

Education Policy and the Regional Distribution of Schools

Teshome Mulat *

Abstract

The development of educational policy is reviewed in the light of the observed rapid growth in the provision of educational services and the recent establishment of offices for regional planning and development. The paper also identifies and measures the important factors affecting the regional distribution of schools.

1. Introduction

The development of a viable regional policy for the education sector is at a rudimentary stage. Up until the eve of the Ethiopian Revolution of 1974, the 1943 Order and its two amendments of 1966 constituted the legal foundations of the Ethiopian Education System. These defined the duties and responsibilities of the Ministry of Education, but make no reference to distributional issues of educational services [19,20,21].

The succession of Five Year Development Plans (beginning in 1957) do not seem to treat regional education policy in an adequate fashion. The *First Five Year Development Plan*, although devoting an entire chapter to education, makes a general reference to regional policy only in the context of education finance. It suggests that the Provincial Education Tax introduced in 1947 is inefficient, insufficient and unequal to sustain and maintain a rapidly expanding and growing education system [16,p. 123]. To support a system of universal education, the Plan also recommends that "...a community-type of primary schools should be established, and that existing primary schools should be converted gradually into community schools" [16,p. 129]. As subsequent developments showed, however, these proposals were never fully implemented. The *Second Five Year Development Plan* offers even less of regional education policy than the First and was basically concerned with the expansion of school services provided by the then Central Government [17,ch. 18]. While community and local level participation in school construction and finance were advocated, no clear guidelines for regionalizing educational services were, however, included in the Plan. The *Third Five Year Development Plan* focused on a further expansion of educational services through the deployment of various strategies. These include raising the rate of student retention in the education system, improving the organization and management of school and introducing a shift in curriculum emphasis toward the sciences and technology [18,Ch.V. and Ch. XVI pp. 250-311]. However, these strategies did not include the regional distribution of schooling services.

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In the course of preparing the on-time controversial *Report of the Education Sector Review* (ESR), planners were concerned with distributional questions [8, 10, 12, 13]. The ESR Report included in the objectives of education the equalization of "... access to education among all parts of the Empire" [10, pp. III. 4 to III.5]. The redistribution of educational services regionally along equitable lines is also suggested in the recommendations made in the ESR Report to expand suitable forms of non-formal education [10, part C], to tap local sources of education finance [10 part D] and in the alternative educational strategies the Report proposes for adoption [10, section V]. However, the ESR Report was never adopted and its regional policy oriented recommendations were not, as a result, introduced by the previous government.

The proclamations relating to education and issued by the Ethiopian Government since 1974 made no direct reference to regional education policy. The "Public Ownership of Private Schools proclamation No. 54 of 1975" indicates the desire on the part of the Government to stretch out educational services to as many people as is possible [22]. Another proclamation issued in 1976 dealt with the administration and control of schools by the people [23]. In as much as the provisions of this particular proclamation suggest popular participation in schooling activities, the spreading of educational services, and availing them within the public reach might be understood as the unstated but implied educational policy content of the proclamation. Nevertheless, the proclamations make no clearly stated regional education policy, and that state of affairs remained so up until the 1980s'.

In 1984/85 the Ministry of Education initiated a review of the developments in the fields of educational administration and management. This review aimed at extending the line of school administration, which at the time was focused on the "Awraja", to the level of the "Wereda" [2]. It contained a small section of education policy which makes no reference to regional policy [2, pp.410-416]. The review and other documents were prepared as background documents for the Sector Ten Year Perspective plan.

The Sector Ten Year Perspective plan itself did not develop a regional policy for education. The proposals (for the inclusion in the Plan Document) include the establishment at a "Commission" level of a vocational training and literacy programme, the extension of the school administration system to the level of the "Wereda", and the strengthening of the adult education programmes for the rural population [1, p. 59]. The strategies to be adopted in the Ten Year Perspective Plan also included similar ideas with possible implication to regional planning and development [5, pp. 226-228. esp. a, j, 1]. All these considerations are, no doubt, motivated by the desire to spread widely the benefits of education and are in line with the basic guidelines of the Government for the introduction of socialist programmes. However, the ideas raised thus far do not add up to constitute "a regional education policy" for Ethiopia. It appears that the development of such a policy may well be a task to be accomplished during the course of the Ten Year Perspective Plan Implementation period [1, sec. 5.6.7, p. 61].

2. Elements of A Regional Education Policy

A major limitation of a wholly centralized education administration system is the lack of finance to provide universal education at all levels of administration. Without the participation of local resources and finance it would be difficult to provide education for all through central government budgetary appropriation. Or else,

to raise the Central government revenue to the desired level, heavy taxation may have to be imposed which may lie beyond the carrying capacity of the population. On the other hand, local level participation in schooling activities may identify and utilize local resources and finance efficiently and optimally. There may also arise the need to relate education or training to local circumstances. For example, education with a focus on desert control may be located near or in a desert. Training in malaria control is best done in a malarious area, of irrigation in the lower course, of major river systems, of civil engineering in cities or centres of major construction activity etc. It could also be the case that a highly centralized system of education may waste resources through red tape and in activities not so important or related to education and may thus turn out to be both inefficient and growth stifling.

A centralized system does not necessarily preclude decentralization. Arrangements are possible where by "division of labour" is provided. For example, schooling standards could be set centrally and the center could be equipped with monitoring and controlling responsibilities. Some types and levels of education could be financed and administered by the central authority while expediency suggests that some others are best left to local authorities. Local level participation could also be introduced and encouraged in other circumstances where needed and at the level it matters. The communities send their children to school, they may also provide the finance for some or all of the education for their children. The community could also be brought in the administration of local level schools and in the planning of their growth.

In the context of the draft Ten Year Perspective Plan, the education sector planners have set some targets to obtain an all embracing hierarchy of school administration. These may need elaboration at some stage. It may be necessary to set the principles governing the promotion of education and specifically the regional distribution of schools. Specific strategies can then be set and it may then be possible to consider alternative strategies and operational modes to meet goals. Surely, consideration of administration is only one element of the development of institutional framework suitable for purposes of obtaining desired goals. Although the sector plan does not bring out the issue clearly, education finance in the regional context is another such consideration.

A regionalized educational policy must also deal with the relationships between the education sector and the other sectors of a unified system. What are the relationships between the local community and their organization and administration on the one hand and the schools on the other? A system of regional planning is now established in the country and what is the role and place of education in this system? How is the educational administrative hierarchy structured and how do the vertical and horizontal linkages work in practice? These incomplete sets of questions suggest the complexity of the relationship between the system of education on the one hand and the systems of economic management, political institutions, administrative hierarchies and social institutions on the other. When a suitable framework and an arrangement which brings all these together in a working order is put in place, the result may will be an *integrated system of education*. Discussions on regional education policy which could not take into account the integration of these parts into a unified whole deal with partial and incomplete solutions of educational problems.

3. Educational Growth and the Regional Distribution of Schools

The levels in education that are relatively sensitive to regional distributional considerations are the pretertiary levels where large numbers participate and local-level organizations as well as households have some functions in schooling activities. As a result the focus of this study is on the distribution of primary and secondary education.

The system of Pre-tertiary education in Ethiopia today may be conveniently classified into two: Formal Regular Education and Adult Education. The former category includes kindergarten, primary (grades 1-6), junior secondary (grades 7-8), senior secondary (grades 9-12) and technical and vocational schools. The Adult Education programme includes the literacy programme, correspondence education and "continuing" education programmes [1, p. 48].

The system of education described above is also referred to as a (6-2-4) system. During the course of the Ten Year Perspective Plan period there will be a change into an (8-2-2) system with emphasis on technical and vocational education [1, parts 3 and 6].

There has been a noticeable growth of primary and secondary education during the course of the last decade. Student enrollment in all schools (all levels) increased by an average annual rate of growth of 12 percent during the 1975-1984 period (as against 11 percent for the 1964-1974 period). The number of schools have also been increasing, growing at the rates of 8.6 and 9.07 percent per annum during the periods 1964-1975 and 1975-1984 respectively. Other indicators of school performance, such as number of classrooms and number of teachers, indicate that substantial growth is obtained during the past decade (see Table 1).

Table 1. Education Sector Performance Indicators

	Average Annual Growth Rates (Percentages)						
	Student Enrollment				Number of schools	Number of classrooms	Number of teachers
	Grade 1-6	Grade 7-8	Grade 9-12	Total enrollment			
1964/65-1974/75	10.68	17.73	17.73	17.04	11.47 (9.45)	8.55*	9.97
1974/75-1983/84	11.68	10.58	18.41	12.44	9.07* (11.96)	7.60**	9.46
1964/65-1983/84	11.16	14.34	17.69	11.93	8.8* (10.64)	8.23**	9.73

Notes : *Includes technical and vocational as well as special schools, while the figures in parentheses refer to enrollments in primary and academic secondary schools only.

**The information is not complete

Source : Compiled from CSO, Statistical Abstract

This growth in schooling activities is distributed throughout the system of education so that both primary and secondary schools have been expanding. Student Enrollment at all levels of schools have been rising and the growth rates of enrollment both at the primary and secondary schools levels are rather high.

There is a kind of chain effect at work here. A successfully implemented mass literacy programme increases the demand for primary education which in turn increases the social demand for secondary education.

With the overall rapid expansion of schooling activities we also see changes in the relative importance of some types of schools. This aspect of school distributions can be seen in Table 2.

Table 2. The Distribution of Enrolment by types of Schools - All Regions (Percentage)

Year	TYPE OF SCHOOLS					Total*
	Government	Mission	Private	Public	Church	
1964/65	74.95	9.76	10.72	0.00	4.57	100.00
1969/70	75.23	8.98	12.27	0.00	3.52	(388.104)
						100.00
						(696..147)
1974/75	79.25	6.00	12.79	0.00	1.96	100.00
						(1146098)
1979/80	84.30	4.07	0.00	10.56	1.07	100.00
						(2182552)
1983/84	88.82	2.52	0.00	7.98	0.66	100.00
						(3076948)

Most students tended to enroll in government schools. In 1964/65, for example, about 75 percent of total student enrollment were in government schools. In 1983/84 this share rose to a new high of 89 percent. The growth in the student enrollment shares of government schools is aided by the socialist policies pursued by the present Government. An aspect of this policy is the issuance of the "Public Ownership of Private Schools Proclamation No. 54/1975" as a result of which private schools became public schools. More places in schools were, however, created in government than in the other school types so that the student shares of government schools were markedly rising. In 1983/84 public schools could account for only 8 percent of total student enrollment and church and mission schools for only about one and 2.5 percent respectively, indicating a possible phasing out of such schools.

*Includes foreign community schools. The figures in parentheses refer to actual number of students enrolled in all schools.

Source : Compiled from CSO, Statistical Abstract

Educational growth is also distributed regionally. There have been expansions in educational activities in all regions during the past two decades. However, average annual growth rates of student enrollment in primary and academic secondary schools vary between regions and also temporally. Thus, during the 1975-1984 period enrollment growth rates in Bale, Keffa, Sidamo have been relatively high, in the order of 18 percent per annum and above (see Table 3). Comparing performance in terms of enrollment growth rates between the decades 1965-1975 and 1975-1984, Table 3 shows that for all regions except Gondar, Tigray and Addis Ababa the rates were higher in the latter than in the former period. Country level computations also show that during the 1964-1974 period the rate of growth of enrollment averaged 9 percent per annum as against the higher growth rate of 12 percent for the 1975-1978 period. All these go to show that educational growth (as measured by rates of change of student enrollment), albeit unequally distributed, was sustained regionally as well as nationally over the past twenty years.

An aspect of inequity in the regional distribution of educational services is also shown by the data in Table 4. The share of each region of total student enrollment is seen changing from year to year. In 1964/65, for example, about 20 percent of the total number of students enrolled in all schools were from Eritrea. The share dropped dramatically over the years so that in 1983/84 Eritrea could account for only about 5 percent of total enrollment. In Tigray too there have been noticeable decreases in the enrollment shares over the years while for all other regions there have been increases; and for Shewa, Sidamo and Wellega the gains made in these enrollment shares have been markedly high.

Table 3. Enrollment in Primary and Academic Secondary

Schools by Regions - Average Annual Growth Rates

Region	1964/65-1974/75	1974/75-1983/84	1964/65-1983/84
Arsi	12.40	15.46	13.35
Bale	16.89	18.87	17.34
Eritrea	4.98	7.08	5.98
Gamogoffa	14.79	15.29	15.02
Gojjam	11.99	15.22	13.52
Gondar	12.71	10.97	11.90
Harar	12.27	14.07	13.13
Illubabor	13.02	14.44	13.70
Keffa	9.52	18.24	13.65
Shewa	13.42	14.09	13.74
Sidamo	12.46	21.31	16.65
Tigray	10.62	2.18	6.62
Wellega	15.04	15.23	15.13
Wello	15.16	12.44	13.87
Addis Ababa	11.30	7.97	9.64
Total	9.45	11.96	10.64

Source: Compiled from CSO, Statistical Abstract.

Table 4. The Distribution of Enrollment in Schools by Region (Percentages)

Region	1964.65	1969.70	1974.75	1979.80	1983.84—
Arsi	4.10 (4.73)	4.04 (3.36)	4.26 (3.21)	4.44 (3.70)	5.44 (3.94)
Bale	1.22 (0.68)	1.53 (0.80)	1.90 (2.66)	2.48 (2.83)	2.88 (2.39)
Eritrea	20.08 (6.64)	15.09 (7.56)	10.89 (7.45)	3.79 (7.81)	4.50 (6.21)
Illubabor	1.58 (3.58)	1.74 (2.75)	2.03 (2.63)	2.99 (3.23)	2.60 (2.96)
Keffa	4.43 (6.71)	4.38 (6.88)	4.59 (6.58)	4.16 (6.56)	5.98 (7.69)
Keffa	4.01 (5.74)	4.55 (5.33)	4.46 (5.10)	2.89 (6.61)	3.96 (6.92)
Shewa	5.89 (14.26)	6.42 (13.23)	3.20 (12.62)	3.88 (10.06)	3.62 (9.86)
Illubabor	2.86 (2.79)	2.96 (2.71)	3.20 (2.59)	3.88 (2.61)	3.62 (2.28)
Keffa	3.17 (2.91)	2.98 (5.03)	3.47 (6.36)	5.37 (5.20)	5.52 (5.80)
Illubabor	14.19 (14.17)	16.44 (17.51)	16.80 (17.03)	19.76 (16.46)	19.89 (19.17)
Sidamo	6.10 (6.48)	6.19 (9.34)	6.16 (9.34)	11.42 (9.04)	10.84 (8.99)
Tigray	5.89 (9.83)	4.24 (7.19)	5.36 (6.89)	3.11 (6.96)	2.27 (5.71)
Wellega	6.81 (6.06)	8.48 (4.99)	9.09 (4.77)	12.56 (6.50)	10.03 (5.87)
Wello	4.27 (13.29)	4.71 (9.69)	5.85 (9.25)	6.28 (4.1)	6.04 (8.63)
Addis Ababa	15.42 (2.13)	16.27 (3.27)	15.23 (3.52)	12.50 (4.02)	11.10 (3.38)
Total	100.00 (100.00)	100.00 (100.00)	100.00 (100.00)	100.00 (100.00)	100.00 (100.00)

Table 4 also shows the population shares of each region side by side with the share in total student enrollments in schools. Thus in 1983/84, for example, Arsi, Illubabor, Sidamo, Wellega and Addis Ababa had student enrollment shares in excess of their population shares, while for Eritrea, Gojjam, Gondar, Hararghe, Tigray and Wello the reverse situation appears to be true. Bale, Gamogoffa, Keffa and Shewa, on the other hand, appear to have student enrollment shares in 1983/84 which are about their shares of total population. It is necessary to stress the year because the enrollment shares appear to change from year to year. The drop in the

Notes: The figures in parentheses refer to the population share of each Region.

Source: Compiled from CSO, Statistical Abstract.

enrollment shares in Eritrea and Tigray may be considered temporary and associated with sustained political instability and economic dislocation in these regions.

The discussions thus far merely suggest that there have been considerable expansions over the years in pre-tertiary schooling activities marked by regional disparities. From the high enrollment growth rates in schooling it does not necessarily follow that all or even a "desirable" portion of school age children are provided with the relevant schooling services. A wide gap infact exists between what is "available" and "required" level of schooling services. A "desirable" or "required" level may be defined as the attainment of 100 percent enrollment ratio in school i.e. to provide educational services for all the school age population. That, however, may be difficult target for a poor country like Ethiopia and more difficult to attain at the secondary than at the primary level of schooling. *The Ten Year Perspective Plan* has set a much lower target for the enrollment ratio and that may instead be taken as the measure of "requirements"

Table5: Student Enrollment Ratios by Region (Percentage)

Region	Primary and Junior Secondary Grades 1 - 8	Senior Secondary Grades 9-12	All Schools Crades 1-12
Arsi	31	7	26
Bale	27	6	23
Eritrea	17	6	14
Gojjam	18	5	15
Gondar	13	4	11
Hararghe	12	3	10
Illubabor	45	8	36
Kefa	23	4	19
Shewa	25	7	20
Sidamo	26	6	21
Tigray	9	5	8
Wellega	39	10	32
Wello	18	5	15
Country-wide	23.04	7.23	19.26
Ten Year Perspective Plan			
1994	37.75	7.57	30.51

Note s The above percentages are obtained by dividing student enrollment by the relevant age-group population.

Sources : Enrollment statistics are obtained from Ministry of Education, Education Statistics For School Year 1976 E.C. (1983/84) Volume 1, Addis Ababa, 1985

The age-group specific population (and projections) are taken from CSO, *Census Supplements 1*, Addis Ababa, 1985. The student enrollment projections for 1994 are obtained in the Office of The National Committee for Central Planning, *Ten Year Perspective Plan 1984/85 - 1993/94*, Addis Ababa, August 1984

Table 5 brings out clearly this aspect of the educational development gap. Which-ever measure of "requirements" is taken, it is shown that the enrollment ratios in schools are on the low side. Enrollment ratios in grades 1 to 8 of 45,39 and 31 percent are observed, respectively, for Illubabor, Wellega and Arsi. For the rest, less than 30 percent of the relevant school age population are actually attending classes. In the case of Tigray a rather low enrollment ratio of 9 percent is in fact observed. The gaps between "availability" and "requirements" are even more marked at the secondary level than at the level of primary and junior secondary education with the exception of Wellega, which has a 10 percent enrollment ratio, all regions have secondary school enrollment ratios of below 10 percent.

The target setting in the *Ten Year Perspective Plan* is a bit unclear with respect to primary school enrollment ratio. At one point it appears to suggest a 100 percent enrollment ratio at the level of primary education by 1994 [5,p.288]. At another point a target of 38 percent of primary school enrollment for 1994 is given [5,p.233]. Even if the lower target is taken, it is still far off the present rate of 23 percent for the country. With respect to secondary education, the plan aims at raising after a lapse of ten years, the current enrollment ratio of 7 percent by about one percentage point only.

4. Determinants of the Awraja Level Distribution of Schooling

It is shown that student enrollment in schools, vary between administrative regions. They also vary between sub- regions. The "Awraja" level analysis of the student enrollment variation is pertinent because the current system of schools administration focuses at that level [1,p.62]. There are 101 Awrajas (excluding the Addis Ababa and Assab sub-regions), and this large sample size permits exploration of multi-variate relationships involving large numbers of variables.

4.1 Primary and Junior Secondary Schooling

In view of the impending adoption of the (8-2-2) system of schooling, primary and junior secondary schools can be treated together. The average Awraja level student enrollment in primary and junior secondary schools (as a ratio of the relevant school age population) is about 21 percent with a standard deviation of 14 percent. The variation of this ratio among Awrajas may be caused by several factors and a list of such variables considered in this study is provided at the end of the text. Among the factors considered important determinants of primary school enrollment ratio in an Awraja are a) the size of the Awraja population (V_3), b) the total Awraja population of the relevant age group (V_4), c) the number of primary and junior secondary schools (V_5), d) primary and junior secondary school ownership patterns (V_6), e) degree of urbanization (V_8), f) the size of the Awraja economy (V_9, V_{12}, V_{27}) and g) the rate of literacy of the Awraja population V_{26} . Some of these proposed explanatory variables are highly correlated with each other and are included to permit selections, (e.g. V_3 and V_4 , V_9, V_9, V_{11}). With respect to the size of the Awraja economy, several measures are suggested and an attempt was made to make a statistical selection of the alternatives². In the calculation of the enrollment ratio, the age group 5-14 counts are used instead of the officially accepted 7-14 because the published population census figures are compiled using the age brackets 5-14.

The final form of the linear relationship between enrollment ratio in primary (and junior secondary) education and the hypothesised explanatory variables (see table 6.) is reported below.

21-22 Table 6 Determination of Awaraja Level Student Enrollment Ratios V₂, In Primary and Junior Secondary Schools
(Multiple Linear Regression Analysis)

Explanatory Variables	Regression Coefficient	T—Value
Constant term	-0.252	
Size of Awraja Population (V ₃)	-3.8145E-07	-6.583
Number of (Primary plus J.Sec.) Schools (V ₅)	0.0018	5.405
Schools ownership patterns (V ₆)	0.0493	0.732
Urbanization (degree of) (V ₈)	0.3053	2.381
Student/teacher ratios (in primary Plus J. Schools) (V ₁₃)	0.0028	3.920
Literacy rates (V ₂₆)	0.0025	2.688
size of Awraja economy (V ₂₇)	0.0036	0.418
Number of observations	=101	
R—squared	=0.6519	
St.error of est.	=0.0801	
F—value	=24.877(df,7,93)	

The negative value for the coefficient of V₃ suggests that student enrollment and population size are inversely related. The results (although not reported here) suggest that enrollment ratios are correlated more with the size of the Awraja population (V₃), than with the size of the primary school age population (V₄). Together with the statistically significant value for the literacy coefficient (V₂₆), these results suggest that primary education is universal and not age specific. The pattern of school ownership (V₆), was included to check if government ownership shares relate to educational expansion and the results show that the levels of these shares are unrelated to the variations in the student enrollment ratios. The results in Table 6 also show that Awraja economic size do not explain enrollment levels. But here the absence of statistical association may be due to wrong variable definition or the use of inappropriate measures. Furthermore, the fact that the coefficient of student teacher ratio, (V₁₃), is positive and statistically significant suggests that the increase in student enrollment is in part obtained by a deterioration of the quality of education (i.e. rise in student/teacher ratio).

4.2 Secondary Schooling

The factor that is to be explained here is the inter-Awraja variation in the student enrollment ratio of senior secondary, vocational and technical schools (V₁₄). Many of the explanatory variables considered in section 4.1 are relevant to this discussion as well. In addition, the development of primary education, the number of senior secondary, technical and vocational schools (V₁₆), the population size of the age group 15-19 (V₁₅) and student/teacher ratios in secondary schooling (V₁₉) are included in the list of explanatory variables.

To measure the development in primary education some approximations are used including the student enrollment ratio (V_2), and the number of schools at that level of education (V_5). Tests show that of the two measures (V_2) is a better explanatory variable than (V_5). By a similar selection procedure, the population of the relevant age group (V_{15}) is retained in the regression in preference to the Awraja population size (V_3). The best regression result obtained after a series of such trials is reported in Table 7.

Table 7. Determinants of Student Enrollment in Secondary Education (V_{14})

Explanatory Variables	Regression Coefficient	T—Value
Constant term		-0.0085
Enrollment in Primary Education (V_2)	0.1666	9.869
Urbanization (V_7)	0.2715	8.033
Population in the age group 14-19(V_{15})	-2.0405E-07	-2.091
Number of secondary education institutions (V_{16})	0.0052	2.909
Ownership patterns of secondary schools (V_{17})	-0.0220	-2.885
Student teacher ratios in secondary education (V_{19})	7.75576E-04	4.061
Awraja economy size (V_{27})	-7.6141E-04	-0.405
Number of observations	=101	
R—squared	=0.8376	
Standard error of est.	=0.0178	
F-value	=68.529 (df,7,93)	

Overall, the statistical results obtained in Table 6 show a good fit. The chain effect which was proposed to explain the growth of secondary level education is indicated by the correlation of growth in primary education with the growth in secondary education. However, the coefficient of elasticity of secondary education with respect to changes in primary education is low (see the coefficient of V_2). Urbanization, number of secondary institutions, and student/teacher ratios are also found to be relevant explanations for the inter-Awraja variations in secondary level enrollment ratios.

The fact that the coefficient of the student/teacher ratio is positive indicates, once again, that growth in enrollment ratio is acquired, in part, by a deterioration of the quality of secondary level education. The measure of Awraja economy size appears unrelated to, and hence does not explain, secondary level student enrollment ratio. Ownership pattern, (V_{17}) is measured by the government share of total number of senior secondary, technical and vocational schools. The negative (but at the 0.01 level statistically significant) coefficient for this factor is, however, difficult to explain and suggests inverse relationship between the government ownership share and the enrollment ratio. It may be that nearly all such level schools are government owned, and only in a few Awrajas do we see secondary level non-government schools.

5. Conclusion

The development of a regional policy for education may be desirable. Upto now very little is done to formulate and even less work done to introduce regional educational policy. The sectoral Ten Year Perspective Plan suggests a number of changes in curricula and in the administration of schools, but contains little on matters concerning the development of regional educational policy.

The current educational practice shows regional variations in the distribution of schools. The regional shares of student enrollment are at variance with the population shares of the regions in most cases. Furthermore, a wide gap exists between the present practice (or the "available") and the "required" level of enrollment in each region. Similar educational distributional variations and inequities, observed at the regional level, are also observed at the level of the Awraja.

While there are some variations in the determinants of student enrollment in schools among the various school levels, on the whole, factors such as degree of urbanization, population of schooling age, number of schools, government school ownership shares and student teacher ratios are found to be important. The results of these reviews are indicative and preliminary. They point to the possibility of identifying (important and) determinant factors in the scheme of current distributional practices of educational services. The identification of these factors is an important step in the development of suitable benchmarks for the distribution of schools regionally.

Variable designation	Definition	Mesurement
v2	Student enrollment ratio in primary plus junior secondary schools	Enrollment in primary and junior secondary schools divided by the Awraja population of the age group 5-14
v3	Population	Total Awraja population (both sexes and all age groups)
v4	Population of relevant age group	Total Awraja population of the age group 5-14
v5	Number of primary and junior secondary schools	Number of (primary and juior secondary) schools
v6	Primary and junior secodary school ownership	Number of government (primary and junior secodary) schools divided by total number of similar schools
v8	Degree of urbanization	Total Awraja urban population divided by total Awraja population
v9	Productive Awrajas	Dummies with values of 1 if and 0 otherwise
v10	Potentially productive Awrajas	Dummies with values of 1 if and 0 otherwise

N o t e s

¹The various factors considered in this study are defined and measured as follows.

variable designation	Definition	Measurement
v11	Nonproductive Awrajas	Dummies with values of 1 if and 0 otherwise
v12	Productive plus potentially productive Awrajas	Dummies with values of 1 if and 0 otherwise
v13	Student/teacher ratio- primary and junior secondary schools	Number of students in primary and junior secondary schools divided by total number of teachers in those schools.
v14	Student enrollment ratio in secondary schools	Student enrollment in senior secondary plus technical and vocational schools divided by total Awraja population of the age group 14-19 .
v15	Population of relevant age group	Total Awraja population of the age group 14-19
v16	Number of secondary schools	Number of senior secondary plus technical and vocational schools
v17	Secondary school ownership	Government senior secondary plus technical and vocational schools divided by the total number of senior secondary plus technical and vocational schools.
v19	Student teacher ratio- secondary	Number of students enrolled in senior secondary and technical-vocational schools divided by the number of teachers in those schools.
v20	Student enrollment ratio- all schools	Number of students enrolled in all levels and types of schools divided by the size of the Awraja population of the age group 5-19.
v21	Total school age population	Number of people in the age bracket 5- 19
v22	Number of schools - all schools	Number of schools of all levels and types in the Awraja
v23	School ownership all schools	Number of government schools (all levels and types) divided by total number of schools (all levels and types)

²Two alternative measures of Awraja economy size are proposed. The first is the use of dummies (with the usual 1, values) for each of the three-way classifications (into productive, potentially productive and unproductive) found in the Ten Year Perspective Plan documents prepared for the agricultural sector. The second measure is percapita agricultural production for each Awraja. The major source for Awraja level production estimates is the Ministry of Agriculture's General Agricultural survey of 1984, (7). However, this source does not provide estimates for the Awrajas of Eritrea, Tigray and 3 Awrajas in Wello and attempt is made to provide estimates for these from the information contained in other sources (4,6,7).

v25	Student teacher ratio- all schools	Number of students (enrolled in all levels and types of schools) divided by number of teacher (in all schools)
v26	Literacy rates	Population with literacy examination passes divided by total Awraja population
v27	Per capita Awraja production	Awraja production of field crops (quintals divided by Awraja population)

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