ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

THE DEMAND AND SUPPLY OF SECONDARY SCHOOL TEACHERS IN OROMIA: PROBLEMS AND PROSPECTS.

BY
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ABSTRACT

The main purpose of this study was to examine the major problems of the demand and supply of secondary school teachers in Oromia. It attempted to identify the actual number and desired demand of teachers, subject fields face particular difficulties to meet their demand, the relative level of teachers' satisfaction, factors considered in teachers' planning, and problems that the educational authorities face in balancing demand-supply of secondary school teachers.

In order to attain the objective of the study, a descriptive method was employed. The study was carried out on five Zone Education Department and 24 secondary schools. The study also involves 550 teachers that were selected using random sampling technique, and 43 officials purposely selected from the five Zones Education department and Oromia Education Bureau.

Documentary analysis, questionnaires and interview were the instruments used for data collection. The data gathered were analyzed using various statistical tools such as percentage, mean, Chi-square and rank order correlation coefficient. Based on the results of the analysis, a serious shortage of secondary school teachers was identified. It was also found out that, the balance between the actual number of teachers and their desired demand was negatively increased from year to year. Among subjects taught in secondary schools Civic, Afan Oromo, English and Mathematics are the subjects at serous shortage of their demand.

Further more, findings identifies that, the relative level of teachers' satisfaction with their current job was not satisfactory: it was found at lower level. In addition, the majority of teachers' responses show that, their perception to wards teaching profession was negative. Almost all the respondents argue that inadequacy of salary, bad working condition, and low level of prestige and respect by the community as a reason for their dissatisfaction and negative perception.

Regarding teachers planning, as stated by officials, there is no model/method currently used for projecting demand-supply of secondary school teachers. However, weekly load of an individual teacher, numbers of retained teachers available, and number of teachers leaving teaching are the three main factors considered by officials during demand request and teachers planning.

Shortage of teachers for recruitment, lack of reliable data, high rate of teachers' resignation, and lack of coordination among concerned bodies are identified as the major problem of balancing the demand supply of secondary school teachers. In this respect, assigning less qualified teachers, maximizing class size, and increasing the weight of teaching load for an individual teacher are the most practiced methods used by authorities for alleviating shortage of teachers.

Finally in view of the findings and conclusions, arranging in-service teachers training programs through summer courses or distance education, re-organizing data collection system, formulating projection models, and conducting annual conference are forwarded as a recommendations to alleviate the problems.

CHAPTER ONE

1. The Problem and its Approach

1.1. Background of the Study

Education is used as one of the remedies for economic, social, political and cultural problems of a country. Thus, it is expected to enhance a higher standard of living and to create a politically stable society. Furthermore, it is believed that, education is key to unlock the gate towards modernization. Concerning this Smith and Others (1966:39) stated that, "the task of education has often been stated as the guidance of the total growth and development of young people so that they will be competent, adjusted, social-minded citizens of the community and the nation."

Improvement in education contributes to improvements in the social and economic well being of the country. Supporting this view, Beare and Boyed (1993:161) states that, education has always made a significant contribution to the economic well being of the nation. It was from this point of view that an educator asked, "If education failed then what did not failed?" To enhance and facilitate the implementation of all kinds of development, it is, therefore, important that most countries pay special attention to the education of their people.

One can generally say that society's future fate depends on the success of schools in effectively carrying out their objectives. In order to satisfactorily accomplish their purposes, schools as an organization need a supply of available resources: time, financial, material and human resources. As stated by Adams (1987:35), "in schools people matter more than surroundings, buildings, equipment, materials and finance." Thus, of all the resources, people are the most important inputs for schools. Evident to this, Morphet and Others (1982:350) stated that, human resources are the life-blood of an institution. They help to conceive the kind of service the schools can render, to develop and implement plans needed to achieve the goals, and to make adjustments between plans and reality.

Qualified and professional teachers are the most important human resources in school. Such human resources guarantee not only the effectiveness of the school but also they upgrade its efficiency. It is obvious that the classroom teacher is the key individual in the school operation. Concerning this Webb and Norton (1999:416) have the following to say, "apart from learners, the single most important human resource within school is teachers." This

implies that, teachers are the major parts of the school system; they are responsible for developing the talents of students by equipping them with knowledge, skills and appropriate behavior. The efficiency of a school, therefore, to larger extent depends on the adequate supply of qualified teachers and proper utilization of them.

The adequacy of the supply of teachers (in terms of numbers, composition, and distribution) in relation to the demand for them has been a matter of continuing concern among educators and policy makers responsible for ensuring the effectiveness of schools (Boe and Gilford, 1992:21). This means, the effectiveness of the schools depends upon their adequate staffing by competent teachers. Such staffing is possible only if the supply of qualified teacher in each category of teaching is sufficient to meet the need and if education authorities demand qualified teachers in filling schools vacancies.

In general, the supply of teachers with the desired quantity and quality, and with required profile remains to be the primary input factor for any education system. Besides, in order to make a secondary school a functioning system and successful it must have an adequate and qualified teachers.

As stated in Education Sector Development Program of Ethiopia (MOE, 1999), quality of education is measured by the total number of teachers, and the proportion that are qualified; and by learning achievements and examination results of students at a given level of education. Education and Training Policy of Ethiopia (TGE, 1994:6) also indicates that teachers, starting from kindergarten to higher education will be required to have the necessary teaching qualifications and competency. According to this policy teachers should be qualified and certified before assigned to teach at any level of education. In Ethiopia, the minimum required qualification of teachers at secondary school level is at least first degree (MOE, 1987:12). However, the practice is very much different from the Ministry's regulation. As indicated in the Ministry's Education Statistics Abstract (MOE, 2000:10) during the year 1992 E.C., only 36.9% have necessary qualification to teach in secondary schools of the country.

Concerning supply and demand of secondary school teachers, the data obtained from Secondary Education Panel of Ministry of Education, shows a considerable mismatch between the demand and supply of them. According to the data of this panel, the demand of secondary school teachers for the year 1992 EC, for example, was 2953. This demand was only filled by 17.2%(507) of its supply. This indicates that, the supply of qualified teacher falls short of

demand. If subject specialty and geographic distribution were to be maintained, (i.e. if disaggregated) the percent would definitely go much lower than this. However, as far as the knowledge of the researcher is concerned, there is no specified study has been conducted concerning the demand and supply of secondary school teachers at regional or zonal level of the country.

In the light of the above facts, this study is, therefore, focuses on different major issues surrounding the problems and prospects of secondary school teachers demand and supply in Oromia.

1.2. Statement of the Problem

It is true that the instructional process can be developed effectively depending on the availability and willingness of qualified teachers for the demand of schools; and how properly we distribute and utilize them. If the supply and the demand of teachers for all schools and subjects are equitable; and their distribution is reasonable, it can contribute to the enhancement of teaching -learning processes and quality of education. But if we fail to do so, we are likely to damage the teaching-learning process as a whole or in particular schools. Thus, it becomes essential to identify factors that contribute to teachers' supply and demand. A close investigation or assessment is important whether the supply and demand of teachers was planned in such a way that it can assist in accomplishing the interest of any education system that it was designed for.

The main purpose of this study was, therefore, to examine the problems in the demand and supply of secondary school teachers in Oromia. More specifically, the objectives of this study are:

(a) To assess the actual practices of secondary school teachers demand and the supply of them;
(b) To examine the extent of secondary school teachers satisfaction with their current job;
(c) To explore the main factors that determine planning the demand for, and supply of teachers to secondary schools of the region;
(d) To identify basic factors those inhibit officials in balancing demand and supply of secondary school teachers; and

(e) To suggest means and methods to educational planners bringing about balance between secondary school teachers demand and supply.

Thus, in order to carry out these objectives, attempts were made to seek reliable answers for the following basic questions:

1. What are the actual number and desired demand of secondary school teachers for five consecutive years in the zones and secondary schools under study?
2. Which subject fields face particular difficulties to meet the demand for secondary school teachers?
3. To what extent teachers are satisfied with their current job in secondary schools of the region?
4. What are the factors considered in planning the demand for and supply of secondary school teachers?
5. What problems do educational authorities face in balancing demand and supply of secondary school teachers?

1.3. Significance of the Study

The outcome of this study, among other things, can have the following significance.

1. It may increase awareness to the authorities concerned regarding the seriousness of the problem related to secondary school teachers' demand and the supply of them.
2. The study will indicate the balance between supply for and demand of qualified secondary school teachers in various subject areas; and help in identifying subject fields that may face particular difficulties to meet the demand of secondary schools in the region.
3. It may help in designing models for forecasting both supply and demand for teachers; and to project teacher supply and demand variables for use in estimating prospective teachers shortages and surpluses ahead of time.
4. It may provide some alternative solutions or recommendations that may help while planning supply for and demand of secondary school teachers and for the improvement of their equilibrium.

1.4. Delimitation of the Study

Supply and demand of teachers is so wide a topic that concerns all levels of education. Though it exists at various levels of education system, the scope of this study was delimited to government secondary schools in Oromia. The non-government secondary schools are excluded mainly due to variations observed in teachers' employment, distribution, assignment, and the like.

Oromia was selected as a setting of the study because of the awareness of the researcher about the seriousness of the problem on the basis of the information he has got when he had worked as secondary school principal and expert for secondary school education in Zone Education Department. Yet, there is no research study has been conducted on the subject in this area.

1.5 Limitations of the Study

Throughout the process of conducting the study, the researcher faced many problems. The major factors that have a direct impact on the study are stated as follows:

- Un cooperativeness of principals to respond to items that demands time to check documents, like the number of teachers by subject, age, qualification, sex and source of teachers; number of students by streams, grade, etc for the past five years. This hinders the possibility of getting all the necessary information as required.
- The reluctance of some respondents to fill-in and return the questioners, 13.64 percent of teachers and 12.50 percent of officials have done so.
- Due to shortage of disaggregated and organized statistical data, concerning secondary school teachers, the researcher has been forced to use the data obtained through the "format' prepared for collecting the data. This made it impossible to cross check data from different sources.

1.6. Methodologies and the Research Design

As mentioned earlier, the major purpose of this study is to examine the demand and supply of secondary school teachers in Oromia. Since, this is an exploratory study aimed at examining and describing the current and desired states of teachers demand and supply; as well as assessing the present practices of Region Education Bureau, Zones Education

Department and schools in relation to the demand and supply of teachers, descriptive method of research was employed.

1.6.1. Data Sources

The main sources of data in this study were:

1. Documents, and records on secondary school teachers;
2. Secondary school principals and teachers; and
3. Officials at Oromia Education Bureau, and Zones Education Departments.

1.6.2. Data Gathering Instruments

In the process of this study data were collected through the following three procedures:

1. Data regarding number of teachers (by age, qualification and subject fields), pupils' enrolment, and number of sections were collected from documents available in sample secondary schools and Zones' Education Department. For the collection of such data 'format' were prepared (Appendix-C).
2. Two types of questionnaires were prepared to procure the required information. A questionnaire to be filled in by teachers (Appendix-A) and a questionnaire to be filled in by Zone Education Department officials (Appendix -B).
3. Unstructured interview was prepared and employed to elicit information from the Oromia Education Bureau on some issues related to the study.

A questionnaire was preferred because it is the most appropriate means to involve the large size sample population to gather the necessary information within a given time frame. An interview was also used to substantiate the responses acquired from the questionnaires.

The questionnaire prepared for teachers was designed to obtain information regarding the following major areas: (a) respondents back ground; (b) reasons 'why most teachers become a teacher'; (c) perception of teachers towards teaching profession; (d) items related to teachers satisfaction; (e) possible reasons for teachers attrition; and (f) the practice of solving shortage of teachers. Except for respondent's background, the items of the remaining parts of the questionnaire were prepared in the form of likert-type scale.

The questionnaire prepared for Zone Education Departments was designed to obtain responses on the following points: (1) personal background; (2) items considered during teachers demand request; (3) source of secondary school teachers; (4) possible reasons for

teachers attrition; (5) the practice of solving teachers shortage; (6) factors influencing planning demand-supply of teachers; and (7) methods/models currently used for projecting the demand and supply of teachers. For all items, except for number one and seven, of the questionnaire likert-type scale was prepared.

Both questionnaires, of teachers and officials, were prepared in English to be filled out by the sample teachers and officials. The questionnaires were distributed to sample zones and secondary schools, and collected by the researcher and his assistants. Regarding the unstructured interview, it was conducted with three officials of the bureau on a one-to-one basis by the researcher himself.

1.6.3. Sampling Techniques

In order to ensure fair representation of schools, out of 121 (MOE, 2000:84) government secondary schools in the region 24 were selected as a sample. To draw these 24 samples from the available schools five zones were selected through simple random sampling techniques. These zones are: Arise, Bale, East Showa, East Wollega, and West Showa. The number of schools from five zones included in the sample was determined using the quota sampling techniques because of unequal proportion of secondary schools in each zone.

Once this task was accomplished, out of 4507 (OEB, 2000:54) teachers of government secondary schools in the Region 550 were selected. By referring to each schoolteacher's attendance sheet and using random sampling techniques respondent teachers were selected from each sample schools. The distribution of the sample teachers has been done as shown in the Table 1.1.

Considering their exposure to secondary school teachers demand and supply eight officials from each Zone's Education Department (a total of 40) were purposefully selected to answer the questionnaires. Furthermore, three officials from Oromia Education Bureau were selected by purposive sampling method to answer interview questions.

Table 1.1 Sample Distribution of Teachers' in each School.

No.	Selected Secondary School	Teachers		Zone
		Population	Sample	
1.	Ambo	88	35	West Showa
2.	Aris Negelle	39	16	East Showa
3.	Asssela	142	57	Aris
4.	Bako	36	14	West Showa
5.	Batu	76	30	Bale
6.	Bishoftu	85	34	East Showa
7.	Bokoji	56	22	Aris
8.	Chilallo	119	47	Aris
9.	Darge	56	22	East Wollega
10.	Deja Geresu	73	29	West Showa
11.	Dodola	42	17	Bale
12.	Finchea	23	9	East Wollega
13.	Ginchi	40	16	West Showa
14.	Guder	43	17	West Showa
15.	Harato	20	8	East Wollega
16.	Hawas	85	34	East Showa
17.	Kofle	36	14	Aris
18.	Kuyera	30	12	East Showa
19.	Modjo	44	18	East Showa
20.	Nekemte	73	29	East Wollega
21.	Robe	54	22	Bale
22.	Shashemenne	55	22	East Showa
23.	Sire	29	12	East Wollega
24.	Yehibret Fire	35	14	West Showa
TOTAL		1379	550	Five

NB: Number of sample teachers of one school is equal to 550 times total number of teachers in that school divided by 1379 (total).

1.6.4 Variables Included in the Study

The dependent variables in this study were the demand for teachers' (continued and newly created positions) and supply (retained and entering teachers into the positions) of secondary school teachers. The major independent variables considered were characteristics of teachers (age and qualifications), student enrollment (including teacher-pupil ratio, and class size), sourse of secondary school teachers, relative level of teachers job satisfaction, teachers perception towards the teaching profession, reasons for leaving teaching, and determinants of balancing supply-demand of teachers.

1.6.5 Methods of Data Analysis

Depending on the nature of the basic questions and the data obtained, different statistical techniques were employed in this study for data analysis and interpretation.

- To know the characteristics of the respondents' percentage were calculated.
- Percentages were also calculated to determine the proportions of the total respondents who have the same judgments. This was done by adding the same responses given for each items and then dividing by the total number of respondents. In addition arithmetic mean were calculated and used for such responses.
- To know the proportion of qualified (BA/BSc degree and above) and less qualified (below BA/BSc degree) teachers who have the same view about the reasons 'why most teacher become a teacher'; and between teachers and officials responses 'whether they advise or not advise their relative to be a teacher'; first percentage were calculated and then Chi-Square test was made. Chi-Square test was statistically significant when X^2 (table value) was less than the calculated value of X^2, and insignificant when it was greater than the calculated value at alpha=0.05 level of confidence.
- To see the degree of agreement between the ranks (on the basis of the mean scores calculated for each items) of teachers and officials for items related to reasons for teachers' attrition, and the practice of solving

shortage of teachers, the Spearman's Rank Correlation was used. This is also used to see the degree of agreement between the ranks of qualified and less qualified teachers for the reasons responded 'why they enter teaching'.

1.7 Definition of Terms

Attrition - Refers to all forms of withdrawal of teachers from the profession (Hanson, 1974:25).

Continuing teachers- Qualified individuals who currently hold teaching positions and have option of remaining in this position from one year to the next (Boe and Gilford, 1992:24).

Demand (Teachers')- The total number of teachers assumed, on the basis of given staffing standards that will be needed in successive future years to service an assumed size of school population (Forojalla, 1993:21).

Entering teachers- The number of persons (not already teaching) who are available and willing to take teaching job (Boe and Gilford, 1992:26).

Officials- In a teaching establishment, a person responsible for the total administration of an educational organization/institute (Thomas, 1977:12).

Secondary School- According to the classification of the Ethiopia Educational System it refers to grades nine to twelve (MOE, 1987:1).

Supply (Teachers')- The number of eligible individuals available from all sources who are willing to give their service to teaching jobs under prevailing conditions (Boe and Gilford, 1992:24).

1.8 Organization of the Study

This study consists of four chapters. Chapter one deals with the problem and its approach. The review of the related literature is treated in chapter two. The third chapter deals with the analysis and interpretation of the data. Finally, in chapter four, summary, conclusions and recommendations are presented.

CHAPTER TWO

2. Review of the Related Literature

2.1. The Assumption of Human Resource Planning

2.1.1 Concepts and Meanings

There are a number of factors that contribute towards the success of an organization. These factors include capital, equipment, manpower, etc. While all these factors are important the human factor is the most significant one, since it is the people who have to use all other resources. Concerning this, Rao and Narayanana (1996:409-410) states that, the most important resources of an organization are its human resources-the people who supply the organization with their work, talent, creativity, and drive. Without the competent people, at the operational as well as managerial levels, organizations will either pursue in appropriate goals or find it extremely difficult to achieve appropriate goals once they have been set.

People are the essential ingredient in all organization, be the organizations business, governmental, religious, educational, etc, and the way in which they are supplied, and utilized by leadership largely determines whether the organization will achieve its objectives successfully. This is to say that, the success of any organization ultimately depends on having the right people in the right jobs at the right time. In other words, organizational objectives and various strategies to achieve these objectives are meaningful only when people with the appropriate talent, skill, desire, and ambition are available to carry out the strategies to achieve the missions.

Towards the achievement of organizational objective and continuing healthy operation of an organization it requires human resources planning. Moreover, successful accomplishment of human resource planning is vital if the organization is to become operational and accomplish its mission.

As defined by Mondy and Noe (1990:146), human resource planning is "the process of systematically reviewing human resource requirements to ensure that the required number of employees, with required skill, are available when they are needed." According to Rao and Narayana (1996:414) human resource planning is defined as "a process by which an organization ensures that it has the right number of people, and the right kind of people, at the right place and at the right time, doing things right in the organization."

When he defines human resource-planning Davor (1994:54) emphasizes its importance as follows:

> *Human resource planning is the process an organization uses to ensure that it has the right amount and the right kinds of people to deliver a particular level of output or services in the future. More specifically, through planning management strives to have the right number and the right kinds of people at the right places, at the right time, doing the thing, which result in both the organization and the individual receiving maximum long-ran benefit.*

The definition given by these authors and others indicates that, human resource planning is the process an organizations uses to ensure that it has the right amount and the right kinds of people to deliver a particular level of output or services in the future. The purpose of human resource planning is, therefore, to ensure the most effective and efficient use of human resources to move an organization towards its mission and achieve its objectives.

As indicated by Rao and Narayana (1996:417) the major aims of human resource planning are to ensure that the organization: (a) obtains and retains the quality and quantity of manpower it needs; (b) makes the best use of its manpower resource; (c) is able to anticipate the problems arising from potential surpluses or deficits of manpower. Supporting this, Chandan (1995) point out that: human resource planning is important in providing the following direct benefits to the organizations.

1. It improve the utilization of human resources by helping the management forecast the recruitment needs in terms of both numbers as well as the type of skills required and develop ways to avoid or correct problems before they become serious and disrupt operations.
2. It helps focus recruitment efforts on the most likely sources of supply. This will cut down the total costs of hiring and training personnel and reduce costs associated with hiring mistakes.
3. It makes provisions for replacement or back-up staff from either inside or outside the organization whenever the need arise either on a temporary or permanent basis.
4. It helps achieve on integration of personnel plans with other operating as well as strategic plans by making available the personnel management information base to other organizational activities.

In general human resource plan guarantees optimum use of available manpower resources. It also assesses the future skill requirements of human resources and determines the future levels of recruitment. It provides adequate control measures to ensure that necessary resources are available as and when conditions of an organization changes. It also anticipates redundancies and avoids unnecessary dismissals. On the whole, it provides a basis for management and organization development programmers.

Human resource planning, as a process of getting the right number of qualified people into the right job at the right time, involves objective and systematic assessment of present staffing needs of an organization, identifying the available personnel to satisfy the current needs, forecasting the future demand and supply of employees, formulating staffing strategies with a view to both short range as well as a long range strategic plans, and continuously monitoring, evaluating and updating these needs a resources of supply.

Byars and Rue (1987) and Noe and others (1996) identified the following four steps in the human resource planning processes: (1) Determining organizational objectives; (2) Determining the skills and expertise required (demand); (3) Determining the net additional human resource requirements; and (4) Developing action plan.

Holt (1993:374) on his parts identifies the following five steps in human resource planning processes: (a) where do we want to be? (Human resource objectives); (b) Where are we now? (Assessment); (c) how we get to where we want to be? (Plans); (d) Implementation (activities as defined in the plan); and (e) How are we doing? (Controlling). On the other hand, as suggested by Pettman and Tavernier (1984:2), after defining over all organizational objectives for the stated period ahead and convert their objectives into human resource objectives for the same period, human resource planning processes must involves the following six operational activities:

1. Design the human resource information system.
2. Undertake a human resource inventory.
3. Analyses human resource requirements (Demand).
4. Analyses human resource supply.
5. Improve human resource utilization.
6. Improve human resource policies in the organization.

The human resource planning processes indicated by Davor (1994:56) was categorized into the following four steps: 1, Anticipating manpower needs. 2, Planning jobs requirements and description. 3, Analyzing skills to determine the nature of manpower needed. 4, Select adequate sources of recruitment. He also suggests that, human resource planning can basically be done by observing the following three steps.

First step; determine the period for forecasting requirements of manpower in the future (that is, requirements at the end of the first year, second year, third year, etc.) and forecast the manpower required at the end of such period.

Second step; from the number available at the end commencement of the period, deduct the expected wastage through deaths, resignations, retirements and discharges. This would give the manpower available from existing staff at the period concerned. A comparison of the figures arrived at in steps first and second, would indicate shortages or surpluses in manpower requirements.

Third step; (a) in case of shortages, decide how such shortages are to be met; (b) if surpluses are anticipated, decide how these surpluses will be dealt with.

All the above authors suggestion shows that, steps and activities within the human resource planning process include developing planning assumptions, determining organizational relationships and structures, completing inventories of need, making assessments of labor markets, developing forecasts of resource needs, completing projections of determinant factors, and evaluating the process's implementation and its effectiveness.

2.1.2 Forecasting Human Resource Needs

Forecasting, as defined by Webb and Norton (1999:145), is "a prediction of future events used for planning purpose." According to Chandan (1995:164) human resource forecasting is defined as, "the process of collecting and analyzing information to determine the future supply of, and demand for, any given skill or job category." These indicate that, human resource planning involves objective and systematic assessment of present human resource needs of an organization, identifying the available personnel to satisfy the current needs, forecasting the future demand and supply of employees. That is, if we identify and understand what determines the supply and demand for human resources, we can predict the needs, and the availability of human resources, making the planning for changes in personnel easier.

Thus, the important point to be considered to any forecasting procedure is to determine what case thing to happen the way they do.

2.1.2.1. Forecasting Human Resource Demand

The human resource requirements, or demand forecast, must be derived from the organization objectives. The human resource implementations must be examined before final decisions are taken. The forecast must also provide information about the types of human resource required. As identified by Chandan, the factors to be considered for forecasting demand are:

1. Anticipated growth of the organization. This growth rate can be calculated from the past trends on the assumption that all variables affecting this growth will remain constant.
2. Budget constraints and allocations. The budget allocation specifically for the purpose of new employees will determine the number of new workers that can be hired, thus putting a ceiling on maximum number.
3. Anticipated turnover in personnel due to retirement, death, transfers, termination of service, promotion etc. Some of these can be anticipated or calculated to some extent accurately in advance by taking information about individuals, specially the loss due to retirement and promotion or transfer profile.
4. Introduction of new technology. With continuous technological developments, innovation and automation, the personnel need are constantly changing. The type of new technology introduced would determine the number as well as qualifications of the people that may be hired or transferred.

2.1.2.2. Forecasting Human Resource Supply

Consideration of the availability of labor is vital when organization's development plans are being drawn up. In addition to external supply considerations, the human resource planner has to consider the internal supply of labor already in the organization. For example, the age, length of service, and labor turnover. A vital part of the human resource planner's work is, therefor, to indicate the constraints on policy imposed by conditions in the local, and

occasionally, national, labor market. More specifically the factors to be considered for forecasting human resource supply are identified by Chndan (1995) as follows:

1. Promotion of employees from within the organization. Promotions are a good and a reliable source of supply of experience and skilled personnel.
2. Availability of required talent in the external labor market. This may be assessed by unemployment figures, survey of private and public employment agencies and other sources.
3. Computation for talent within the organization. If the competition is very tough then it will be more difficult to tap the supply and the cost of additional workers will become very high.
4. Population movement trends. The demographic changes will also affect the sources of supply. For example, if there is a tendency for people to move from rural area to urban areas then the supply in the rural areas will dry up.
5. Enrolment trends in schools, colleges and universities. If there is a marked increase in the number of students in training programs as well as colleges, this will improve the supply of skilled personnel with specialized educational backgrounds.

2.1.3. Human Resource Information System

An effective human resource information system is crucial to sound human resource decision-making activities. In relation to this, Mondy and Noe (1990:162), when they define human resource information system, states that "a human resource information system is any organized approach to obtain relevant and timely information on which to base human resource decisions." They further indicated that, human resource information system should be designed to provide information that is timely (up-to-date), accurate (correct and exact), concise (brief), relevant (needed in particular situation), and complete (all the required-not partial). Moreover, these authors believed that, the absence of even one of these characteristics reduces the effectiveness of human resource information and complicate the decision-making process.

Supporting the above views, Pettman and Tavernier (1984) suggests that, the first task in devising a human resource information system is to define its objectives to make sure that

the data provided meet the organization's needs and that the resulting justify the work and time spent in gathering and completing the data. The next step is to carry out a painstaking analysis of the existing information process, the procedures used for gathering and processing data, the documentation and the results with a view to rationalization. The data required are then collected, presented and finally analyzed.

In general, a properly developed human resource information system can provide tremendous benefits to the organization. Information must be collected from the different units of the organization, compared, and reported in a form that support decision-making and human resource planning process. That is, data from various input sources must integrate to provide the needed out puts. On the whole, when the human resource information system is properly designed information needed in the organization's human resource planning and decision-making process is readily available.

2.1.4. Successful Human Resource Planning

Human resource planning is conceived as a strategy for the acquisition, utilization, improvement and preservation of an organization's human resources. It is necessary irrespective of whether the available resources are abundant or scarce. Human resource planning is essential because it not only is concerned with the estimation of future personnel requirements but more importantly with the utilization of manpower resources. It provides a sense of direction, a frame of references and a base of knowledge for making major decisions on human resource development. Such purpose can be achieved by careful and intelligent human resource planning.

Emphasizing this, Webb and Norton (1999) have pointed out the following characteristics of successful human resource planning processes.

- The human resource planning process should be comprehensive. It must include the many sub units of the organization, for example, departments, and divisions.
- Human resource planning is a process that is integrative. All parts should interrelate to form a whole. It is not simply a collection of plans from the several sub units of the organization, but rather a single plan reflecting personnel need for all units.

- The process is continuous and usually conforms to the organization' planning cycle. Data are continuously updated so that decisions can be made with the highest degree of currency and accuracy.
- A multiyear planning format is essential to the continuous process of planning and should reflect activities and developments over a period of one to five years.
- The many constituencies affected by the plan should have input in the formation of the process. Thus the plan must be participatory to gain individual commitment to implementation.
- Flexibility must be integral to the planning process. The plan should provide for modification and change as required by changes in the organization's internal and external environments and the specific needs of its constituencies.

Supporting the above views, Pettman and Tavernier (1984), have proposed the following points for successful human resource planning:

1. Human resource planning must be recognized as an integral part of organizational planning. Thus the human resource planners need to be aware of the organization's overall objectives.
2. Top-management backing for human resource planning is absolutely essential.
3. Human resource planning responsibilities should be centralized to coordinate consultation between different management levels.
4. Personnel records must be complete, up-to-date and readily available.
5. The planning period should be long enough to allow remedial action to be taken.
6. The planning techniques used should be those best suited to the date available and the degree of accuracy required.
7. Plans should be prepared by skill levels rather than by aggregates.
8. Data collection analysis, planning techniques and the plans themselves need to be constantly revised and improved in the light of experience.

2.2. Teacher Planning

The planning of teacher's can be defined as "securing the future provision of teachers of desired qualities and in desired quantities, compatible with the resources available for employing them"(Dunkin, 1987:650). According to this author, the term "desired qualities and

quantities" is directly linked with the realm of curriculum aims, content, and structure, of pedagogical methods, and of the organization of learning groups. The term "available resources" however, is associated with the questions of management's, of educational financing, and of efficiency of resources use.

The ultimate concern and focus of educational administration, and of educational planning which is a key aspect of it, should be the learner and his learning .The teacher as the greatest aid to learning is the most important person in the school system. They dominate the educational process in all national and local system of education. Thus, the planning of teachers is a central concern in the development and smooth functioning of any education system. To this effect, Forojalla (1993) argues that, teacher planning has come to assume a central position in over all educational plans for the reasons elaborated below.

1. In organizing any new, changed or expanded educational program, securing the necessary teachers for it is one of the highest priorities. But the preparation of teachers requires a long time lead. More over, just as problematic as the lead-time required producing trained teachers is even more length time lag over which poorly qualified teachers may remain in the service with the consequent detrimental effect on the system. It was therefore necessity that, to think well in advance about teacher requirement that was a major impetus for the development of educational planning.
2. In periods of rapid educational expansion, the teacher-training system may itself come to compete with the school and other educational programs for resources. The educational planner is, as a result, confronted by difficult decisions concerning the optimal allocation of current resources between schools and teacher-training institutions for securing future teacher supply.
3. In qualitative terms, realistic curriculum planning is intimately bound up with questions of teacher demand and supply: the teacher is a key factor in the learning process.
4. Teacher demand and supply are also central to educational planning because of the cost of employing them. Teacher salaries invariably account for a very high proportion of recurrent expenditure on education. Change in teacher qualifications or in the pupil-teacher ratios can have enormous impact on the education budget.

Other scholar, Williams (1979:15-17) has summarized the reason why planning of teacher is a central concern of educational planers-because: (a) the teacher is a key factor in the learning process, (b) programs of educational expansion or implementation require forward preparation, (c) the teaching-training system is itself competing with schools and other educational programs for resources, and (d) because of the dominance of teacher salaries in educational finance.

Since, the planning of teacher is securing the future provision of teachers of desired quantities and in desired qualities it need to include or analyzed in conjunction with the political, social environment, and labor conditions that exist in the target and alternative occupations.

In general, planning aims at the achievement of a long-term equilibrium between inflow and outflow of teachers such that the stock of teachers can satisfy the projected level of demand. It will involve far more than determining annual intakes to the training-college system; in addition to the wide range of alternative sources or recruitment that can be tapped, the factors affecting the retention and utilization of teachers will be just as central to the planner's concerns (Williams, 1979:96).

Several authors believe that understanding is a necessary basis for action in planning teachers' demand and supply by a government authorities at national, regional, zonal, or district level to be in a better control of its teaching stock situation. To be useful in understanding the teaching force, information is needed about various sources of supply of individuals hired as teachers, as well as about composition and distribution of the teaching forces available. Information at this level of detail could then be related to comparable information about teacher demand in efforts to understand the degree to which teacher demand is being met by qualified individuals, as well as the sources of teachers that might be manipulated by policy in order to provide a more adequate supply.

Thus, it is essential for sound teachers planning that the educational authorities have at their disposal full information about the size and characteristics of the existing teaching force and its distribution between different types of schools. This is necessary for three main reasons (Forojalla, 1993:226): First, such information allows a proper comparison of supply and demand. Second, more accurate projections of teacher requirements are likely to be achieved if calculations are made based on small teacher sub-population with their different

characteristics. Third, accurate information regarding the teacher stock is essential for the yearly budget projections and sound financial planning.

In addition to the size and characteristics of the existing teaching force and its distribution, the level of aggregation being used in planning for teachers is of greatest practical important. As indicated by most writers of teacher planning, the major categories in which one may be interested are sex, age of teachers, subject, qualification, Region, and condition of the work place (schools environment).

Another area of focus to be considered in teacher planning is the economic and financial factors. Both the demands for teachers and the supply will be closely affected by financial consideration. To this effect Williams (1979: 28-29) states:

> *Of the many considerations that influence the career choices of job seekers, salary levels are probably the most important. The level of the starting salary in teaching in relation to that in other careers is particularly crucial in determining the quality of recruit that can be attracted to teaching. The structure of salary scales and promotion prospects may also have a significant impact on decisions to enter, or remain in, the profession.*

The above statements demonstrate that alternative employment opportunities and changes in the level and structure of salaries influence teachers entering and leaving the profession. Thus, it become appropriate to consider in what ways salary policy can be used as means of deliberately influencing other aspects of teacher supply and demand factors while planning for teachers.

Furthermore, the issue of planners' competence and coordination of concerned bodies in planning for teachers also deserves serious attention. As stated by Hughes and other (1985:70) failures or success to achieve policy objectives occurred in the management of the composition and distribution of teaching stock, which is highly dependent of the ability and competencies of authorities in planning teacher demand and supply.

Emphasizing the requirements of techniques and expertise with acceptable ability and competencies, Williams (1979) suggests that, it will be helpful to identify particular officers who are to have responsibility for regular analyses of teacher requirements and the making of projections. According to this author, this is a specialist task, which may well be assigned to officers either, in the planning unit of the education authority, or in the section or body

responsible for the teachers' service. He also suggests that, the involvement of those who make education policy (example, the Minister of Education), those who employed and use teachers (example, the local authorities, school boards, etc.), those who train teachers (training colleges, universities, higher-education institutes) and the teachers themselves (through their own unions and associations) is important in the process of planning for teachers.

2.3. The Demand for Teachers

'Teacher demand' has different meanings, varying from needs in the layman's sense of what is desirable to the economist's sense of market demand. As stated by Williams (1979:35), to an economist the 'demand' for teacher is a function of the price of teachers and it signifies the number of teachers that employers are prepared to hire for work at current pay rates. According to Boe and Gilford (1992:45) the total demand for teachers is defined as the total number of teaching positions funded by local education agencies, that is, the number of teachers that local education agencies are able and willing to employ at a given time.

These definitions shows that, the concept of teacher demand as a number of funded teaching positions, is an economic definition that treats demand as contingent on how much teachers cost and how much money local education agencies are able and willing to spend on teachers. But, local education agency's willingness and funding capacity is not the only factor that determines teacher demand. Thus, teacher demand should be defined by the result of a number of considerations leading to the establishment of teaching positions. Emphasizing this, Forojalla (1993:210) define teacher demand as "the total numbers assumed, on the basis of given staffing standards; that will be needed in successive future years to service an assumed size of school population."

Forojalla further explains that, a country's teacher demand can be considered in terms of the three tiers of its educational organization: national, local, and institutional. In other words, it can be thought in terms of national needs, the needs of each local educational authority and the needs of each school.

2.3.1 Factors Influencing Teacher Demand

Many factors determine demand for teachers in any school year. For example, as indicated by McNergney and Herbert (1995:17) teacher demand is affected by: enrolment

changes, class size policies, budget considerations, change in methods for classifying and educating special education students, and job turnover due to retirement or attrition.

According to Webb and Norton (1999:416) the demand for teachers is in large part determined by three market considerations: (1) the number of students to be served; (2) the number of teachers leaving through death, regulation, retirement, resignation, dismissal, and so on; and (3) teacher-pupil ratios. By the same token, Zwoll (1982:55) on his part states that, the class size being considered constant, the number of children of school and the number of teachers leaving teaching are factors of increasing demand for teachers. Furthermore, he argues that, overcrowded classrooms, double sessions, and provision of qualified teachers in place of the unqualified ones are the subordinate factors of increasing demand for more teachers.

All the above authors statement shows that, the factors that determine demand in any particular years includes: the number of students enrolled in schools, policies pertaining to curriculum and teacher-pupil ratios, prior commitments to employed teachers, the number of teachers leaving teaching, local education authorities funding capacity, and the prices that must be paid for various type and qualities of teachers.

On the other hand, other authors generalize the factors affecting teacher demand in two main points. Forojalla (1993:215-223) and Williams (1979:38-50) for instance, have identified the following two factors: (1) the future school population (enrolment), and (2) the staffing standards of the school system. As explained by these authors, the size of future school population or the number of learners to be enrolled is depending on three essential variables.

1. **The Population of School-going Age**. This refers to the numbers of the age group that falls within the age range designated by government policy for each stage of the education system.
2. **The Ages and Length of Attendance**. These are defined by the school structure and the educational laws and regulations of each country. Generally, in most developing countries, the age of entry into primary stage is six years.
3. **The Enrolment Ratio**. This represents the population of the relevant age group that is actually absorbed into schools. It also reflects the intake and progression rate (promotion, reputation, and drop out). These are greatly influenced by government

policies. Nevertheless, enrolment ratio reflects equally the response of parents and pupils to the opportunities available for education.

As to the explanation of these authors, staffing standards are criteria laid down by the education organization or system. It is what has been prescribed - what ought to be. There are three essential components of teacher demand in terms of staffing standards. These are class size, class contact (teaching load), and teacher-pupil ratios.

1. **Class Size**. This denotes a group of pupil constituting a recognized permanent sub-unit of the pupil body in the school. The average class size is normally obtained by adding the total numbers of pupils in the school and dividing it by the number of classes. Class size is used in measuring the actual number of teachers by a 'bottom-up approach'– assessing teacher requirements, which begins with classroom and arrives at the total local and/or national teacher demand.
2. **Class Contacts (Teaching Load)**. This is an approach to planning required teacher numbers based on the timetable class contact periods or load a teacher has per week. The number of weekly teacher contact periods by each class will depend on the curriculum content and pedagogical methods in uses. Concerning teaching load, it is believed that, teachers with different levels of experience and qualifications, and of different subjects, may have varying loads. The important consideration from the point of view of teacher demand is that, the fewer periods taught by teacher, the greater the numbers required and vice versa.
3. **The Teacher-Pupil Ratio (TPR)**. The TPR as applied in teacher demand, relates the number of teachers to the predicated school population, that is, the ratio is the number of pupils divided by the number of teachers. Generally, the educational authority assumes the teacher ratio for each level of the school system and these are then used in determining teacher demands. All that done is simply by dividing the projected number of pupils at each level by the appropriate ratio and the required number of teacher is obtained. In general, the TPR used as a components of teacher demand is based on some 'teaching and learning strategy' which specifies among other things the average size of class, the total amount of teacher-contact time

required by a class over a week, and average teaching loads per teacher per school week.

To sum up, as stated by Dunkin (1987:651), difficulties encountered in achieving teacher demand reflect to some extent problems in estimating correctly future value of the four ingredients of changes in numbers of teachers demanded.

a. Change in numbers to be educated (because of size of target population, or its enrolment rate, altar).
b. Changes in normal wastage rate of teachers through death, retirement, resignation, transfer, dismissal, etc.
c. Changes in special programs, introduced to replace or upgrade unqualified or under-qualified teachers or to localize a service formerly staffed by non-nationals.
d. Changes in the TPR through alteration of pupil hours per week.

The above points implies that, teacher demand should not only considered in terms of the determinants of the size of the teaching force at any given moment, but also from dynamic perspective and consider the flow of teachers over time.

As explained by Forojalla (1993), Williams (1979), and others, the dynamic dimension of teacher demand concerned with those factors determining the rate at which teachers should be recruited. In relation to dynamic perspective of teachers' demand, there are three main factors of change to be taken into account: 1) Development demand; 2) Special replacement demand; and 3) Normal replacement demand.

Development Demand. Change in the size of the teaching force, arising from growth or decline in enrolments or from changes in the way teachers are used in the education system, constitute development demand. Such changes may normally be expected to result in increased demand for teachers, because of population growth and higher participation rates in education, and because countries as they develop hop to improve staffing ratios. Changes in educational practice may arise from professional conviction about educational efficacy of some innovation, such as the introduction of new subjects to the curriculum, or of new way of using teachers.

Special Replacement Demand. This is a planned change in the nature and composition of the teacher stock itself. These programs, arising from the deliberate intentions

of an education system, generally aim at replacement of foreign teachers by nationals of the country or of professionally untrained or unqualified teachers by qualified ones.

For unqualified teachers 'replacement' may mean not total dismissal, but being given the opportunity to enter teacher-training colleges; or they may be offered part-time in-service courses by correspondence or other means, to upgrade themselves to qualified status while teaching. In drawing up the replacement program, the crucial question to be decided is the length of the period over which replacement is to take place; this determines the demanded annual flow of teachers for this purpose.

Normal Replacement Demand. This serves simply to replenish any shortages in the existing stock due to normal wastage through retirement, resignation, illness, death, etc. It is generally believed that, the stock of teachers is liable to 'natural wastage.' Even when there is no development demand and no special replacement program, it will still be necessary to recruit new teachers to maintain and renew the stock. Otherwise death, retirement, resignation, illness, and the like will take their toll and the number of teachers will decline.

It is, therefore, necessary that teacher demand planning should be based on the separate consideration of these three components of total demand: normal replacement demand, development demand, and special replacement demand.

2.3.2. Calculating and Projecting Teacher Demand.

There are two approaches that can be used in calculating and projecting the demand for teachers-either in the aggregate or in particular category (Williams 1979, Boe and Gilford 1992, and Forojalla 1993). The first is simply by dividing the projected number of pupils or expected enrolment by the teacher-pupil ratio to obtain the required number of teachers. Her, the projected number of teachers' demand refers either to all teachers or to teachers at a particular level (elementary or secondary) and/or in particular subject area. The projected teacher-pupil ratio refers to the same level and/or subject category; and projected (expected) enrolment is either aggregate enrolment, enrolment at the specific level, or course enrolment in the specified subject area, as the case may be.

The second is slightly more complicated and involves the application of class size, class contact (teaching load), and teacher-pupil ratio in three steps. The starting point is the number of learners or expected enrolment of students. This is divided by the average class size

to obtain the number of classes. The resulting number is then multiplied by the average number of teacher contact periods per week per class. This gives the total weekly timetable teacher contact period per class, which divided by the average weekly teaching load per teacher, results in the number of teachers demanded.

Similarly, concerning methods of calculating teacher demand, Dunkin (1987:651) expresses in the following formulae:

T=PR or **T=PW/GL**

Where: T = number of teacher required (Demand)

R = teacher-pupil ratio

P = number of pupils (Enrolment)

W = length of pupil instructional week (in periods or in hours)

G = average class size of pupil group meeting one teacher (Size of the class "as taught")

L = average weekly teaching load per individual teacher (in periods or hours).

Both of the above approaches shows that calculating and projecting demand for teachers are basically depend upon projected number of student enrolments, class size and teacher-pupil ratio. It is true that the enrolment projections are generally produced separately and treated as inputs into the teacher demand calculations.

Enrolment in the future years is largely predetermined by current enrolments as affected by wastage rates. The two major assumptions that have to be made concern are: (a) the level of future enrolments at specific grade with fixed age entry, and (b) changes in wastage rates noticeable in preset enrolments and likely to affect future intakes. Government policies and the effects of other social factors on intake levels and wastage must also be considered in making future projection of student enrolments. However, where government has no policies or plan for change in the future, then past trends would be assumed to continue (Boe and Gilfored, 1992).

These authors further suggests that projection of, teacher-pupil ratios are generated by one or a combination of the following methods:

Method 1: Assume that teacher-pupil ratios in the future years will be the same as recent years for which data are available.

Method 2: Assume teacher-pupil ratios in the future will be equal to the averages of the corresponding ratios in several recent years.

Method 3: Estimate future teacher-pupil ratios by extrapolating the trends of recent years.

Method 4: Set the projected teacher-pupil ratios to reflect adopted or anticipated future staffing norms or staffing policies.

2.4. The Supply of Teachers

As defined by Boe and Gilfored (1992:24) teacher supply means "the number of eligible individuals available from all sources who are willing to give their service under prevailing conditions." According to Forojalla (1993) and Williams (1979) teacher supply is defined as, the total number of teachers assumed under a particular conditions of recruitment and wastage, to be available in successive years to meet this requirement.

Both of these definitions shows that, the supply of teachers means, total number of people who, under certain conditions, would be available and willing to offer their service to the teaching profession. According these authors and others, the supply of teaching force is composed of two large groups: 1) employed teachers continuing from year to year, and 2) entering teachers in any years. In this respect, continuing and entrant teachers constitute the cohort of individuals employed as teachers - the teaching force.

As a whole, supply of teacher is refers to sum of the supply of retained teachers and the supply of potential entrants into teaching profession. Both of these are broad categories drawn from more specific sources.

2.4.1 Entrant Teachers

Due to attrition of teachers from the profession and gradual expansions, a large number of additional individuals are hired by the public education system each year. The supply of entering teachers in a state or in the nation is the number of persons who are available and

willing to take teaching job. The difference between total teacher demand and retained teachers represents the number of entering teachers that needed to hire to satisfy demand fully.

Concerning supply of entrant teachers, many authorities believe that, it come in different categories and from multiple sources. In other words, the classification of entrant teachers and their sources are varied. For example, Boe and Gilford (1992) have identified four sources from which entering teachers are drawn:

1. A reserve pool of qualified teachers: - the stock of person not currently teaching but certified to teach in a state or the nation. It is composed of experienced former teachers, and graduates of teacher preparation programs from prior years (some times called delayed entrants);
2. Recent graduate of teacher preparation programs (some of whom are also experienced teachers);
3. College graduates who have not completed a teacher preparation program and who have not previously taught (some times referred to as entrants via alternate routes); and
4. Teachers employed in private schools that migrate to teaching positions in public schools.

As to Monere's (1956) statement, thee number of qualified teachers available for each vacancy includes: (a) the teachers previously trained who have been carried over because they were unable to obtain employment at the time of graduation; (b) former teachers now returning from other occupations from which they have found less desirable than teaching; (c) newly prepared teachers shifting from other states; and (d) those prepared during the year studied who are available.

According to Forojalla (1993:227-229) and Williams (1979:57-64) there are four main sources for the annual recruitment for entrant teachers: New entrant, Re-entrants and returnees, National service arrangements, and Foreign labor market.

1. **New entrants**. These are teachers who have completed their initial training from the teacher-training system. They provide the main source of supply to the teaching force. However, the annual input of the potential new entrants to the profession from this source depends on the numbers being produced by the training colleges.

This in turn is dependent on the capacity of these institutions and the initial admission into them.

2. **Re-entrants and Returnees**. Re-entrants are former qualified teachers who for one reason or another left teaching in the past. Returnees are much more significant, as they are those teachers who are retiring to the classroom after a period of in-service training or secondment.
3. **National Service Arrangements**. In situations of great teacher shortage a number of countries have impose an obligation on more educated young people to teach as part of their service obligations to the nation. As stated by these authors, the use of the graduates of secondary or post-secondary institutions to teach as part of their national service obligations to the country has become quite widespread in Africa and some parts of Asia.
4. **Foreign Labor Market.** In some countries at certain historical periods a large part of teacher supply has consisted of non-nationals. This was true of the beginnings of formal schools in many Asian and African countries (Williams, 1979). Currently significant number of Indians and Pakistani teachers are serving outside their home countries at secondary and tertiary levels. The disadvantages of using foreign teachers, from linguistic, cultural and even possibly from a social and political point of view, are well known; and they may bring with them the particular disadvantage of discontinuity. However, as a stopgap enabling countries to buy time while they develop their own sources of teacher supply, there is obviously much to commend their use, if this is wisely planned.

All the above points show that, there is no one generally acceptable taxonomy of sources or categories of entrant teachers. Even though they differ in categorization, the source of entrant teachers listed by the above authorities and others includes resent graduates of teacher preparation programs, re-entrants and returnees, teachers migrated from private schools, transfer, and foreign labor market.

2.4.2. Continuing Teachers

The vast majority of teacher supplies in any one-year are those retained teachers from the previous years, that is, continuing teachers. Concerning this Boe and Gilford (1992:47) has

noted that, "the primary source of supply of total teachers in any years is the active teaching force during the prior year."

As indicated by many authorities in the field, over a period of time the existing stock of teachers are subjected to deterioration and loss. Teachers die, 'wear out' and fall sick, grow older and have to retire. In other words, the level of continuing teaching force suffers wastage, resulting in depletions in its quantity and quality in number of ways. They are dependents of different retention factors. Some of these factors are described briefly as follows.

1.Retirement. The rate of retirement will depend on the profile of the teaching force. It is believed that, in the more stable education system, where there is a completely stable teaching force – with no other source of wastage, the number reaching retirement age would be about the same as the new annual intake. But in systems that have recently been expanding fast, the average age of teachers is much nearer entry age than retirement age. Based on research finding Galloway and Morrison (1994) have noted that, in both developed and developing countries, the average age of teachers has gradually increased during recent decades, there is clear prospect of accelerated attrition due to retirement.

2. Death. In the case of rapidly expanding teaching force with a preponderance of young and recently qualified teachers death will not be a major case of loss.

3. Dismissal. The numbers affected by dismissal, in the case of misconduct, are usually very small.

4. Temporary Withdrawals. These include secondments and approved absence for in-service training leave, national service, etc. Usually, it is not accepted as a major cause for loss of teachers.

5. Redesignation within Education. This would cover those who are promoted or transferred from teaching to supervisory or administration posts of various kinds in education. The persons concerned may thus be lost to teaching but not to the education service as a whole. Thus, this is not usually considered as a determinant factor of teachers' attrition.

6.Resignation. This forms of teacher wastage is the one that perhaps attracts most attention, since it is closely bound up with the issue of the attractiveness of teaching and conditions of teachers' service relative to alternative jobs. As explained by many writers of the field, before resigning the profession, the factors that a teacher is likely to take into account includes the following.

6.1 ***Financial Variables***. These include salary, allowances, bonus, etc. and are the most important consideration for most teachers. As stated by Hughes and thers (1985:81) relative salary have an impact on teacher supply in a number of ways, affecting the wastage rate, the staffing levels of shortage subjects, the regional distribution of teachers, and the distribution of teachers amongst schools of different types. As argued by most authors, teachers make choices in terms of the comparative net advantage of alternative occupations. That is, if an individual teacher in particular post recognizes that, by moving to an alternative post, which is open, he/she will make some financial gain, and then she/he will make the change. Since salaries and other financial variables affect the decisions and behaviour of teachers, policy-makers and planners must recognize that they have the option of using salaries as one device, among others, for trying to achieve their objectives.

6.2 ***Professional and Administrative Support***. Teaching can be the lonely and isolated job where morale depends very much on the success of the professional leadership in making teachers in the, field feel they are doing a job that is appreciated, and in giving them opportunities for professional contacts and professional refreshment (Williams, 1979). This author further explains that, in the administration of teachers, the sense of fairness and efficiency, particularly over the matter of postings, appointments and promotions, is vital. Emphasizing this, Baker (1988), and Moore-Johnson (1990)(cited by Tatto, 1997:148) have argued that, both in developed and developing countries, poor level of professional and administrative support have been found to be a powerful reason for qualified teachers not taking a position or leaving it permanently.

6.3. ***Working Condition***. This includes, hours of work, work assignments and teaching load, availability and adequacy of instructional materials and equipment's, housing arrangements, student conduct, urbanity of the school, etc. How good these are will, to a large extent, govern whether a teacher decides to remain or leave the service. According to ILO's (1991:101) findings, in some countries working condition such as class-size, teaching load, insufficiency or defective animates and equipment, inappropriateness of teaching assignments, volume of

non-teaching activities and its load are some of the worst problems besetting teachers today.

6.4. ***Social Status and the Work Environment.*** The status of the teacher, his professional competence and his welfare, are all bound to his working environment. In this respect, Locke (1976:48) confirms that, teachers prefer a more favorable working environment. Most teachers prefer convenient location and hours, safe and attractive physical surrounding, and equipment and resources that facilitate work accomplishment.

As indicated by Lockheed accomplishment (1991:91), status plays an important role in attracting academically prepared candidates and encouraging them to remain teachers. Status depends on how society and prospective teachers perceive the extrinsic compensation and condition of the work place and the intrinsic rewards of professional. Teaching was, historically, a high regarded profession. Today, the status of teachers in most developing countries is low and has declined considerably in the past two decades. The low status-manifested in low salaries, poor working conditions and uncertain career paths mean that the most able students do not become a teacher (Ibid.).

2.4.3. Factors Influencing Teacher Supply

Like the demand for teachers, the supply of teachers is contingent on multiple factors, including the standards that an individual must meet to be deemed eligible to teach and the salaries, benefits, and working conditions that prospective employers are offering. In connection to this, McNergney and Herbert (1995) write; the supply of teachers is affected by a number of factors: salaries, educational and licensure requirements, personal interest in particular discipline and in geographical areas of the country, and the cost of living and quality of life issues.

As stated in the previous parts of this paper, teacher supply is defined in terms of the availability and willingness of eligible persons to take teaching job. Almost all factors determining the supply of teachers are depending up on these two elements of this definition: availability and willingness. Which again, to some extent, depends up on the answer 'why people enter to teaching profession'. In this regard McNergney and Herbert (1995:16) states,

the availability of teaching jobs is affected by two interrelated factors: the numbers of properly qualified teachers available and the demand for those teachers.

People enter teaching for variety of reasons; for economic reasons, to have a schedule similar to that of their own children, to work with children, because of an outstanding teacher who served as a role model, or because of the satisfaction of helping others (Boe and Gilford, 1992). As listed by National Education Association of America (Bear and Boyed, 1993), the reasons "why do people choose to teach" depends on the following points:

a) Feeling of wanting to work with people;
b) The desire to perform a special service for society;
c) The opportunity teaching offers of staying in school;
d) Job security and steady income; and
e) The attraction of vacations.

In general, all the above points indicate that, the principal reasons considered by an individual for originally deciding to become a teacher are the main determinant factors for the supply of entrant teachers and his/her willingness to enter or to leave the profession.

According to Dunkin (1987:653) the willingness of an individual who decide to offer their services to teaching will depend on a number of factors, which can be grouped in to two divisions. First, pecuniary factors such as the rate of pay, the expected growth of these rates, and the certainty with which work will be available. Second, non-pecuniary factors such as the characteristics of the job, the social status attached to it, and the environment in which it will have to be performed.

Emphasizing the main points mentioned above, Gorton and his associates (1988:283) confirms that:

> *Inadequate rewards, both extrinsic and intrinsic for teaching are contributing to the diminishing teaching supply. The beginning salary for teachers is near the bottom of all professions requiring a bachelor's degree. In addition recent research shows a number of negative factors influence the way teachers perceive their work. These negative factors include lack of respect and confidence by the public, a lack of autonomy and control, the absence of some system of career advancement, and inadequate teaching facilities and material's. These changes pose problems for teacher retention, and as they become better known, they inhibit the recruitment of new teachers as well.*

As a whole, from the forgoing paragraphs, we can understand that, change in income, in requirements set up for teachers, in retirement regulations, in working conditions, in demands for future training, comparison with those in other available occupation all influence the teacher either to enter and remain in teaching or to separate from it.

2.4.4 Calculating and Projecting the Supply of Teachers

Projection of the total teacher supply consists of two main components: 1) Projecting the supply of continuing or retained teacher (or, equivalently, projection of teacher attrition); and 2) Projection of the supply of potential entrants into teaching.

2.4.4.1 Projection of the Supply of Continuing or Retained Teacher

In most supply demand projecting effort, the supply of continuing teachers is taken as synonymous with the numbers who actually remain in their job from one year to the next. The implicit assumptions being that, all prior year teachers who want to continue teaching are retained by their employers. The ability to estimate the future number of these continuing teachers depends on the accuracy with which retention or attrition rates can be measured and predicted.

Many countries projected the supply of retained teachers simply by applying undifferentiated nation/state wide average attrition rates to all categories of teachers in all future years. As suggested by many writers of the field, it is better to project national as well as state wide teacher retention on the basis of disaggregated, age – specific and subject specific attrition rates, in relation to other teacher supply factors.

As explained by Barro (in Boe and Gilford, 1992) an attrition rate is the fraction or percentage of teachers employed in one period (either in some specified teacher category or in all categories combined) that are not employed as teachers in subsequent period. The retention rate is the complement of the corresponding attrition rate-that is, retention rate is equals to one minus attrition rate or, in percentage terms, retention percentage is equals to 100 minus attrition percentage.

In similar way, the retention of teachers can also be expensed as follows:

Projected number of teachers retained form year 't' to year 't' +
1= (Number of teachers employed in year 't') x (projected
number of teacher retention percentage for Year 't')

In general, projection of the supply of retained teachers must be disaggregated into some categories as projections of demand to produce the subject specific assessments of the future supply-demand balance that policy maker's want. In other words, it is better for policy making if they use more advanced methods that project the supply of retained teachers on the basis of detailed attrition rates, disaggregated by the teacher's age and the teacher's subject specialty or field of certification and related supply factors. Specifically, retention rates are to be estimated and projected as functions of teachers' age, qualification, school location, and subject category.

2.4.4.2 Projection of the Supply of Entering Teachers

Although the number of teachers entering the profession annually can be measured and projected, the supply of potential entrants cannot be measured or projected (Boe and Gilford 1992, and Webb and Norton 1999). The main problem in projecting entering teacher supply is that the number of eligible individuals willing to supply their services as a teacher at a given point in time under the conditions prevailing at that time is not known with respect to any of the source of supply.

According to these authorities explanation, an important complicating factor in projecting the supply of entrants is those entering teachers come in different categories and from multiple sources. The propensities of individuals to enter teaching vary greatly among these categories, as do the factors that influence supply behavior.

Given what has been said thus far about obstacles to projecting, the supply of entrants, and the so-called supply projections has been presented by some writers. For example, Barro (in Boe and Gilford 1992) trays to present a projection model for supply of entering teachers. His projections model are of the two types: the one is that, the future supply of potential entrants into teaching can be represented by projecting the number of persons with teaching certificates and/or the annual increment there in. The other is that the supply of entrants can be projected by applying projected entry rate, based on actual entry rates observed in the past, to the numbers of persons in various pools form which teachers are drawn.

After, Barro's projection model another scholars, Haggstrom, and Kutscher (in Boe and Gilford, 1992: 182-202) present relatively simple models based on the premise that one can estimate the future supply of entering teachers by projecting numbers of entrants or rates

of entry from various pools of potential teacher supply. They recognize two categories of entrants: New graduates, and other entrants (re-entrant, returnees, migrants, etc.)

According to these writers, the number of new graduates who will enter teaching in each subject area is projected by applying a projected entry rate to an estimate of the future number of graduates with that subject specially who will emerge from the teacher preparation (training) programs. The numbers of entrants from other sources (returnees, re-entrants, etc) of supply are projected by assuming either that they will be the same as in the most recent year for which data are available or that recent trends in the numbers will continue.

Neither type answers the question that one would hope to have answered by a supply projection: how many teachers (of specified qualifications or quality) are likely to be available and willing (under specified conditions) to enter the teaching force in the future? They may, in fact, be of considerable value either for reassuring policy makers that future supplies of teachers will be adequate or for identifying areas in which recruitment may become difficult (Galloway and Morrison, 1994 and Boe and Gilford, 1992).

2.5. Balancing Teacher Demand and Supply

As argued by most writers, much of the evidence available regarding teacher supply and demand indicates that the issue is not a universal one, but instead the ratio of supply to demand varies by school, subject matter, and grade level. A more common type of imbalance is geographical, either inter-regional, or inter-school, within some areas and schools being short of teachers overall, or of particular kinds of teachers, even though there may be balance between demand and supply at national level. In other words, shortage or surplus of teachers may be phenomenon applying to whole systems, but imbalances will not necessarily be system-wide. For example, urban schools may be able to recruit any number of teachers they require, while rural areas are simultaneously understaffed.

The aim of teacher planning, as in other forms of manpower planning, is to achieve a long-term equilibrium between inflow and outflow such that net teacher flows are equal to the required changes in the level of the teaching force (stock), which enable the stock of teachers to satisfy the projected level of demand.

As recommended by Forojalla (1993:232), when confronted by actual or anticipated shortage or surplus of teachers, the educational planner's first course of action should be to under take a through study of all factors causing the imbalance and then consider ways to

tackle them. This means, they should closely examine the factors casing the imbalance and then they should consider alternative sources of supply, measures affecting teacher wastage, and the impact on the supply-demand balance of different ways of using teachers.

According to the suggestion of different writers of the field, there are a variety of instruments and policies available to the policy maker and planners for dealing with any gaps between teacher demand and teacher supply: alterations in the size and flow rates of teacher training; upward or dawn-ward regulation of school intake and enrolment, changes in pupil-teacher ratio; new policies on replacement of temporary teachers, and so forth.

Teacher shortage, for example, can be coped with in a number of ways that obviate the need to establish expensive permanent capacity, with the delays and long -term inflexibility that involves (Dunkin, 1987:652). According to this author's suggestion, it may be possible to cut wastage rates among existing teachers by offering more attractive terms of service. Perhaps there are trained personnel who can be lured into teaching by offer of part-time work, by suspending retirement rules, or simply by raising pay rates. Heavier teaching loads and larger classes will reduce the number of new teachers needed. Teacher may be given shorter full-time pre-service training and more of their professional preparation on the job, so as to speed up their entry into the classroom. As a temporary measure foreign teachers can be recruited on contract, under international aid programs or through the open market.

Further more, based up on research finding, the following three strategies are suggested by Boe and Gilford (1992:31-34) to be used to equilibrate supply and demand for teachers, two of which work on the supply side and one on the demand side.

The main mechanism used is to relax qualification requirements during hiring. If a highly qualified applicant is not available to fill an open teaching position, a less qualified applicant typically will be hired.

Another supply side mechanism used to equilibrate teacher supply and demand is to offer financial incentive for teacher to enter and continue in the profession, that is, to enhance teacher supply. Some of these incentives entail bounces offered to teachers in shortage teaching fields, such as bilingual education, and at shortage locations. Other financial strategies for enhancing teacher supply are to raise overall teacher salaries so as to make the profession more competitive with other occupations and to raise entry-level teacher salaries substantially so as to attract more novice teachers to the profession.

If the supply of hirable teachers is still not sufficient to fill open teaching positions, then the demand for teachers can be reduced and brought into line with available supply by increasing the workloads of employed teachers. This can be done by increasing class sizes and by increasing the average number of classes assigned to teachers. Both approaches increase the teacher-pupil ratio. While these strategies can be effective in equilibrating teacher supply-demand and thereby ensuring that all classrooms are staffed with a teacher, they do little to enhance the quality of teaching practice. On the contrary, increasing workloads can have an adverse effect on the supply of teaching and the morale of teachers.

In sum, to solve the imbalance of teacher supply and demand, increased salaries, better working conditions, active recruitment of prospective teachers, consolidation of schools to reduce the number of teachers needed, scholarships for prospective teachers, more stimulating teacher-education courses, and careful planning a head to avoid another shortage or oversupply of teachers are the recommended suggestion by most scholars of the field.

Table 2.1 Possible Measures Counteracting Teacher Demand-Supply Imbalance.

No	Area of Action	Policies/Practices with Effect of:	
		Reducing Teacher Shortage	**Reducing Teacher Surplus**
I	**Demand for Teachers**	**Demand-Restraining Measures**	**Demand-Boosting Measures**
A	*Number to be Educated*		
	Age of entry	Raise	Lower
	Age of leaving	Lower	Raise
	Geographical accessibility of schools	Restrict	Improve (extend school net work)
	Re-entry	Forbid	Allow
	Repeating	Forbid	Allow
	Part-time attendance	Forbid	Allow
	Course admission	Control by selection	Open, at option of pupil/parents
B	*Staffing Standards*		
	Average size of classes	Increase	Reduce
	Weekly input of teacher hours per-class	Limit, by providing fewer options, less practical work, fewer individual tutorials, and less remedial work.	Increase, and provide more options, practical work, individual supervision, and more remedial work
	Pupil hours	Reduce relative to teacher hours, e.g. by half-day schooling, shifts, etc.	Lengthen relative to teacher hours, abolish shifts, etc.
	Teacher hours		
	Teaching load norms per individual teacher	Increase	Reduce
	Overtime (in excess of norm)	Encourage, require	Ban, discourage

	Teacher-pupil ratio (staff allocations/establishments for schools)	Reduce, restrain	Increase
C	*Non-teaching jobs in education*	Limits such posts. Close to teachers, discourage teacher applications, encourage other applicants	Expand such posts. Open to/reserve for teacher applications, discourage others
II	**Supply of Teachers**	**Supply-Boosting Measures**	**Supply-Restraining Measures**
A	*Adjust outflows*		
	Retirement	Postpone, discourage	Encourage early retirement
	Resignation	Discourage	Tolerate, encourage
	Pay, allowances, etc	Increase	Allow to fall behind other occupation
	Promotion prospects	Improve	Allow to decline
	Bonding	Introduce, enforce	Abolish, fail to enforce
	Rights on transfer (pension rights, contributions)	Rights forfeited	Rights retained
	Retention of young mothers in teaching	Provision of crèches, nursery schools	No special help
	Temporary absence (secondments, study leave, In-service training/retraining, service abroad)	Restrict, reduce length	Facilitate, easy extension (particularly encourage retraining in shortage subjects)
	Replacement of unqualified, expatriates	Cease, slow down	Introduce, accelerate
B	*Adjust inflows*		
	Return from secondment	Encourage	Discourage
	Initial training		
	Number of places	Build new colleges, expand existing ones	Close colleges, reduce places
	Conversions	Convert other buildings to teacher training	Convert colleges to other purposes
	Length of courses	Shorten, develop emergency schemes, 'crash courses'	Lengthen. Provide regular courses only
	Part-time training	Introduce, using correspondence, on-the-job training	Abolish/restrict; insist on college attendance
	Training inducements	Offer attractive financial inducements/support to training students	Remove, or limit application of financial support
	Admission standards	Lower	Raise
	College drop-out	Act to reduce	Tolerate
	Bonding of graduates to enter teaching	Introduce, enforce	Tolerate new trainees entering other occupations.
	Re-entrants	Encourage, by inducements, pre-servation of rights for time away, etc; offer possibility of part-time teaching	Discourage; no favorable treatment on re-entry; no part-time teaching
	Unqualified teachers	Recruit and improve their conditions or service	Cease recruitment, discourage
	Foreign teachers	Facilitate their recruitment	Impede (refuse work permits)
	National service teachers	Use national servicemen for teaching	Do not use national servicemen for teaching

***Adapted from**: Williams, P. (1979). "Measure to Achieve Balance": Planning Teacher Demand and Supply. Paris: UNESCO - IIEP (PP. 74-79)*

CHAPTER THREE

3. PRESENTATIONS AND ANALYSIS OF THE DATA

This part of the thesis deals with the presentation and analysis of the data gathered from document, through questionnaire and interview to seek appropriate answers for the basic questions raised at the beginning of the research.

Three groups of respondents were subjected to this study. The first group consists of teachers including principals, unit leaders, and department heads. Five hundred fifty questionnaires were distributed to this group of respondents. Of these teachers 475 (86.36%) filled the questionnaire correctly and returned. The second group of respondents comprises the education officials of the sample Zone Education Departments. Out of forty questionnaires distributed to this group thirty-five (87.5%) were responded. The third group of respondents consists of three officials from Oromia Education Bureau. They are subjected to interview questions.

3.1 Characteristics of the Respondents.

The characteristics of target population are shown in Table 3.1. As can be seen from this table, the data regarding the characteristics of the respondents include their sex, age, experience, and level of education.

According to the data shown in Table 3.1, most of the respondents (94.53% of teachers and 86.84% of officials) are male. This noticed that the participation rate of female teachers and female officials are very low. The data obtained from Oromia Education Bureau (in the year 1999/2000) also reveals that secondary school female teachers constitute only 6.17 percent of the total teachers teaching in Oromia.

Regarding age, the highest proportion of teachers (54.95%) and officials (71.05%) were the 36 - 45 age group. As it was clearly observed from the data (Table 3.1) age variation was observed among teachers. For example, the number of teachers over the age of forty accounts 45.05 percent (214) and those teachers at the age of thirty-five and under were 29.06 percent (138). This indicates that most of the secondary school teachers in the region are aged. In addition to this the ratio of lower age (under 35) and highest age (over 40) in the region were not at equilibrium.

Table 3.1: Characteristics of the Respondents.

No.	ITEMS		Teachers		Officials		Total	
			N	%	N	%	N	%
1.	Sex	Male	449	94.53	33	86.84	482	93.96
		Female	26	5.47	5	13.16	31	6.04
2.	Age	<26	11	2.32	0	0.00	11	2.14
		26-30	16	3.37	1	2.64	17	3.31
		31-35	111	23.37	7	18.42	118	23.00
		36-40	123	25.89	25	65.79	148	28.86
		41-45	138	29.05	2	5.26	140	27.29
		46-50	59	12.42	3	7.89	62	12.09
		>50	17	3.58	0	0.00	17	3.31
3.	Experience	<6	6	1.26	0	0.00	6	1.17
		6-10	20	4.21	5	13.16	25	4.88
		11-15	109	22.95	9	23.67	118	23.00
		16-20	149	31.37	16	42.11	165	32.16
		21-25	158	33.26	4	10.53	162	31.58
		26-30	28	5.89	4	10.53	32	6.24
		>30	5	1.05	0	0.00	5	0.97
4.	Level of Education	BA/BSc & above	182	38.32	10	26.32	192	37.43
		12+3	32	6.74	3	7.89	35	6.83
		12+2	257	54.11	20	52.63	277	54.00
		Less than 12+2	4	0.84	5	13.16	9	1.75
TOTAL			475	100	38	100	513	100

With regard to their experience the majority of teachers 307(64.63%) and 22(65.79%) officials range from 16 to 25 years. Few numbers of teachers (only 5.46%) served less than ten years. This figure (Table 3.1) reveals that the number of receptively experienced teachers and officials are very high. In general, all these data indicate that the majority of teachers have a long time experience in the profession.

As illustrated in Table 3.1 out of the 475 secondary school teachers respondents only 182(38.32%) were BA/BSc degree-holder, and 6.74 percent have 12+3 level of education. The majority of teachers, 257 (54.11%) are diploma teachers. Similarly as shown in this table, large proportions (65.79%) of officials are with diploma and lower level of education.

According to the regulation of the Ministry of Education, the minimum requirement for secondary school teachers is a first degree. However, 61.68 percent of the total teacher respondents teaching in secondary schools of the region are under qualified. This indicates that most classes of grades 9-12 were conducted by unqualified and under qualified teachers.

To sum up, Table 3.1 have indicates that, almost all teachers of secondary schools under study are male, at highest age level and a long time of service in education system. It also realized that, highest number of secondary school teachers of the sample schools lacks the necessary qualification to teach at this level of education.

3.2 Analysis and Interpretations of the Data

The data in Table 3.2 contains the actual numbers of secondary school students, teachers and sections in the years 1995/96 and 1999/2000. Percent of qualified teachers, class size, and teacher-pupil ratio are also shown in this table.

According to the data of this table, the number of students enrolled in secondary schools of the sample zones increased from 73305 in1995/96 to 112944 during the year 1999/2000 with a difference of 39639 students, that is, 54.07 percent greater than 1995/96-enrolment number. Further, this table also indicates that average growth rate of students' enrolment was 11.46 percent. This means, above 10 thousand students are added each year.

The data related to teachers, indicated in Table 3.2, shows that the total number of teachers decreased from year 1995/ 96 to 1999/2000. The average annual growth rate of total teachers, shown in this table (1.36%) made clear that the growth rate of total teachers was insignificant. On the other hand, the number of qualified teachers (BA/BSc degree and above) was decreased at higher rate during the years 1995/96 to 1999/2000. That is, from 1016 (in 1995/96) to 756 (in 1999/2000) with a difference of 260(-26.60%) teachers.

Table 3.2: Actual Number of Secondary School Teachers, Students and Sections in 1995/96 and 1999/2000 with its Projection for the Years 2001/02 and 2004/05.

No.	Items	1995/96	1999/2000	Difference	*AAGR (%)	** Projection	
						2001/02	2004/05
1.	Enrolment Number	73305	112944	39639	11.46	140314	194293
2.	Total Number of Teachers	2558	2721	163	1.36	2796	2911
3.	Number of Qualified Teachers	1016	756	-260	-5.45	676	571
4.	Percent of Qualified Teachers	39.72	27.78	-11.94	-6.65	24.18	19.62
5.	Total Number of Sections	1180	1532	352	6.83	1748	2132
6.	Average Class Size	62	74	12	4.42	80	91
7.	Teacher-Pupil Ratio	29	42	13	9.77	50	67

Source: Calculated from data obtained from sample Zone Education Departments.

**AAGR = Average Annual Growth Rate*

***The formula used for the projection of teachers for the years 2001/02 and 2004/05 was:*
Number of teachers in year N= Number of teachers during 1999/2000 times $(1+AAGR)^N$

According to the regulation of MOE, the minimum required qualification of teachers at secondary school level is at least first degree (MOE: 1987: 12). However the practice is very much different from the ministry's regulation. As indicated in item number four of Table 3.2, during the year 1995/96 and 1999/2000, only 39.72 and 27.78 percent have necessary qualification to teach in secondary schools of the sample zones. On the base of the data obtained from sample zones, the average annual growth rate of qualified secondary school teachers was negative 5.45 percent (Table 3.2 and Appendix - E). This shows that there is a serious shortage of secondary schools teachers.

The figure in Table 3.2 further shows that, total number of sections, average class size, and teacher-pupil ratio has been increasing all the years. According to this data the number of student per class was 62 in 1995/96. After four years, in the year 1999/2000 this number becomes 74: increased by 12 students per class. Besides, the average annual growth rate, 4.42 percent shows high rate of student increases per class. Regarding average class size, the policy of the Ministry of Education (MOE, 1987: 10) state that, the number of students in a class should not exceed 40 in secondary schools of the country. Comparing to the national standard the figure confirms that, there is a wide gap between the desired number of pupils in a

classroom and the actual number of students in a classroom. Class size higher than the national norm may indicate that teachers in secondary schools are over loaded. This implies that, there is a shortage of teachers in general and demand for more qualified teachers in particular.

The last two columns of Table 3.2 show the projection of all items of the table on the basis of average annual growth rate obtained from 1995 /96 to 1999/2000. To cite some, after five years, due to high number of enrolment increase, both average class size and teacher-pupil ratio will be increased to 91 and 67 respectively. On the other hand the percentage of qualified teachers will be decreased from 27.78 in 1999/2000 to 19.62 percentages in a year 2004/05.

In sum, all the above figures, shown in Table 3.2, have noticed that there are high growth rate of students enrolment, class size and teacher-pupil ratio with the decline of total number of teachers. Furthermore, this table points out that the number and percent of qualified secondary school teachers have been decreasing at higher rate (-5.45 and -6.65 respectively). In short, student enrolment growth rate with that of teachers are inversely related. The highest growth rate of student enrollment and the negative growth rate of teachers indicate that there is a demand for more teachers. In other words the supply of secondary school teacher is not congruent with its demand.

According to Williams (1979) and Forojalla (1993) the determinants of the teaching force demand are basically the product of two factors: (1) the number of pupils to be enrolled, and (2) the staffing standards of the school system (a policy target resulting in classroom structures and subject period allotment). In line with this, number of desired demand illustrated in Table 3.3 was calculated on the base of student enrollment, policies in relation to length of pupil instruction, average class size, and average weekly teaching load per individual teacher.

As illustrated in Table 3.3 the number of teachers required for each year and the actual number of teachers available was not congruent. Except for the years 1995/96 and 1996/97 (with a difference of 14.03 and 3.26%) all three years' desired demand of secondary school teachers was greater than the actual number of teachers teaching in secondary schools of the sample zones.

Table 3.3 Actual Numbers and Desired Demand of Teachers During the Years 1995/96-1999/2000 with their Balance.

No	Years	Actual Number of Teachers	Pupils' Enrolment	* Desired Demand of Teachers	Difference (%) (Between actual and desired demand of teachers)
1.	1995/96	2558	73305	2199	14.03
2.	1996/97	2415	77869	2336	3.27
3.	1997/98	2474	88808	2664	-7.69
4.	1998/99	2712	100410	3012	-11.40
5.	1999/2000	2721	112944	3388	-24.52
6.	**2001/02	2796	140314	4209	-50.55
7.	**2004/05	2911	194293	5829	-100.23

Source: calculated from data obtained from sample zones

Note: ** Desired demand of teachers was calculated by the use of the following formula*

Teachers Demand =PW/GL

Where: P= Number of pupil (Enrolment)

W= Length of pupil instruction week (in periods)

G= Average class size (as taught i.e. 40)

L= Average weekly teaching load per individual teacher ('as taught' in periods)

*** 2001/02 and 2004/05 years are the years considered for projection in Table 3.2.*

As shown in the last column of this table (Table 3.3) the balance between the actual number of secondary school teachers and the desired demand of them was negatively increased from 14.03 percent in year 1995/96 to -24.52 percent in year 1999/2000. The implication is that, the numbers of teachers available and willing to teaching are decreasing each year. In other words, it generally indicates the lower entrance and high attrition rate of qualified teachers.

Item number six and number seven of Table 3.3 shows the projection of actual number of teachers and its desired demand for the years 20001/02 and 2004/05 respectively. These figures are based on average annual growth rate stated in Table 3.2. The figure illustrated at the last column of item number seven of Table 3.3, indicates that the actual number of teachers for the year 2004/05 will be 100.23 percent lower than calculated number of its desired demand.

Table 3.4: Number of Teachers by Subject, Qualification and their Desired Demand for the Year 2000/01.

No	Subjects	Actual Number of Teachers					Pupils' Enrolment	Periods per week	** Desired Demand of teachers	Difference (between actual and desired demand)%
		BA/B.Sc. &above	12+3 & 12+2	Less than 12+2	Total	% of BA/BSc &above				
1.	Afan Oromo	0	41	63	104	0.00	65998	3	198	-90.38
2.	Amharic	38	66	7	111	34.23	65998	2	132	-18.92
3.	English	69	87	5	161	42.86	65998	5	330	-104.96
4.	Mathematics	80	87	0	167	47.90	65998	5	330	-97.60
5.	Physics	39	52	1	92	42.39	44034	3	132	-43.59
6.	Chemistry	49	68	1	118	41.53	44034	3	132	-11.95
7.	Biology	50	78	2	130	38.46	44034	3	132	-1.62
8.	Geography	53	53	0	106	50.00	42432	2	85	19.94
9.	History	39	48	2	89	43.82	42432	2	85	4.65
10.	Civics	0	0	0	0	0.00	42432	1	42	* * *
11.	H.P.E.	1	46	12	59	1.69	65998	1	66	-11.86
TOTAL		418	626	93	1137	36.76	*55500	30	1665	-46.44

Source: Calculated from the data obtained from sample schools.

** This number (55500) was taken as an average.*

*** Desired demand of teachers for each subject was calculated with the help of the formula used in Table*** The 'difference' column is not applicable to the Civics subject due to t absence of any qualified or trained teachers for this subject.*

H.P.E = Health and Physical Education.

The standard for secondary school education (MOE, 1987 EC: 13) has identified the type and number of subjects taught in secondary schools of the country. According to this standard there are eleven subjects (listed in Table 3.4). The number of periods allotted for each subject was also stated in this standard. More specifically the Oromia Education Bureau's period allotment for secondary school was distributed to all secondary schools of the region through zones by a letter with reference number BBO/4-2517/344/01/9:04-12-91.

Considering the above standard and regulation Table 3.4, illustrates actual and desired number of secondary school teachers by subjects for the year 2000/01. As the figures in this

table revealed, out of 1137 teachers teaching the subjects in sample secondary schools of the region, 63.24 percent are not qualified to teach the subjects given at this level of education.

The variation of qualified teachers number among the eleven subjects listed in Table 3.4 are in the percentage range from zero to fifty. Where two subjects: Civics and Afan Oromo with the absence of qualified teachers. This table further asserts that, Civics subject is a subject taught in secondary school with out any teacher qualified or trained for it.

Yet Table 3.4 shows, Health and Physical Education and Amharic (with 1.69% and 34.23%) are the third and the fourth subjects next to Civics and Afan Oromo. Except those four subjects the rest seven subjects' percent of qualified teachers were above average (36.76%). Out of these seven subjects six subjects' percent of qualified teachers were above 40 percent of total teachers teaching that subject.

Further more Table 3.4 indicates that the percent of qualified teachers for Geography (50%), Mathematics (47.90%), and History (43.82%) subjects are relatively at better position compared with other subjects in terms of qualified teachers' percentage. The percent for the difference between actual and desired demand of teachers, illustrated in the last column of Table 3.4 shows a better comparison of teachers in subjects instead of by percent of qualified teachers.

According to this table, the actual number of teachers for Geography and History are greater than the desired demand of teachers by 19.94 and 4.65 percents respectively. Except for those two subjects, the difference between the actual number and desired demand of all other subjects listed in this table are identified negatively. More specifically the result shown for English (-104.96), Mathematics (-97.60%), and Afan Oromo (-90.38%) have made clear that the actual numbers of teachers teaching those subjects are very far from their desired demand.

Table 3.5: Number of Teachers by Age and Subjects During the Year 2000/01

No	Subjects	AGE CATEGORY																Total	Av. (Age)
		<= 20		21-25		26-30		31-35		36-40		41-45		46-50		50<			
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%		
1.	Afan Oromo	0	0.00	17	16.35	23	22.12	15	14.42	22	21.15	19	18.27	7	6.73	1	0.96	104	**34.35**
2.	Amaharic	0	0.00	1	0.90	10	9.01	17	15.32	24	21.62	21	18.92	23	**20.72**	15	**13.51**	111	41.24
3.	English	1	0.62	7	4.35	10	6.21	29	18.01	32	19.88	30	18.63	34	**21.12**	18	**11.18**	161	40.43
4.	Mathematics	0	0.00	7	4.19	12	7.19	43	25.75	39	23.35	39	23.35	21	12.57	6	3.59	167	38.33
5.	Physics	0	0.00	2	2.17	6	6.52	20	21.74	28	30.43	28	30.43	5	5.43	3	3.26	92	38.49
6.	Chemistry	0	0.00	2	1.69	13	11.02	28	23.73	37	31.36	22	18.64	12	10.17	4	3.39	118	37.92
7.	Biology	0	0.00	3	2.31	6	4.62	21	16.15	30	23.08	48	36.92	16	12.31	6	4.62	130	40.15
8.	Geography	0	0.00	3	2.83	6	5.66	25	23.58	26	24.53	34	32.08	8	7.55	4	3.77	106	38.75
9.	History	0	0.00	3	3.37	4	4.49	12	13.48	16	17.98	29	32.58	14	**15.73**	11	**12.36**	89	41.43
10	H.P.E.	0	0.00	0	0.00	4	6.78	11	18.64	12	20.34	21	35.59	9	15.25	2	3.39	59	40.20
TOTAL		1	0.09	45	3.96	94	8.27	221	19.44	266	23.39	291	25.59	149	13.10	70	6.16	1137	**39.11**

Source: Obtained from sample schools documents.

As mentioned in the literature review, change in normal wastage rate of teachers through retirement was one of the factors affecting the rate of teachers leaving the profession and the number of retained teachers for the school system. In Ethiopia the age of retirement of government employees (including teachers) is 55 years (Proclamation number 209/ 1955E.C).

In connection to the above facts, the data in Table 3.5 shows how age of secondary school teachers affects the number of retained teachers for subject taught at this level of education. As can be seen in this table, the average age of all teachers is 39 years. These teachers with 45 and above years old accounts 19.26 percent of the total teachers. On the other hand, out of 1137 teachers only 12.35 percent are categorized below 31 years. The difference between the highest age (above 45 years) and lowest age (below 31 years) indicates that the numbers of aged teachers are greater than the younger teachers entering to the profession by 7 percents. This means after few years such percent of teachers will retired. Furthermore, if the supply side will not fill the gap, shortage of teachers will be caused due to the retirement of teachers.

As presented in Table 3.5 among subjects listed Afan Oromo and Physics subjects are composed of younger teachers with average age of 34.35 and 37.92 years respectively. The comparison of ages between high (above 45 years) and low (below 31 years) of those two subjects (Afan Oromo = + 30.75% and Physics = + 0.01% respectively) also shows that the numbers of younger teachers entering to the profession are greater than those teachers leaving the profession through retirement.

On the other hand, the percent of younger teachers as compared to the percent of aged teachers for all other subjects were negative. Among these Amharic (-24.33%), English (-21.12%) and History (-20.23%) are the three subjects with highest percentage of aged staff (above 45 years) as compared to the younger aged group (below 31 years). The percent of teachers above 50 years old, shown in Table 3.5, identifies that, above 10 percent of teachers teaching those three subjects will be retired after three or four years. This means these percentages of teachers will be needed after three or four years in the future.

In general the data illustrated in Table 3.5, identifies that, the percent of aged teachers are greater than younger teachers teaching in secondary schools of the sample zones. Except the two subjects (Afan Oromo and Physics) the balance between high and low age groups

percentage were negative. This means the numbers of teachers that will be retired in the near future are greater than young entrant teacher. This problem was serious for Amharic, English and History subjects.

Table: 3.6: Source of Secondary School Teachers.

No	Sources	RESPONSES (N=35)												Mean
		VH		H		AV.		L		VL		NA		
		N	%	N	%	N	%	N	%	N	%	N	%	
1.	New entrants (Recent graduates)	12	34.29	15	42.86	5	14.29	3	8.57	0	0.00	0	0.00	4.03
2.	Re-entrants and returnees	2	5.71	3	8.57	5	14.29	11	31.43	12	3.43	2	5.71	2.03
3.	Transfer from other Regional States	5	14.29	8	22.86	15	42.86	4	11.43	3	0.86	0	0.00	3.23
4.	Migrants from non government schools	0	0.00	0	0.00	0	0.00	0	0.00	2	0.57	33	94.29	0.06
5.	Expatriates (Foreign teachers)	0	0.00	0	0.00	2	7.69	5	19.23	13	5.00	6	23.08	1.12
6.	Upgrading through in-service training	6	17.14	7	20.00	13	37.14	4	11.43	2	0.57	3	8.57	3.06

N.B. VH= Very High , H= High, AV= Average, L= Low, VL= Very Low , NA = Not at all

As mentioned in chapter two, there is no one generally acceptable taxonomy of sources or categories of entrant teachers. Even though they differ in categorization, the sources of entrant teachers listed by most authors include recent graduates of teacher preparation programs, re-entrants and returnees; teachers migrated from private schools, transfer, and foreign labor market. Emphasizing this the data in Table 3.6 shows the main sources of teachers in secondary schools of the sample zones.

As can be seen from Table 3.6 the responses of officials identifies recent graduates (M=4.03), transfer from other regional state (M=3.23), and in service training program (M=3.06) as the main sources of teachers for secondary schools of the sample zones. On the other hand, both the percentage and mean score of respondents' illustrated in this table indicate that, migrant teachers and foreign teachers are not considered as a source for secondary school teachers of the zones under study.

Table 3.7: Reasons "Why Most Teaches Become a Teacher?"

No	Reasons	Respondents	RESPONSES										Total	Mean	Rank (r_s=0.93)	X^2 calculated
			VH		H		AV.		L		VL					
			N	%	N	%	N	%	N	%	N	%				
1.	Because there is no other job opportunity	Q	91	50.00	27	14.84	37	20.33	9	4.95	18	9.89	182	3.901	1	29.72*
		LQ	78	26.62	57	19.45	102	34.81	28	9.56	28	9.56	293	3.440	1	
		T	169	35.58	84	17.68	139	29.26	37	7.79	46	9.68	475	3.617	1	
2.	To use it as spring-board	Q	37	20.33	37	20.33	62	34.07	9	4.95	37	20.33	182	3.154	3	60.52*
		LQ	36	12.29	75	25.60	34	11.60	71	24.23	77	26.28	293	2.734	3	
		T	73	15.37	112	23.58	96	20.21	80	16.84	114	24.00	475	2.895	3	
3.	Because it is an interesting job	Q	27	14.84	37	20.33	55	30.22	18	9.89	45	24.73	182	2.907	5	85.10*
		LQ	20	6.83	22	7.51	27	9.22	88	30.03	136	46.42	293	1.983	7	
		T	47	9.89	59	12.42	82	17.26	106	22.32	181	38.11	475	2.337	5	
4.	Desire to serve society	Q	27	14.84	36	19.78	46	25.27	45	24.73	28	15.38	182	2.940	4	58.06*
		LQ	31	10.58	21	7.17	103	35.15	66	22.53	72	24.57	293	2.567	4	
		T	58	12.21	57	12.00	149	31.37	111	23.37	100	21.05	475	2.709	4	
5.	Because I am assigned to attain teaching courses in college or university	Q	82	45.05	37	20.33	18	9.89	27	14.84	18	9.89	182	3.758	2	25.81*
		LQ	133	45.39	26	8.87	17	5.80	57	19.45	60	20.48	293	3.392	2	
		T	215	45.26	63	13.26	35	7.37	84	17.68	78	16.42	475	3.533	2	
6.	By suggestion and recommendation of others	Q	1	0.55	2	1.10	13	7.14	26	14.29	140	76.92	182	1.341	8	9.52*
		LQ	3	1.02	17	5.80	17	5.80	56	19.11	200	68.26	293	1.522	8	
		T	4	0.84	19	4.00	30	6.32	82	17.26	340	71.58	475	1.453	8	
7.	High opportunity for growth and development	Q	5	2.75	2	1.10	27	14.84	44	24.18	104	57.14	182	1.681	7	19.74*
		LQ	29	9.90	21	7.17	41	13.99	69	23.55	133	45.39	293	2.126	6	
		T	34	7.16	23	4.84	68	14.32	113	23.79	237	49.89	475	1.956	7	
8.	Relatively good job security	Q	6	3.30	4	2.20	61	33.52	17	9.34	94	51.65	182	1.962	6	25.80*
		LQ	23	7.85	22	7.51	96	32.76	55	18.77	97	33.11	293	2.382	5	
		T	29	6.11	26	5.47	157	33.05	72	15.16	191	40.21	475	2.221	6	

** Significant at alpha = 0.05 (df (4)=9.49) Q= Qualified (BA/BSC and above), LQ= Qualified (below BA/BSC), T= Total*

VH= Very High H= High AV= Average L= Low VL = Very Low

Table 3.7 contains the responses of teachers towards some reasons "why teachers entered teaching". Regarding this, 64.84 percent of qualified (BA/BSc degree and above) and 45.04 percent less qualified teachers agree that, they enter teaching profession because of the absence of other job opportunity. Similarly high percentage of all teachers' respondents (58.53%) also agree that they enter teaching because 'they are assigned to enter and attain teacher education departments in collages [universities']. The computed value of Chi-Square of association for both items (X^2=29.72 and 25.81) reveals that there is no significant difference between the responses obtained from the two groups of teachers.

Almost all (91.21%) qualified teachers and 87.37 percent of less qualified teachers level of agreement for item number six (by suggestion and recommendation of others) is low and very low respectively. The data shown in Table 3.7 also indicates lower level of agreements of teachers (by 73.68% of teachers) for the reasons stated in item number seven (high opportunity for growth and development). The reason, "relatively good job security" (item number eight) is also responded, as it is not a reason by 61 percent of qualified teachers. The Chi-Square test for these items also revealed that there was no significant difference.

In general, on the basis of their mean score, the ranking of responses towards each reason, shown in Table 3.7 identifies: absence of other job opportunity, assignment to attain teacher education with out their interest, and to use it as spring- board as the three main reasons why teachers enter the teaching profession. To see the degree of agreement, correlation coefficient was calculated. The result (r_s= 0.93) confirms a strong positive correlation.

According to the figures shown in Table 3.8, out of the twelve items listed in this table item number one: 'Teaching is a very interesting job' (74.95%), item number ten: ' I devote my time and energy in doing every thing good for school improvement and the development of teaching profession' (74.53%) and item number eleven: 'I like the work which is challenging and directly relevant to teaching learning and school objectives' (73.48%) are responded positively (strongly agree and agree). In other words, above fifty percent of teachers' level of agreement towards their profession with regard to these three items are satisfactory.

Table- 3.8: Responses of Teachers to some Items Related to Teaching Profession.

No	Items	RESPONSES (N=475)										Mean	Rank
		SA		A		U		DA		SDA			
		N	%	N	%	N	%	N	%	N	%		
1.	Teaching is a very interesting job	261	54.95	95	20.00	6	1.26	41	8.63	72	15.16	3.909	1
2.	Teaching is better than I expected	88	18.53	125	26.32	32	6.74	146	30.74	84	17.68	2.973	4
3.	I will choose teaching if I asked to decide again	31	6.53	33	6.95	51	10.74	175	36.84	185	38.95	2.053	9
4.	Since teaching is a pleasant job, I will advise new entrant teachers not to leave the profession	18	3.79	74	15.58	54	11.37	128	26.95	201	42.32	2.116	8
5.	The current position of teaching profession encourages most teachers to be creative	4	0.84	64	13.47	46	9.68	94	19.79	267	56.21	1.829	12
6.	Teaching provides me with an opportunity to advance professionally	47	9.89	175	36.84	29	6.11	116	24.42	108	22.74	2.867	5
7.	Teaching provides a good opportunity for promotion	20	4.21	64	13.47	43	9.05	83	17.47	265	55.79	1.928	11
8.	I like my school and my profession because it reflects my values, needs and self-image	23	4.84	123	25.89	22	4.63	146	30.74	161	33.89	2.371	6
9.	I like to remain in the school/teaching until retirement	19	4.00	63	13.26	46	9.68	142	29.89	205	43.16	2.051	10
10.	I devote my time and energy in doing every thing good for school improvement and the development of teaching profession	114	24.00	240	50.53	3	0.63	75	15.79	43	9.05	3.646	2
11.	I like to work which is challenging and directly relevant to teaching-learning and school objectives	105	22.11	244	51.37	4	0.84	64	13.47	58	12.21	3.577	3
12.	I fell that future security in teaching job would be good in government secondary schools	43	9.05	104	21.89	24	5.05	115	24.21	189	39.79	2.362	7
Average		64	13.56	117	24.63	30	6.32	110	23.25	153	32.25	2.640	

N.B. *SA= Strongly Agree* *A= Agree* *U= Undecided* *DA= Disagree* *SDA= Strongly Disagree*

On the contrary, above fifty percent of the teachers response for seven items (that is item number 3,4,5,7,8,9, and 12) of Table 3.8 shows negative perception (disagree and strongly disagree) of teachers' towards teaching. More specifically, out of these seven items; item number five: 'The current position of teaching profession encourages most teachers to be creative' (56.21%), item numbers seven: 'Teaching provides me with an opportunity to advance professionally' (55.79%), item number nine: 'I like to remain in the school/ teaching until retirement' (43.16%), and item number four: 'Since teaching is a pleasant job I will advise new entrant teachers not to leave the profession' (42.36%) are the four items responded with strong disagreement of teachers. This shows that, the perception of secondary school teachers towards their profession/ teaching as regards these items was negative.

Supporting the above statement, the mean score of all items (illustrated in Table 3.8) also indicates that, only three items have above three mean score. All the rest nine items mean score are below average (three). According to the data shown in the last row of this table (average result of all items) only 38.12 percent of the respondents' level of agreement towards their profession was positively responded. The majority of teachers' responses (55.50%) confirm that the perception of secondary school teachers was negative towards teaching profession. In addition to this average mean score of all items (2.64) shown at the right corner of this table made clear that, the way teachers perceive their job in terms of items listed in this table was not satisfactory. That is, teachers at this level of education are not at better motivational levels in their profession, moral and behavior.

On the basis of the above figures, it is possible to conclude that, the existing teachers level of commitment: the degree to which an employee identifies with the organization and his willing to put forth effort on its behalf, was very low. As stated by Noe, and others (1996:241) individuals who have low organizational commitment are often just waiting for the first good opportunity to quit their jobs. In other words, they have developed a strong invention to leave the organization. In support of this, the finding of this study confirms that, the willingness of teachers to continue in their job and to provide their service is not at better perception on the part of the teachers.

Table 3.9: Teachers' Responses towards the Satisfaction Level of their of their Current Job

No	Variables	RESPONSES (N=475)												Mean
		Excellent		Good		Very Good		Fair		Poor		Not at All		
		N	%	N	%	N	%	N	%	N	%	N	%	
1.	Financial	1	0.16	7	1.47	44	9.26	72	15.05	246	51.74	106	22.32	1.16
2.	Professional and administrative support	20	4.21	76	15.96	96	20.28	108	22.63	146	30.77	29	6.14	2.22
3.	Working condition	12	2.53	45	9.47	87	18.30	99	20.8	193	40.7	39	8.24	1.87
4.	Social status	12	2.53	30	6.39	58	12.10	70	14.8	233	49.1	71	15.00	1.53
AVERAGE		12	2.53	44	9.36	77	16.16	92	19.32	196	41.20	54	11.44	1.78

(Note: For further information refer to Appendix - D)

Even though, it is difficult to identify a level of satisfaction that is acceptable in some abstract fashion, it is possible to compare current employee satisfaction levels with some standard of norm (Noe and others 1996:236). In this regard, a number of studies have been systematically developed to measure satisfaction of an employee. The most commonly known and widely used instrument for measuring satisfaction is the job descriptive index: in which the respondents are asked how much satisfaction they get from various aspects of their current job (Noe and others 1996, Heneman 1990, and Schemerhorn, and others 1997). The items in part four of teachers' questionnaire (Appendix-A) are computed following job description index. Further more the percentages and mean score of these responses have been utilized to obtain an overall measure of their job satisfaction for the four variables illustrated in Table 3.9.

According, to Rue and Byars (1990:192) job satisfaction is a positive emotional state that occurs when a person's job seems to fulfill important job values, provided these values are compatible with one's needs. Job satisfaction, in simple words is an individual's affective or emotional reaction to the job itself. It is a person's attitude towards the job comparing actual out comes to desired, expected, or deserved outcomes. It is assumed by many scholars that positive satisfaction leads to positive behaviors. In this respect, the mean score illustrated in Table 3.9) shows that teachers level of satisfaction is 1.78, which assumes relatively the inadequacy of satisfaction with their current job.

According to Table 3.9, the highest mean score of teachers' job satisfaction is 2.22 for the variable "professional and administrative support". Next to this variable, "working condition, and the social status" are the two variables with 1.87 and 1.53 mean score respectively. On the other hand, as indicated in this table, financial variable is the least of all job satisfaction variables with 1.16 mean score.

More specifically, as displayed in Table 3.9 (and Appendix -D), only 1.68 percent of the respondents reflected teachers' satisfaction towards financial variables. The majority (74.11%) of teachers' response shows lack of satisfaction. The total rate (Mean 1.16) they gave to the level of their satisfaction seems also not to be adequate. Teachers' self report responds for this variable further pronounced that the current level of teachers' salary is not satisfactory, they are not paid to the effort they exert, their salary was not paid on time, and there is no payment of hardship allowance. In other words, these items are identified as a source of teachers' dissatisfaction.

In addition to this, teachers' responses for "social status" have noted that, 64 percent of teachers' agreement for their level of satisfaction is below " fair". Only 8.84 percent of them are responded towards better satisfaction of this variable. The response of teachers to items related to this variable further made clear that, the support and special assistance given for them by community and local administration was in adequate, there is a loss of social prestige and lack of respect, the availability and sufficiency of facilities and services around the school environment fell short of their expectation.

Concerning "working condition" 12 percent of teachers answered the questionnaire towards high level of satisfaction. 18.29 percent and 20.84 percent responded "good" and "fair" choices for their level of satisfaction respectively. The majority of teachers (48.84%) argued that, the variable working condition is dissatisfactory for them in their schools. This means, there is scarcity /shortage of teaching materials and facilities, the weight of teaching load is not appropriately allotted, the physical environment of the school (the work place) is not pleasant, student discipline and academic achievement was not motivating, and the respect they received from their colleagues was below expectation.

The variable "professional and administrative support" which includes: fairness of teachers' transfer, equitable treatment of teachers by school administration, the recognition teachers received by directors and head teachers for their successful work, fairness of teachers

evaluation, overall support from school administration and technical assistance provided by experts and supervisors at all structure of the education system were responded by 59.58 percent of teacher respondents below average (three) level of satisfaction. The rest, 40.42 percent, of teachers' response (Table 3.9) was identified above average (three) level of satisfaction. According to the data shown in this table, it is this variable, professional and administrative support, which responded by most teachers relatively better than other variables towards the satisfaction of teachers in schools under study.

In general, all the above variables (illustrated in Table 3.9) show that, teachers are dissatisfied with their current job: teaching. This may increase the number of teachers leaving the profession, resulting a heavy attrition rate. The implication is the number of teachers required for secondary schools will not fulfilled by its supply. Particularly, because of job dissatisfaction, the retained side of supply will be highly affected by teachers' resignation.

Table 3.10: Responses of Teachers and Officials Whether they Advise their Relative to be a Teacher.

No	Respondents	Responses				Total	X^2 (Calculated)
		Yes		No			
		N	%	N	%		
1.	Teachers	39	8.21	436	91.79	475	15.56*
2.	Officials	10	28.57	25	71.43	35	
Total		49	9.61	461	90.39	510	

* *Significant at alpha= 0.05(df(1)=3.84)*

Both teachers and officials were asked whether or not they advise their relative to be a teacher. As shown in Table 3.10, only 9.61 percent of both respondents agree to advise their relatives to be a teacher. The majority of respondents 436 (91.79%) teachers and 25(71.43%) officials were found not to be willing to advise their relatives to be a teacher. The calculated Chi-Square result (X^2 = 15.56) indicates that there is no significant difference between the responses given by teachers and officials.

These respondents were further asked to state their reasons "why they would like to advise him/her to be a teacher or not to be a teacher. The reasons given by both teachers and officials for the response 'YES', and 'NO' are listed briefly as follows.

A. Some of the reasons given by respondent in favor of why they advise their relative to be a teacher:

- Teaching profession provides him/here with a very wide experience to cultivate human mind.
- It is the source of all other professions.
- It is the right area (field) to help the country,
- It is has better vacation and extra time to perform other activities and personal business.
- Because personally I like the profession.
- It is a noble profession.
- It prepares an individual for all other fields with experience and all-rounded knowledge

B. Some of the reasons stated by both teachers and officials in support of why they do not want to advise their relative to be a teacher:

- Because the profession is not favorable for living.
- Economically he/she would not get enough money for living.
- The salary level of teachers is very low relatively to the other government sector organization.
- There is no allowance payment for teachers.
- Teaching is a least paid profession.
- The amount of workload and the salary paid for teachers was not equal.
- Low level of prestige and respect by the community.
- No one gives respect for teachers.
- Not being respected by students and their families.
- Even other government employees and administrators do not respect teachers.
- The working areas are not conducive to life.
- The school environments are inconvenient for work.

- There is no rewards and motivation system.
- The prospect for promotion is not attractive.
- Extremely less opportunity for growth and development.
- Heavy weight of workload.
- There was interference of local administration in teachers job
- Since the profession is not encouraging in every aspects of its dimension, I do not expect that he/she would get job satisfaction

In general, the reasons listed under why respondents want to advise their relatives to be teacher are, to some extent, associated with personal knowledge of individual teacher, the attraction of vacations time, and personal interest towards the profession. These respondents, in support of their answer 'YES', why they want to advise their relatives to be a teacher, do not state salaries and other financial variables, level of administrative and professional support, the working condition, and the status of teaching profession, which have been found to be powerful reasons for qualified teachers taking a position or leaving it.

As indicated in Table 3.10, the majority of the respondents (90.39%) do not agree to advise their relatives to be a teacher. The reasons stated by these respondents, in support of their response, are related with teachers' status, financial variables, promotion opportunities, the nature of the work itself and the work organization. Among these factors, status and financial variables are highly emphasized by the respondents not to advise their relative to be a teacher.

As indicated by Lockheed and Verspoor (1991:91), status plays and important role in attracting academically prepared candidates and encouraging them to remain teacher. They further explain that, status depends on how society and prospective teachers perceive the extrinsic compensation and condition of the work place and the intrinsic rewards of professional accomplishments. The responses of both teachers and officials why they do not want to advise their relatives to be a teacher noted that the status of teachers is at lower level, and has been declined affecting respondents attitude to advise their relatives to be a teacher.

As most authors argue it the low-status of teachers was usually manifested by low salary, poor working conditions, low opportunity for growth and development, and uncertain career paths. This means, most able students do not want to become a teacher. The implication is that the supply of qualified teaches for school system will be affected to fill the

required demand of qualified teacher. This will become more problematic if the teacher themselves are unwilling to advise their students to become a teacher: as a result of salaries level and low status of teachers in the community.

Table 3.11: Possible Reasons given by Teachers and Officials for Teachers Attrition

No	Items	Teachers		Officials		Average	
		Mean	Rank	Mean	Rank	Mean	Rank
1.	Low opportunity for transfer to more favorable areas	3.937	3	3.714	3	3.922	3
2.	Inadequacy of salary (poor salary level)	4.097	1	4.257	2	4.108	1
3.	Low level of prestige and respect by the community	4.057	2	4.314	1	4.075	2
4.	Lack of opportunity for growth and development	3.291	6	3.629	4	3.314	5
5.	Inability of teachers' to teach well	1.680	11	1.943	9	1.698	11
6.	Scarcity/absence of teaching materials and equipment	3.139	7	1.657	11	3.037	7
7.	Inconvenience of environmental and climatic condition	2.623	8	3.000	6	2.649	8
8.	Death of teachers'	1.743	10	1.771	10	1.745	10
9.	Low level of students' respect for teachers, and their discipline	3.297	5	3.171	5	3.288	6
10.	Retirement (because of age)	1.882	9	1.971	8	1.888	9
11.	Heavy weight of work load	3.526	4	2.429	7	3.451	4
12.	Misconduct of teachers (dismissal).	0.775	12	1.343	12	0.814	12
		$r_s = 0.87$					

Both teachers and officials were asked to identify reasons for teachers' attrition according to their level of influence. On the bases of respondents mean score twelve reasons are ranked in Table 3.11.

As can be observed from this table, all the twelve reasons listed are ranked by both of the respondents relatively in similar orders. All the respondents consider inadequacy of salary, low level of prestige and respect by the community, low opportunity of transfer to more favorable areas, heavy weight of work load, and lack of opportunity for growth and development were the most crucial reasons for the teachers to leave the profession. They also identify teachers misconduct, inability of teachers to teach well, and death of teachers as the least important influencing reasons for the attrition of secondary school teachers.

To measure the degree of agreement between the ranking orders of these factors (on the basis of the calculated mean score), the Spearman's Rank-Order Correlation Coefficient was computed. The result of the rank order correlation for these reasons listed in Table 3.11, despite the observed differences on some items, shows strong positive correlation (r_s=o.87). This implies that the selected factors are significantly related to teachers' attrition as responded by respondents.

As Williams (1979:29) has put it, the level of the starting salary in teaching in relation to that in other careers is particularly crucial in determining the quality of recruit that can be attracted to teaching. The structure of salary scales and promotion prospects may also have a significant impact on decisions to enter, or remain in the profession. As indicated in Table 3.11, inadequacy of teachers' salary was ranked as the main reason for teachers leaving the profession. That is, if an individual teacher in particular post recognizes that, by moving to an alternative job, which he/she will make some financial gain, then this teacher will leave teaching. Thus, it becomes appropriate to consider salaries as a means of influencing teachers' attrition.

Next to poor salary, low opportunity for transfer to more favorable areas, and low level of prestige and respect by the community are the two reason ranked second and third respectively. These in turn, may show that the existing teachers are dissatisfied with the way teachers are transferred from one work place to the other, and their status in the community. This means, because of these reasons, the existing teachers may become potential dropouts if some corrective measures are not taken.

Table 3.12: Officials Responses to the Availability of Models/Methods Currently used for Projecting the Demand and Supply of Secondary School Teachers.

No	Responses	N	%
1	Yes	6	17.14
2	No	29	82.86
Total		35	100

The highest percentage of officials (82.86%) responses, shown in Table 3.12, argues that there is no model/method currently used for projecting the demand and supply of secondary school teachers. Six officials (17.14%), on the other hand, responded, as there is a model/method for projection of both demand and supply of teachers for secondary schools of the zones.

Further, these respondents (who choose 'yes') were asked to write the points to be conceded in designing the method/model, and how it was implemented. Most of them were fail to list. According to these respondents, the projection of teachers is done by considering the number of teachers qualification, budget allotment, number of teachers transfer, death and resignation, number of sections, and the amount of periods an individual teacher has in teaching particular subjects. They further explain that, secondary schools and Zone Education Department send their demand for teachers to Region Education Bureau. On the basis of this report demand request, the demand forecasting is worked for the coming year.

As most scholars of the field argued it, teachers' demand-supply projection must focus on change due to enrolment, change due to special program and natural loss of teachers; that is development demand, special replacement demand and normal replacement demand in relation to teachers' sources of supply (retained and entrant teachers). These scholars further suggested that, even when there is no development demand and no special replacement program, normal replacement demand still be necessary to be projected and planned to recruit new teachers to maintain and renew the stock of teachers.

The responses of officials, mentioned are, which is ordered in accordance of the level of considerations given by them, does not give much attention to the points to be considered in projecting secondary school teachers'; even for normal replacement demand. This shows that, officials had lack of awareness or have less awareness towards the concept of model/method of projecting teachers' demand-supply and how it was implemented.

Table 3.13:Responses of Officials towards the Points to be Considered During Teachers Demand Request and Their Planning.

No	Items	Responses (N = 35)												Mean	Rank
		VH		H		AV		L		VL		NA			
		N	%	N	%	N	%	N	%	N	%	N	%		
1.	Number of additional schools and/or sections	2	5.71	6	17.14	5	14.29	12	34.29	10	28.57	0	0.00	2.371	4
2.	Growth rate of student enrolment	1	2.86	6	17.14	5	14.29	7	20.00	10	28.57	6	17.14	1.943	8
3.	Number of under qualified teachers	0	0.00	3	8.57	5	14.29	8	22.86	14	40.00	5	14.29	1.629	10
4.	Number of teachers leaving teaching because of retirement, death, resignation, etc	1	2.86	10	28.57	15	42.86	5	14.29	4	11.43	0	0.00	2.971	2
5.	Amount of budget allotted for recruitment	0	0.00	0	0.00	4	11.43	8	22.86	15	42.86	8	22.86	1.229	11
6.	Level of teacher-pupil ratios	0	0.00	2	5.71	5	14.29	11	31.43	15	42.86	2	5.71	1.714	9
7.	Availability of teachers in the labor market	0	0.00	2	5.71	10	28.57	16	45.71	4	11.43	3	8.57	2.114	7
8.	Disaggregation level of information's: in relation to secondary school teachers	0	0.00	3	8.57	13	37.14	10	28.57	9	25.71	0	0.00	2.286	6
9.	Condition of work out of teaching	0	0.00	0	0.00	2	5.71	11	31.43	14	40.00	8	22.86	1.200	12
10.	Teachers' transfer request and its implementation	3	8.57	3	8.57	3	8.57	19	54.29	7	20.00	0	0.00	2.314	5
11.	Number of retained (continuing) teachers available	2	5.71	3	8.57	16	45.71	13	37.14	1	2.86	0	0.00	2.771	3
12.	Weekly load of an individual teacher	14	40.00	17	48.57	1	2.86	0	0.00	3	8.57	0	0.00	4.114	1

VH= Very High H = High AV=Average L= Low VL= Very Low NA= Not at all

Many factors determine the demand request of teachers in any school year. Most authors identify enrollment changes, class size policies, budget considerations, job turnover due to attrition, provision of qualified teachers in place of the unqualified ones, prior commitment of employed teachers, and the labor market condition as the most important factors to be considered during teachers demand request and teachers planning (Webb, and Norton 1999, McNergney and Hebert 1995, Forojalla 1993, Zwoll 1982, and Williams 1979).

In respect to the above statements, the result of this study, as indicated in Table 3.13, shows that, the most important factors of demand for teachers during any particular year were not given due attention by zone officials. For example, above 54 percent of respondents for nine items (excluding item number 12,4, and 11) responded that their level of consideration during demand request in their zone was below average. The mean score calculated for each item, shown in Table 3.13, further made clear that, except item number twelve: weekly load of individual teacher (Mean= 4.114), all the eleven items level of consideration was lower than average mean score (three).

According to Table 3.13 weekly load of individual teacher, number of teachers leaving teaching, and numbers of continuing (retained) teachers available are the three main factors considered by zones' officials during teachers demand request. On the other hand, condition of work out of teaching, the amount of budget allotted for recruitment, level of teacher-pupil ratio, growth rate of student enrolment, and number of under qualified teachers are not found as considerably important factors for teachers demand request by officials in sample zones of the region.

The three officials in the Oromia Education Bureau were also asked what points they consider during the planning of secondary school teachers. The officials answered the question invariably. They said that the number of teachers demand request from zones, number of available teachers, and number of additional schools would be constructed during the plan years are the most considered points in planning secondary schools.

Table 3.14: Responses of Officials to some Factors that Influence Balancing Teachers Demand and Supply.

No	Items	Responses (N = 35)												Mean	Rank
		VH		H		AV		L		VL		NA			
		N	%	N	%	N	%	N	%	N	%	N	%		
1.	Shortage of budget for recruitment	0	0.00	13	37.14	4	11.43	9	25.71	4	11.43	5	14.29	2.457	7
2.	Unexpected high rate of teachers resignation	5	14.29	10	28.57	8	22.86	6	17.14	6	17.14	0	0.00	3.057	4
3.	Unwillingness of new graduates to work in the schools where they are assigned	19	54.29	7	20.00	4	11.43	1	2.86	4	11.43	0	0.00	4.029	3
4.	Lack of co-ordination among concerned authorities and organization	6	18.18	4	12.12	13	39.39	3	9.09	2	6.06	5	15.15	2.818	6
5.	High increase rate of students enrolment	9	25.71	21	60.00	5	14.29	0	0.00	0	0.00	0	0.00	4.114	2
6.	Difficulty in getting teachers according to the reported demand	20	57.14	10	28.57	1	2.86	4	11.43	0	0.00	0	0.00	4.314	1
7.	Inability to get accurate and reliable data from concerned bodies	3	8.57	10	28.57	13	37.14	3	8.57	2	5.71	4	11.43	2.914	5

VH= Very High H = High AV=Average L= Low VL= Very Low NA= Not at all

Since, the planning of teachers is securing the future provision of teachers of the desired quantity and in desired quality it aims at the achievement of long-term equilibrium between inflow and outflow of teachers such that, the supply of teachers can satisfy the projected level of demand. Thus, it needs a careful consideration of relevant factors. In this regard to assess their level of influence, in planning and balancing demand and supply of secondary school teachers, the responses gathered from officials were presented in Table 3.14.

As can be seen from Table 3.14 the factors that are identified by the majority of the zones officials as the main reasons why supply do not meet demand are: difficulty in getting teachers according to the report demand, high growth rate of students enrolment, unwillingness of new graduates to work in the schools were they are assigned for, and unexpected high rate of teachers resignation. In addition to these, inability to get accurate and reliable data from concerned bodies and lack of co-ordination among concerned bodies are also identified as factors of influence on balancing the demand and supply of secondary school teachers of the sample zones. On the other hand, most of the respondents did not identify shortage of budget for recruitment as a main influential factor in balancing teachers' demand-supply and their planning.

This question was also posed to the officials of Oromia Education Bureau. Accordingly, they pointed out the following problems.

- Difficulty in getting teachers according to the reported demand.
- Delay of information and lack of realistic data concerning size and composition of teachers from zones.
- There were high rate of teachers resignation with out a release paper.
- Absence of teachers in some fields of study for recruitment.
- Unwilling of some newly employee teachers to go where they were assigned.
- Lack of co-ordination among concerned bodies: Region Education Bureau, the MOE, and higher education institutions.

Table 3.15: The Practice of Solving Shortage of Teachers as Responded by Zone Education Department Officials and Teachers.

NO	Items	Respondents	RESPONSES												Total	Mean	Ranks r_s=0.94
			VH		H		AV		L		VL		NA				
			N	%	N	%	N	%	N	%	N	%	N	%			
1	Assigning less qualified teachers.	TE	271	57.05	83	17.47	45	9.47	31	6.53	35	7.37	10	2.11	475	4.040	1
		O	19	54.29	7	20.00	5	14.29	1	2.86	3	8.57	0	0.00	35	4.086	1
		TO	290	56.86	90	17.65	50	9.80	32	6.27	38	7.45	10	1.96	510	4.043	1
2	Increasing the weight of teaching load for individual teacher.	TE	135	28.42	182	38.32	77	16.21	32	6.74	38	8.00	11	2.32	475	3.655	3
		O	4	11.43	23	65.71	8	22.86	0	0.00	0	0.00	0	0.00	35	3.886	3
		TO	139	27.25	205	40.20	85	16.67	32	6.27	38	7.45	11	2.16	510	3.671	3
3	Maximizing the number of students per classes.	TE	249	52.42	92	19.37	31	6.53	51	10.74	37	7.79	15	3.16	475	3.884	2
		O	18	51.43	8	22.86	4	11.43	1	2.86	4	11.43	0	0.00	35	4.000	2
		TO	267	52.35	100	19.61	35	6.86	52	10.20	41	8.04	15	2.94	510	3.892	2
4	Reducing number of period allotment of some subjects for the week.	TE	23	4.84	90	18.95	130	27.37	102	21.47	64	13.47	66	13.89	475	2.385	4
		O	0	0.00	5	14.29	10	28.57	14	40.00	1	2.86	5	14.29	35	2.257	4
		TO	23	4.51	95	18.63	140	27.45	116	22.75	65	12.75	71	13.92	510	2.376	4
5	Increasing teaches' age of retirement.	TE	18	3.79	57	12.00	59	12.42	67	14.11	37	7.79	237	49.89	475	1.402	5
		O	0	0.00	0	0.00	5	14.29	1	2.86	0	0.00	29	82.86	35	0.486	6
		TO	18	3.53	57	11.18	64	12.55	68	13.33	37	7.25	266	52.16	510	1.339	5
6	Recruiting part-time teaches from the school environment.	TE	34	7.16	34	7.16	26	5.47	60	12.63	46	9.68	275	57.89	475	1.158	6
		O	0	0.00	5	14.29	1	2.86	1	2.86	9	25.71	19	54.29	35	0.971	5
		TO	34	6.67	39	7.65	27	5.29	61	11.96	55	10.78	294	57.65	510	1.145	6

VH = Very High, H = High, AV=Average, L= Low, VL= Very Low, NA= Not at all, TE=Teachers, O=Officials, TO=Total

In general, the response given by both officials (Zones Education Department and Oromia Education Bureau) show that, there were shortage of teachers supply in the labor market to meet their required demand, information about secondary school teachers are not realistic, the existing teachers are not interested to continue in teaching, new entrant teachers are unwilling to work where they are assigned, and the involvement of concerned bodies in planning teachers demand and supply was lacking. Almost all of the factors identified are highly associated with the supply of teachers. Thus, planners and policy-makers should under take a through investigation of all factors influencing teachers' supply and consider ways to tackle them.

As can be seen from Table 3.15, the most practiced methods of alleviating shortage of qualified teachers are, assigning unqualified teachers to teach in secondary schools of the sample zones. This practice of solving shortage of teachers was the response of 74.53 percent of teachers and 74.29 percent of officials. Following this, maximizing the number of students per-class was identified by 71.79 percent of teachers and by 74.28 percent of officials as a means used to minimize shortage of teachers. Further, 77.14 percent of officials and 66.74 percent of teaches noted that increasing the weight of teaching load for an individual teacher (maximizing number of periods) is the other option they have been using to alleviate shortage of teachers in their schools and zones.

The ranking correlation (r_s=0.94) between the respondents shows there was a very high positive agreement. So, this response seems to support what was suggested by Hammer and Gerald (in Boe and Gilford, 1992) to be used as a temporary measure to equilibrate teacher supply and demand. Even though, these strategies can be effective in equilibrating teach supply-demand and thereby ensuring that all classrooms are staffed with a teacher, they do little to enhance quality of teaching practice, and to ensure dynamic equilibrium between supply and demand over successive years.

In addition to these shortcomings, increasing class size and work loads of teachers can have an adverse effect on the willingness of entrant teachers and the moral of existing teachers. Thus, the educational planner who faced by actual or anticipated shortages of teachers should closely examines the factors causing the imbalance and consider ways in which it may be corrected. This can be done not just to have a balance at one particular period of time in the future, but also the best possible continuing or dynamic equilibrium over successive years.

CHAPTER FOUR

4. Summary, Conclusions and Recommendations

4.1 Summary

The main purpose of this study was to assess the major problems of the demand and supply of secondary school teachers in Oromia. In order to achieve the purpose of this study, basic questions were raised addressing determinant factors of teachers demand and supply planning, the difference between actual and desired demand of teachers, the extent of teachers' satisfaction, subject fields face particular difficulties, and problems of balancing demand and supply of secondary school teachers.

The study was conducted on five Zones Education Department and in 24 schools using questionnaire, interview and documentary analysis as data gathering tools. Five hundred fifty teachers were selected randomly to answer the questionnaires. In addition, considering their exposure to secondary school teachers demand and supply issues 40 officials from Zone Education Department were purposefully selected to answer the questionnaires. Furthermore, three officials from Oromia Education Bureau were selected by purposive sampling methods to answer the interview questions. Out of the total number of questionnaires distributed to teachers and zone officials, 475 (86.36%) and 35(87.5%) respectively were properly filled, returned and thus used in the analysis of the data.

Data regarding actual number of pupils' enrolment, total number of teachers, number of qualified teachers, sections, class size, teacher-pupil ratio, and number of teachers by subjects were gathered from documents of the sample Zone Education Departments and the sample schools.

The data obtained were analyzed using relevant statistical tools, such as percentages, Mean, Chi-square and Spearman's Rank Correlation. Depending on the results of the analysis made, the following major findings were obtained:

—The average annual growth rate of students' enrolment was 11.46 percent. That is, about 10 thousand students are added each year. An increase in the percentage of pupils attending secondary schools will make demands for additional teachers.

—Both the number of students per class and teacher-pupil ratio is beyond the Ministry's regulation (40). If they continue as they have been increasing now, after four years (in a year 2004/05) the average class size and teacher-pupil ratio will be 91 and 67 respectively. Classes too large for optimum teaching effectiveness reduce job satisfaction and increase frustration. This in turn may maximize the numbers of teachers leaving the profession.

—The percent of qualified secondary school teachers in year 1999/2000 (27.78%) is less by 11.94 percent than four years before (1995/96= 39.72%). Its average annual growth rate also shows a decline of qualified teachers by 6.65 percent per year (Table 3.2). This shows, most teachers at secondary school level are below the required qualification. The problem will be more severe in the future than the years before. This means there is a serious shortage of qualified teachers in secondary schools of the region.

—The desired demand of teachers required for the past five years and the actual number of teachers available were not congruent. Furthermore the data illustrated in Table 3.3 shows that, the balance between the actual number and the desired demand of secondary school teachers has been negatively increasing. (For example, in 1995/96 = 14.03%; after four years in 1999/2000 = -24.52%). This noticed that the numbers of teachers leaving the profession are greater than their supply.

—Among subjects taught in secondary schools Civics and Afan Oromo subjects are the two subjects taught with the absence of qualified teachers in the region. More surprisingly, for Civics subject even there is no diploma teacher. It is a subject taught in secondary schools with out any teacher qualified or trained for it.

—Except for Geography and History subjects, the actual numbers of teachers for all other subjects are less than its desired demand (Table 3.4). The case is more serous for English and Mathematics: the actual number available is less by 104.96 percent and 97.60 percent from its desired demand respectively.

—The average age of all teachers is around 40 years and the percentages of aged teachers (above 45 years) are greater than the younger teachers (below 31 years) by seven percent. This means the numbers of teachers that will be retired in the near future are greater than young entrant teachers.

—Of the subjects taught in secondary schools of the region, except Afan Oromo subject (with average age of 34.35) all other subjects are composed of aged teachers. More over, the balance between aged and younger group teachers' percentage was negative for all subjects (except for Afan Oromo). The case is more serious for Amharic, English, and History subjects. Furthermore, above 10 percent of teachers teaching these three subjects are 51 and above years old.

—As identified by most officials recent graduates, transfer from other regional states, and the in-service training program are the three main sources of teachers supply for secondary schools.

—The responses of both qualified and less qualified teachers towards some reasons "why they entered teaching", identifies absence of other job opportunity, for being assigned to attain teacher education with out their interest, and to use it as spring-board as the three main reasons why teachers enter the teaching profession.

—The majority of teachers' responses show that, the perception of secondary school teachers to wards teaching profession is negative. This means the relative level of teachers' commitment: willingness to put forth effort on its behalf is very low.

—The relative level of teachers' satisfaction with their current job found at lower level with mean score 1.78. Out of the variables used to measure teachers' job satisfaction, most respondents identify financial variable with 1.16 mean score as a main cause of teachers' dissatisfaction. In addition " social status" and "working condition" with 1.53 and 1.87 mean score respectively, are the second and the third reasons for teachers job dissatisfaction.

—Teachers self report for the above variables further pronounced that, the current level of teachers salary is not satisfactory, they are not paid to the effort they exert, there is no payment of hardship allowance, there is a loss of social prestige and lack of respect, the weight of teaching load is too high, the physical environment of the school is not pleasant, and the overall support from school administrator and assistance provided by experts/supervisors are not as the expectation of teachers. These may increase the number of teachers leaving the profession, resulting a heavy attrition rate.

—Unanimously most respondents, 436(91.79%) teachers and 25(71.43%) officials, were found involuntary to advise their relative to be a teacher. Among the reasons given by both respondents: teachers' status, salary case, promotion opportunities, and the nature of the work it self are highly emphasized in their responses for not to advise their relative to be a teacher.

—Almost all the respondents consider inadequacy of salary, low level of prestige and respect by the community, low opportunities of transfer to more favorable areas, as well as lack of opportunity for growth and development were the most crucial reasons for the teachers to leave the profession.

—As officials state it (82.86%), there is no model /method currently used for projecting the demand and supply of secondary school teachers. The absence of such models/methods may reduce the effectiveness of teachers planning, and the utilization of available teaching force. It may also complicate the decision-making process of authorities at different level of education structure. Thus, more

work should be done in designing models/methods that forecast shortages of teachers ahead of time, so that concerned bodies can respond in time.

— Among various factors affecting teachers demand, weekly load of individual teacher, number of teachers leaving teaching, and number of continuing (retained) teachers available are the three main factors considered by zones' officials during teachers demand request and their planning. On the other hand, the amount of budget allotted for recruitment, level of teacher pupil-ratio, growth rate of students enrollment and number of under qualified teachers are not found as considerably important factors for teachers demand request and teachers planning by officials in sample zones' of the region.

— Concerning the problems in balancing the demand and supply of secondary school teachers the responses from officials at Zone Education Department and Oromia Education Bureau identifies the following factors:

- Shortage of teachers for recruitment in the labor market;
- Shortage of information and lack of reliable data from concerned bodies;
- High rate of teachers resignation; and
- Lack of coordination among concerned bodies.

— According to the majority of the respondents' response, assigning less qualified teachers, maximizing the number of students per class (class size), and increasing the weight of teaching load for an individual teacher are the most practiced methods of alleviating shortage of qualified teachers in secondary schools.

4.2. Conclusions

Based on the preceding major findings the following conclusions are made.

1) The continued demand for secondary school teachers is brought about by a number of factors including the need to replace staff lost by attrition, the need to replace the existing unqualified staff, and the need to meet expansion of schools. In this regard this study identifies, with the highest increase rate of students

enrolment, the number of students per class, and teacher-pupil ratio in secondary schools are also increasing. On the other hand, the number of secondary school teachers is decreasing. Especially the average annual growth rate of qualified secondary school teachers (indicated in this research) noted that inadequacy of its supply and higher rate of teachers' attrition. This means there is a serious shortage of qualified and competent teaching staff in secondary school of the country due to high growth rate of enrolment, large class size, and teachers' attrition.

2) The highest percentage of aged teachers with limited number of young entrant teachers, illustrated in Table 3.5 of this study, shows, teacher retirement rates have been increasing and expected to continue to increase during the next 3-7 years. Since the average age of teachers is around 40, half of all teachers are within 10-15 years of retirement eligibility. This high rate of retirement means that new teachers demand is increasing faster than previously thought. In general, the age of teachers analyzed in this study shows that, there is a clear prospect of accelerated attrition due to retirement causing a demand for more teachers.
3) The responses of teachers to items related to reasons 'why they become a teachers?', their perception to wards teaching profession, teachers' willingness to advise others to be a teacher, and self report of teachers to wards the satisfaction level of their current job shows that the existing secondary school teachers are not comfortable with the current condition of teaching profession. If teachers do not feel confident in their work, they may be influenced to leave the profession through resignation.
4) Of many reasons of teachers' attrition, teachers' and officials' identified, financial variable, particularly inadequacy of teachers salary was ranked first as a main reason for teachers leaving the profession. Because of this reason, attrition by resignations will likely continue or increases leaving the teaching job in the hands of unqualified or/and inadequately qualified teachers, since better qualified staff will consider the service as a means or transit to better jobs. This may affect both demand and supply of teachers in particular and the quality of education in general. Since, the structure of salary scales and promotion prospects have a significant impact on decision to enter, or remain in the profession; it becomes

appropriate to consider salaries as a means of influencing teachers' attrition. If not, the out come will damage over all objective of education sector in general and the decision of individual, to exert his/her effort and to work in education system in particular.

5) The absence of models/methods of forecasting, in adequacy of points considered by officials during teachers demand and supply planning, responses of teachers' towards professional and administrative support, and items listed by officials as a problem of balancing teachers demand-supply dis equilibrium shows lack of awareness, and absence of competent and well qualified authorities in the system. If the education system lacked competent and qualified officials, capacity for collecting and analyzing information, capacity for planning and utilizing available human resources, and implementations of different methods in order to minimize the current problems become difficult. This in turn may influence the future situation of teachers supply-demand planning; the activities of balancing demand-supply dis equilibrium, and the achievement of overall objectives of education.

4.3. Recommendations

On the basis of the findings and the conclusions drawn, the following recommendations were forwarded:

1. To alleviate the present shortage of qualified secondary school teachers, Oromia Education Bureau in collaboration with MOE and higher education institutions, should arrange in-service teachers training programs through summer course or distance education to up-grade less qualified teachers and assign where they are required. During such training program, more considerations should be given for key subject fields that faced particular difficulties (For example, Civics, Afan Oromo, English, and Mathematics).
2. It is important and helps for the improvement of teachers planning and for the utilization of teaching forces if those who are qualified in educational

management and human resource planning will be assigned in the management position of the entire region education structure.

3. Documents and information should be well organized concerning teachers' characteristics, schools and pupils enrolments. This should be used as references in teachers' demand-supply issues. Specifically, since teachers' records are the main information source for the region, zones and schools database, relevant to teachers demand and supply, it is important that these records be maintained so as to be suitable for teachers demand and supply decision, projection and research.
4. It is true that projection method/model would be useful for policy makers and others who are concerned about supply-demand issues. One method such a projection has been made is to take into account such factors as (1) the enrolment growth, (2) the existing number of teachers, (3) the demand due to attrition, and (4) the demand due to growth and expansion of secondary schools. Thus, it is advisable, if the Regional Education Bureau and Zones Education Department formulate models/methods of forecasting the future number of student enrolment, teachers' attrition and number of retained teachers and use it for teachers' demand and supply projection.
5. Progress in the number of new entrant and the retention of teachers will be possible, if (1) teachers' preparation program is made in relation to the growth rate of schools teachers demand, (2) reward is available to attract and motivate these interested in the profession, and (3) if the future economic security of the beginning teacher is assured. So, to encourage prospective graduates to take up teaching, to reduce the rate of attrition of teachers, and to retain the services of good ones, measure should be taken for the improvement of the condition of service for teachers. For example, the Regional Government could consider such measures as payment of (a) rural allowance for teachers working in rural areas, (b) as it was considered for principals, responsibility allowance for homeroom teachers and heads of departments who have to shoulder extra-curricular

responsibilities, and (c) "housing services" should be provided for teachers. In general, more than all of these, satisfactory conditions of salary scale for teachers must be worked out comparable to conditions available to those with similar qualifications and experiences in others professions.

6. As a means for the development of awareness and analysis of teachers' supply-demand problems, it would seem vital if an annual conference on the problems of demand and supply of teachers in general, and secondary school teachers in particular, should be held with concerned bodies representatives (higher education institutions, MOE, Region Education Bureau, Zone Education Department, schools, teachers association, educational research institutions, and the like). This will help to bring a coordinated effort to teachers planning, and solving teachers' shortage. Further more it will contribute methods, principles, and suggestions that could help planners and policy makers in teacher demand-supply issues. In addition to this, planners and policy makers must look to educational statistics and research findings, and use as a source of information for their understanding of the problem in demand-supply planning function, and for informed decision-making processes.
7. Finally, there could be other problems of teachers demand and supply not reached by this study that may cause teachers' shortage. Therefore, the writer recommends that further studies be carried out on the factors influencing the demand-supply of secondary school teachers.

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APPENDICES

APPENDIX - A

ADDIS ABABA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

A Questionnaire to be filled by Secondary School Teachers

The purpose of this questionnaire is to collect information for the study of **"The Demand and Supply of Secondary School Teachers in Oromia: Problems and Prospects".** The information obtained will help to recommend plausible measure to resolve problems related to secondary school teachers' supply and demand. Since the success of this study is largely dependent upon your genuine and frank responses, please read the instruction given to each part and provide your responses accordingly.

Note:

1. Do not write your name in parts of the questionnaire.
2. Please answer **all** questions.
3. To respond open-end questions it is possible to use **English, Afan Oromo or Amaharic** language.

Thank you in advance for your cooperation!

APPENDIX - A

I. Please write the exact answer clearly or indicate your response by putting a tick mark to the following questions on the space provided.

1) Name of the school _____

3) Sex _____ 4). Age _____ 5). Level of education _____

6) Field of study : Major _____ Minor _____

7) The subject(s) you are teaching at present _____

8) Weekly periods allotted to you (teaching load) _____

9) Experience: (a) teaching _____ (b) Non-teaching _____

10) Graduation: (a) year _____ (b) Institution/College _____

11) Your present responsibility in the school (a) Principal/Ass. Principal (b) Unit leader (c) Department head (d) Teacher (e) Other (specify) _____

12) Your present level of teacher career structure (a) Beginner (b) Junior Teacher (c) Teacher (d) Senior Teacher (e) Deputy Head Teacher (f) Head Teacher

II. The following statements are concerned about the question "why most teachers became a teacher?" Give your reason by putting "X" mark on the choices given in accordance with your level of agreements. The number indicate: **5= Very High, 4= High, 3= Moderate, 2=Low, And 1= Very Low**.

No.	Reasons	5	4	3	2	1
1.	Because there is no other job opportunity					
2.	To use it as spring-board					
3.	Because it is an interesting job					
4.	Desire to serve society and the people					
5.	Because I am assigned to attain teaching courses in college and/or universities					
6.	By suggestion and recommendation of others					
7.	High opportunity for growth and development					
8.	Relatively good job security					

APPENDIX - A

III. The following statements are related to teaching profession. For each statement there are five choices/level of agreements. Read each items carefully and put "X" mark under your response (level of agreement) for each statement.

No.	Items	Strongly agree	Agree	Undecided disagree	Disagree	Strongly disagree
1.	Teaching is a very interesting job					
2.	Teaching is better than I expected					
3.	I will choose teaching if I asked to decide again					
4.	Since teaching is a pleasant job, I will advise new entrant teachers not to leave the profession					
5.	The current position of teaching profession encourages most teachers to be creative					
6.	Teaching provides me with an opportunity to advance professionally					
7.	Teaching provides a good opportunity for promotion					
8.	I like my school and my profession because it reflects my values, needs and self-image					
9.	I like to remain in the school/teaching until retirement					
10.	I devote my time and energy in doing every thing good for school improvement and the development of teaching profession					
11.	I like to work which is challenging and directly relevant to teaching-learning and school objectives					
12.	I fell that future security in teaching job would be good in government secondary schools					

APPENDIX - A

IV. The following statements are concerned about teachers' satisfaction. Please put "X" marks in the column which tells your **level of satisfaction**.

No.	Item	Excellent	Very Good	Good	Fair	Poor	Not at all
1.	Fairness of teachers' transfer						
2.	Distribution and weight of teaching load						
3.	Availability and sufficiency of materials and facilities for teachers in the school						
4.	The physical environment of the schools (the work place)						
5.	The opportunity for in-service training						
6.	The current level of teachers' salary						
7.	Balance between the effort you exert and the benefits you deserve						
8.	Teachers' salary is paid on time every month						
9.	Fairness of teachers' evaluation						
10.	Availability of prizes and rewards for good work of teachers by authorities concerned						
11.	School directors' treats everyone equitably						
12.	Support and special assistance given for teachers by the community and local administrators.						
13.	Support from the school directors and administration						
14.	The recognition received by directors and head teachers for successful work of teachers						
15.	Technical assistance provided by Wereda Education Office, Zone Education Department, and/or Education Bureau experts and supervisors						
16.	Payment of hardship allowance each month						
17.	Students discipline and academic achievement						
18.	Teachers' prestige and respect by the community						
19.	The respect you received from the people you work with						
20.	Availability and sufficiency of facilities and services around your school environment						

APPENDIX - A

V. The following are some of the possible reasons for teachers' attrition. Read each statement carefully and put "X" marks below the choice number given for each reason. The choice number indicates **influential level** of each reason. That is; **5= Very High, 4= High, 3= Average, 2= Low, 1= Very Low, and 0= Not At All.**

No.	Possible reasons for teachers attrition	5	4	3	2	1	0
1.	Low opportunity for transfer to more favorable areas						
2.	Inadequacy of salary (poor salary level)						
3.	Low level of prestige and respect by the community						
4.	Lack of opportunity for growth and development						
5.	Inability of teachers' to teach well						
6.	Scarcity/absence of teaching materials and equipment						
7.	Inconvenience of environmental and climatic condition						
8.	Death of teachers'						
9.	Low level of students' respect for teachers, and their discipline						
10.	Retirement (because of age)						
11.	Heavy weight of work load						
12.	Misconduct of teachers (dismissal).						

VI. If your relative requests you for advise, would you advise him/her to be a teacher?

a) Yes_____b) No____Why?

i. _____

ii. _____

iii. _____

iv. _____

v. _____

vi. _____

APPENDIX - A

VII. The following items are related to the practice of balancing demand and supply of teachers when there were shortages of teachers. Give your responses by putting "X" marks under the choices given in relation to its **frequency of implementation** in your school.

No.	Possible solution	Very high	High	Average	Low	Very low	Not at all
1.	Assigning less qualified teachers						
2.	Increasing the weight of teaching load for individual teacher						
3.	Maximizing the number of students per classes						
4.	Reducing number of period allotment of some subjects for the week						
5.	Increasing teachers' age of retirement						
6.	Recruiting part-time teachers from the school environment						

VIII. Overall, what do you think should be done to solve shortage of secondary school teachers and to balance the demand and supply of them?

1) _____
2) _____
3) _____
4) _____
5) _____
6) _____
7) _____
8) _____

APPENDIX - B

ADDIS ABABA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

A Questionnaire to be filled by Zone Education Officials

The purpose of this questionnaire is to collect information for the study of **"The Demand and Supply of Secondary School Teachers in Oromia: Problems and Prospects".** The information obtained will help to recommend plausible measure to resolve problems related to secondary school teachers' supply and demand. Since the success of this study is largely dependent upon your genuine and frank responses, please read the instruction given to each part and provide your responses accordingly.

Note:

1. Do not write your name in parts of the questionnaire.
2. Please answer **all** questions.
3. To respond open-end questions it is possible to use one of the following languages: **English, Afan Oromo or Amaharic** language.

Thank you in advance for your cooperation!

I. Please write the exact answers clearly or indicate your response by putting a tick mark to the following questions on the space provided.

1.1.Zone's name _____

1.2. Sex _____ 1.3. Age _____ 1.4. Level of education _____

1.5. Field of study: Major _____Minor _____

1.6. Your present position _____

1.7. Experience: (a) in this position ____ (b) in teaching profession ____

APPENDIX - B

II. The following statements are related to the supply and demand of secondary school teachers. Show their **level of consideration** during teachers' demand request in your zone by putting "X" marks below the choices given for each statement.

No.	Items	Very High	High	Average	Low	Very low	Not at all
1.	Number of additional schools and/or sections						
2.	Growth rate of student enrolment						
3.	Number of under qualified teachers						
4.	Number of teachers leaving (because of retirement, death, resignation, etc)						
5.	Amount of budget allotted for recruitment						
6.	Level of teacher-pupil ratios						
7.	Availability of teachers in the labor market						
8.	Disaggregation level of information's – in relation to secondary school teachers						
9.	Condition of work out of teaching and the labor market						
10.	Teachers' transfer request and its implementation						
11.	Number of retained (continuing) teachers available						
12.	Weekly load of individual teacher						

III. Why most people become a teacher? Please write **five** main reasons of your observation.

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

APPENDIX - B

IV. The following statements are concerned about source of secondary school teachers'. Please put "X" marks in the column in relation to your zone's practices.

No.	Possible Sources	Very High	High	Average	Low	Very LOW	Not at all
1.	New entrants (Recent graduates)						
2.	Re-entrants and returnees						
3.	Transfer from other regional states						
4.	Migrants from non-government schools						
5.	Expatriates (foreign teachers)						
6.	Upgrading internal sources through in-service program						

V. The following are some of the possible reasons for teachers' attrition. Read each statement carefully and put "X" marks below the choice number given for each reason. The choice number indicates **influential level** of each reason. That is: **5= Very High, 4= High, 3= Average, 2= Low, 1= Very Low, And 0= Not At All.**

No.	Possible reasons for teachers attrition	5	4	3	2	1	0
1.	Low opportunity for transfer to more favorable areas						
2.	Inadequacy of salary (poor salary level)						
3.	Low level of prestige and respect by the community						
4.	Lack of opportunity for growth and development						
5.	Inability of teachers' to teach well						
6.	Scarcity/absence of teaching materials and equipment						
7.	Inconvenience of environmental and climatic condition						
8.	Death of teachers'						
9.	Low level of student respect for teachers, and their discipline						
10.	Retirement (because of age)						
11.	Heavy weight of work load						
12.	Misconduct of teachers' (dismissal).						

APPENDIX - B

VI. The following items are related to the practice of balancing demand and supply of teachers **when there was shortage of teachers**. Give your responses by putting "X" marks under the choices given in relation to its **frequency of implementation** in your Zone.

No.	Items	Very high	High	Average	Low	Very low	Not at all
1.	Assigning less qualified teachers						
2.	Increasing the weight of teaching load for individual teacher						
3.	Maximizing the number of students per classes						
4.	Reducing number of period allotment of some subjects for the week						
5.	Increasing teachers' age of retirement						
6.	Recruiting part-time teachers from the school environment						

VII. There are different factors to be considered in planning the supply and demand of secondary school teachers. Please write **five** of these factors (from your experience and reading) **according to their order of impotence.**

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

APPENDIX - B

VIII. The following are some problems that influence planning of teacher supply and demand. For each statement, five choices are given. Please give your responses by putting "X" marks in the column in relation to your Zone's practices.

No.	Possible factors/problems	Very High	High	Average	Low	Very low	Not at all
1.	Shortage of budget for recruitment						
2.	Unexpected high rate of teachers resignation						
3.	Unwillingness of new graduates to work in the schools where they are assigned						
4.	Lack of co-ordination among concerned authorities and organization						
5.	High increase rate of students enrolment						
6.	Difficulty in getting teachers according to the reported demand						
7.	Inability to get accurate and reliable data from concerned bodies						

IX. If your relative requests you for advise, would you advise him/her to be a teacher?

a) Yes _____ b) No_____Why?

i. _____

ii. _____

iii. _____

iv. _____

v. _____

vi. _____

vii. _____

viii. _____

APPENDIX - B

X. Are there any **methods (models) currently used for projecting the demand and supply of secondary school teachers?** a) Yes _____ b) No_____ If your response is "Yes" please write the points considered in designing the method (model) and how it was implemented. _____

_____

_____

_____

_____

XI. What is the pool mechanisms used to attract secondary school teachers for this Zone?

1) _____
2) _____
3) _____
4) _____
5) _____

XII. Overall, what do you think should be done of to solve shortage secondary school teachers to balance the demand and supply of them?

1) _____
2) _____
3) _____
4) _____
5) _____
6) _____
7) _____
8) _____
9) _____

APPENDIX - C

ADDIS ABABA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

Format to be filled by Secondary School Administration

The purpose of these formats is to gather information necessary for the study of **"The Demand and Supply of Secondary School Teachers in Oromia: Problems and Prospects".** Since the success of this study is largely depends upon your genuine responses, please read the instruction given to each 'format' and provide the exact answers clearly in the space provided for each items.

Note:

1. Don't write your name on any parts of the format
2. Please answer all questions
3. Note the following abbreviations while filling the format.

   Edu.Adm. = Educational Administration

   H.P.E.= Health and Physical Education

   Voc. Edu. = Vocational Education

Thank you in advance for your cooperation!

General information:

1. School _____
2. Year of establishment _____
3. Location: Zone _____ District _____
4. Distance(KM): from Addis Ababa _____ from Zone capital city _____
5. Teaching time (a) Single shift system _____ (b) Double shift system _____
6. Duration of one period (minutes) _____

APPENDIX - C

Format-1: Number of Government Secondary School Teachers by Qualification and Subjects for the Years 1988-1993 EC (1995/96-2000/01).

Years (EC)	Qualification	Subjects														
		Afan Oromo	Amharic	English	Math's	Physics	Chemistry	Biology	Geography	History	Civics	Ed. Ad.	H.P.Ed.	Voc. Ed.	Others	TOTAL
1993	BA/B.Sc. and above															
	12+3															
	12+2															
	Less than 12+2															
	Total															
1992	BA/B.Sc. and above															
	12+3															
	12+2															
	Less than 12+2															
	Total															
1991	BA/B.Sc. and above															
	12+3															
	12+2															
	Less than 12+2															
	Total															
1990	BA/B.Sc. and above															
	12+3															
	12+2															
	Less than 12+2															
	Total															
1989	BA/B.Sc. and above															
	12+3															
	12+2															
	Less than 12+2															
	Total															
1988	BA/B.Sc. and above															
	12+3															
	12+2															
	Less than 12+2															
	Total															

APPENDIX - C

Format-2: Number of Students by Grade and Streams, and Number of Sections for the Years 1988 – 1993 EC. (1995/95 – 2000/01)

Grades	Streams	1993		1992		1991		1990		1989		1988	
		No. of students	No. of sections	No. of students	No. of sections	No. of students	No. of sections	No. of students	No. of sections	No. of students	No. of sections	No. of students	No. of sections
9	Academic												
	Vocational												
	Total												
10	Academic												
	Vocational												
	Total												
11	Natural Science												
	Social Studies												
	Vocational												
	Total												
12	Natural Science												
	Social Studies												
	Vocational												
	Total												
Grand Total													

Format-3: Number of Qualified Secondary School Teachers Demand Request and their Supply for the Years 1988-1993EC. (1995/1996 – 2000/01).

No.	Subject	1993		1992		1991		1990		1989		1988		Remarks
		D	S	D	S	D	S	D	S	D	S	D	S	
1.	Afan Oromo													
2.	Amharic													
3.	English													
4.	Math's													
5.	Physics													
6.	Chemistry													
7.	Biology													
8.	Geography													
9.	History													
10.	Civics													
11.	Ed. Adm.													
12.	H.P.Ed.													
13.	Voc. Ed.													
14.	others													

N.B. D=DEMAND S=SUPPLIED NUMBER OF TEACHERS

APPENDIX - C

Format-4: Qualified Secondary School Teachers *Supply* by their Sources and Number of Teachers *Attrition* for the years1988-1992 EC. (1995/96-2000/01).

No.	Sources/Reasons	YEARS					
		1993	1992	1991	1990	1989	1988
Supply of Teachers'	New entrants (Recent graduates)						
	Re-entrants and returnees.						
	Transfer from other Regional States						
	Migrants from non-government schools						
	Expatriates (Foreign teachers)						
	Upgrading internal sources by in-service training						
	Other sources						
	TOTAL						
Teachers Attrition	Death						
	Dismissal						
	Temporary withdrawal **						
	Redesignation within education *						
	Resignation (leave by personal decision)						
	Other reason						
	TOTAL						

Note: **- Temporary withdrawal includes"- secondments, training leave, national service, and the like.

*-Redesignation within education includes: those who are promoted or transferred from teaching to supervisory posts of various kinds in educational system of the country.

APPENDIX - D

Teachers' Responses towards the Satisfaction Level of their Current Job

Items' No.	Excellent		Good		Very Good		Fair		Poor		Not at All		TOTAL		AV.
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
1	5	1.05	2	0.42	35	7.37	110	23.16	235	49.47	88	18.53	475	100	1.248
2	27	5.68	51	10.74	90	18.95	180	37.89	108	22.74	19	4.00	475	100	2.267
3	3	0.63	13	2.74	45	9.47	133	28.00	246	51.79	35	7.37	475	100	1.503
4	13	2.74	25	5.26	148	31.16	145	30.53	143	30.11	1	0.21	475	100	2.194
5	9	1.89	59	12.42	92	19.37	51	10.74	214	45.05	50	10.53	475	100	1.838
6	0	0.00	0	0.00	32	6.74	68	14.32	363	76.42	12	2.53	475	100	1.253
7	1	0.21	1	0.21	18	3.79	99	20.84	306	64.42	50	10.53	475	100	1.194
8	0	0.00	26	5.47	124	26.11	99	20.84	216	45.47	10	2.11	475	100	1.874
9	5	1.05	67	14.11	127	26.74	160	33.68	111	23.37	5	1.05	475	100	2.326
10	2	0.42	24	5.05	33	6.95	32	6.74	249	52.42	135	28.42	475	100	1.091
11	48	10.11	161	33.89	110	23.16	74	15.58	77	16.21	5	1.05	475	100	3.029
12	3	0.63	2	0.42	32	6.74	43	9.05	322	67.79	73	15.37	475	100	1.109
13	35	7.37	86	18.11	140	29.47	108	22.74	98	20.63	8	1.68	475	100	2.638
14	25	5.26	135	28.42	147	30.95	129	27.16	37	7.79	2	0.42	475	100	2.949
15	2	0.42	4	0.84	19	4.00	64	13.47	319	67.16	67	14.11	475	100	1.116
16	2	0.42	1	0.21	2	0.42	20	4.21	98	20.63	352	74.11	475	100	0.333
17	6	1.26	25	5.26	47	9.89	54	11.37	316	66.53	27	5.68	475	100	1.463
18	2	0.42	3	0.63	23	4.84	75	15.79	288	60.63	84	17.68	475	100	1.114
19	21	4.42	118	24.84	153	32.21	98	20.63	78	16.42	7	1.47	475	100	2.758
20	31	6.53	86	18.11	118	24.84	93	19.58	90	18.95	57	12.00	475	100	2.377
AV.	**12**	**2.53**	**44**	**9.36**	**77**	**16.16**	**92**	**19.32**	**196**	**41.20**	**54**	**11.44**	**475**	**100**	**1.784**

Note: Related items of this part of the questionnaire are:
I = Financial Variables = Item No. 6,7,8, &16.
II = Professional and Administrative Support = Item No. 1,9,11,13,14, &15.
III = Working Conditions = Item No. 2,3,4,5,10,17, &19.
IV = Social Status = Item No. 12,18, &20.
AV. = Average (Arithmetic Mean).

APPENDIX - E

Sample Zones' Number of Teachers (by Qualification and their Desired Demand), Enrolment, Sections, Class Size, Teacher-Pupil Ratio (TPR) and their Annual Growth Rate (AGR) for the Years 1995/96 - 2000/01

No.	ZONES	Teachers																													
		1995/96					1996/97					1997/98					1998/99					1999/2000					AVERAGE				
		BA/B.Sc. & above	12+2 & 12+3	Less than 12+2	Total	Percent of BA/B.Sc. and above	BA/B.Sc. & above	12+2 & 12+3	Less than 12+2	Total	Percent of BA/B.Sc. and above	BA/B.Sc. & above	12+2 & 12+3	Less than 12+2	Total	Percent of BA/B.Sc. and above	BA/B.Sc. & above	12+2 & 12+3	Less than 12+2	Total	Percent of BA/B.Sc. and above	BA/B.Sc. & above	12+2 & 12+3	Less than 12+2	Total	Percent of BA/B.Sc. and above	BA/B.Sc. & above	12+2 & 12+3	Less than 12+2	Total	Percent of BA/B.Sc. and above
1	ARSI	212	303	60	575	36.87	203	313	28	544	37.32	188	331	58	577	32.58	180	403	98	681	26.43	156	430	85	671	23.25	**157**	**297**	**55**	**508**	**30.81**
2	BALE	89	175	46	310	28.71	106	218	36	360	29.44	97	198	49	344	28.20	88	227	73	388	22.68	78	238	81	397	19.65	**76**	**176**	**48**	**300**	**25.46**
3	EAST SHEWA	323	255	67	645	50.08	309	292	45	646	47.83	304	261	72	637	47.72	301	290	69	660	45.61	262	368	76	706	37.11	**250**	**244**	**55**	**549**	**45.51**
4	EAST WOLLEGA	108	237	86	431	25.06	108	249	31	388	27.84	109	257	39	405	26.91	153	220	38	411	37.23	104	266	41	411	25.30	**97**	**205**	**39**	**341**	**28.45**
5	WEST SHEWA	284	254	59	597	47.57	217	225	35	477	45.49	208	253	50	511	40.70	205	289	70	564	36.35	156	316	64	536	29.10	**178**	**223**	**46**	**448**	**39.85**
TOTAL		**1016**	**1224**	**318**	**2558**	**39.72**	**943**	**1297**	**175**	**2415**	**39.05**	**906**	**1300**	**268**	**2474**	**36.62**	**927**	**1429**	**348**	**2704**	**34.28**	**756**	**1618**	**347**	**2721**	**27.78**	**758**	**1145**	**243**	**2145**	**35.33**
A G R (Number)							-73	73	175	-143	-0.67	-37	3	93	59	-2.43	21	129	80	230	-2.34	-171	189	-1	17	-6.50	**-52**	**79**	**69**	**33**	**-2.39**
A G R (percent)							**-7.19**	**5.96**	**55.03**	**-5.59**	**-1.69**	**-3.92**	**0.23**	**53.14**	**2.44**	**-6.21**	**2.32**	**9.92**	**29.85**	**9.30**	**-6.39**	**-18.45**	**13.23**	**-0.29**	**0.63**	**-18.96**	**-5.45**	**5.87**	**27.55**	**1.36**	**-6.65**

No.	ZONES	Enrolment						Sections						Class Size						TPR						Difference b/n actual and desired demand of teachers (%)					
		1995/96	1996/97	1997/98	1998/99	1999/2000	AVERAGE	1995/96	1996/97	1997/98	1998/99	1999/2000	Average	1995/96	1996/97	1997/98	1998/99	1999/2000	Average	1995/96	1996/97	1997/98	1998/99	1999/2000	Average	1995/96	1996/97	1997/98	1998/99	1999/2000	Average
1	Arsi	15382	16108	18936	22068	24794	19458	273	278	319	352	363	317	56	58	59	63	68	61	27	30	33	32	37	32	**19.75**	**11.17**	**1.55**	**2.78**	**-10.85**	**4.88**
2	Bale	9723	10548	10674	12419	13966	11466	166	175	188	206	207	188	59	60	57	60	67	61	31	29	31	32	35	32	**5.91**	**12.10**	**6.91**	**3.98**	**-5.54**	**4.67**
3	East Shewa	22732	23288	25703	29071	32237	26606	325	342	353	373	361	351	70	68	73	78	89	76	35	36	40	44	46	40	**-5.73**	**-8.15**	**-21.05**	**-32.14**	**-36.98**	**-20.81**
4	East Wollega	11677	12548	15679	16903	19376	15237	190	164	236	240	270	220	61	77	66	70	72	69	27	32	39	41	47	37	**18.72**	**2.98**	**-16.14**	**-23.38**	**-41.43**	**-11.85**
5	West Shewa	13791	15377	17816	19949	22571	17901	226	255	286	308	331	281	61	60	62	65	68	64	23	32	35	35	42	34	**30.70**	**3.29**	**-4.59**	**-6.11**	**-26.33**	**-0.61**
TOTAL		**73305**	**77869**	**88808**	**100410**	**112944**	**90667**	**1180**	**1214**	**1382**	**1479**	**1532**	**1357**	**62**	**64**	**64**	**68**	**74**	**67**	**29**	**32**	**36**	**37**	**42**	**35**	**14.03**	**3.27**	**-7.69**	**-11.40**	**-24.52**	**-5.26**
A G R (Number)			4564	10939	11602	12534	9910		34	168	97	53	88		2	0	4	6	3		4	4	1	4	3						
A G R (Percent)			**6.23**	**14.05**	**13.06**	**12.48**	**11.46**		**2.88**	**13.84**	**7.02**	**3.58**	**6.83**		**3.25**	**0.18**	**5.65**	**8.59**	**4.42**		**12.52**	**11.33**	**3.45**	**11.78**	**9.77**						

AGR = Annual Growth Rate

APPENDIX - E

Sample Schools' Enrolment, Sections, Teachers (by qualification), Class size and Teacher-Pupil Ratio (TPR) for the year 2000/01 (1993 E.C.)

No.	SCHOOLS	ENROLMENT				SECTIONS	TEACHERS					CLASS SIZE	TEACHER-PUPIL RATIO
		Natural Science	Social Studies	Voc. Edu.	All (9-12)		BA/B.Sc. & Above	12+2&12+3	Less Than 12+2	Total	Percent Of BA/B.Sc. And Above		
1	Assela	3537	2146	360	4095	68	40	87	14	141	28.37	60	29
2	Bokoji	2754	1823	0	2851	36	13	36	7	56	23.21	79	51
3	Chilalo	5147	3520	240	5750	68	31	76	12	119	26.05	**85**	48
4	Kofale	1621	1264	0	1683	22	12	20	4	36	33.33	77	47
5	Batu	3233	2640	147	3509	49	12	45	19	76	15.79	72	46
6	Dodola	2351	1721	0	2477	22	9	26	7	42	21.43	**113**	59
7	Robe	2206	2150	0	2651	33	10	33	11	54	18.52	80	49
8	Aris Negelle	2561	1783	0	2667	25	11	24	8	43	25.58	**107**	62
9	Bishoftu	3057	2264	645	3832	51	50	29	6	85	58.82	75	45
10	Hawas	3503	2109	599	4233	46	52	28	5	85	**61.18**	**92**	50
11	Kuyera	1308	1128	0	1470	18	3	19	8	30	10.00	**82**	49
12	Modjo	1248	1026	0	1466	22	18	24	7	49	36.73	67	30
13	Shashemanne	3699	3367	0	4312	35	17	33	5	55	30.91	**123**	78
14	Darge	2813	2108	0	2934	38	22	33	1	56	39.29	77	52
15	Finchea	885	885	0	885	12	2	19	2	23	**8.70**	74	38
16	Harato	797	600	0	839	13	4	14	2	20	20.00	65	42
17	Nekemte	3156	2454	175	3466	46	26	46	1	73	35.62	75	47
18	Sire	1226	955	0	1271	18	8	18	3	29	27.59	71	44
19	Ambo	3608	2761	407	4488	65	30	52	6	88	34.09	69	51
20	Bako	1324	1100	0	1370	22	8	20	8	36	22.22	62	38
21	Deja Geresu	3855	2975	218	4263	48	27	40	6	73	36.99	**89**	58
22	Ginchi	1560	1166	0	1643	22	14	19	7	40	35.00	75	41
23	Guder	2074	1668	0	2228	27	11	28	4	43	25.58	**83**	52
24	Yehibret Fire	1543	1122	0	1615	20	12	19	4	35	34.29	**81**	46
	TOTAL	44034	42432	2044	65998	826	442	788	157	1387	**31.87**	**80**	48

APPENDIX-F

Addis Ababa University
School of Graduate Studies
Department of Educational Administration

Leading Interview Questions, Presented to Oromia Education Bureau Officials

1. How do you see the actual number of teachers with their desired demand in secondary schools of the region?
2. How are secondary school teachers recruited?
3. What mechanisms do you employ to pool and motivate secondary school teachers?
4. What do you think are some of the reasons why teachers leave teaching profession in this region?
5. What points does this bureau consider during secondary school teachers planning?
6. Is there any model/method currently used for projecting the demand and supply of secondary school teachers? Please specify the points considered in designing and how it was implemented.
7. What are the problems do this region faced in balancing secondary school teachers' demand-supply dis equilibrium?
8. What are the mechanisms used to solve shortage of secondary school teachers?
9. Overall, what do you think should be done to solve shortage of secondary school teachers and to balance the demand and supply of them?

APPENDIX-G

DECLARATION

I, the undersigned, declare that this thesis is my original work, has not been presented for a degree in any other university and that all sources of material used for the thesis have been duly acknowledged.

Name: Bekele Tadesse

Signature_____

Date: June 1,2001.

This thesis has been submitted for examination with my approval as a university advisor.

Name: Yalew Ingdayehu (PhD.)

Signature:_____

Date: June 1, 2001.

ADDIS ABABA UNIVERSITY
FACULTY OF EDUCATION
Department of Educational Administration

June 13, 2001

EdAd/84/93

To: The School of Graduate Studies

From: Girmay Berhe, Head
Department of Educational Administration

Subject: M.A/ [illegible] Thesis Submission

Please find enclosed the M.A/ Thesis of Bekele Tadesse entitled" THE DEMAND AND SUPPLY OF SECONDARY SCHOOL TEACHERS IN OROMIA: PROBLEMS AND PROSPECTS ".

Thank you