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(NALINET)

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NATIONAL LABOUR INFORMATION NETWORK FOR ETHIOPIA (NALINET)

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ABSTRACT

Information is a vital resource in the economic development process. Information about labour enables us to utilise human resource and planning and implementation of projects. A number of organisation deal with matters directly or indirectly related to labour issues. Information is produced and used in those organisations. Labour information is also needed and used by other organisations and individuals in discharging productively their functions and responsibilities.

Hence bringing together these parties in a network-like structure will be greatly help in coordination of efforts in processing data and sharing of information and resources.

For the purpose of data and fact collection to study the existing situation and infrastructure facilities in the country, survey by questionnaire and interviews was conducted besides examining appropriate documents. A simple descriptive technique and systems approach are applied for data analysis purpose.

The survey results indicate that existing labour information facility is inadequate and deficient. The organisation of data and information is very poor.

Linking together organisations concerned with labour matters in a network-like structure could help to solve some of the existing problems and provide better services. It will be a single-window shopping for users of information. A plan for National Labour Information Network for Ethiopia (NALINET) is discussed.

In order to initiate the networking formation of a Coordinating Body and Steering Committee are very suggested. The Committee will work on a number of technical and organisational issues. In the first phase, the Committee will be involved in reviewing existing facilities and recommending measures for strengthening the infrastructure as appropriate; and drafting a charter under which all participants of the network will work.

The study identifies a number of functions that would be provided by each participant and focal point of the network and other issues that deserve the attention of concerned organisations and recommends measures to be taken.

LIST OF TABLES

1. No. of Organisations by Major Responsibility Ranked According to Priority 41

2. Classification Schemes Used 47

3. No. of Organisations Having Computer Systems . . 49

4. Cost of Data Transmission Equipment (Modem) (In Ethiopian Birr) 58

3.6 Constraints and Limitations of Existing Labour Information Facilities 54
3.7 Telecommunications Capabilities in Ethiopia . 55
3.7.1 Organisation of Ethiopian Telecommunication Authority 55
3.7.2 Existing Facilities 56
3.7.3 Range of Available Services 56
3.7.4 Financial Considerations 57

Annex to Chapter 3 59
ANNEX 1: Organisations Producing/Using Labour Information: Prospective Network (NALINET) Participants 59
3.1 Ministry of Labour and Social affairs . . 59
3.2 Labour Court 62
3.3 Central Statistical Authority 63
3.4 Public Service Commission 66
3.5 Ministry of Education 68
3.5.1 Higher Education Main Department . 69
3.5.2 Institute of Curriculum Development and Research (ICDR) 70
3.6 Ethiopian Chamber of Commerce 71
3.7 National Bank of Ethiopia 73
3.8 Ethiopian Trade Union 74
3.9 Ministry of Planning and Economic Development 75
3.10 Office of the Study of Wages and Other Remunerations 77
3.11 Sectoral Ministries 77
3.11.1 Production Sector 77
3.11.2 Social Service and Construction Sectors 79

4. Planning National Labour Information/Data Network for Ethiopia (NALINET) 81
4.1 Objectives of NALINET 81
4.1.1 Overall Objectives 81
4.1.2 Specific Objectives 82
4.2 Labour Information Users and Their Needs . . . 83
4.3 NALINET Subject Scope 86
4.4 Proposal for Strengthening Labour Information Facility in Ethiopia 88
4.5 Basic Principles of NALINET Design 89
4.6 Selection of NALINET Subsystems 91
4.6.1 Selection of Host Organisations Under Each System 92
4.6.1.1 Demographic System 92
4.6.1.2 Education and Training System . 92
4.6.1.3 Employment Market System 92
4.6.1.4 Production (Economic) System . . 93
4.6.1.5 Development Planning Body . . . 94
4.7 Structure of NALINET 94
4.7.1 Structure of NALINET nodes 94
4.7.2 NALINET Communication Structure 95
4.8 The Coordinating Body of NALINET 97
4.9 NALINET Services 98
4.9.1 Services of the Focal Point 98
4.9.1.1 Organising and Supporting Training Programmes 98
4.9.1.2 Referral Services 99
4.9.1.3 User Sensitisation 100
4.9.1.4 Introduction of Standards . . 100
4.9.1.5 Development of Information Systems and Centres 101
4.9.1.6 Publication of Newsletter and Information Products 101
4.9.2 Services of Participating Organisations 102

4.9.2.1 Database Construction 102
4.9.2.2 Reference service 102
4.9.2.3 Retrospective Database Searching 103
4.9.2.4 Current Awareness Service . . 103
4.9.2.5 Selective Dissemination of Information (SDI) 103
4.9.2.6 Document Clearing House Function 104
4.9.2.7 Data services 104

5. Implementation Strategy 105
5.1 Introduction 105
5.2 Technical Considerations for Implementing NALINET 106
5.2.1 Establishment of Mechanism for Collection, Processing, Storage and Retrieval of Data/Information 106
5.2.2 Introduction of Standards and Norms . 107
5.2.3 Network Development 108
5.2.4 Information Service Development . . . 108
5.2.4 Manpower Development and Training . . 109
5.2.5 User Sensitization 109
5.2.6 Technology Requirements 110
5.3 Organisational Considerations for Implementing NALINET 111
5.3.1 Formation of Steering Committee . . . 111
5.3.2 Formation of a Coordinating Body . . 112

6. NALINET Databases 113
6.1 Labour Information Generators/Users 113
6.2 Record of Publications 114
6.2.1 Periodical (Regular) Reports 114
6.2.2 Ad-hoc Reports (Publications) 115
6.3 Profile of Training Institutions 116

6.4 Profile of Experts 117
6.5 Project Profile 118
6.5 Bibliographic Database 119

7. Conclusion and Recommendations 121
7.1 Conclusion 121
7.2 Recommendations 123
7.2.1 Awareness of the Need for Labour Information 123
7.2.2 Need to Upgrade Labour Information Using Step-by-Step Approach 124
7.2.3 Improving Reliability of Sources . . 125
7.2.4 Need for National Seminar/Workshop . 125
7.2.5 Primary National Level Actions . . . 126
7.2.5.1 Assignment of Coordinating Agency 126
7.2.5.2 Formation of Steering Committee 127
7.2.6 Exchange of Data and Information (Communication) 129
7.2.7.1 NALINET Structure 130
7.2.7.2 Media of Communication 130
7.2.8 Roles Government and International Organisations Could Play 133
7.2.8.1 Role of Government 133
7.2.8.2 Role of International Organisations 134

APPENDICES

1. Existing Computer Equipment and Peripherals . 136
2. Organisational Model of Communication 137
3. Questionnaire Used for Institutions 138
4. Questionnaire for Experts Profile 142

8. Bibliography 145

CHAPTER I

INTRODUCTION

1.1 BACKGROUND AND JUSTIFICATION

1.1.1 Labour Resource

Productive resources can be grouped into two broad categories: 1) Human resource; and 2) Non-human resources. The non-human resources are, of course, outcomes of human efforts.

Planners in most developing countries have sparse knowledge about the human resource utilised in the production process and their future requirements. Rather the attempt so far had been gathering knowledge on products. Due to the focus on policies of economic growth in the past, as discussed in ILO training manual (ILO 1982), primary importance was attached to gathering information about natural resources, production, public expenditure, external trade, and so on.

In any production process, labour is an essential input. Developing countries have an abundance of labour compared to capital. Therefore, the production process should make efficient and effective use of the labour component.

The required labour resources vary from activity to activity. It ranges from agricultural and construction labourers to professional workers engaged in research and development activities. The quality of labour is affected by a number of factors. The skill acquiring routine is either through experience or by undergoing intensive formal education.

Some of the different inter-related factors affecting labour resource include:

- **Level of economic development;**
- **working conditions;**
- Education;
- Health;
- **Population growth; etc.**

1.1.2 Importance of Labour Information

In the choice of technology, developing countries need to choose 'labour intensive' technology. But, in order to effectively utilise the labour resources and to plan human resource development, information about labour is a prerequisite. It enables proper utilisation, management and development of labour resource. It is widely accepted that timely accessibility of precise and reliable information is a prerequisite to development planning, policy making and

structural adjustments.

Labour information covers a wide range of topics concerning the work force, working conditions, industrial relations, labour legislations and other matters related to the labour market. The information can be statistical and/or non-statistical. The statistical information includes: the present and future size, composition and characteristics of supply and demand side of the labour force and details on employment, underemployment, and unemployment (including information on job-seekers and manpower requirements); wages, earnings and hours of work; household income and expenditure; consumer price and cost-of-living indices; labour cost and productivity, labour turnover and mobility; social security; employment accidents and occupational hazards and diseases; trade union membership, industrial disputes (strikes and lockouts), collective bargaining and settlements; absenteeism from work (Ashagrie 1985, 5). Some of the basic non-quantitative information required include: particular employment problems concerning specific categories of the population, such as youth, school leavers, handicapped, women, etc.; problems of recruitment; hiring requirements of employers (or trade unions); causes of unemployment; the adequacy of educational and training facilities to meet the needs of employers; reasons for unfilled vacancies; safety procedures; collective bargaining and labour law documents and

the like.

The regular flow of such information is important. For instance, in designing an appropriate occupational safety programme, precise and adequate occupational injury and disease reporting system is essential; and planners and policy makers on the educational system and employment need comprehensive, regular and reliable information on the labour market.

The value of information on labour cannot, therefore, be overemphasised in the proper utilisation of the enormous human resource potential of the country and managing labour relations.

1.1.3 Justification of the Study

The labour information system in Ethiopia is inadequate. The information available touch only a limited number of topics and the available data are neither exhaustive on each topic nor produced at regular intervals. Furthermore, the information produced is not easily accessible to users because of lack of awareness on the part of the producers of the need to disseminate the relevant information to users.

Standard labour law documents which are declared by the

government are, of course, accessible to concerned users. But the statistical information which needs to be produced regularly is not produced as expected.

Production of the information is scattered in the different governmental and non-governmental organisations depending on the responsibilities assigned by the government. As a result, the information produced by the various organisations are mainly for their own use. The mechanism for coordinating the various producers/users of the information at the national level is at best inadequate.

On issues of coordination in order to upgrade labour market information, different workshops have realised the need for cooperation among producers and users of information. Richter (1989, 13) stated:

> "No regional, sub-regional or national labour market information seminar or workshop has gone without strong suggestions and even exhortations about urgent need for improving collaboration and co-ordination of main users and producers of labour market information."

With the unavailability of the mechanism for guiding and coordinating the information activities, duplication of effort is inevitable. A resource of the country could be utilised for the same purpose by different government organisations. It is

not only duplication of effort that happens but also planners are unable to find any timely comprehensive information on labour. There is no single organisation which handles statistics on the existing employed labour force or coordinates the information activity at the national level.

Ethiopia with its limited resources cannot afford duplication of effort because of the absence of a coordinating mechanism.

Except the Central Statistical Authority, exchange of information among other users/producers is not common. Research reports, statistical bulletins and other publications produced in the different ministries and other institutions are not easily accessible to users. Shortage of finance to print enough number of copies, misconception on the part of the producer regarding the user organisations are some of the reasons of ineffective and deficient dissemination of information.

The need for cooperation is unquestionable. In order for the cooperative system to be successful, proper planning of the system is necessary. Otherwise, the service will be ill-equipped to meet its objectives. This study, therefore, proposes to provide a plan and a strategy for its implementation.

1.2 OBJECTIVES OF THE STUDY

Information concerning human resource and other issues related to labour is an important factor for the success of the country's development plan in achieving the intended economic and social development. The labour information activity should be, therefore, geared towards serving planners, policy makers, decision makers and researchers in their endeavour to bring sustained economic development.

This study will contribute to this goal by identifying problems in labour information services and proposing an appropriate plan for a national labour information system in order to provide effective and efficient labour information services. In preparing such a plan, the following specific objectives will be met:

1. To develop a plan for suitable system which will bring various information producers and users together for exchange of data/information and sharing of other resources.

2. To propose terms and conditions under which network design may be guided.

3. To design a prototype system on the basis of which a full

fledged labour information system may be modelled and developed.

That is, to propose a model infrastructure, definitions, standards/norms, methods of collection and processing, handling and dissemination of statistical and other types of information.

4. To establish means of organising profiles of producers of labour information, academic institutions, experts, etc. in the field of labour.

5. To propose an overall structure for a national information system within which NALINET will operate.

1.3 SCOPE AND LIMITATIONS OF THE STUDY

The scope of this study is limited specifically to examining the non-sufficiency of available labour information in a number of organisations and a proposal for a coordinated labour information network for Ethiopia to overcome some of the deficiencies of the existing situation. Moreover, the effort made in the assessment is to know the types of information produced at each organisation. There is no attempt made to know the facilities of libraries.

It is important to note that the information is produced at the various stages and in various government organisations in the country. For instance, individual firms produce relevant data on the subject. This thesis restricts its emphasis to parent institutions directly concerned with labour issues and sectoral ministry offices whose activity is related to production and employ relatively a higher proportion of the labour force. Concerning geographical distribution, all surveyed organisations are located in Addis Ababa.

Issues covered by this survey are: organisational responsibilities concerning labour, specialisation, existing data types, communication practices, on-going projects, available manpower and technological resources, etc.

During the data collection, an effort was made to approach departments concerned with labour issues. Because of the unavailability of a well-organised information unit, which handles all the necessary information generated within the organisation, it was very difficult to get information in one place.

In some ministries, specially the sectoral ministries, the approach was through the Planning and Programming units. These units, of course, handle management information and documentation on projects undertaken by the respective

organisations and on-going projects.

The assessment on the existing data/information of each organisation might have missed some relevant data/information which could not be cited/accessed at the time of data collection.

The other important problem faced during data collection was that some respondents was not volunteer to fill questionnaires and due to the change of personnel in the new government set up, it was not possible to find a resourceful person concerning the organisation's activities.

1.4 METHODOLOGY

The research required an extensive assessment of existing labour information facilities (i.e. the situation of production/use and handling of the information). And based on the existing situation, the research will come up with a plan or recommendation of a network system which meets the various information requirements of the varying users.

Therefore, in the assessment process, questionnaires are used to know the existing types of data/information and communication requirements. Interviews have been conducted

with staff of some of the organisations during the data collection. An effort is also made to scan available documents.

Institutions for the survey were selected based on their duties assigned by government. All parent institutions dealing with labour matters as their major or minor function were surveyed. The total number of organisations surveyed were 19. The organisations surveyed were the following:

- Ministry of Labour and Social Affairs;
- Ministry of Education;
- Main Department of Higher Education;
- Ministry of Planning and Economic Development;
- Ministry of Transport and Communication;
- Ministry of Health;
- Ministry of Urban Planning and Construction;
- Ministry of Trade;
- Ministry of Industry;
- Ministry of Agriculture, Environment Protection and Development;
- Office of the Study of Wages and other Remunerations;
- Central Statistical Authority;
- National Bank of Ethiopia;
- Public Service Commission;

- Pension and Social Security Authority;
- Institute of Curriculum Development Research;
- Ethiopian Chamber of Commerce;
- Ethiopian Trade Union; and
- The Labour Court.

Experts involved in labour issues were given questionnaire to fill in order to organise their profiles.

Concerning analysis, the institutional survey is treated by describing the existing situation and a systems approach is employed.

Selection of network type is based on optimal advantage that **can be gained.**

1.5 SIGNIFICANCE OF THE STUDY

Bringing the different users/producers of information together will mutually benefit all participating bodies. Linked together in a network structure will avoid duplication of effort and facilitate sharing of resources. The other advantage is that users of information may not have to go to different places in search of information instead it will be a single-widow shopping/arrangement.

Application of norms and standards in information handling is crucial, without which sharing of information and/or comparison and exchange of information will be difficult. The establishment of profiles of participating institutions and other possible network users will facilitate cooperation and coordination. It will enable the network to provide selective dissemination of information, current awareness, referral and other services.

Hence, the study, which yields a plan of network and its implementation, will be significant in realising the benefits mentioned above.

1.6 ORGANISATION OF THE THESIS

The thesis begins with an overview of information networks. After defining information networks from existing literature, some of the contributing factors for establishing a network are discussed. Network structures and the different arrangement possibilities are briefly discussed. It is the concern of chapter two to discuss about the impacts of developments of Information Technology (IT) on information handling. Examples of application due to the developments in computers and communication are provided.

The survey findings are discussed in chapter three. Since it

was important to mention the existing situations of surveyed organisations, a separate treatment of each organisation is considered and is attached as annex to chapter three.

The planning of National Labour Information Network for Ethiopia (NALINET) is the concern of chapter four. In this chapter, the objective, need and other issues related with planning are discussed. Guidelines for establishing the network are also treated in the same chapter.

Chapter five deals with considerations for implementing NALINET. The technical and organisational considerations are discussed.

The last chapter, chapter six, deals with conclusion and recommendations. The conclusion part is simply, existing situation assessment result about the inadequacy of labour information facility in Ethiopia. The recommendation part deals with the specific activities that should be carried on. The roles government and international organisations could play is discussed in this chapter.

1.7 DEFINITION OF TERMS

For the purpose of this study the following definitions are

used.

Data: Data is defined as a non-evaluated fact collected by surveys or administrative record which when processed gives meaningful information.

Information: Information is defined as evaluated data or the meaning assigned to data.

Information Network: Information network is an arrangement or any that links groups of organisations or information units who have agreed together to work in inter-related manner and/or share resources. The resources to be shared include both human and non-human resources, such as, computing facility, information resources and other materials attached to it.

Organisation/Institution: Both terms are used interchangeably to mean ministries, commissions and authorities.

Periodical/Serial: Both terms are used interchangeably to mean any publication produced within a specified time interval and regularly.

CHAPTER II

INFORMATION NETWORKS: AN OVERVIEW

2.1 INTRODUCTION

Information networks are groups of individuals or organisations that exchange information and other resources on a coordinated basis according to predetermined norms and standards. As cited by ILO (1991), the National Commission on Libraries and Information Services (NCLIS) define networks as:

> **"Two or more libraries and/or other organisations engaged in a common pattern of information exchange, through communications, for some functional purpose. A network usually consists of a formal arrangement whereby materials, information and services provided by a variety of libraries and/or other organisations are made available to potential users."**

"Information network" is relatively a new concept arising from the need to come together of different libraries/units/ organisations to facilitate easy access to information and sharing of resources. The establishment of a network may be

initiated by a number of factors. Some of the influencing factors are discussed in the following section.

2.2 NEED FOR NETWORKING

The following issues are some of the factors contributing to the establishment of networks.

1. Organisations involved in Research and Development activities, especially in science and technology, are growing in number and complexity. As a result, a vast amount of information is generated in the respective fields. The volume of information generation is increasing at an exponential rate and has created an information explosion which cannot be controlled and/or managed effectively (Mishra 1985, 5-16).

According to Overhage (1969, 339-377), the problems we are facing in information transfer are caused by the rapid rate of growth in production and use of information. He said, this problem is encountered not only in libraries, information centres, and schools, but also in many of the operations of government and business.

Information sources and services are dispersed in innumerable generating agencies, libraries, and documentation centres,

access to which is complex and difficult (Atherton, 1977). Therefore, in order to facilitate access to the information generated by various organisations, a coordinated effort in a network structure is an alternative.

2. The scarcity of resources is another important influencing factor for networking. The process of generating or producing information is like any other economic process, such as, industrial production requiring investment of resources. The investment in the generation of new information is very high in the field of science and technology. The important resources required in the generation, processing and dissemination of information include highly skilled professional manpower, finance and other material resources. It has been very difficult even for well endowed institutions in developed countries to generate or acquire all the necessary information in all the subjects of their interest.

The critical conditions of limited financial resources, increasing cost of materials, wide scatter of users, and increased necessity for use of information for speedy economic progress, leave us with no option but to pool our resources for optimal use.

On issues of resource sharing, Mishra (1985, 6) stated that:

"Resource sharing is a need based concept founded on sound principle of 'give and take policy'."

According to Martin (1988), an even greater level of sharing exists in systems in which the user's terminal might be attached, not to one computer, but to a data transmission network that links many diverse resources. The user can be provided with rapid access to distant computers, programs, libraries, information retrieval systems, databases, message delivery facilities, mail-printing facilities, etc through the network.

ARPANET is one of the well known resource-sharing network which gives its users fast access to a wide variety of resources. Access to the network has become more limited than it was during the first few years of its use. Users share both the telecommunications facilities and the distant resources to which the communication lines are connected (Martin 1988).

The Joint Academic Network (JANET) and the European Academic and Research Network (EARN) are two other information resource sharing examples. EARN is the first European-wide computer network for academic and research institutions. JANET is a network of networks. It is used extensively to support a variety of applications for its large and diverse user community. Among the important services JANET offers are:

- Access to national super computers;
- On-line information services and networked databases;
- Distribution of software, documents, data, and digested picture;
- Electronic mail (Barakatullah 1991).

Hence, networks are important to both parties in sharing of resources.

3. Another important element promoting networks is developments in Information Technology (IT). On the development of IT, Neelameghan (1991, 8) stated:

> **"The developments have facilitated flow of and access to information and data more particularly within and among developed countries and the newly industrialising nations and to some extent in the Third World countries."**

The possibility of fast access to remote information resources through IT applications has given rise to the establishment of networks at national, regional or international levels.

These and other problems made it imperative to establish

networks aimed at co-operation in order to provide better information services and resource sharing. The need for networking between individuals and organisations, therefore, grew out of the need for information exchange (Guinchat and Menou 1983).

Different units of organisations, individuals involved directly or indirectly in related activities naturally exchange information. But, the creation, development and maintenance of an efficient organised network helps in the management and controlling of the information generated, minimizing duplication of effort, resource sharing, extending of services, etc.

2.3 NETWORK ORGANISATION

Networks are special types of information systems which involve managing of human and non-human resources. The management concern is for both the overall network and within participating members of the network. According to Atherton (1977), the network configuration or organisational hierarchy is an important specification because it affects the communication channels and the flow pattern of massages.

Organisation of a network depends on different factors, the

important ones include:

- number of members (network participants);
- geographical location of nodes;
- type of functions carried by members (whether they carry out similar or different functions); and
- type of language or culture (UNESCAP 1988).

A planned development of networks should give emphasis to these factors in selecting the network organisational structure (model). Network models can be centralised, decentralised or a combination of the two. Under each network organisation, different structures are possible.

The structure of networks can be in different patterns, such as, **star network**, **hierarchical network**, **distributed network**, etc. Combination of the different arrangements (simple structures) is also possible.

2.3.1 Star Network

In this type of network, members are interconnected through a coordinating centre. The operations are centralised, collection, processing, preparation of databases, provision of information products and services are performed at the centre.

It is a directed type of network in which the direction comes from the central node (host organisation). A central library with its branch libraries is an example of this type of network. Another example of this type of network is ICLARM-Networks (Neelameghan 1991, 9).

The main advantage of this type of network is that management of the network is relatively easier. On the other hand, the work load on the central node can be heavy. Furthermore, if the coordinating centre fails to operate or operates inefficiently, the entire communication system will be jeopardized.

2.3.2 Hierarchical Network/Directed

In this type of network, individual systems are configured to have multiple levels. Network members (users) are grouped in a hierarchical order of increasing/greater capabilities (in information sources, expertise, equipment, etc).

The hierarchical network is a design with sub-systems for specific aspects or levels. The design is advantageous in designing sub-systems for various economic sectors, such as agriculture, industry, transport, health, etc. And it is also applicable for different geographic levels, such as local, national, regional and international levels.

As far as possible, the hierarchical structure of the information system should reflect existing hierarchical structures of policy/decision-making authority in order to facilitate the organisation and flow of information (General Information Programme and UNISIST 1984, 24).

Members share sources locally. If the needs are not met, it will pass to the next higher level resource centre. The free flow of information throughout the network, from one level to another level, not necessarily on the immediate hierarchy, is not facilitated in such type of arrangement.

2.3.3 Decentralised Network

In this type of network systems operate/communicate with each other (directly). The network members have common interest and exchange data and information. Though management of the network can be more difficult, more communication channels are available since there is a direct link between members. The design facilitates public participation through accessibility to information. A prerequisite for such type of network arrangement is that each participating body be involved in the process of planning at the various levels and sectors.

The decentralised type of networks rely on effective and efficient co-ordination between cooperating organisations. An

example of this type of network is PANGIS (PAN-African Geological Information system).

2.3.4 Combination of Simple Structures

In this type of network arrangement, a combination of all of the above type of networks may exist. The principle behind this network arrangement is the need to link-up related units which have autonomous structures. Example of such a network would be a combination of clearing houses or coordinating stand alone systems and a freely interacting bilateral/multilateral arrangement.

2.4 NETWORK COMPONENTS

It is very important to identify and select components of a network in order to establish/strength information networks.

According to Atherton (1990), the critical components of a network include:

- Organisational structure, without which the network is non-existent;
- Information resource, which is the primary interest in establishing networks;

- Participating nodes, parties involved in the network;
- Users;
- Information service guidelines;
- Processing guidelines (formats);
- Referral tools (Index code);
- Central bibliographic record that provides for location of needed items within the network;
- Switching capability, interfacing with other networks and determining optimum communication path within the network;
- Evaluation criteria;
- Training programmes, essential to provide user education.

In an on-line (computerised) information network, the hardware components of a network may be Modems, Multiplexer, and Concentrators.

2.5 TECHNICAL DEVELOPMENTS RELEVANT TO NETWORKING

The developments in IT have an important impact on networking. The introduction of sophisticated computers capable of communicating with other systems, advances in storage technology and corresponding increase in storage capacity,

data transmission equipment, such as modems and multiplexer are some of the important developments enhancing network capabilities.

The cost of data transmission on a communication link has been dropping. However, the rate at which the cost of transmission decreases is much slower than the rate of decrease in computational cost.

For wide area networks (WANs), the cost of the network is dominated by the cost of transmission. Whereas in the case of local area networks (LANs), the cost is not dominated by transmission cost. Coaxial cable and/or twisted pair of wires can be used at reasonable cost.

2.5.1 Microcomputer Systems Developments

One of the important technical developments in on-line information retrieval systems is undoubtedly due to the developments in micro-electronics, especially the microchip, leading to the development of low priced, powerful microcomputers with communication capabilities.

In the early 1970s, engineers at Intel built the first

microprocessor. The capacity of the processor, Intel 4004, was very limited in executing instructions. It could manipulate only 4-bits of data at a time. Immediately after, in the mid and late 1970s, engineers at Intel and other companies introduced more powerful microprocessors that have a capability of operating on 8-bits. The developments in microprocessor chips led to the introduction of personal computers and systems. The systems sold in the late 1970s and early 1980s used 8-bits micro processors. Depending on needs, new PC models capable of operating on 16 bits at a time were introduced. In due time the introduction of 32 bits processor was also possible (Sanders 1985).

On the relation between developments in micro processors and data communication, Haravu (1990, 16) stated that:

> "Much of the developments in data communications also depends on developments in microprocessors, bringing about a reduction in costs of switching devices, communication controllers, and modems -- key elements in data networking."

Most of the developments in information technology, such as, CD-ROM, desk top publishing, local are networks, expert systems are micro computer related.

In the early days Random Access Memory (RAM) was a limiting factor in micro computer applications. Currently, micro computers with large RAM size (4 MB) are available in the market.

2.5.2 Improved Storage Technology

New storage technologies have a significant effect on information storage and retrieval systems. Storage capacity of computers have increased rapidly. Files and databases are stored in secondary (mass) storage devices which can later be accessed and processed. The widely used secondary storage devices are magnetic disks and magnetic tapes. These technologies are both used in mainframes, minicomputers and microcomputers.

The storage capacity of the floppy disk, is increasing (over 4 MB). Developments in microchip also gave rise to the increase in hard disk storage capacity. The capacity of hard disk system usable with microcomputer is also increasing (up to 640 MB). Concurrently, the cost of storage of a unit of information has decreased.

Optical disks and CD-ROM are the important additions in IT to enhance access to information. The CD-ROM was introduced in

the mid 1980s. The format in which data is recorded on CD-ROM became standardised (High Sierra format). The format enables a disc to store up to 600 Mbyte of data (Zorkoczy 1990, 8).

The CD-ROM drive connected to a microcomputer is used to find and display any particular item in the vast collection of information within seconds.

The improvements in storage capacity has facilitated remote data access and down loading in a network environment.

2.5.3 High Speed Modems

This is an important and mandatory element in wide area networks where telecommunication lines are required for data transmission. High speed modems are now available at reasonable cost. The factor contributing to the demand for modems is the increase in distributed information processing and associated networking applications.

2.5.4 Expanded Telecommunication Networks

The function of telecommunications is to transmit data and information between widely separated locations e.g. from one computer to another. It is not possible to access, process, and communicate with remote databases and information systems

without efficient telecommunication facilities, such as, reliable telephones and telephone networks.

The pace of developments in telecommunications is impressive. The introduction of Integrated Service Digital Network (ISDN) is an important innovation in network architecture. According to Martin (1988, 643), ISDN is defined as:

> **"An Integrated Services Digital Network (ISDN) is a network evolved from the telephony Integrated Digital Network (IDN) that provides an end-to-end digital connectivity to support a wide range of services, including voice and non-voice services, to which users have access by a limited set of standard multipurpose user-network interfaces."**

Any equipment capable of generating a digital bit stream confirming to ISDN standards can be connected to the network. This is because all signals handled by ISDN are digital. The ISDN can provide a much higher bit rates (over 64 kbps) than an analog telephone channel.

As enumerated by Martin (1988, 651), the potential services of ISDN include:

- Local voice telephone services;
- National long distance services;

- International long distance services;
- **Malicious call blocking;**
- Automatic call transferring;
- Abbreviated dialling;
- Prerecording messages;
- Conference calls;
- Restricting outgoing toll calls;
- Hot lines;
- **Detailed billing information;**
- Automatic wake up or reminder calls;
- **Leased voice circuits;**
- **Information retrieval using speech recognition;**
- **Music transmission;**
- **Packet switched data services;**
- Circuit switched data services;
- Leased channels;
- One way telemetry services;
- Electronic funds transfer;
- Information retrieval;
- **Electronic mail;**
- Alarm services;
- High speed computer communications;
- Automatic call dialling;
- Automatic call answering;
- Calling line identification;
- Called line identification;
- Teletex services;
- Videotex services;
- Facsimile services.

Nationwide and worldwide communication systems are being established. In most developing countries, the existing telephone network is an analog type of network. Telephone

networks have been established in most parts of the world with the principal purpose of voice transmission. The establishment of these networks has facilitated information networks and retrieval systems.

2.5.5 Developments in Communication Software

To begin with, data communication functions were performed by application programs together with specialised control programs. After experience with data transmission systems, computer manufacturers developed general purpose telecommunications access methods, such as IBM's BTAM (Basic Telecommunication Access Method). These methods effectively placed a layer of software between the application program and the communication equipment. Due to the complexity of developing application programs, there was a need to develop a better system. As a result, teleprocessing monitors were developed to make the job of application programming easier. Most of today's data transmission systems use all three software entities, namely: application program, teleprocessing monitor, the telecommunications access method (Martin 1988).

2.5.6 Impact of IT development on Information Handling

The introduction of new technologies has an important impact on information handling activities. The different information

activities, such as, generation, recording/storage, organisation, manipulation, synthesis, communication/dissemination, weeding out and destruction of data and information, are progressively being handled by the new technology. The following listing shows the change over from conventional technology to the new technologies in information handling (quoted by Neelameghan, Lecture notes, 1991).

2.5.6.1 Generation of Data and Information

Conventional technology	New Technology
- Writing; - Typing; - Carbon copy; - Type setting - Dictionaries for spelling	- Word processing; - Character recognition; - Instrument record of phenomena - Voice recognition; - Spelling checks.

2.5.6.2 Recording and Storage of Data and Information

Conventional technology	New Technology
- Paper;	- Magnetic Medium;
- Microform;	- Video cassette;
- Hand book;	- Electronic filing;
- Filing cabinet.	- Database; CD/ROM.

2.5.6.3 Organization, Indexing and Retrieval of Data and Information

Conventional Technology	New Technology
- Card index;	- DBMS;
- Punched card;	- Information Retrieval system;
- Abstracting;	- Automated process;
-Indexing.	- Hardware solution.

2.5.6.4 Manipulation, Synthesis of Data and Information

Conventional Technology	New Technology
- Centralised data processing; - Calculator; - Manual graphics; - Manual diary	- Distributed data processing; - Software solution; - Electronic scheduling; - Intelligent Knowledge based systems; - Expert systems; - Artificial intelligence; - Fifth generation computers.

2.5.6.5 Communication and Dissemination of Information

Conventional Technology	New Technology
- Post;	- Electronic mail;
- Telephone;	- Computer conferencing;
- Telex;	- Electronic doc. delivery;
- Personal communication	- Telefacsmile;
	- CD-ROM; Laser/optical disc;
	- View data.

2.5.6.6 Weeding Out/ Destruction

Conventional Technology	New Technology
- Shred;	- Magnetic and optical erasure;
- Burn;	
- Destroy medium	- Reuse medium.

The developments in computers and communications have brought about new applications in the business, general public, and other environments. The following two matrices show application examples and corresponding system environment (quoted by Neelameghan, Lecture notes, 1991).

Fig. 2.1 Matrix of Application Due to the Developments in Computers & Communication -vs- Geographic Level: Business Environment

Application / Community	Residence/ Area	Local Wide	Nation	International
1. Office Automation	X			
2. Decision Support Syst.	X	X		
3. Inter. Trade Info Syst.			X	X
4. Inter. Exchange Control Syst.			X	X
5. Office use Multimedia Terminal	X			
6. Distributed Information Syst.		X	X	
7. Intelligent Robot		X		
8. Laboratory Automation	X	X		
9. Stock Investment Planning Syst.		X	X	
10. CAD/CAM/CAE	X			
11. Undersea Resource Exploration Syst.			X	X
12. Banking Information Syst.		X	X	
13. Factory Automation	X			
14. Transport and Hotel Resrv. Syst.		X	X	X

Fig. 2.2 Matrix of Application Due to the Developments in Computers & Communication -vs- Geographic Level: General Public Environment

Application	Residence/ Community	Local Area	Nation Wide	International
1. Car Telephone	X	X		
2. Space Resource Development Syst.		X	X	X
3. Government Information Syst.		X	X	
4. Automobile License Regis. Syst.		X	X	
5. Computer Aided Instruction	X			
6. Weather Forecasting Satellite Syst.			X	X
7. CATV/2-Way TV	X	X		
8. Multimedia Broadcast		X	X	
9. International Science Info. Syst.			X	X
10. Computerised Library Syst.	X	X		
11. Direct Broadcasting Satell. Syst.		X	X	
12. Traffic Control Syst.	X	X		
13. Automatic Translation Aided Communication Syst.			X	X

CHAPTER III

CURRENT STATE OF LABOUR INFORMATION IN ETHIOPIA: SURVEY FINDINGS

3.1 ADMINISTRATION OF INSTITUTIONS

Public Establishments in Ethiopia are administered in two different ways: 1) Institutions administered by Labour Law No. 64/1975; and 2) Institutions administered by the Public Service Commission. Of course, there are some institutions who are governed by neither of the two and have their own administration.

Public Service Commission is concerned with organisations under State Administration. State Administration, according to Labour Proclamation no. 64/1975, means, with the exception of undertakings in production, distribution and undertakings with juridical personality rendering services, all Ministries which directly participate in the administration of the State and all agencies which are under their supervision.

Labour information is generated and used by different government and non-government organisations in Ethiopia. Most

of the information is generated by government organisations under the two different administrations stated above.

For this study, 19 organisations were surveyed. The responsibility assigned to organisations concerning labour varies from organisation to organisation. Table 1 shows the number of organisations by major responsibility.

Table 1. Number of Organisations by Major Responsibility Ranked According to Priority.

Responsibility	Rank 1	2	3	4
1. Labour Market Research	1	1	1	1
2. Labour Market Research Partially	-	-	1	1
3. Personnel Administration	5	1	-	-
4. Counselling and Guidance	1	2	-	-
5. Teaching	2	-	2	-
6. Others	9	-	-	1
Total	19	4	4	3

3.2 INFORMATION GENERATION, COLLECTION, PROCESSING AND DISSEMINATION

The types of information needed for labour matters, in principle (ILO Central Library and Documentation Branch 1991), include:

- Management information;
- Statistical information;
- Referral information; and
- Bibliographic information.

The available information infrastructure in Ethiopia can be seen as follows.

3.2.1 Information Generation (Sources)

Information is generated by the day-to-day activities and transactions of different organisations. Thus, the type of information produced by each organisation depends upon the kinds of responsibility assigned to it by the government. Some information is directly focused on labour issues, while others are indirectly related to such issues.

The types of information generated in the respective organisations, according to major types of information, are discussed below.

3.2.1.1 Statistical Information

Some statistical data may be current, others may not be so. A large body of statistical information, mostly based on survey

data, already exists in national publications. Principal sources of basic statistical information include:

1. Censuses of Housing and Population;
2. Household Sample Surveys;
3. Employment Exchange Registration Systems;
4. **Administrative Records;**
5. **Reports of Government Organisations;**
6. **Reports of Industrial Relations Departments;**
7. **Occupational accident reports;**
8. **Survey of Training Institutions;**
9. **Industrial Surveys;**
10. Agricultural Surveys;
11. Establishment Surveys; and
10. **Integrated National Household Surveys.**

Government organisations obtain information from these sources at different levels and in various ways. These data constitute the body of scientific and social information currently available for analysis and interpretation.

3.2.1.2 Bibliographic Information

A number of important publications, published locally or abroad, directly or indirectly related to labour issues appear

on a regular basis or ad-hoc and as unpublished and internal documents. Among the important ones are the publications of the International Labour Organisation(ILO) and Institute of Labour Studies. Publications, such as, **International Labour Review** of ILO and **Labour and Society** published by the Institute of International Labour Studies contain important information on different aspects of labour.

Of course, locally generated documents, such as **'Annual Reports'** of different government organisations and **'Conference Proceedings'** contain data and articles related to labour. Research departments generate research reports containing information directly or indirectly related to labour.

The Ethiopian Trade Union releases a quarterly newsletter entitled **Serategnaw**. The newsletter contains statistics on occupational injury and collective agreements, and other information of interest to workers.

3.2.1.3 Management Information

This type of information is, of course, organisation specific. And it is available in each individual organisation. Usually each organisation produces quarterly and annual reports containing information of executive interest. Accessibility to

these materials, so far, has been restricted to the Ministry of Planning and Economic Development, Council of Ministers and Research Departments for research purposes.

3.2.2 Collection of Information

The information collection activity is very weak. The tradition is to contact the source organisation when the need arises. Predetermination of information need and collection accordingly is not common.

Of course, different organisations distribute copies of their work (annual reports, research reports, etc.) to different ministries. The recipients do not organise the information in usable and accessible manner. In most cases, the documents may be found in the authorised personnel's office.

The organisations surveyed do not even handle copies of all information generated by themselves. This is because there is no well organised information centre/library and compulsory deposition of publication by the various departments is non-existent.

3.2.3 Information Processing and Dissemination

Data processing centres exist at each institution surveyed. These data processing centres organise statistical data into usable form appropriate to their users. Survey data, government reports, working files are used for extraction of statistical tables to be used by planners, policy makers and researchers.

Concerning sources of data/information, the survey result depicts that eight organisations (42 %) ranked primary field survey as sources of data/information to be first, six (32 %) ranked secondary data to be second, and five (26 %) use operational files to be their number one information source.

In order to know whether the statistical information generated by different institutions can be compared or aggregated together, it was necessary to know what classification schemes are used for analysis of data in each institution. For the analysis of training and occupation data, different organisations use different classification schemes as shown in Table 3. Accordingly, two organisations (11 %) use international standard, four (21 %) their own scheme and ten (53 %) use hybrid classification schemes.

Table 2. Classification Scheme Used

Classification Scheme	No. of Organisation Using
1. International Standard	2
2. Own Scheme	4
3. Hybrid	10
4. Not Specified	3

The technical processing of published outputs is not common. Of course, libraries of some organisations process book materials. The classification scheme used is Dewey Decimal Classification (DDC). Local publications are unprocessed. Users are not informed of newly added materials. Services, such as, Selective Dissemination of Information (SDI) and Current Awareness, based on technical processing of information, are not common.

3.3 ORGANISATIONAL STRUCTURE

The existing structure of the government concerning labour affairs (i.e. the structure showing the relationship of Ministries, Commissions and other organisations producing/using labour information) can be described as

follows.

All Ministries including the Central Statistical Authority and the Public Service Commission are responsible to the Council of Ministers. The Higher Education Main Department and the Institute of Curriculum Development and Research are under the authority of the Ministry of Education. The Pension and Social Security Authority is under the supervision of the Ministry of Labour and Social Affairs.

3.4 INFORMATION TECHNOLOGY

Different organisations have a well organised computer facility. Except seven organisations, all the surveyed institutions (63 %) have acquired a computer system. So far, computers in the surveyed government departments have been mostly used for statistical data processing based on conventional data files and word processing.

The types of computer systems available are all IBM compatible. The distribution according to system type is given in Table 4.

Table 3. No. of Organizations Having Computer System

Type of Computer System	No. of Organisations
HP family	4
IBM family	7
NCR family	2
Others	2

The types of computers under the category 'others' are 'TOSHIBA' and 'OLIVETTI'.

Out of the institutions owned computer facility, about five of the institutions (42 %) use conventional data files for generating statistical tables. Two organisations (17 %) have a manpower database, in which case record adding, editing and retrieval is possible.
The Pension and Social Security Authority has a Pensioners database.

In general, seven organisations (58 %) have computerised databases. Regarding database management software packages, four institutions (33 %) use commercially available systems, such as, dBASE, LOTUS 1-2-3, SUPERCALC. The other two organisations (17 %) have developed system of their own. One organisation, Ministry of Labour and Social Affairs, uses the

ISIS family software package called MINISIS.

3.5 PERFORMANCE EVALUATION

It is quite evident that the existing labour information facilities in Ethiopia are inadequate, judged by the standards of even some of the other developing countries, and considering the size of user categories.

3.5.1 Information/Data Processing

The quality and coverage of national information on labour is poor. The publication of statistical information is not timely, there being an average lag of two to three years. Consequently, end users have to take recourse to processing of primary data.

Standardised statistical coding scheme, as mentioned earlier, is not used. As a result, different organisations give a different estimate on the same subject.

Regarding under-utilised processing of data, existing data (records) in organisations data bank or archive can be used to generate valuable and timely information for different user categories. For instance, the state organisations employee

records in the Public Service Commission are the most valuable resources that are not properly used to generate statistical information. Pension records in the Pension and Social Security Authority could have been used to generate information about pensioners as well as active employees who have a pension guarantee.

3.5.2 Exchange of Information

It is true that no one organisation can be self-sufficient with respect to information provision to its clients. An organisation can not undertake the whole survey so as to generate all of the relevant data/information. This holds also in the case of labour information users/producers in Ethiopia.

The Ministry of Planning and Economic Development does not generate any primary data/information of its own. It uses reports and other types of information produced by other government departments. Concerning collection of data, it assigns responsibility to organisations according to their respective statutory jurisdiction.

Government organisations in Ethiopia exchange information. The exchange is not, however, based on established mechanism or guidelines. According to this study, all institutions share information generated with other government organisations. Of

course, in some of the organisations, access is restricted to the Ministry of Planning and Economic Development and Council of Ministers.

In most cases, the plan documents generated are for the organisation's own use and for the Council of Ministers. But, the documents are of great importance to other government departments doing related work. For instance, for the Ministry of Labour and Social Affairs, the plan documents contain labour-related information and the Employment Service can utilise it for analysis of labour market issues and as signalling parameters.

Any information generated is to be provided compulsorily to the Planning Ministry. However, potential users of the information do not have access to the material. The reporting is done for reporting sake and not for dissemination of information to reach the right user.

3.5.2.1 Access Restriction

Access to plan documents, which contain executive and management information, is limited to departments within the organisation, Council of Ministers and Ministry of Planning and Economic Development.

Concerning computerised databases, out of seven available, three are accessible to external users while four are not. The conventional data files are, of course, accessible to external users.

3.5.3 Information Gap

In relation to the current needs of the organisations surveyed, labour market information is lacking. Fifteen institutions (79 %) have responded confirming this information gap. Further, regarding potential requirements of information, the informal sector information is wholly lacking in the country. And, in general, the existing sources are not fully utilised. The existing records need to be analysed and synthesised in usable forms.

Regarding information support at the national level, there is no one organisation handling or generating information on the size and complexity of the employed labour force. Future manpower requirements of the country cannot be estimated with any confidence, although such data are important inputs to the development planning process.

The coverage of the information generated, so far, is limited to sample surveys. And it is mostly on the urban areas.

3.6 CONSTRAINTS AND LIMITATIONS OF EXISTING LABOUR INFORMATION FACILITIES

The existing labour information facility is inadequate and the development in the activity is very slow. Some of the specific reasons for the slow development of labour information facilities and services are:

- financial constraints;
- lack of trained manpower in the information field;
- poorly motivated staff;
- lack of public awareness in general about the role of labour information facilities in national development planning and implementation of projects;
- lack of coordinating mechanism to advise all partners in these matters;
- absence of legislation to serve as a basis for the orderly development of the labour information; (i.e. collection, processing and dissemination of labour information);
- absence of standards, systems and tools to handle information; and
- absence of adequate information facilities for fast and cost-effective processing and transmission.

3.7 TELECOMMUNICATIONS CAPABILITIES IN ETHIOPIA

3.7.1 Organisation of Ethiopian Telecommunication Authority

The Ethiopian Telecommunication Authority (ETA), under the Ministry of Transport and Communication, came into being in January 1953 under proclamation no. 131/953. The Authority is responsible for engaging in the construction, operation and maintenance of all telecommunication facilities other than military communications.

ETA is managed by a General Manager who is chief executive under the direction of a Board of Directors whose ex-officio chairman is the Minister of Transport and Communication. ETA is a state owned agency with financial autonomy. According to ETA (1987), the autonomy has enhanced the operational performance and financial strength of the organisation. Furthermore, it has improved ETA's flexibility and capability to cope with the rapidly changing communication technology and service demands.

Without ETA authorisation, importing, owning, establishing, installing, operating or utilising telecommunication facilities within Ethiopia is not allowed. Telecommunication networks are established by ETA. The public can utilise them for various activities according to the rules of ETA.

3.7.2 Existing Facilities

According to ETA (1987), the existing facilities for the domestic communication include long lines, microwave, UHF, VHF and RRC transmission systems serving 475 urban and rural stations through out Ethiopia. For the international tele-traffic, the ETA depends mainly on its INTELSAT standard A Earth Station SUT-1A.

The Ethiopian telecommunications service in Addis Ababa and some urban centres of the country are digitalised. The number of telephone connections in Addis Ababa is 84264 as of March 1992, out of which 749 are coin box connections. The technique used for digitalisation is circuit switching (Public Switched Telephone Network).

The mode of transmission in the ETA network is half-duplex. That is, the transmission can occur in the two directions but in only one direction at a time.

3.7.3 Range of Available Services

Along with the digitalisation of networks new services are introduced. The important services ETA provides are (ETA 1987):

- Teletex;
- Facsimile;
- Data Transmission;
- Integrated subscriber dialling (ISD) - that is a telephone dialling service based on requests from users; and
- Data Processing Service (DPS) nationwide.

ETA uses Computerised Management System to modernise and effectively run its day-to-day operation and planning activities.

Regarding data transmission, ETA provides data communication equipments which are basic components in the on-line information network. ETA has data communication equipment, such as modems which have speeds from 600 bps to 9.6 kbps and they can provide the network with advanced modems. Prices of data modems depend on its speed.

3.7.4 Financial Considerations

For modems of speed 600 and 1200 bps the price is Birr 2861 plus a monthly tariff of 72 Birr. For 2400 bps modems the price is Birr 3842 plus a monthly tariff of Birr 96. Modems with speed ranging from 4.8 kbps to 9.6 kbps, the price is Birr 9264 with a monthly tariff of Birr 154.

Table 4. Cost of Data Transmission Equipment (Modem) (In Ethiopian Birr)

Modem Speed	Initial Price	Monthly Tariff
600 - 1200 bits/s	2861	72
2.4 kbps	3824	96
4.8 - 9.6 kbps	9264	154

The charge for voice transmission is Birr 0.14 per call within 15 Kms distance without a time limit. The charge rate for data transmission depends on the type of line used. That is, whether the line is a leased line or dial-up line.

For dial-up lines, the authority charges a monthly tariff of Ethiopian Birr 10 for every 50 metres of the node from the EDX.

In general, the technical capacity can support the National Labour Information Network.

ANNEX TO CHAPTER III

ANNEX 1: ORGANISATIONS PRODUCING/USING LABOUR INFORMATION: PROSPECTIVE NETWORK (NALINET) PARTICIPANTS

The organisations whose major responsibilities are issues concerning labour and who generate a higher proportion of information are discussed below:

3.1 MINISTRY OF LABOUR AND SOCIAL AFFAIRS

The Ministry of Labour and Social Affairs is the organ of the Government of Ethiopia directly related to labour matters. The Ministry is organised into two main departments: Main Department of Labour and Main Department of Social Affairs.

The Main Department of Labour is responsible for labour issues. This Main Department has three departments to manage the subject. These include: 1) Department of Industrial Relations; 2) Department of Inspection; and 3) Department of Manpower and Employment.

The Ministry has a network of 36 employment exchange services located in the different administrative regions of the country

where economic activities are believed to be better off. Each office submits report to the headquarters from which national labour market information is generated. The system is a centralised type of network and the processing is performed manually.

The Industrial Relation Department has different divisions under it. Registration of collective agreements and arbitration of trade disputes are the important activities. The arbitrators have equal status with a wereda (administrative division lower than district) court.

The Inspection Department is responsible for factory and labour inspection. Occupational Safety and Health activities are the responsibilities of this Department.

Employment and Manpower Department is responsible for employment issues. And it undertakes different manpower surveys and research in order to promote the human resource utilisation in the country. In the endeavour to solve unemployment problem, the Department together with other government departments undertake research and organise seminars and workshops.

The Ministry has acquired an HP 3000 mini-computer system for building a labour statistics data bank. The task is yet to be

brought up to date.

Although incomprehensive information is collected, the generation of labour market information in the Ministry comes up to 1961 only. The first serial publication containing such information is titled Training of Manpower in Ethiopia. Sixteen years later, in 1977, another bulletin entitled Labour Statistics Annual Bulletin was published. The other periodical publication is Employment Exchange Information, published quarterly. There have been, of course, different manpower surveys conducted by the Ministry on an ad-hoc basis as sources of labour information. The total number of ad-hoc publications generated by the Ministry is 14.

Among the different publications generated by the Ministry, the **Ethiopian Classification of Occupation** is an important one. It is adopted from the International Classification of Occupation. The document is used in coding and processing occupational data.

The sources of data for the publication of the bulletin Training of Manpower in Ethiopia is the annual surveys of technical/vocational and higher education training institutions. The Ministry's working files and accident reports of firms are used as sources of data for the publication Labour Statistics Annual Bulletin. Depending on

needs, the Ministry generates different accident prevention procedures and safety guides.

3.1.1 Pension and Social Security Authority (PSSA)

The PSSA, established in 1958, is responsible for the provision of pension and social security services for government employees. PSSA is under the ministry of Labour and Social Affairs.

Regarding availability of data, important records of old age pensioners (survivors in case of death) and permanent government employees are available in paper files and computerised databases.

The Authority does not generate any periodical for public consumption. Access to the computerised database containing about 419,000 records is restricted to internal users.

3.2 LABOUR COURT

The Labour Court is under the Ministry of Justice. The Court is organised into Awraja and High Court. It is a hierarchical type of organisation.

The Court works in close collaboration with the Ministry of

Labour and Social Affairs. A trade dispute case will be directed to the Awraja Court when the arbitrators within the Ministry of Labour and Social Affairs fail to arbitrate and settle the dispute. For individual trade disputes the Awraja court decision will be final. Whereas the final touch to collective trade disputes is by the High Court.

Concerning recording of labour-management dispute settling documents, it is the responsibility of the registrar. The registrar handles all information: application, decisions and other court documents in office files.

Retrieval of data and information is done when the owner of the case comes to the court. Moreover, the judges apply past decisions for similar cases provided that they remember similar cases. It is because there is no an organised information service that helps the judges.

3.3 CENTRAL STATISTICAL AUTHORITY

The First Conference of African Statisticians , held in 1959 in Addis Ababa, called for the creation of coordinated systematic statistical work in the region.

Mitik (1991, p. 2) stated:

"The Conference recommended to the Ethiopian Government to undertake socio-economic surveys and censuses and to establish a national statistical service entrusted with the power of collecting, analysis and publication of statistical information."

It was in 1960 that a national statistical service started functioning within the Ministry of Commerce and Industry of the Imperial Ethiopian Government (Mitik 1991, 1-6).

The Central Statistical Authority (CSA), which was previously called Central Statistical Office, was established as an independent body in 1963. Its establishment was supervised by the Planning Board under the Prime Minister's Office. Later in 1987, the Central Statistical Authority was placed under the authority of the Council of Ministers.

CSA is the main statistical information source of the Government of Ethiopia. It generates information about population, labour force, production (both industrial and agricultural), environment, trade, etc. The Authority is also one of the major generators of labour market information. It conducts different surveys, regularly and on ad-hoc basis which serve as sources of data.

Different survey programmes have been introduced, the most important one being the National Integrated Household Survey Programme introduced in 1980. This programme contains a Rural Integrated Household Survey, an important source of labour market information.

The population census and other ad-hoc surveys undertaken by the Authority provide the best information because of its geographical coverage.

The Authority produces different serial publications. The dissemination of information is one copy per address. Extra copies are available by purchase.

For its data processing, the Authority has a well organised computer facility (mainframe). The mainframe serves as a central data processing resource, managed by the Computer and Data Processing Department. In addition to the mainframe, different departments have acquired micro computers used as stand alone facilities. The mainframe system is used to handle conventional data files, such as census and sample survey data, and application programmes. The data is accessible to external users with the help of the Department's staff.

There is no database system developed so far. The Information and Public Relations Unit handles information on publications

and other matters manually. Necessary awareness for using the available computer resource has not been created. The unit has prepared a list to register any publication produced within the organisation.

In most organisations, computers are mainly used to process numerical data, even though different types of textual processing could be performed.

According to the accessions list of the Authority, 86 major publications have been produced as of December, 1990. Of these 45 are ad-hoc publications and 41 are serial publications under 7 titles.

The CSA generates relevant statistical information from its data files on request. Data can be offered to users in soft copies.

3.4 PUBLIC SERVICE COMMISSION

The Public Service Commission (PSC), established in 1961, is legally charged to handle issues of public organisations and civil servants.

The Commission handles records of all employees in public

organisations. Employees whose salaries are more than Ethiopian Birr 420 per month are recruited through the Commission. According to the responses from the Commission, important untapped labour market data exists. Among other things, the records include:

- Employed labour force by sex, age, qualification, salary, grades, level;
- Promotions;
- Additions;
- Allowances;
- Salary increments;
- Separations;
- Salary adjustments;
- Recruitment; etc.

The machinery for generating labour market information is very weak. The Commission produces a bi-annual and an annual plan implementation and other related reports which are important sources of labour market information. All the data is processed manually.

The annual report of the Commission can be accessed by the Planning Office and Council of Ministers only. Researchers can utilise it on presentation of an official letter.

The Commission gets information produced by other organisations. There is no established mechanism for exchange of data/information.

3.5 MINISTRY OF EDUCATION

The Ministry of Education, established in 1930, is the body responsible for the supply of trained manpower. The most important departments surveyed by this study are the headquarters office, the Higher Education Main Department and the Institute of Curriculum Development and Research.

The Planning and Programming Unit of the head office is responsible for capturing data and producing educational statistics. The Unit publishes an annual bulletin entitled Educational Statistics. The subjects covered include: the number of enrolments, teachers, administrative workers, students, drop-outs, and graduates. The scope is limited to elementary and high schools in the country.

A computer facility dedicated to this work exists. The educational statistics system is automated. A database of regional/district school data exists. Collection of other data/information relevant to the Ministry is conducted as need arises. There is no specialised unit collecting and depositing

information. There is a library in the Ministry.

The information produced is distributed to all government organisations.

3.5.1 Higher Education Main Department

The Department, established in 1977, is the managing body of all higher learning institutions, universities and colleges. It is an important source of labour market data concerning training of manpower at higher levels.

The Department publishes an annual bulletin entitled **Statistics on Higher Education**, and a two-yearly publication entitled **Higher Education in Ethiopia: Facts and Figures**. Two micro computers are dedicated for the purpose.

Theoretically, the Department is a consumer of labour market data, specially the demand side, for its planning of future training schemes. But, in reality, it fails to coordinate with such information generators. From the response, it is found that 'the Department is especially lacking information on the demand side'. But the Ministry of Labour and Social Affairs produces such information and disseminates to all government organisations. In particular, Higher Education Department is on the mailing list of the Ministry. This indicates that an

awareness on the information generated by various local organisations has not been created.

The information produced by the Higher Education Main Department is very important to employment service managers and employers. But, the circulation is limited to some organisations who are using it for national policy making and planning purposes.

3.5.2 Institute of Curriculum Development and Research (ICDR)

This Institute, established in 1976, is charged with the responsibility of developing and evaluating school curriculum. The education system affects the labour market. The imbalance created by the supply of and demand for labour is partially the result of the education system. Therefore, in order to design a good curriculum, education planners have to gauge the trend of manpower requirements and technological development so that the necessary adjustments can be made.

At different seminars, on issues of employment and unemployment, the education system is shown to contribute to the highest unemployment figure. Whereas the Ministry of Education, ICDR, is not provided time series data on the labour market. If action is taken to change the curriculum, within two or three years the same problem can recur. This is

a result of an action taken without suitable information support. The solution to this problem is, therefore, to work together. That is, to get access to each party's activity and the information generated. The Institute, so far, has no serial publication for public use.

3.6 ETHIOPIAN CHAMBER OF COMMERCE

The Ethiopian Chamber of Commerce is the body representing employer's organisations. It is one of the three parties, in addition to the Ministry of Labour and Social Affairs and the Ethiopian Trade Union, represented at ILO's regular annual meetings.

The Chamber, established in 1947, has the responsibility of enforcing conventions of the ILO already signed by the Ethiopian Government and urging the Government to sign other conventions useful and pertinent to the conditions of the country. It also offers training for small scale and cottage industry entrepreneurs.

The existing data/information types are records of Chamber members (employers) located in urban centres of the country and articles on trade promotion in the Ethiopian Trade Journal. The Ethiopian Trade Journal is published quarterly,

the focus of which is international trade aiming to disseminate information in order to upgrade the standard of trade in Ethiopia.

The other periodical Inter Chamber, a bi-monthly, contains advertisements and articles which are not included in the Ethiopian Trade Journal.

The Chamber is an important source of trade information which emphasises Ethiopian export and import profiles. Directories containing international importers and exporters published abroad are also very important sources of information for members of the Chamber and other bona-fide users.

As a body representing employer's organisations, the Ethiopian Chamber of Commerce is lacking in labour information. Employers require labour market information for proper planning of their projects. The Trade Information Centre, located at the Chamber's headquarters, has quite a number of directories which serve as sources of information about external trade. Apart from its trade information interest, the Centre is able to collect information related to labour market and on industrial relations.

3.7 NATIONAL BANK OF ETHIOPIA

The research responsibility assigned to the National Bank is to make an analysis of national economic data. The major subjects treated are balance of payments, money, production, prices and public finance.

The National Bank has a well organised research unit which is supported by a library and computer facility for data processing.

Two serial publications are produced that are of high informational value on matters directly or indirectly related to labour. These are **National Bank of Ethiopia: Annual Report** and **National Bank of Ethiopia: Quarterly Report**. The Research Department of the National Bank, in addition to the regular reports, also produces occasional papers.

The reports in most cases contain information about production, employment in specific sectors, price developments, monetary and banking developments, external economic relations, general government finance, operational results of the bank and different statistical annexes.

According to the survey finding, the National Bank lacks different types of information. In some cases, available data

is not comprehensive and there is no information on other relevant subject, for instance, information on construction.

The Research and Planning Department has a computer facility for its day-to-day activity. Currently, three micro-computers are available with 21 Megabyte hard disc storage capacity each. The software packages used are LOTUS 1-2-3 and dBASE III Plus.

3.8 ETHIOPIAN TRADE UNION

The Ethiopian Trade Union (ETU) was established in 1963, with the name Confederation of Ethiopian Labour Union. The Trade Union's major responsibility is to protect and defend the rights and benefits of workers.

ETU is organised into factory, district, administrative region and national levels. It is a hierarchical type of arrangement in which directives come from the top, and cases at the lower levels are reported to the higher levels in the hierarchy.

ETU handles data and information on occupational injury and collective agreements. The statistical information is published in its quarterly bulletin Serategnaw. This is distributed to national industrial unions, government ministries and mass organisations.

ETU's operational files and ad-hoc surveys are the more important sources of data and information for its work. There is no computer facility in the organisation.

The information generation facility is very weak in terms of manpower and equipment. However, the available records at each factory and district level could have been used for the production of data and information useful for planners, policy makers and researchers.

3.9 MINISTRY OF PLANNING AND ECONOMIC DEVELOPMENT

The Ministry of Planning and Economic Development, previously called Office of the National Committee for Central Planning before 1992, is responsible for development planning of the country. The Ministry is organised into different sectors/departments, such as Agriculture, Manpower, Population, Industry, etc., each being responsible for planning in the sector.

The Department of Manpower is responsible for planning human resource development and utilisation. The major fields of specialisation include population, labour force, employment, unemployment, manpower planning, etc.

The existing data in the department include:

- Additional yearly manpower requirements and actual yearly deployment; and
- Placement of graduates of higher learning institutions.

These data are handled by office files. The Department is trying to develop computerised databases.

The Ministry generates, since 1978, an annual plan document in Amharic. The source of data/information for the report is secondary information obtained from reports of different government departments. The document generated is distributed to all government and non-government organisations and researchers. It also produces ad-hoc publications containing valuable information on labour matters.

A stand alone, personal computer, is available for handling of manpower related information. A system for placement of graduates is being developed. The software used is dBASE IV.

3.10 OFFICE OF THE STUDY OF WAGES AND OTHER REMUNERATIONS

The office was previously called Office of the Wage Board and established in 1979 under the Ministry of Labour and Social Affairs. Currently, it is with the Council of Ministers.

The responsibilities assigned to it, concerning labour, are national position classification and wage fixation aiming at enhancing the employment opportunity of the national economy.

The available information which are important to government ministries and specifically to agricultural and industrial enterprises include: Job Evaluation Methodologies, Work Study Manuals, Work Measurement Manuals and Payment by Result Manuals. The information is accessible to interested users.

Data processing equipment is not available in the Office. It uses the Central Statistical Authority's computer resource as and when required.

3.11 SECTORAL MINISTRIES

3.11.1 Production Sector

The organisations covered under this sector include:
1) Ministry of Agriculture, Environment Protection and Development; and 2) Ministry of Industry.

3.11.1.1 Ministry of Agriculture, Environment Protection and Development

The Ministry is responsible for the promotion of agricultural production and environmental issues. Apart from its employed labour force, the Ministry's interest is rural agricultural population.

The Ministry handles data and generates information on areas cultivated and corresponding production, rural household size and land use. The information generated is important for planners, policy makers and researchers concerned with rural society and economy.

The Ministry handles data/information in a variety of ways, such as, office files, unpublished reports, annual reports and computerised databases. The major sources of data/information are the Ministry's operational files and reports of other government departments.

Computers are used for personnel data management and data processing; and the currently available technology includes: NCR series 8200, printers, disk drives and terminals. The personnel database contains about 30,000 records.

Among the important publications, the Ministry's plan

documents are of great interest to agricultural labour information users. The document contains a management information dealing with employed manpower in the Ministry, capital expenditure, plan implementation report and the like. The planning indicators including: proportion of irrigation or drained land, agricultural active population, agricultural labourers, average wage rate of agricultural labourers are lacking.

3.11.1.2 Ministry of Industry

The Ministry handles records on occupational injury and a computerised personnel database. Different reports are generated which are of interest to organisations concerned with labour issues. Among others, the bulletin entitled Industrial Statistics Bulletin is quite popular.

As sources of information in industrial labour, the Ministry has untapped information sources.

3.11.2 Social Service and Construction Sectors

The social service and construction sectors generate important information of direct and indirect relevance to labour matters. The sector is also a potential user of labour information produced by other sectors.

The organisations surveyed under these category are:

- Ministry of Health;
- Ministry of Transport and Communication;
- Ministry of Trade; and
- Ministry of Urban Development and Construction.

The Ministries of Health and Transport and Communication have acquired a computer system. Even though not fully operational, the ministries are trying to build a computerised management information system.

CHAPTER IV

PLANNING NATIONAL LABOUR INFORMATION/DATA NETWORK FOR ETHIOPIA (NALINET)

4.1 OBJECTIVES OF NALINET

4.1.1 Overall Objectives

The overall objectives of the National Labour Information Network (NALINET) are:

- to provide information support to the efforts of the participating institutions and other potential users of the network in achieving a coordinated, balanced and integrated system of utilising labour resources in national development.

- to promote resource sharing among labour information users/generators as a dynamic support for development efforts.

- to identify and establish better ways for improving the flow of information among participating organisations.

4.1.2 Specific Objectives

The specific objectives of NALINET include the following:

1. To allocate responsibility to participating organisations for building up strong information resources, conventional and non-conventional documents, data, and databases for providing services in the disciplines that are directly or indirectly related to labour.

2. To establish a national referral service to direct users to appropriate sources (expertise, research projects, documents, organisations, etc).

3. To prepare a national union catalogue of periodical publications, technical reports, government reports, research reports, theses, and such other materials not easily accessible to users.

4. To develop appropriate statistical and factual data banks.

5. To support user education and user sensitisation programmes.

6. To undertake periodical surveys for assessing information needs and information use patterns in the labour and

related fields.

7. To support projects in documentation, information, communication, computer application, etc., relevant to the field.

8. **To strengthen or establish or advise/assist in the establishment of an information centre at each node of the Network (participating organisation).**

4.2 LABOUR INFORMATION USERS AND THEIR NEEDS

Users of labour information fall into different categories. **Though not exhaustive, the enumeration includes:**

- Human resource development planning groups;
- Employment exchange service staff;
- Research workers and specialists in labour related issues;
- Employers;
- Labour court judges;
- Occupational Safety and Health (OSH) officers;
- International organisation's staff operating in the country;
- Sectoral (Agriculture, Industry, etc.)

development planners; and

- "Common People" for their self education efforts on employment and work related matters.

The information needs vary according to the task each user group performs. Information needs within a category of users also vary in several dimensions. Their needs depend on the role, function, activity, subjects of interest, stage of work, etc. of a person.

The variation in type of information required is, of course, very high between user categories. For instance, in the day-to-day activity of employment exchange services, the staff require labour market information, job applicants recruitment procedures, etc. Labour court judges require labour law documents, labour standards, previous similar case settlement documents, etc. Educational Curriculum designers require information on the trend in the labour market and existing technological advancement in order to develop an appropriate curriculum that meets the interest of the national economy in bringing gainful employment. Sectoral planners need information on the structure of existing labour force for the planning of new projects and programmes in order to properly allocate the human resource component of the project.

As indicated by Neelameghan (1980, 34-54), the chronological

sequence of activities in development planning are:

a) Finding the facts;
b) Assessing the trends;
c) Diagnosing the problem;
d) Identifying the needs;
e) Prescribing solutions;
f) Establishing policies;
g) Defining plans;
h) Devising programmes and projects;
i) Operating programmes and projects;
j) Assessing the impact of action; and
k) Evaluating success and failures.

Under each activity the type of information required varies. Some of the labour information required at the different stages of development planning include:

- Facts and trends and analysis of the existing labour market which includes basic information and data, extrapolation and forecasts;
- Official policies, plans and programmes;
- Research outputs showing consequences and evaluation;
- Available resources;
- Operational expenditure; etc.

Development planning at the local level is locality specific. And the information requirement is also locality specific. The same is true for sectoral and national development planning. Planners at the national level need "national" information. Therefore, the information types listed above are required at national, local and sectoral basis. For instance, the distribution of employment situation by region, locality and sector is very important for planning at different levels.

4.3 NALINET SUBJECT SCOPE

It is difficult to determine the scope of a subject in which a wide range of user groups are concerned. In particular, labour is inter- and trans-disciplinary in nature. The following brief listing is extracted from Alpern (1991).

- Social Policy and Social Development
- Social Security
- Economic indicators related to work, labour, etc.
- Economic and Social Development
- Income and Wealth
- Business Economics
- Co-operatives
- Law (Human rights, Government and Public Administration, Politics)

- Social Sciences (Society and Social Questions)
- Education and Training (Education and Training Policy, Education and Training Finance, Education and Training Programmes, Attainment Appraisal and Certification, Participation in Education and Training, Training Institutions and Facilities, Teaching and Training Methods, Training Objectives and Arrangements, Vocational Guidance, Vocational Rehabilitation
- Rural Development (Agriculture, Forestry, Fishing)
- Industrial Economics in Relation to Employment, Training, Income, Conditions of Work, Industrial Relations
- Commerce and Trade (Price Policy, International Trade)
- Transport and Construction in relation to Employment effects
- Public Finance and Taxation
- Management (Personnel, Technology, Production)
- Manpower, Employment and Unemployment
- Working conditions and work organisations
- Labour Relations
- Population Dynamics (Settlement, Community Development and Housing, Urban Development and Planning, Migration)
- Labour Force (Labour Force participation,

distribution)

- Food and Nutrition
- Environmental Science (Employment and work related aspects).

Information and data generation and sources has been discussed in the previous chapter. The information generation and sources are scattered in different organisations which are directly or indirectly concerned with labour issues. There is no one organisation holding all the types of information mentioned above.

The other main problem is rapid obsolescence of information. The sources mentioned provide labour market information after long time intervals. The content of information has also its own shortcomings in that it is not appropriate to undertake further study or analysis because of its presentation.

4.4 PROPOSAL FOR STRENGTHENING LABOUR INFORMATION FACILITY IN ETHIOPIA

For strengthening the information support to practitioners in labour and related fields, the constraints mentioned in the previous chapter need to be minimised, if not removed.

It has been mentioned that labour information sources are varied and extensive. In each of the institutions generating or using labour information, there is a need to strengthen or establish an information centre or unit. The information centre should collect, process and organise information in conveniently accessible and usable manner. And a compulsory deposition of information produced by the different departments within the organisation should be implemented.

Coordination of the diverse contributions is vital. Resource sharing will then become possible. Cooperation calls for application of standards and norms so that exchange of information can be facilitated. And this should be a first step be taken to tackle the problems.

The coordination in a network-like structure can be arranged in different ways, so as to optimise the system.

4.5 BASIC PRINCIPLES OF NALINET DESIGN

Systems design should be based on relevant principles. Some of the principles on which NALINET design may be based are as follows:

1. NALINET should be developed as an information service-

oriented facility rather than as a resource-oriented one. That is, NALINET is not designed to augment library collections or enhance foreign periodical subscriptions.

2. NALINET should be built on a decentralised basis. This is because, the centralisation of information in a single entity will hinder the quality of services. Therefore, independent nodes, each of which serving development planning and research in Ethiopia, will be strengthened/established.

3. To coordinate the contribution of each node in the network, a coordinating body (Focal Point) should be created to manage the network.

4. Each organisation (node) should have autonomy to set up its structure and operations to satisfy its user communities within the framework of NALINET and the guidelines of the network. The guidelines will be prepared by NALINET working group constituted by representatives of network participating nodes.

5. NALINET should conform to international agreed upon norms and standards and practices of information handling.

6. NALINET should be organised under the framework of the

National Information System of Ethiopia.

7. NALINET should be flexible so that new participants can join the network easily when required. Emphasis should be given for organisations working at different levels of complexity in information services.

8. NALINET should have a legislative basis to which each node should conform.

4.6 SELECTION OF NALINET SUBSYSTEMS

The systematic selection of systems to participate in the network is essential. It should give priority to active users in the short-run. Long term objectives is, of course, to sensitize potential users to participate in the network.

The different systems that are to be represented and coordinated in NALINET are:

- Demographic system;
- Education and Training system;
- Employment Market system;
- Production (Economic) system; and
- Development Planning Body.

4.6.1 Selection of Host Organisations Under Each System

4.6.1.1 Demographic System

It is evident that demographic data, of interest to NALINET, may come from different sources. The main sources in Ethiopia, covered in this survey, are:

- Central Statistical Authority; and
- Ministry of Health.

4.6.1.2 Education and Training System

The Ministry of Education is in charge of issues concerned with education. Therefore, the nodes selected under this system are:

- Ministry of Education; and
- Higher Education Main Department.

4.6.1.3 Employment Market System

Employment market in Ethiopia is handled by two organisations, the Ministry of Labour and Social Affairs and Public Service Commission.

The Office of the Study of Wages and other Remunerations is

responsible for wage fixation, job analysis and other issues related to wage. The Ethiopian Trade Union and Ethiopian Chamber of Commerce, on behalf of the employers organisations, can be also grouped under this category.

Therefore, these organisations will be participants in the network. Except the Ministry of Labour and Social Affairs, others have not acquired a computer system. Hence, they may not participate in the on-line communication network till they acquire the required technology. Of course, the four organisations will participate in the network manually.

4.6.1.4 Production (Economic) System

Ministries under this system are:

- Ministry of Industry;
- Ministry of Agriculture, Environment Protection and Development;
- Ministry of Urban Planning and Construction;
- Ministry of Trade;
- Ministry of Transport and Communication.

Except the Ministry of Trade and Ministry of Urban Planning and Construction, all organisations can participate in the network electronically provided they acquire data

communication equipments such as modem. Of course, departments under the two ministries, which are not located in the headquarters, have also acquired computer systems.

4.6.1.5 Development Planning Body

National development plans are approved by the Ministry of Planning and Economic Development. Each sectoral Ministry submits its plans to the Ministry of Planning for approval. New economic development plans are initiated by the Ministry. Therefore, the Ministry of Planning will be an active node of the network.

A micro-computer is available within the Department of Manpower of the Ministry. The Department is in-charge of human resource planning and utilisation.

4.7 STRUCTURE OF NALINET

4.7.1 Structure of NALINET nodes

The structure of the information/data service at each participating organisation depends on the complexity of the activities of the organisation. The structure should be such that each department has direct access to the services.

4.7.2 NALINET Communication Structure

The existing communication between organisations producing/using labour information is not based on an established mechanism. There is no one organisation administratively governing or responsible. The Ministry of Planning and Economic Development has been responsible for national development planning, and it has the authority to ask every organisation for information and resource allocation.

Regarding communication between other institutions, it is purely a decentralised type of link. It will be helpful to analyse the responsibilities assigned to each institution in the choice of link structure.

In selecting network structures or arrangements, as discussed in chapter 2, different factors have to be considered. For this particular network issue the criteria for selecting network structures are:

- organisational structure (level of development);
- responsibility assigned;
- autonomy of organisations; and
- number of participating groups.

The organisational structure of the would-be participating

groups do vary from organisation to organisation. The level of development in information facility is very different. Some use computerised data processing and others even do not have an organised information resource base.

The different organisations have different responsibilities assigned by the government in different proclamations. Even though, they work together in solving common problems, they have administrative and financial autonomy.

Regarding the number of organisations that will be participating in the network, it is difficult to fix a definite figure. The number of organisations covered by the survey is 19. But, other organisations will join the network in the future.

As discussed in the earlier chapter, every organisation has a different but interrelated type of responsibility. Decision takes place autonomously at each institution. The organisations are decentralised in structure and performance.

The decentralised structure in communication or networking, as discussed in chapter 2, will bring a management problem. But, this issue has to be solved by an appropriate mechanism. For instance, it is helpful to identify a national coordinating agency for information programmes in labour and related

subjects.

In such a case, therefore, it will be helpful to communicate in a decentralised way.

4.8 THE COORDINATING BODY OF NALINET

The coordinating body may be designated as a Focal Point. Focal Point of NALINET will enable communication with the National Information System components and through it with international networks.

The Focal Point could be selected from among the participating organisations based on specified criteria. In establishing a Focal Point, different aspects of organisations, such as, objectives and terms of reference, functions and activities, resources available should be considered.

When considering availability of resources, it includes material, information and manpower. The agency acting as a focal point is required to have a permanent subscription to relevant periodicals or have access to periodical sources.

The NALINET Focal Point will establish links among the categories of existing organisational structures in the

country.

4.9 NALINET SERVICES

NALINET will provide services, such as, database construction, retrospective searching, Selective Dissemination of Information (SDI), organising and/supporting training programmes, referral, clearinghouse function, user sensitisation, introduction of standards and development of information systems and centres.

It is important to identify the services that will be provided by the focal point (Coordinating Organisation) and participating organisations (nodes).

4.9.1 Services of the Focal Point

4.9.1.1 Organising and Supporting Training Programmes

NALINET focal point (Coordinating Body) will help in organising and/or supporting training programmes for staff of participating organisations. The training programmes required include:

- Information processing;

- Application of computers;
- Dissemination of information;
- Organising information in the form of databases; and
- Training in utilising newly acquired or developed computerised systems.

The training programmes will promote exchange of data and information.

4.9.1.2 Referral Services

The referral service will provide link between the user and the sources of information. In order to promote the service, different functions need to be undertaken by the focal point. These include:

- Collection of information about the existing data and information resources relating to labour subjects;

- Preparation of a comprehensive inventory of the kinds of data and information, services and expertise available with appropriate subject index;

- To guide users to the appropriate sources of the required information and expertise.

To promote the referral service, organisation of information in an accessible manner, card-index files in a manual system or computerised access tools, is important.

4.9.1.3 User Sensitisation

It is natural that users of information services do not utilise the information sources and technology resources efficiently. Some of the reasons for under-utilisation of information resource are:

- lack of knowledge about the existing resource; and
- the importance given to it by users.

Therefore, in order to promote information use the provision of user education (sensitisation) will be one of the important services of NALINET focal point.

4.9.1.4 Introduction of Standards

It is very important to use standards in processing data/information so as to facilitate exchange of data, comparison of sources, etc. Example, adoption of thesaurus, standard statistical coding schemes, such as, International Standard Classification of Education.

The focal point together with the working group under the Steering Committee, therefore, will adopt new standards based on international experiences.

4.9.1.5 Development of Information Systems and Centres

NALINET focal point will help in the development of information systems and centres within the participating organisations.

4.9.1.6 Publication of Newsletter and Information Products

The focal point of NALINET will prepare and publish abstracting journal and distribute to organisations and individuals actively engaged in labour matters. The publication is also expected to reach to potential users of the information.

News about NALINET activities and programmes, such as, newly initiated projects, training programmes and other issues of the network will be published in the newsletter.

4.9.2 Services of Participating Organisations

The important services that are required to be performed include:

4.9.2.1 Database Construction

As one of the functions, NALINET is to capture information about labour in the form of database systems, in a standard record format guided by international standards. In order to carry out an effective network service (resource sharing) an in-depth information about the resources of the participating organisations is vital. The bibliographic database will cover all types of documents, such as monographs, technical reports, conference proceedings, periodicals, theses, etc.

The other databases to be constructed are non-bibliographic in nature. These include: experts in the field of labour, organisations concerned with labour issues, training institutions, users, on-going research projects, statistical data, thesaurus, etc.

4.9.2.2 Reference service

This Service is for both top managers, researchers and technicians. Under this service, each node is required to

build appropriate reference collection. It is important to compile reference tools to locate information and data sources, organisations, experts, etc.

4.9.2.3 Retrospective Database Searching

The search service will be provided at each NALINET node in addition to the focal point. In order to promote the search service some of the network participants will find it useful to acquire CD-ROM databases.

4.9.2.4 Current Awareness Service

This will be an important service in informing the additions of newly generated information or acquired from external sources to the staff of the organisation. Selection and indexing of periodicals, research reports will be part of this service.

4.9.2.5 Selective Dissemination of Information (SDI)

This service will be provided using locally built databases and by accessing the available international databases, for example on CD-ROM.

4.9.2.6 Document Clearing House Function

NALINET nodes will provide a document clearing house function. Each organisation/information unit will solicit copies of unpublished and published materials from private and government producers. The network will then announce new accessions. In response to inquiries from libraries photocopies of documents will be supplied.

4.9.2.7 Data services

As required by management or researchers, the information centre will provide a data service. It will be an important service of each node since every node is generating statistical information that is useful to the organisation and outside users.

CHAPRER V

IMPLEMENTATION STRATEGY

5.1 INTRODUCTION

It is natural that the plan will be followed by a strategy for its implementation. An implementation strategy is a prerequisite for success in meeting required objectives and goals.

The plan implementation is better performed in a bottom-up approach. That is, each participating node is required to organise its information system and then the different information systems can cooperate in achieving the common goals.

The components of the network that should be considered to implement NALINET can be grouped in to technical and organisational aspects.

5.2 TECHNICAL CONSIDERATIONS FOR IMPLEMENTING NALINET

Various issues can come under the technical aspects of implementation. For implementing NALINET, the following are the activities to be carried out.

5.2.1 Establishment of Mechanism for Collection, Processing, Storage and Retrieval of Data/Information

It is the combination of systems that form the network. Therefore, development of information system at each node is very important. Selection, adoption and development of common methodology and guidelines is a prerequisite.

The existing records at each government department should be utilised maximally. As discussed in the analysis, one of the problems identified was the difference in statistical classification schemes. Therefore, based up on common standards and norms, such as International Standard Classification of Occupation (ISCO), an appropriate database should be designed and developed. The database will cover all statistical, bibliographic and reference/textual data and information relevant to NALINET objectives.

5.2.2 Introduction of Standards and Norms

The aim of forming the network is to exchange data/information and sharing of other resources including expertise. In order to attain the required goals discussed in chapter 4, it is very important to work agreed upon standards. In compiling statistical data, it is necessary that different organisations use common standards so that merging, comparison, and synthesizing of various data and sources will be possible.

The standards and norms should be based on the international experience in the field. For example,

- introduction of the international standard classification of occupation,
- international standard industrial classification

which are very important in the analysis of occupation and industrial data respectively.

It is very crucial also to adopt

- a common vocabulary control tool for proper organisation of information,
- standard bibliographical description, for example, ISBD and AACR2"
- community codes
- language codes, etc.

5.2.3 Network Development

The present study is a first step in assessing the existing situation and identifying the principal producers/users of labour information. However, identification and finalisation of participating organisations is an important task, and for the purpose it is necessary to make a detailed investigation. Provision of technical assistance to bring them up the information service units to the required level in order to participate in the network is another task that should be initiated.

5.2.4 Information Service Development

Participating groups at various levels are required to develop information services. The services under this category include:

- Bibliographic information service;
- Retrospective searches;
- SDI;
- Current Awareness Service;
- Enquiry answering services;
- Referral services;
- On-line access services, depending on acquired technology;
- Data analysis services;

- Information analysis, consolidation and repackaging services;
- Document delivery service.

It is important to design and organise primary document access and delivery system.

5.2.4 Manpower Development and Training

Professional staff of participating nodes (information centres) including the focal point need to be trained in the appropriate information fields. Among the important field relevant to the field are: computer utilisation, document classification, information storage and retrieval systems techniques, database design, systems design and analysis, management of information systems and services, and information use promotion and marketing.

Trainers who will undertake training of other middle and operational level staff needed by the network and its subsystems need to be trained first.

5.2.5 User Sensitization

User categories, such as, decision makers, planners and researchers should be sensitised about the existing resources,

then utilisation in their respective area of work, and the need for the further improvement of the network.

In order to improve the services offered, it is important to get feed back from users through user studies. The periodic investigation will facilitate in modifying existing services and introducing new services to suit changing patterns of user needs. Hence, user studies should be a periodical function of NALINET.

5.2.6 Technology Requirements

Man's information seeking behaviour and means of acquiring has changed from time to time. The development of technology has forced him to be information-dependent. Fast access to reliable sources of information is, therefore, a prerequisite to development planning.

NALINET cannot meet its goals without acquiring a minimum level of technology. It has been pointed out by this survey that, even though not fully utilised, 11 institutions have computer systems. The other institutions should seek funds for purchasing computers. However, some institutions may not need computers right now because of their very simple routines.

Modems are data communication devices required in the

organisations who have already acquired computer systems to facilitate on-line information retrieval, data communication, electronic mail and messaging.

5.3 ORGANISATIONAL CONSIDERATIONS FOR IMPLEMENTING NALINET

The organisational aspect of implementing NALINET are the following:

5.3.1 Formation of Steering Committee

A Steering Committee composed of all participating groups and experts of international organisations should be formed. The committee then will draft the charter for NALINET to which every participating organisation contribute and agree upon.

In general, the responsibilities of the Committee will be:

- Formation of ad-hoc working groups;
- Assigning responsibilities to NALINET participants;
- Initiating projects according to priority set by planning body;
- Formulation of criteria for the assessment of performance; etc.

Under the Steering Committee, different working groups are required to deal with the different technical aspects of the network and to advise the Steering Committee regarding such technical matters.

All the management aspects of the network would be the responsibility of the Steering Committee.

5.3.2 Formation of a Coordinating Body

It is important that one of the organisations participating in the network should take responsibility to coordinate all partners and other potential institutional users of the information. The coordinating body is required to undertake all the necessary routines to bring the different producers/users of labour information together.

The coordinating body will then be a focal point to the network. The focal point will be an outlet and inlet to the national information system.

CHAPTER VI

NALINET DATABASES

The databases required to provide for and support various information services by NALINET include: organisations generating/using labour information, profile of training institutions, profiles of experts, description of projects, union catalogues of periodicals, and statistical and bibliographic databases.

6.1 LABOUR INFORMATION GENERATORS/USERS

The aim is to collect and disseminate data and information on organisations that are concerned with labour matters. It is clear that the various institutions handle different types of data and information depending on their objectives and goals. Therefore, in order to provide a referral service and create access mechanism, it is important to organise information about institutional sources in the form of databases.

The main data elements of the database can be:

- Name of organisation
- Ownership
- Acronym

- Address (Telephone, Fax, P.O.Box, Telex, Cable)
- Parent organisation
- Date of establishment
- Type and number of staff
- Subsidiary organisations and centres
- Major fields of specialisation
- Existing data/information sources/databases
- Services provided
- Research activities (Project title, description, funding organisation)

6.2 RECORD OF PUBLICATIONS

6.2.1 Periodical (Regular) Reports

The aim of this database is to collect data and information on periodical reports published locally or abroad on labour matters. But, for the purpose of this study, the publications are outputs of government organisations. The handling of such information will facilitate referral services.

The data elements/fields can be:

- Personal author(s)
- Corporate author(s)

- Title
- Language
- Starting year
- Descriptors
- Coverage (institutional or geographic)
- Sources of data/information
- Publisher/Issued by

6.2.2 Ad-hoc Reports (Publications)

These reports are very important sources of information for the respective organisations and other government organisations. They are generated on an ad-hoc basis depending on needs. The sources of data/information is, in most cases, field surveys.

The data elements/fields can be:

- Personal author(s)
- Corporate author(s)
- Title
- Language
- Year of publication
- Descriptors
- Coverage (institutional or geographic)
- Sources of data/information

- Publisher/Issued by
- Associated project title/number
- Thesis for (Degree, Institution)

6.3 PROFILE OF TRAINING INSTITUTIONS

Planned and coordinated training of personnel is vital to the economic development of the country. Knowledge about institutions offering various types of training at various levels is very important. The information can help in bringing about a balance between demand for and supply of labour.

The data elements/fields can be:

- Name of institution
- Status (government, semi-government or private)
- Year of establishment
- Address
- Main teaching language
- (Academic year)
- Staff
- Departments or major courses offered
    - Name of major subject
    - Duration of course
    - Admission capacity
    - Eligibility requirements

- Award

- Fees, etc.

6.4 PROFILE OF EXPERTS

The aim is to collect and disseminate data and information on experts working in matters directly or indirectly related to labour. The term 'expert' is to be used as a vehicle of resources likely to be used in meeting the organisations needs.

The database will enable the provision of referral service to users requiring information about experts. Moreover, it will **also a basis for providing SDI service to such users.**

Data structure

- Name of expert
- Sex
- Year of birth
- Nationality
- Employer organisation (current)
    - Address
        - Telephone
            - Residence

- Office
    - P.O.Box
    - Telex
    - Fax
- Present occupation
- Degrees (Degree, Field of study, University, Date of award)
- Areas of interest (specialisation)
- Professional associations affiliated to (Name of association, type of membership)
- Language competence
    - Working language
    - Other languages
- Expert/consultancy assignments (Description of assignment, duration)
- Employment history (Employer, designation, period)

6.5 PROJECT PROFILE

Different projects are undertaken by each organisation. This database, therefore, aims at collecting data and information about projects undertaken, on-going projects and proposals concerning labour issues. The database will enable the provision of referral services and inventory purposes; for researchers to contact peers; in research management, etc.

The main data elements in the database can be:

- Project title;
- Description of project;
- Starting Year;
- Duration of project;
- Implementing agency;
- Funding organisations;
    - Input from government source;
    - Input from external source or NGOs;
- Agencies involved in the programme (implementation).

6.6 BIBLIOGRAPHIC DATABASE

- Publications (journal article)
    - Authors;
    - Title of paper;
    - Title of journal/monograph;
    - Vol. and number;
    - Descriptors;
    - Imprint (year, pages).
- Books and reports
    - Authors;
    - Title;
    - Descriptors;

- Edition;
- Publisher;
- Imprint (Place, year, pages).

CHAPTER VII

CONCLUSION AND RECOMMENDATIONS

7.1 CONCLUSION

The findings of this study indicate that the existing labour information facility in the country is inadequate and deficient. There is a lack of coordination between the different organizations involved, directly or indirectly, with labour issues. With regard to information on manpower training, for instance, both the Ministry of Education and Ministry of Labour and Social Affairs produce own periodical statistical report in respect of school (elementary- and high-school) and higher learning institutions, and technical & vocational schools and higher learning institutions, respectively. However, not only the information related to higher learning compiled by both ministries are found to be in complete disagreement with each other, but also it was observed that both use different statistical coding schemes in processing the data - a situation which makes the comparison and synthesis of the two sources difficult.

Although it was found that government departments are primary sources of labour related data/information, the organisation

of data and information in almost all the institutions do not provide for further analysis and use.

On the whole, the following major conclusions can be drawn from the survey results.

1. Existing data/information accessible to users is inadequate for planning purposes.

2. There is lack of awareness of the value of labour information among information workers and users.

3. There is lack of standards relating to statistical coding scheme, classification of occupation, and vocabulary control tool.

4. Information handling methods are inefficient and as a result access to information sources is not expeditious.

5. Existing facilities are not fully exploited (utilised). For instance, about 63 % of the surveyed institutions have computing resources which are not properly utilised.

6. There is no coordination mechanism to bring the various sources together. The information generated by most of the organisations is for the organisation's own consumption.

7.2 RECOMMENDATIONS

The following specific recommendations when implemented can improve the existing labour information facilities.

7.2.1 Awareness of the Need for Labour Information

In realisation of activities, such as, solving the problem of unemployment, underemployment, labour management relations; human resource planning and utilisation; promoting occupational safety and health programmes; structural adjustment programmes; drafting new labour legislations and other issues related to labour matters, there is a general need for labour information. Formulation of policies dealing with labour problems is totally dependent upon such information.

Consumers of information, such as, policy makers and planners, need to be presented with the information in a form which can be easily utilised for various purposes in planning and programming activities. Therefore, creation of awareness among producers of the need to generate information on a timely basis and in a form appropriate for the different user categories is essential. On the other hand, users of information also need to be informed of the availability of data and information.

7.2.2 Need to Upgrade Labour Information Using Step-by-Step Approach

Collection, compilation, analysis and dissemination of information should be guided and rationalised by a national coordinating machinery. The development and improvement of the capability to compile, analyse and disseminate information should be treated as an urgent issue in each organisation participating in the network.

Identification of ways and means for the better utilisation of existing resources available should be the main concern for each participant of the NALINET.

Specific measures that will facilitate developing better information facilities and services, include:

- Upgrading of raw data reporting systems;
- Improvement of quality of publications and publication facilities;
- Efficient utilisation of computing resources;
- Exploitation of administrative records/data to generate value added labour information.

7.2.3 Improving Reliability of Sources

It has been pointed out that different local sources provide different or incompatible data and information on the same subject. And mostly, the information is out-dated for planning and programme implementation purposes. Therefore, in order to make the sources reliable and comparable, there is a need to review concepts and definitions.

The adoption of international standard definitions and concepts compatible to Ethiopian conditions should be examined.

7.2.4 Need for National Seminar/Workshop

In order to bring together all producers and consumers of labour information, a national seminar should be organised at the outset. The institutions identified by this survey can be the first groups to come together.

The seminar should result in an agreement on ways and means of forming the network (NALINET). Furthermore, a Coordinating Organisation can be selected and Steering Committee constituted at the seminar.

7.2.5 Primary National Level Actions

The primary attention, as indicated above, should be paid for creating awareness of the significance of labour information and the need to assign responsibility for coordination of activities in producing labour information and provision of services. Accordingly, the following specific recommendations are believed to be important.

7.2.5.1 Assignment of Coordinating Agency

In assigning responsibility to an organisation to co-ordinate pre-arrangements, such as, organising national seminars discussed above, for the network and later for NALINET activities, the following characteristics should be treated as a set of criteria.

- The organisation's primary responsibility assigned by the government should be on labour matters;

- The organisation should have an authority to propose labour legislations;

- The organisation should have the necessary organisational and technical capacity, that is, manpower (information professionals), computer facility,

information resources, etc;

- The organisation should be able and volunteer to undertake the responsibility of coordinating all parties concerned.

7.2.5.2 Formation of Steering Committee

A Steering Committee is essential for the implementation of responsibilities. The Committee will be provided the necessary logistic support during the first phase of its activity, organising ad-hoc working groups and developing a charter, by the Coordinating Agency referred above.

The members of the Committee should be selected to represent all categories of organisations that will be participating in NALINET. Different ad-hoc working groups may be formed depending on the issues of interest.

The Steering Committee through appropriate ah-hoc working groups should initiate activities such as the following:

- Review in detail the available data and information in existing sources which can be tapped for information. The sources include: published and unpublished materials, surveys, institutions, grey literature, thesis and

dissertations, etc;

- Determine the subject scope of NALINET;

- Determination of problems, deficiencies and constraints that NALINET will be facing;

- Identification of causes for the existing problems and recommend solution measures;

- Review of existing methods, agencies concerned with the production of labour information, untapped sources and suggest measures for a better and effective coordination and utilisation of sources;

- Adoption and introduction of new systems for collection of labour related data and information, such as "key informants approach";

- Development of guidelines for uniform collection and analysis of data and information. This particular activity includes development of concepts and definitions to be used in the collection and generation of labour information;

- Introduction of standards and norms, common formats for

communication purposes, to be followed by NALINET participants. For instance, the ILO labour thesaurus could be adopted as a common communication tool.

- Ensuring allocation of sufficient funds to the labour information programme and seeking new fund sources other than the government treasury;

- Propose the necessary legislation that is of important to the network;

- Ensuring the dissemination of labour information to users widely and appropriately;

- Ensuring that periodic bulletins containing labour information (statistical and non-statistical) are provided regularly and timely.

7.2.6 Exchange of Data and Information (Communication)

The existing exchange of data and information communication, should be formalised. Regular exchange of experiences on methods of data collection, analysis carried out, sources used, organisations involved, policy making information requirements can be facilitated through the formalisation of communication.

7.2.7.1 NALINET Structure

The organisational structure of the network and media of communication are the very important issues. The proposed organisational model of communication is shown in appendix 2.

NALINET should operate within the framework of the national information system. The management aspect of communication will be through the Steering Committee while the technical aspects will be through the focal point.

7.2.7.2 Media of Communication

1. Recommendations on Current Possibilities

All organisations have telephone lines for both internal and external communication purposes. Therefore, depending on the type of information required, such as, referral, the telephone can be an efficient means of communication.

The printed media is the commonly used means of information dissemination and exchange. The first action to be taken in this regard is to deposit information generated by each organisation in the respective information unit/library. The existing printed sources of the various organisations need to reach the identified users of the information based on formal agreements. Common formats for communication purpose is

important.

Another point relates to that utilisation of administrative records. Organisations, such as the Public Service Commission and the Pension and Social Security Authority, have very valuable records which could not be used for information due to its weak machinery for generation, processing and dissemination of information. Therefore, other organisations with the necessary technical capacity can and would utilise such resources in generating information for planning and implementation of programmes related to labour.

Computer facilities are found in 11 organisations who are identified to be participants in NALINET activities. Therefore, as far as existing technology is concerned, organisations can exchange data and information using floppy disks. For exchange of data and information and making down-loading and other information processing possible, all organisations involved would need to operate under compatible software systems. The database management software packages used by the different participants should be compatible and able to exchange data.

2. Future Data Communication Recommendations

The future data exchange activity can be divided in to phases.

Phase I: Organisations that already have computer systems need only to acquire appropriate data communication devices, such as, modems and concentrators suitable for data exchange. Hence, there is a need to undertake a pilot project within selected organisations.

Phase II: All other organisations who do not have computer facilities need to acquire the technology and undertake all the primary activities, such as, organisation of its data and information in a systematic manner to create necessary information resources and facilitate access. Later on they can a need to acquire data communication devices in order to participate in the on-line computer network.

3. Recommendations on Data Handling Methods Enabling Exchange

The adoption of ILO's Central Library and Documentation Branch technique, by the network is recommended. This will also facilitate receiving from and exchange with the ILO labour information.

7.2.8 Roles that Government and International Organisations Could Play

7.2.8.1 Role of Government

The government can play an important role in formulating appropriate legislation and providing training priorities to the staff.

Through an appropriate proclamation of the government, all bodies producing labour information need to work in close collaboration. And copies of all printed books, reports and other publications produced concerning labour or information about the resources in the country should be required to be deposited in the Network (Focal Point of the network) and made accessible to all users.

The proclamation may also cover a compulsory reporting system, such as, reporting of current vacancies available by every employer, the problem of recruitment, occupational accident reporting, trade dispute settling cases and documents about them, and other issues that should be reported to employment exchange services and other concerned government departments.

The training and education of skilled manpower is a critical requirement for a successful national labour information

programme and requires the urgent and earnest consideration of the government. The recently established regional school in Addis Ababa, School of Information Studies for Africa, can help in training national experts in the field of Information Science in addition to the existing training facilities in the country. Therefore, the government should pay due attention in giving priority for training.

Staff training programmes for labour information work can also be provided through on-the-job training. This is an important method of staff development. Training can also be conducted at the national level through seminars, workshops and other technical meetings. The government, therefore, should give priority to and support for such training activities.

7.2.8.2 Role of International Organisations

A number of international technical assistance programmes supporting activities in labour information work in the country have been in operation, such as, funding and technical assistance in conducting surveys.

The International Labour Organisation, the United Nations Development Programme, the United Nations Fund for Population Activities and other United Nations specialised agencies have been providing considerable technical assistance in the form

of consultancy services, training of manpower, supply of equipment, study missions, etc for a number of labour information and employment development programmes in Ethiopia.

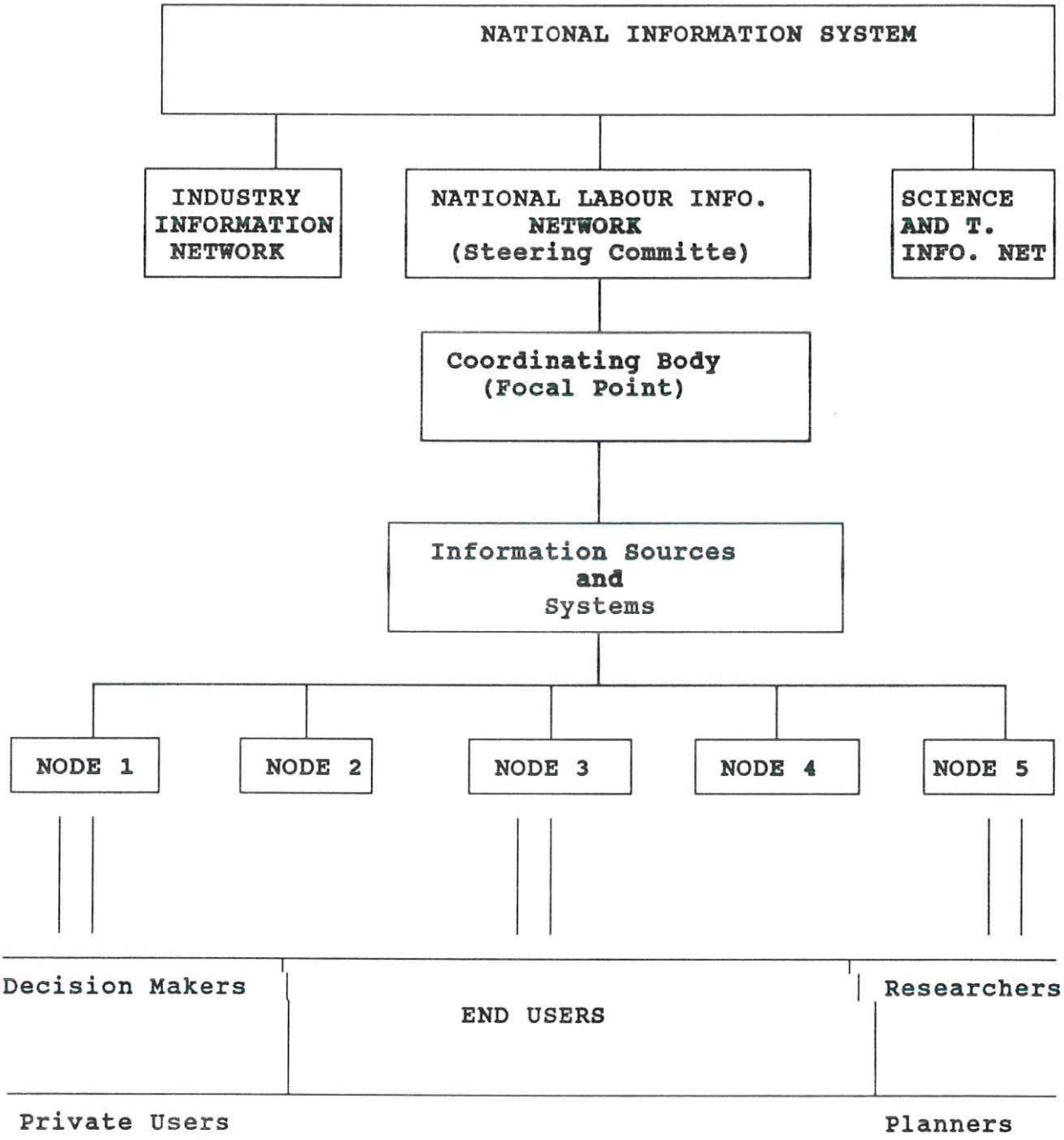
In cooperation with the Ministry of Labour and Social Affairs, ILO has identified the need for cooperation among the different producers/users of labour information. Therefore, in forming and strengthening the Labour Information Network, NALINET Steering Committee should keep in touch with international organisations. This could enable identification of on-going projects and proposed projects of the different institutions. This will minimize duplication of research, research effort and funding.

The international organisations can also play an important role in staff training. The training programmes, in this case, can be through the international cooperation in the form of regional and national seminars, workshops and fellowships.

APPENDIX 1: COMPUTER EQUIPMENT AND PERIPHERALS

Name of Organisation	Computer System Type	Software	Peripherals
1. Ministry of Transport and Communication	IBM PC	dBASE III Plus	Printer, Plotter
2. Central Statistical Authority	HP mainframe, IBM PC	User Developed	Printers, Tape Drives, Disk Drives, Terminals
3. Ministry of Planning	Toshiba	dBASE IV --	
4. National Bank	NCR, OLLIVETTI	dBASE III Plus, LOTUS 1-2-3	Printer, Plotter
5. Pension and Social Security	HP 3000, HP Vectra	User Developed	Printers, Tape drives, Terminals
6. Ministry of Industry	HP 3000	User Developed	Printers, Tape Drives, Terminals
7. Ministry of Agriculture	NCR 8200	User Developed	Printers, Terminals, Disk drives
8. Ministry of Education	IBM PC	dBASE III PLUS, LOTUS 1-2-3	Printer
9. Higher Education Main Department	IBM PC	SUPERCALC IV	Epson LQ 1500
10. Ministry of Labour and Social Affairs	HP 3000, IBM PC, HP Vectra	dBASE IV, MINISIS, QUERY 3000, LOTUS	Laser Printer, HP printer, Epson LQ 1050, Tape drive
11. Institute of Curriculum Development and Res.	N.S		
12. Ministry of Health	IBM PS/2	dBASE III Plus, LOTUS 1-2-3	Dot-Matrix, Ink-jet, Laser-jet

APPENDIX 2: ORGANISATIONAL MODEL OF COMMUNICATION FOR NALINET



APPENDIX 3: QUESTIONNAIRE USED FOR INSTITUTIONS

ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
SCHOOL OF INFORMATION STUDIES FOR AFRICA

Questionnaire Prepared for the Assessment of the Present Status of Labour Information Activities.

Your assistance in providing the correct information is highly appreciated.

Mark "X" against your choice when appropriate.

1. Name of organisation (Ministry/Commission/Authority/Office/Union or Other)
   _____

2. Date of Establishment _____

3. Supervising or Parent body _____

4. What responsibility does your organisation is assigned concerning labour? If more than one rank accordingly, starting from 1.

   __ Labour market research
   __ Labour market research as support to the major occupation of the organisation
   __ Labour administration
   __ Counseling and guidance
   __ Teaching
   __ Others (Specify) _____

5. Major fields of specialisation (i.e population, labour force, employment, unemployment, working time, etc.)?

   _____
   _____
   _____
   _____

6. What are the existing kinds of data/information produced by your organisation and corresponding coverage (urban/rural or both).

	Subject(area)	Coverage
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

7. What are the data handling methods used?
   __ Office files
   __ Published research reports
   __ Unpublished research reports
   __ Annual reports
   __ Computerised databases
   __ Others(specify) _____

8. Does your organisation regularly produce any information (Statistics) about labour?

   Yes ☐ No ☐

(Please list names of permanent and ad-hoc publications and respective information in tables 1.1 & 1.2)

9. Is the information produced for own consumption or do you also distribute to others?

For own consumption only ☐ Share to others ☐

10. If you share information resources with other organisations, please list groups of organisations, such as trade unions, government ministries, employers, etc., you frequently share and type of information accessible to each user group, if there are restrictions of data accessibility (write 'all' if there is no any access restriction)?

Name of User group	Type of information accessible

11. What are your sources of information?
Please mark 1, 2, 3 and so on according to frequency of use.

__ Organisation's operational files
__ Primary data collected by questionnaire (permanently). (Please attach sample questionnaire.)
__ Ad-hoc surveys.
__ Secondary data obtained from reports of government organisations.
__ Professional journals
__ Others Specify _____

12. What classification scheme do you use for analysis of occupation and training data?

International Standard ☐ Own scheme ☐

Hybrid ☐ Other (Specify) _____

13. Which definition do you use for concepts like job seeker, unemployed, employed, and other terms related to labour?

__ Own definition
__ International standard definition
__ Definition set by parent body/government
__ Hybrid (i.e. Definition adopted from international standard and existing labour situation of the country.)
__ Other (Specify) _____

14. What information do you lack (information gap)?

_____
_____
_____
_____

15. Have you ever tried any means of filling the gap?

Yes ☐ No ☐

If yes, what were your trials?

1. _____
2. _____
3. _____
4. _____
5. _____

16. What do you claim for the failure of your attempt?

__ Poorly motivated staff
__ Shortage of skilled manpower
__ Management problem (such as poor leadership of work)
__ Financial constraint
__ Foreign exchange constraint for the purchase of required items from abroad.
__ Others(Specify) _____

_____

17. Is there any on-going project/survey?

Yes [ ] No [ ]

(If yes, please list on-going projects. Use back page, if the space is not enough.)

Project/Survey Title	Description	Funding Organ.
_____	_____	
_____	_____	

18. Please fill the number of permanent staff involved in the labour information work?

Data collectors ____
Researchers ____
System Analysts ____
Computer programmers ____
Data encoders ____
Librarians ____
Others(specify) ____

19. Are there experts in the field of labour?

Yes [ ] No [ ]

(If yes, please let the experts fill questionnaire Q2. Users of the information produced are also expected to fill the same questionnaire.)

20. Is there any computer facility for the purpose?

Yes [ ] No [ ]

If yes, provide the following information. Please specify disc storage capacity of each system. (i.e. For the mainframe or minicomputer and for the microcomputers as well.)

a) Name of computer system:_____
b) If Micro, number of PC's: _____
c) Any software package dedicated to database construction (List name and purpose):

Name of DBMS	Purpose
_____	_____
_____	_____

d) Peripheral devices (List):

_____
_____
_____
_____
_____
_____
_____

21. Is there any computerised database/service?

Yes [ ] No [ ]

If yes,

Name of database _____
Subjects covered _____
Number of records ____

22. Is the computerised database accessible to users outside the organisation?

Yes ☐ No ☐

23. Do you charge for any of your services?

Yes ☐ No ☐

If yes, list names of services and corresponding user groups charged.

Chargeable services/Information	User Groups
_____	_____
_____	_____

24. Please list existing published outputs

Table 1.1 Regular Publications

Title	Frequency	Starting Year	Area of Interset[1]	Sources of Info.[2]	Coverage[3]
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Table 1.2 Ad-hoc Publications

Title	Year of Public.	Area of Interset	Sources of Info.	Coverage
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

[1] Subjects included in the publication: e.g. unemployment, vacancy, employment, labour turnover, occupational injury, collective agreement, etc.
[2] Surveys, operational files, government reports, international publications, etc.
[3] Indicate geographical coverage: Rurla/Urban or both.

APPENDIX 5: QUESTIONNAIRE FOR EXPERTS PROFILE

ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
SCHOOL OF INFORMATION STUDIES FOR AFRICA

Questionnaire for Expert's Profile

Your assistance in providing the correct information is a great help and highly appreciated.

Mark "X" where appropriate.

1. **Name:** _____

2. Nationality : _____ Sex: _____
   Year of Birth: _____

3. Affiliation:
   a) Employer organisation _____
   b) Address: Town _____
   P.O.Box _____
   Telephone:
   Residence _____
   Office _____
   Telex: _____
   Fax: _____

4. Academic Qualifications

Degree	Field(s) of Study	Institution	Year

5. Total year of service in the field _____

6. Field(s) of interest (Please indicate what you consider to be the subject areas in which you are particularly interested and competent. (Being specific is very important).

_____
_____
_____

7. Please indicate professional societies/associations in which you are a member.

Society	Type of Membership

8. Is there any published material by you?

Yes ☐ No ☐

(If yes, provide bibliographic information in tables 2.1 and 2.2)

9. Where do you find source/reference materials for your work? If from more than one rank them.
   __ Employer organisation's library
   __ International organisation's library/documentation centre

__ University libraries
__ Non-governmental organisation's library/docu. centre
__ Others(Specify) _____

10. What source materials do you usually use? If more than one rank them.
__ Professional journals
__ Books
__ Government annual reports
__ Government research reports
__ Others(Specify) _____

11. Is there any on-going project(survey)?

Yes ☐ No ☐

12. If yes, are you involved in it?

Yes ☐ No ☐

(Please fill table 2.2 for on-going projects in which you are involved)

13. **Bibliographic Information (Please list publications during the last five years)**

Table 2.1. Books and Reports

Co-author (if any)	Title	Publisher	Year

Table 2.2. Papers in Journals and Monographs

Co-author (if any)	Title of Paper	Title of Journal/or Monograph	Vol. and Number	Year	Pages

Table 2.3 On-going Projects (Surveys)
(List projects(Surveys) in which you are involved).

Project (Survey) Title	Project description	Funding Org.

14. Please list main consultancy or expert assignments undertaken in the last five years.

Description of Assignment	Duration

15. Please list you employment history. (Give current employer first).

Employer	Designation	Period

16. YOUR COMMENTS OR OTHER RELEVANT INFORMATION ARE VALUABLE
(Please write your comment, if any, on how you think your information requirements could be met in line with cooperation.)

Benyoucet, Mohamed. 1991. OIC Information systems network project: Background and progress. Paper presented at the Workshop on OIC Information Systems Network (OICIS-NET),21-24 July 1991, Jeddah, Saudi Arabia.

Dietal B. and Dietal H. 1986. An Introduction to information processing: International edition. Florida: Academic Press Inc.

Dimitris N. Chorafas. 1980. Data communications for distributed information systems. New York: Petrocelli Books.

Ethiopian Telecommunication Authority (ETA). 1987. Africa Telecom 86. Addis Ababa: ETA.

General Information Programme and UNISIST. 1984. Conceptual framework and guidelines for establishing geographic information systems : Capable of integrating natural resources data and socio-economic data fro development oriented planning, monitory and research (Preliminary version). Paris: UNESCO.

Guinchat, C. and Menou, M. 1983. General introduction to the techniques of information and documentation work. Paris: UNESCO.

Haravu, L. J. 1990. Problems, issues, and challenges for agricultural information systems and services in developing world: Keynote address delivered at the International Symposium on New Horizon in Agricultural Information Management, 13-16 Mar. 1990, SDIC-CAAS, Beijing, China

ILO. 1981. Labour market information for decision making: The case of Japan: A study tour for Asian developing countries supported by the Japanese Government, 24 September - 7 October 1980. Geneva: International Labour Office.

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