SCHOOL ENROLLMENT AND TEACHING MANPOWER PROJECTION IN EKITI STATE SECONDARY SCHOOLS (2003 – 2023)

Dr. Musibau Adeoye Yusuf and Oluwarotimi Iluyemi Akinnranye

Abstract

This paper examines the enrolment of students and teaching manpower position in Ekiti state secondary schools from 1997- 2003 and made a projection on students and teachers position in secondary schools. The population of the study embraced all students and teachers in all public secondary schools in Ekiti state. The sample is the same as the population since all the secondary schools students and teachers in the state public secondary schools were involved in the study. The instrument used to collect data for the study was a self developed inventory. The data collected were analyzed using simple percentage. The findings of the study show that students' enrolments increased in arithmetic progression while the staff strength increased in geometric progression. It was projected that fourteen million, six hundred and eighty two thousand, four hundred and eighty three students (14,682,483) would be in school by 2023. It was therefore projected that if the ideal student teacher ratio was used by the year 2023 the teaching staff strength would raise to three hundred and sixty seven thousand and sixty two (367,062). However if it is based on the actual student teacher ratio, five hundred and eighty seven thousand two hundred and ninety nine (587,299) teachers would be in public secondary schools in Ekiti state. Based on the findings, it was recommended that government should plan very well in order to cater for this projected number of students that would be in secondary schools in terms of physical facilities that would be needed in the schools.

Introduction

Education plays a crucial role in human resource, development and transformation. It is a key to achieving moral, intellectual, cultural and social progress of the society. The quality of human resources of a country is the major determinant of its economic and political performance. The quality of human resources is conditioned by the attitude, attainment and physical capacities of the population.

Planning is a process of preparing a set of decision for action in the future directed to achieve goals by optimal needs. However, planning efforts have input principles of resources, formulation of objectives and ordering of priorities aimed at improving the quality of life of members of the society. Every nation needs to determine the quality and quantity of its manpower based on its national development. Secondary school education level is a vital level of education that determines the development of a nation. There is thus the need to plan very well for this level of education. However, the need arises to make a projection for this level for specific period of years in order to plan for the future needs of the educational sector.

Projections are necessary in educational planning in order to gain insight into the long-term implications of the past trend of parameters, which determine future enrolment and possible future change of the parameters, the demand for education is potentially unlimited. This was the situation in Nigeria by 1947 when secondary school enrolment was 10,000 (ten thousand) in the whole country.

By 1960 it rose to 55,000 (fifty five thousand) students. It has risen to 4,451329 (four million four hundred and fifty one thousand, three hundred and twenty nine students in 1994 (UNESCO, 1998). Provision of educational services and facilities are essential for the economic and social development of any nation. Madumere (1999) maintained that it is not possible to quicken economic growth and social change in developing nations without a progressive educational system capable of developing to the full, the human resources of the nation, eradicating illiteracy and ignorance and providing the trained and skill manpower required by the changing social, economic and political systems. According to Bartholomew (1976), manpower is the human resources and individuals that are crucial and critical resources upon which our economic, political and social future depends. Ajayi and Ayodele (2001) opined that manpower is people, humanity, and society with all its aspiration, needs and capacities. To them, manpower as an economic resource represents the aggregate of skills and attitudes resulting from education and training which labour force had with the capacity to plan, organize and carrying out economic process when they are properly allocated. Thus manpower includes staff, the police, teachers, administrators, executive personnel, doctors, nurses, engineers, and so on in the society. Manpower projection is the process of making decision about the allocation of the available resources and making plans to meet the future requirements. According to Ashby commission of 1959 manpower forecasting were to upgrade Nigerians who were already in employment but need further education. They also designed a system of post secondary education which would produce the flow of high level manpower which Nigeria needed in a decade. They tried to design education so that it could expand to meet the 1980 target without re-planning. Ajayi and Ayodele (2001) viewed manpower projection / forecasting as telling in advance specifically the size and type of staff to be required by an enterprise or a nation in order to accomplish its objectives. Projection can also be seen as the technical or statistical aspect of manpower planning which could geared towards providing adequate basis for decision making about future acquisition, utilization, improvement, maintenance and development of human resources available to an organization or a nation. The process of projection allows an estimate to be made on future demand for labour at both intermediate and senior management levels based on current available data.

Madumere (1999) opined that there are two ways by which projection or forecasting can be done. That is, through Grade ratio model and students flow model. She went further to explain the grade ratio model as retention ratio or progression ratio. It projects the enrolment in grade 1 in a given year as a function of the new entrants in that grade in the same year plus the student repeating grade 1 from the previous year. The enrolments in subsequent grades are projected as a constant multiplied by the previous year. This constant is referred to as a transition or progression rate. Student flow model is concerned with the transition of students from one grade to another. According to Adeyemi (2004) Cheerssaw developed an enrolment projection model that is widely used by planners in projecting future enrolment as well as determining the growth rate of enrolment at all levels of education. Akinwumiju and Owolabi (1995) opined that average annual growth rate is applicable in several aspects of educational planning. It is used in projecting enrolment, teacher demand and supply. He went further to say that the convenient tools for educational planner to work with during enrolment projection and manpower planning is compounding and discounting. Compounding deals with finding the future worth of present resources growing by geometric progression. Discounting is concerned with the calculation of present worth of a future amount. Compounding is very useful in educational planning as it helps to solve problems relating to targets and projections. However, this study makes use of compounding method of enrolment projection.

School enrolment and class size as directed by National Policy on Education (2004) prescribes enrolment limits at the various levels of education system i.e. pre- primary and secondary education. Government will bear in mind the teacher pupils ratio of 1:20 at pre- primary, 1:30 at primary while at secondary school level it is 1:40. It is based on these assumptions that the projection in this study was based upon.

The issue of manpower projection has been hinged on this and students' enrolments are highlighted in this paper. The objectives of this paper therefore, is to look at the teaching manpower position and students enrolment in all post and public secondary schools in Ekiti state from 1997 to 2003, identify the number of students enrolment vis-a-vis the number of teachers, looking at the students teachers ratio, annual growth rate percent and project the requirements for both the teachers and students from 2003 to 2023.

Statement of the Problem

The problem of getting actual census figure in this country has been an ongoing problem since Nigeria's independence. The same problem is being faced by the education sector as the actual enrolment figure vis-a-vis the number of teachers in schools has been difficult to ascertain due to poor planning and other human factors. It appears that the Teaching Service Commission in the state has been posting teachers to schools without actually projecting the number of teachers and that of the students at any point in time. To this end long term planning of teaching manpower and students' enrolment needs to be taken. This paper will project, what number of students and teachers will be in schools and needed by the year 2023 and make useful suggestions and recommendations. The following questions would be used to pilot the study:

i. What is the present position of students' enrolment and number of teachers in public secondary school in Ekiti state?
ii. What is the projection of students by the year 2023 in Ekiti state?
iii. What is the projection of teachers by the year 2023 in Ekiti state?

Methodology

An ex-post facto research design was used for the study. The population of the study comprised of all students and teachers in all public secondary schools in Ekiti state. The sample of the study comprised of all the public schools in Ekiti state. Inventory was used to collect data for the study. The inventory was also used to collect data on students' enrolment and number of teachers. The relevant data was collected from the Planning Research and Statistics Department of the Ministry of Education Ekiti state.

Data Analysis

Data for this study was analyzed using percentage, growth rate and compounding methods considering the various indices examined.

Results

What is the present position of students' enrolment and number of teachers in public secondary schools in Ekiti state?

Table 1: Secondary School Enrolment in Ekiti State (1997- 2003*)*

S/N	Local Govt.	1997	1998	1999	2000	2001	2002	2003	Total
1.	Ado	13673	15588	15676	17480	16608	17350	16763	113138
2.	Efon	1664	2173	2024	2201	2583	2771	2802	16218
3.	Ekiti east	4429	4503	5139	5535	5297	5706	5920	36529
4.	Ekiti S.W	4474	5303	5139	5535	5297	5532	6283	37563
5.	Ekiti west	4221	4378	4764	4928	5635	5532	6383	35741
6.	Emure	1958	1932	1913	2265	2316	2116	3294	14894
7.	Gbonyin	4421	4989	5066	6204	6512	6202	6048	39442
8.	Ido /Osi	3931	8054	12361	8283	8213	8384	8261	57487
9.	Irepodun/ ifelodun	5204	5736	6079	7185	7329	6638	6909	45080
10.	Ise /Orun	3470	3867	4124	4694	4860	4384	4528	29927
11.	Ilejemeje	744	782	918	1009	1110	831	1222	6616
12.	Ijero	6303	7343	7827	8520	9100	8533	8455	56081
13.	Ikere	9146	9278	9400	10366	9677	9899	9511	67277
14.	Ikole	6919	6646	6989	7887	9593	8607	8748	55389
15.	Moba	2712	3781	3830	4694	5121	5127	4961	30226
16.	Oye	6319	7488	7347	4604	8618	8336	8463	51175
	Total	79588	91841	98596	101390	107869	105948	107551	692783

Source:- Ekiti state Ministry of Education, Planning Division, Ado- Ekiti, Ekiti state (2009)

Table 1 is presented the enrolment of secondary school students in the 16 local government areas of Ekiti state during the period under study. During this period, Ado local government area had the highest student enrolment followed by Ikere local government, while Ilejemeje had the least number of student enrolment

Table 2: Number of Teachers in Post Secondary Schools in Ekiti State (1997- 2003)

S/N	**Local Govt.**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**Total**
1.	Ado	650	612	680	651	652	747	743	4735
2.	Efon	85	90	108	103	115	133	148	782
3.	Ekiti east	126	142	133	156	154	156	195	1062
4.	Ekiti S.W	155	238	235	241	253	240	296	1658
5.	Ekiti west	275	182	210	165	221	171	266	1490
6.	Emure	49	76	74	81	85	73	98	536
7.	Gbonyin	148	200	207	235	232	259	288	1569
8.	Ido /Osi	162	341	356	335	355	372	398	2319
9.	Irepodun/ ifelodun	169	279	285	254	260	311	312	1870
10.	Ise /Orun	456	419	409	412	425	375	485	2981
11.	Ilejemeje	265	289	299	338	281	353	389	2214
12.	Ijero	17	29	33	36	45	44	67	271
13.	Ikere	191	271	293	233	316	330	350	1984
14.	Ikole	67	140	169	153	176	171	192	1068
15.	Moba	73	134	133	149	168	153	190	1000
16.	Oye	234	266	281	262	296	277	297	1913
	Total	**3122**	**3708**	**3905**	**3804**	**4034**	**4165**	**4714**	**27452**

Source:- Ekiti state Ministry of Education, Planning Division, Ado- Ekiti, Ekiti state (2009)

Table 2 is presented the teaching staff strength in Ekiti state secondary schools during the period under study. The data reveals that Ado local government had the highest number of teachers followed by Ikere local government, while Ilejemeje had the least. This followed the trend of student enrolment.

Table 3: Students Enrolment Indices in Ekiti State Secondary Schools (1997- 2003).

Year	Enrolment	Growth index	Growth rate
1997	79588	100	-
1998	91841	115.4	15.4
1999	98596	123.9	23.9
2000	101390	127.4	27.4
2001	107869	135.5	35.5
2002	105948	133.1	33.1
2003	107511	135.1	35.1

Table 3 reveals that students' enrolment rose from 79588n in1999 to 107869 in 2001. This reveals a 35.5percentage increase in enrolment. However, enrolment fell from 107869 in 2001 to 105948 in 2002. It later rose to 107 511 in 2003 academic session.

Table 4: Teaching Staff Indices in Ekiti State Secondary Schools (1997- 2003)

Year	**Enrolment**	**Growth index**	**Growth rate**
1997	3122	100	-
1998	3708	118.8	18.8
1999	3905	125.1	25.1
2000	3504	122.0	22
2001	4034	129.2	29.2
2002	4165	133.4	33.4
2003	4714	151.0	51

Data in table 4 reveals the teaching staff strength which increased from 3122 in 1997 to 3708 in 1998 and 3505 in 1999. This reveals further that the staff strength rose to 4034 in 2001, 4165 in 2002 and 4714 in 2003. This reveals a 29.2percent, 33.4 percent and 51percent, respectively. However, a close examination of the trend in student enrolment and teaching staff strength as presented in tables 1 and 2 reveal that the percentage increase in students' enrolment did not exceed the percentage increase of teaching staff strength. Hence the students' enrolment increased from 79588 in 1997 to 107511 in 2003 with growth rate of 35 percent while the teaching staff strength increased from 3122 in 1997 to 47 714 with growth rate of 51 percent.

Table 5:- Actual Student Teacher Ratio in Ekiti State Secondary Schools.

Year	Students enrolment	Teaching staff strength	Actual STR	Ideal STR	Excess Teachers
1997	79588	3122	1:25	1:40	1132
1998	91841	3708	1:25	1:40	1412
1999	98596	3905	1:25	1:40	1440
2000	101390	3804	1:25	1:40	1269
2001	107869	4034	1:25	1:40	1337
2002	105948	4165	1:25	1:40	1516
2003	107511	4714	1:25	1:40	2026

Data in table 5 reveals that student-teacher ratio in secondary schools. The ratio was 25:1 for year 1997, 1998, 1999 and year 2002 respectively while it was 27:1 in year 2000 and 2001, 2003 had the lowest of 23:1.

The table further reveals that there was excess supply of teachers in secondary schools during the year under study. The implication of this is that government may have been wasting huge amount of money on salaries and emolument of teachers. The money on this could have been used for other educational programmes such as building and renovation of the existing ones, buying instructional materials for the school and so on. However, the excess supply of teachers might not be divorced from the fact that since the creation of Ekiti State, the sister state had been sent the indigenes back to their state. According to the government gazette, in Ondo State, Ekiti indigenes constitute over 70 percent of the work force of Ondo State, this might be the reason while the state forced Ekiti indigenes out of the state.

i. What is the projection of students by the year 2023 in Ekiti State?

In making the projection for enrolment for the next 20 years in Ekiti state, the following assumptions were used to make the projection.

i. It is assumed that the enrolment increases for the year under study would be at constant rate.
ii. It is assumed that the enrolment growth rate for the year 1997- 2003 calculated would be used for the projection.
iii. It is also assumed that the average student enrolment for the year 1997 – 2003 would be used for the projection.

Based on the following assumptions the projected students' enrolment for the year 2023 academic session is calculated as follows:

$$\text{Average growth rate} = \frac{\text{total growth rate}}{\text{Number of years}}$$

$$\frac{170.4}{6} = 28.4\%$$

$$\text{Average student enrolment} = \frac{\text{total enrolment}}{\text{Number of years}}$$

$$\frac{692783}{7} = 98969$$

Table 6: Enrolment Projection using compounding Method

Year (t)	Increase during the year (t)	Enrolment	
		Yr(t- 1)	Yr (t+1)
2003		-	98969
2004	98969 x.284=28107	98969	127076
2005	127076 x .284 =36089	127076	163165
2006	163165 x .285 = 46339	163165	209504
2007	209505 x .284 = 59499	209504	269004
2008	269004 x .284 = 76397	269004	345401
2009	345401 x .284 = 98074	345401	443495
2010	443495 x .284 = 125952	443495	569448
2011	569448 x .284 = 161723	569448	731171
2012	741171 x .284 = 207652	731171	938824
2013	938824 x .284 = 266626	938824	1205450
2014	1204550 x .284 = 342347	1205450	1547798
2015	1547798 x .284 = 439574	1547798	1987372
2016	1987372 x .284 = 564413	1987372	2551786
2017	2551786 x .284 = 724707	2551786	3276494
2018	3276494 x .284 = 930524	3276494	4207018
2019	4207018 x .284 = 1194793	4207018	5401811
2020	5401811 x .284 = 1534114	5401811	6935926
2021	6935926 x .284 = 1969803	6935926	8905729
2022	8905729 x .284 = 2529227	8905729	11434956
2023	114349565 x .284 = 3247627	11434956	14682483

Table 6 reveals the projection of students' enrolment by the year 2023. The table shows that by year 2023 the enrolment in Ekiti State secondary schools would be 14,682 483.

ii. What is the projection of teachers by the year 2023 in Ekiti State?

The teacher projection for the year 2023 shall be calculated using the ideal and actual student teacher ratio

a. Using the ideal student teacher ratio

Student project / by the ideal teacher number

$$\frac{14682483}{40} = 369{,}062 \text{ teaching staff}$$

In using the ideal student teacher ratio by the year 2023 the staff strength in Ekiti State secondary schools would be 369,062

However if the teacher projection was based on the average of the actual students teacher ratio

$$\frac{14682483}{25} = 587{,}299 \text{ teachers}$$

In using the actual student teacher ratio by the year 2023 the staff strength would be 587,299 teachers in Ekiti State secondary schools. Comparing the ideal staff strength with the actual staff strength, by the year 2023 if all the indices remain constant, Ekiti state Secondary schools would have 220,237 excess teachers. The implication of this is that the government would be spending more on recurrent expenditure especially teachers' salaries and allowances.

Conclusion

This paper has shown that the growth rate of teaching staff was high when compared with that of the students' enrolment between 1997 and 2003. Moreover the teaching staff strength increases at geometric rate while the students' enrolment is increasing at arithmetic progression. This implies that teachers would have small class size and the quality of instructional delivery may be affected in agreement with the position of SAME (2000). Teachers might leave their work for other activities and combine classes together because of the population which may have adverse effect on students learning outcome. However, the reason for the high staff strength might not be unconnected with the fact that the government is employing people without teaching qualification into the teaching profession. Moreover, many of the parents would like to enroll their children in private schools where high students' academic performance is guaranteed.

Recommendations

Based on the findings of this study, it is therefore recommended that government should look into the policy of establishing private schools in order to reduce their number. Government should also look into the policy of paying school fees by reducing it and allowing free schooling policy in order to increase the enrolment. The stakeholders should assist the government to improve the state of physical facilities for the schools in order to cater for the high enrolment of the schools. In order to meet the increase staff strength projected, the government should have a proper way of keeping records of staff so that many of them would not find it easy to change their document in order to reduce wastage of scarce resources allocated to education in Ekiti state secondary schools. The actual teaching staff strength projected should also be planned for in order to avoid wastage of scarce resources allocated to secondary education. The government should review the recruitment exercise to stream line the excess of teachers in public secondary schools. Government should look inward to improve the conditions of physical facilities in schools. Introduction of Information and Communication Technology is needed in secondary schools to cater for the poor record keeping culture which will enable the government to know the actual number of teachers in the public secondary schools in the state.

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