of the mission of the Working Group, then this situation should be remedied.

The lack of regular analysis of manpower requirements for specific occupations and sectors is another gap. There is a need also for on-going reporting of current labour market situation, but more importantly the outlook for key occupations and sectors. The identification of new and emerging occupations, an understanding of the structural shifts in the economy, the influence of new investment and technology are all important indicators which need to be captured by the LMIS. Once the process of data gathering /collection, and analysis has been completed, it is vitally necessary that the information be fed to the training institutions which prepare students who are the future manpower/labour supply for the labour market. This latter requirement represents to my mind one of the crucial challenges facing the LMIS' effectiveness for HRP; that is the matter of data and information flows. Another serious limitation to the effectiveness of the LMIS is the availability of current LMI in the form needed by consumers. The Statistical Agency publishes standard tables of labour force data; additional tabulation, while possible, is difficult to obtain. A potential solution is to make the processed raw data available to users.

The timeliness of the available data represents another constraint to the LMIS; the time between data collection, processing and dissemination is usually inordinately protracted, thus diminishing their effectiveness in successful HRP. The coverage of LMI also poses some limitation to the utility of these data. For example, the labour force survey is based on a one per cent sample of dwellings chosen from a frame derived from population censuses and updated during intercensal period. While such a relatively small sample provides reasonably reliable aggregate indicators, its potential for providing disaggregated sub-national data is limited. Basically it is a trade off between accuracy, coverage and cost, and it is the duty of the Working Group to come up with a workable and acceptable compromise. A more technically oriented gap is that of estimating and measuring underemployment; an understanding of the extent of and the

factors which contribute to this phenomenon is extremely important for better HRP.

Improvements are also needed in the areas of data storage and dissemination. A central data base comprised of inputs from the main LMI producers will undoubtedly positively impact HRP; it allows for better management and organization, and facilitates greater accessibility to and dissemination of data to all consumers of LMI.

4.2.3 Indonesia

Underlying labour market problems identified by labour market analysis which have served as inputs into Indonesia's human resource planning activities since the middle of the 1970s have included:[14] (a) general shortage of employment opportunities; (b) demand/supply imbalance in relation to educated and trained manpower; (c) interregional imbalances between labour supply and demand (d) declining fertility and mortality rates up to the year 2000; and (e) zero net emigration (Tjipotherijanto, 1987). In addition, the country's labour market is said to be experiencing considerable supply side pressures, resulting from declining mortality and fertility observed over the past two decades. This is expected to have a strong influence on labour force growth in coming years, although the labour force growth is much faster than that for the overall population - 2.83 per cent per annum as against 1.96 per cent. But the effects of fertility decline will change this situation; and will certainly influence the numbers of young persons, under age 25 years entering the labour force by the middle to the end of this

[14] Hugo et al. 1987, (cited in Hugo, 1993: 21) make an interesting observation of a labour market issue in Indonesia. Unlike other developing countries, they contend that "unemployment is a concept that is of little relevance among Indonesia's vast rural labour force, and of only limited relevance among urban workers." Hugo, (1993: 22) advises that the extremely low unemployment rates of 1.7 per cent in 1980 and 1.1 per cent in 1985, should not be "interpreted in the same way as they are in Western economies", suggesting that this may be a definitional issue.

current decade; changes in labour force participation have also been observed with strong increases among women (Hugo, 1993).

(i) Manpower and Educational Planning

Over the years, several studies in the areas of manpower and education have been carried out and the country has expended a lot of resources in establishing an LMIS, but the evidence at hand with respect to their impact on policy is rather limited. It should be noted however, that the need for adequate manpower possessing appropriate skills and education to support economic growth has always been a feature of long-term development planning (Tjiptoherijanto, 1987). It is likely that the country has been experiencing (to a greater extent than other developing countries), problems in making human resource planning 'operational', a situation which Amjad (1987) describes as ensuring implementation based on regular labour market monitoring. The LMIS has therefore provided different sources of data which have contributed to pinpointing labour market issues for which corrective action needs to be taken. Labour market analyses, in the case of Indonesia, utilizing empirical data generated by the LMIS, serve to underscore the important role which the system can play in planning for education and training. Some of the findings of one such study[15] for the 1980-1990 period which have implications for HRP: (a) oversupply of manpower at all educational levels in 1980, but manpower shortages would be experienced within the elementary school, junior high school and diploma categories by 1990; (b) surpluses in all occupational categories in 1980, but by 1990, it was estimated that there would have been shortages among sales and production workers (Tjiptoherijanto, 1987).

[15] Results are taken from a study on "Assessment of Labour Supply and Demand in 1980-1990 with Special Reference to High Level Technical Manpower", conducted by the Centre for Research, Education and Publication, Yogya in 1985.

Notwithstanding, there has been some instances of human resource plans emanating from the LMIS. For example, the assumption that the country was still experiencing a lack of appropriate skills and human resources for national development, although it had almost attained universal primary education, was borne out by an assessment of the manpower supply from vocational training component centres in the country. The number of trained workers being supplied by the system had declined over the period 1984-1989, from a level of a little over 113,000 to just under 30,000; the decline being observed in all major trades professions[16]. This analysis was a significant contributor to the development of an apprenticeship programme to augment the supply of manpower from the vocational centres. Moreover the apprenticeship programme is expected to be very important in light of the current expansion of the manufacturing sector. (Hugo, 1993)

Another manifestation of the LMIS' contribution to HRP is the recent reforms in the country's training policy. Previously, the policy emphasized extensive government expenditure to equip unemployed school leavers with skills to make them employable, based on the 'mismatch analysis' of MPP. Labour market research has however, indicated that this strategy has been less than successful. Supporting this view are the results of a World Bank survey of training institutions conducted in 1991 which found evidence of inefficiencies in public sector training institutions. For example, in 1989/90 capacity utilization in these institutions ranged between 11-42 per cent, compared with 100 per cent for private training. Other problems included unsatisfactory training methods and virtually no linkage with industry. There is little empirical evidence on the employment experience of graduates, but based on the results of an earlier tracer study Clarke (1985) concluded that although they fared better in the labour market, in absolute terms, their job record was 'not good'.

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[16] These are: Mechanics; Electrics; Automotive; Architecture; Business Administration; and Agriculture

(ii) Training Policy Reform

Findings from a more recent study conducted by Godfrey in 1990 have also served to inform the change in the training policy. Inclusive in this work was the confirmation that on-the-job training was the dominant method of establishment training; of the sample only 16 per cent of establishments include any off-plant elements in their training programme. This is in contrast with 76 per cent which provide only in-plant, on-the-job training for skilled workers. However, data on earnings suggest that structured training with a considerable off-plant and off-job element could result in a more substantial higher return for employees, and more so those who have higher levels of education (higher than that for pre-employment training financed by the government), if employers were to receive incentives for providing such training.

Based on these results, the introduction of a training levy-grant scheme has been recommended by the National Training Council. With the adoption of such a scheme, the training system would be changed from one of government-financed and subsidised training for 'job-seeking school-leavers' into a situation where the emphasis would be on employers who would bear the brunt of the financing and design of training for their employees, whether in-plant, or supplemented by an off-plant element.

The manufacturing and tourism sectors are anticipated to be the leaders in labour absorption for the remainder of this decade and will need skilled and trained manpower (Hugo, 1993). Vocational education and training (VET) is seen to be an important component of any strategy to meet the skill demands of the labour market. The major objective for the country's VET system is to ensure that skill acquisition be responsive to changing skill demand without sacrificing quality; cutback in government's role as provider of training accompanied by an expanding role for private sector training; decentralization of training; and targeting of 'disadvantaged' groups (particularly

women and workers in small enterprises) (World Bank, 1992, cited in Hugo, 1993).

(iii) LMIS Gaps

The LMIS has developed as an integral part of the Indonesian Manpower Management Information Service (IMMIS) Project which had its genesis in the "recognition that development of an effective labour utilisation policy had been handicapped by the inability ... to efficiently gather relevant information to provide a sound basis for designing policies, programmes and projects" (Hugo, 1993: 80). The overall objective appropriately was to facilitate planning for the country's human resources in its widest sense, but also specifically in terms of accelerating "the development of skilled manpower resources, and to provide for their productive, safe and gainful employment" (Hugo, 1993: 80). Diverse assessment of the various related projects have suggested several factors which have contributed to the lack of success (see for example, Bazargan, 1992; Hugo, 1993; and Bartsch, 1993); Hugo has concluded nevertheless that, owing to the work of the ILO, "a fully functional LMIS is not far away" (1993: 97). However, there are gaps in the LMIS.

If Indonesia's LMIS is to make its contribution to more successful HRP, the following specific data needs should be addressed: (a) inclusion of 'labour dynamics' indicators such as labour turnover, emerging shortages of skills, and skills in high demand in the labour market; (b) changes in the output from education and training institutions, disaggregated by gender, level of education and training completed; (c) changes in the occupational and sectoral structure of the labour force; and (d) supply/demand imbalance (Bartsch, 1992).

Other factors which can strengthen the LMIS include: improved quality and timeliness of the data; better dissemination of the LMIS' outputs to all users; incorporation of regional concerns in the production of LMI; and inclusion of the private

sector and social partners in the LMIS. But the major limitation of the effectiveness of the existing LMIS might conceivably be, in Hugo's words, "the lack of people who can use an LMIS in such a way that it becomes an effective planning and policy tool for government" (1993: 103); the implication is clear.

4.2.4 Tanzania[17]

In the immediate post-independence period, MPP was used by the country's planners to direct post-primary education and training investment. Based on these forecasts, and on recommendations from the World Bank, Government's expenditure on secondary level education was reduced, and ranked among the lowest on the continent. The initiative to develop a LMIS has proven to be beneficial, as labour market 'signals' from a tracer survey of secondary school graduates combined with an analysis of job advertisements in local newspapers revealed that there were severe underestimation in the demand for secondary school graduates. Consequently, there was a reversal in the decision to reduce secondary education investment.

4.2.5 China[18]

China's experience is being included not as a **fait accompli**, but to demonstrate the potential role and utility of LMI in a transition economy. Since the late 1970's, the country has been undergoing economic reforms with multi-pronged objectives, one such being: "to increase productive employment opportunities through economic 'readjustment' in response to population

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[17] The source of this information is UNESCO's work of 1981 and 1984, cited in van Adams et al, 1992.

[18] Much of the information presented in this section, comes from Franklyn Lisk's paper Conceptual Framework and Guidelines for Adapting Labour Market Information (LMI) to Employment Planning: The Case of China, presented at the National Training Seminar on Labour Information System and Employment Planning, Beijing, May 7-11, 1990

pressures" (Lisk, 1990: 1). Labour market reforms commenced in 1984, and have included: (a) the emergence of fixed-term labour contracts for employees of state enterprises to replace 'guaranteed life-time' employment; (b) workers have been encouraged to initiate their own job search and to explore self-employment opportunities; and (c) decentralization of decision-making to provinces, municipalities and enterprises as well as the creation of new institutions outside of the government sector in terms of the planning and management for the allocation of labour. Such reforms have resulted in more flexibility in the employment and wage structure, but at the same time the central government is facing problems of attaining consistency between the reform policies and the full employment of overall macro-economic objectives and improvements in efficiency at the micro level of the enterprise.

(i) LMIS and 'Market Transition'

Assessment of the effects of the reforms on overall employment and labour market functioning shows the emergence and expansion of new forms of employment as evidenced by the growth among the self-employed in industrial sectors, commerce, and services, and expanded employment openings in the services sector. Labour mobility has also been observed with an increase in internal, rural-urban migration and correspondingly, labour shifts from the agricultural to other sectors. Open unemployment and underemployment in urban areas has grown, and there has been substantial differential in wages, both within and between enterprises. Against this background therefore, how can elements of LMI and an LMIS be used to aid human resource planning?

One major concern of the Chinese government is employment promotion - to be facilitative in this regard, the LMIS should seek to collect data on employment opportunities, unemployment, underemployment, wages and productivity. But if the system is to be comprehensive and effective, the coverage of the LMIS should extend beyond the formal wage sector to include those persons who

are self-employed. Given China's current employment situation, to accurately assess the unemployment problems would require quantitative and qualitative data such as: the employment prospects of different industrial sectors including the informal sector; recruitment practices; training and retraining; and incomes and wages differentials implications of different macro-economic and labour market policies.

Demographic data are also important in the Chinese situation as information on the profile and structure of the population are necessary for analyzing labour supply which is dependent on the growth of the labour force and increases in participation rates. The LMIS should provide analyses gleaned from constant monitoring of inter-sectoral and inter-enterprises labour mobility to improve and facilitate the process of adjusting manpower requirements to labour supply. In addition, labour supply is also affected by internal migration and the intensified rural-urban drift, this too should be monitored to first of all understand the factors which contribute to this situation and then to design appropriate policies.

In keeping with the decentralization associated with the reforms, the Provincial Labour Bureau is expected to play a pivotal and co-ordinating function in LMI collection and dissemination. In addition, the Labour Department's offices in major cities also perform similar functions, and have already established 'labour service companies' which are responsible for locating and creating temporary as well as contract jobs. Recommendations for up-grading the Chinese LMIS therefore, include the need to generate data on specified categories which are deemed to be more relevant to the reform programme. These include data on population, labour force, occupation, education and training, which can be collected through the current establishment surveys - to be planned and administered at the level of either the city or province, but also through household surveys and from administrative records. In addition the usual guidelines in terms of co-ordination to avoid duplication;

harmonization of labour market concepts and definitions; and the timeliness of data dissemination also apply to China's situation.

To conclude, though still in the evolutionary stages in most developing countries, the LMIS (or elements thereof) undoubtedly enhances the process of human resource planning, resulting in more effectiveness in skill formation and acquisition to meet the requirements of the labour market, within the context of the ultimate goal of attaining balanced economic and social development in these countries. The supremacy of the LMIS as a tool for HRP lies in its ability to incorporate regular and recent labour market signals, thereby permitting quicker response and ameliorative interventions. However, the proficiency of the LMIS will be greatly diminished if the deficiencies and current gaps are not confronted, thus the process of upgrading of LMIS is an urgent and necessary requirement that should be encouraged. If this is not done, then the very essence of the LMIS and its effectiveness could become redundant and disappear.

CHAPTER V

INSTITUTIONAL FRAMEWORK AND MANAGEMENT OF THE LMIS

This final chapter will posit some general institutional requirements for an effective and efficient Labour Market Information System (LMIS) for human resource planning; it will therefore highlight the system's co-ordination and management, and assess the financing of the LMIS. Based on the evaluation of the various institutional mechanisms for the countries under consideration, the penultimate section will attempt to present a composite 'model' for the Jamaican LMIS. The chapter ends with some generalized comments, including suggestions for further research.

5.1 Introduction

The primary rationale for undertaking this research is to investigate the contribution of a labour market information system (LMIS) to human resource planning (HRP). The assessment would be incomplete if it did not include some discussion on how the system is to be designed and managed, and by whom such decisions should be taken. As illustrated elsewhere in this paper, the elements of the LMIS presented in the third chapter of this paper represent the 'ideal model' from which countries, guided by their priority needs, can select the necessary components and data needs which correspond to their prevailing planning objectives. For the purpose of human resource planning, decisions relating to the administration of the system should comprise the clarification of the producer/consumer relationship as a well designed LMIS should seek to achieve congruence between the needs of those who produce and those who use or consume labour market information. Besides, there should be close collaboration and co-operation between both groups. The issue of the co-ordination of the system needs careful attention, and additionally, as the system is as good as, and dependent on the

resources allocated to the collection of the inputs and generation of its output, serious consideration should be devoted to ensuring the cost-effectiveness of the system.

5.2 Institutional Framework

Examination of ILO sponsored manpower planning projects has revealed that weak manpower planning machinery represents an intractable constraint to the overall process. Richter suggests that there is a general inability of the machinery "to establish and maintain a clearly defined pattern of collaboration and a rational division of responsibility and work between the various agencies involved" (1984: 685). The design and institutional framework of the LMIS should therefore attempt to avoid the mistakes of the past.

While it is virtually impossible to prescribe a universally acceptable institutional machinery for the LMIS, in terms of the priority ordering for HRP, some institutions and agencies will naturally emerge as essential and integral to the system, simply because of the nature of their work and responsibilities. For example, the statistical office, by whatever name it is known in different countries, must be one such primary member of the LMIS. So too, the organizations involved in planning and delivering education and training for the country's labour force. Also to be included where they exist are the main agencies concerned with manpower planning and labour market analysis. In developing countries, these institutions tend to be government departments and/or ministries, and so their inclusion in the LMIS is in keeping with Muqtada's recommendation that the government can play a significant role in the framework for labour market analysis by becoming the "collector and provider of information, a facilitator, an identifier of problems, an appraiser, an evaluator, and a nudger of institutions with long lead times in

desirable directions" (Godfery, 1991 cited in Muqtada, 1993: 73)[19].

Government's role however does not necessarily mean the exclusion of the private sector and more specifically the employer community. This has been, to my mind, a major omission of past established manpower planning machinery efforts. In this new thrust, the involvement of the private sector is essential as the sector like many other labour market actors constitute both a consumer as well as a producer of LMI. In its latter role, focus is likely to be at the level of individual firms, providing information on indicators such as labour turnover, and employment levels etc. The inclusion of employers' representatives (most countries do have a federation or association which represent employers) as a key member of the LMIS should therefore be encouraged.

The main point to bear in mind however, is that despite the established mechanisms which may vary with countries, the essential objective of delineating a specified institutional framework is related more to avoiding duplication and overlapping and the associated wastage of resources which are generally in short supply in developing countries. Thus, the responsibility and tasks to be executed by the mechanism should be clearly set out; this can be achieved by drawing up terms of reference for the fulfilment of its mandate. (It could be worthwhile to have this done by its members; for example, the Terms of Reference for the Jamaican LMIS Working Group was the first activity after its establishment). The functions to be performed by all agencies identified as members of the LMIS should also be clearly defined and understood.

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[19] It should be noted that this observation is also in keeping with the view that the provision of training should be determined by the allocative mechanisms of market interaction taken by some proponents of LMA (eg. Adam et al), but which have not been explored in this paper.

5.2.1 Co-ordination/Management of the LMIS

The success of the LMIS will to a large extent be determined by the co-ordination of the system; the recommendation is that a lead agency be identified to provide this function and at the same time act as the Secretariat to the group. It has been suggested that the designation of such agency should at best be by presidential decree, but should certainly be sanctioned by the government (Richter, 1986 and Strachan, 1993). At the onset however, it must be understood that the co-ordinating body has not been vested with powers to impose authority, but should rather develop an attitude of **primus inter pares**, in the pursuit of stimulating, encouraging, promoting, providing technical support, analyzing, synthesizing and monitoring the work of the LMIS (Richter, 1986). Institutional jealousies and the natural tendency of preserving the autonomy of organizations/agencies represent potential obstacles. These can be overcome with the development of a collaborative attitude particularly when it is patent that this a mutually beneficial and reciprocal mechanism, since most producers of LMI are also consumers, and will eventually realize that the system is only as good as what is contributed by each member.

The efficiency and effectiveness of the LMIS can be further strengthened if the co-ordination and management functions are guided by a work programme which establishes priorities for a specified period, usually for one year. The development of an annual work programme however, is premised on the acceptance that there are activities which require longer intervals, and some routine tasks with a shorter time span. Notwithstanding, the annual programme can be beneficial to the extent that it (a) articulates the functions of the co-ordinating body and ensures that the work is performed in a regular and systematic manner; (b) the various members will have sufficiently advanced notice of their own contribution and input; and (c) ad hoc activities will be difficult to accommodate (Richter, 1986).

The case for administration and management of the LMIS is, to my mind, most strongly manifested in the current situation in developing countries, whereby most countries to a greater or lesser degree, are engaged in the collection of some form of LMI, owing to the growing awareness of the importance of LMI. Issues of reliability, timeliness coverage etc. apart, the greatest problem is just knowing what is available and where. (This was recognised early in the co-ordinating effort in Jamaica, and one of the initial projects of the LMIS Working Group was the compilation and publication of a Directory of the main producers of LMI).[20]

5.3 Financing of the LMIS

The maxim 'more can be achieved with less' or more specifically 'more can be achieved with the same', is quite applicable to the management of the LMIS and the implications for financing its work, especially in developing countries in which financial resources are limited and scarce in general and where enough is never allotted to LMIS programmes. The underlying issue of the financing of the LMIS is its cost-effectiveness. It is really a 'catch 22' situation; the LMIS is under-financed either because of the lack of understanding of the effectiveness of the system for policy making, or the quality of the data is so poor that they would be rendered ineffective for decision making. This then, perpetuates the pattern of low resource allocation. The problem is further exacerbated by the intangible nature of the benefits emanating from having access to good quality information and data on the labour market.

While it is acknowledged that the LMIS could be a costly venture requiring significant investment, emphasis on efficiency improvements, is an important objective. It is not inconceivable

[20] The Directory includes information on the Agency which produces the information; the type of information; its frequency; availability; and contact person.

that a lot of resources is being wasted in collecting and processing unnecessary and useless data. For example, while it is interesting to know the level of unemployment and unemployment rates, disaggreated by occupation, this tells very little about current labour market conditions as 'occupation' refers to the job previously held by the respondent, perhaps months or even years before, as is currently being done in Jamaica. The stock-taking exercise suggested above therefore, takes on even greater significance in this regard. This rationalization exercise is likely to reveal also that where two agencies are engaged in activities which either duplicate or are similar to another, the production of the data can be done more efficiently and at less cost by just one, freeing up the other for other activities. It cannot be repeated too often that the outputs of the LMIS must be in accordance with the needs of those who use the data, that is basically the essence of an effective LMIS.

Improved effectiveness and efficiency of the LMIS in some instances do not necessarily imply significant cost increases, if any. Revisions to labour force survey questionnaires to capture new trends in the labour market could be one such way; it could be the addition of a few more questions. Similarly, some 'non-traditional' sources of LMI merely require job reassignment for staff of the relevant agencies to collate and prepare the data, as in the case of administrative data, for example.

But what are some of the ways in which the work of the LMIS can be financed to enable it to become more efficient? Firstly, the conventional method of increased budgetary allocation for participating government agencies in the LMIS, though dubious, cannot be ignored. Notwithstanding, more innovative methods need to be developed. One such, is that in countries where there is a training tax or levy, a proportion could be allocated to the LMIS. Another potential source for garnering resources is through the development of a payment system for some elements; in the current wave of user fees and cost recovery necessitated by Structural Adjustment Programmes in developing countries, the

Government no longer has the ability to provide services free of cost. It will not be possible to cover the entire cost of the LMIS through fee-paying, and so there will still be need for some subsidies from the government, but certainly the strain on the public purse would be reduced. Some activities however, can be fully self-financing, for example, seminars and work-shops to disseminate LMI.

It is impossible to prescribe a model for financing the LMIS, it has to be done through a pragmatic approach, but the greatest leverage that the LMIS has for increasing financial resources, is by proving that such resources are being used as effectively as possible (ILO, 1990). In this regard it would be extremely beneficial to have the evaluation conducted by those for whom the data and information are being produced. This requires the design of mechanisms and strategies to capture the reaction of LMI consumers. In addition, as the production of LMI should be in conformity with the needs of users, there should be a regular monitoring system to inform the process, adding or deleting specific items of the LMIS agenda as required.

5.4 A Model Structure of the LMIS for HRP?

It is the intention of this section to use the information from the cases considered for this paper to explore a 'composite' structure for an LMIS with particular reference for HRP; it will use the components of the Jamaican LMIS as a point of reference. The simulation exercise is outlined in the following sections: Key agencies; Co-ordinating mechanism; Data base, data flows and data dissemination.

5.4.1 Key Agencies

a. Statistical Institute of Jamaica (STATIN)
b. Planning Institute of Jamaica (PIOJ)
c. HEART Trust/National Training Agency (HEART/NTA)

d. Ministry of Education and Culture (MOEC)

A summary of their data contribution and the instruments for data collection is presented below.

STATIN	1.	Labour force, employment and unemployment - Labour force survey
	2.	Demographic indicators - Population census
	3.	Data on international migration - Immigration cards
PIOJ	1.	Population projections
	2.	Labour force projections
	3.	Assessment of manpower demand - Sectoral surveys
	4.	Manpower turnover, vacancies - Establishment surveys
HEART/NTA	1.	Enrolment and output from VET institutions
	2.	Employer attitude re quality of training
	3.	Emerging occupations - Establishment surveys
	4.	Effectiveness of training system - Tracer studies
MOEC	1.	Enrolment and output of secondary and tertiary level education

5.4.2 Co-ordinating Mechanism

The LMIS Working Group will be the main co-ordinating mechanism to promote and co-ordinate the collection, analysis and dissemination of LMI. This body for example represents a merger of the two arms of the Indonesian mechanism, that is the Steering Committee and the Technical Committee; it is similar to Tanzania's Labour Statistics Advisory Committee; no similar body was identified in the case of Singapore although the Committee for Professional and Technical Education performs some of the functions. The Secretariat to the group is the PIOJ, providing both administrative and technical support.

5.4.3 Data Bases, Flows and Dissemination

While each of the key agencies will create their own internal data base, there should be a centralized base for some aspects of the LMIS, providing the service of a repository; the

objective being improved accessibility. (The following proposal is a replication of the Indonesian structure; a similar one has not been observed in any of the cases.) The location of this centralized database would be in the Secretariat - PIOJ and would consist of:

- Internal data sources, produced within the PIOJ
- External data sources comprising three subsets from STATIN, HEART/NTA, and MOEC
- Data base for abstract of relevant studies, reports etc.

Registers or inventories of providers of vocational education and training would be maintained by HEART/NTA; and updated directory of producers of labour market information by PIOJ.

Without eliminating direct linkages for accessing data from each of the key agencies, the recommendation would be that data from all would go to the PIOJ, and from there, they would be routed to the relevant agency. Thus for example, labour force data come in from STATIN which would be involved in a one-way flow, analyzed by the Secretariat, and sent out to HEART/NTA and MOEC. Similarly, data from establishment surveys conducted by PIOJ would be directed to HEART/NTA and MOEC.

The suggestion of a centralised data-base also facilitates data dissemination, permitting easier access to users. Related methods for this purpose such as newsletters, bulletins, seminars etc. would be the responsibility of the Secretariat. Again, this does not preclude the publication of agencies' own reports etc. as these would be much wider than HRP related issues.

Some activities would however, require joint responsibility, for example the development of an occupational classification system. A final note, the structure of a country's LMIS at a given point in time, should not be seen as 'cast in stone'; it is apparent that this too, should be of a dynamic nature.

5.5 In Lieu of Conclusions

This paper has sought to examine the capability of the LMIS to function as another tool or approach to human resource planning. It has demonstrated empirical concurrence with past work, in relation to the inability of one main and popular orthodox method, manpower requirements approach, to adequately inform the planning and decision making process for meeting the manpower needs of developing countries. This serious limitation has resulted in the emerging of a new approach, labour market analysis of which one essential component is the monitoring of appropriate labour market signals which in turn forms the basis for the development of and modification to education and training programmes, and more specifically the process of skill formation. The success of this new approach is highly dependent on an effective and efficient labour market information system which integrates in a collaborative partnership, the contribution of key, related institutions, facilitated by a carefully designed and managed co-ordination mechanism.

There is growing awareness and acceptance that the LMIS can enhance human resource planning, and several developing countries have been exploring different channels for either establishing or upgrading their respective systems. While some are at a relatively more advanced stage than others, it is unquestionable that significant gaps still exist. An innovative approach will be required to fill these gaps in order that the crucial process of planning for countries' human resources development can have more positive effects.

Concerns which should guide the future agenda for developing an LMIS can be classified into three areas, technical, administrative/managerial, and financial. To a large extent, the work and responsibility of the LMIS is of a technical nature. Survey design for data collection; data processing and analysis typify tasks associated with LMIS activities. Furthermore, decisions are required on the type, source and most reliable

method for capturing information by the system. In addition to its technical functions, similar to other institution, the LMIS must be managed to achieve maximum effectiveness. Co-ordination therefore, contributes to the elimination of duplication, and for promoting efficiency in the use of scarce resources. The financing of the LMIS is also another important consideration, the lack of which and its impact are readily apparent. It should be seen as being much wider than total reliance on the public purse, and should accordingly be viewed as the responsibility of those agencies charged with the production of labour market information. Thus it is incumbent on all the agencies to effect measures which will result in the production of adequate information without sacrificing quality and timeliness. Lastly, cost-effectiveness is an important issue for the LMIS and can be enhanced by 'user evaluation'; to be achieved perhaps through the establishment of groupings of consumers/users of LMI, despite the recognition that some producers of LMI are also consumers and would be represented on both bodies.

Notwithstanding the importance of establishing and upgrading LMIS in developing countries; past research on the subject seems to have been dominated by investigations into the LMIS capability of individual countries as well as regions, with recommendations on strategies for overcoming identified obstacles. This no doubt reflected the need at that time. But if it is accepted that the LMIS, by its very nature is not static and will always change to respond to economic and social conditions manifest in each country, and there can never be a point in time when it can be said that the perfect system has been created, then it is now opportune for the research to go beyond those initial, preparatory stages, to assess and evaluate how the LMIS (at whatever level it has attained) has been used in policy making, with the ultimate objective of positively demonstrating its successful utility in human resource planning. It is now time to accept the potential of the LMIS and address its reality.

A final word - potential transformed into reality - in the final analysis, it is the 'will' that supersedes; not only the political will, but also that of the relevant institutions. The agenda going into the next century will undoubtedly look towards issues such as poverty eradication, sustainable development, etc. The LMIS represents one of the basic strategies to link human resource planning and human resource utilization.

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