FACTORS THAT AFFECT THE UTILIZATION OF EDUCATIONAL MANAGEMENT INFORMATION SYSTEM IN SECONDARY SCHOOLS OF GINDEBERET WOREDA, WEST SHOA ZONE, OROMIA REGIONAL STATE

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ABSTRACT: The study was aimed to assess factors that affect the utilization of educational management information system in secondary schools of Gindeberet woreda. Descriptive survey method was employed to realize the objective of the study. The study was conducted in Gindeberet Woreda education office and its respective secondary schools. A total of 93 stakeholders from Gindeberet Woreda education office, and its secondary school were included in this study. From the three schools 65 employees, and 15 PTA members and 10 woreda education office employees were involved in the study that were relevant to EMIS activity. Questionnaire, interview, focus group discussion, and document were used as the tools to gather all the necessary data both qualitatively and quantitatively. The data was analyzed by descriptive presentation, arithmetic mean, average mean and percentile together with qualitative analysis. The findings disclosed at EMIS are impeded and handicapped by different factors such as ICT materials, trained manpower, t were observed to utilize EMIS as needed in the secondary schools of the woreda. It is also recommended that schools should exert effort towards securing IT materials, most preferably by approaching NGOs and respective higher level educational offices like woreda education office and zonal education office.

Keywords: EMIS Process owner, EMIS User, Information System, Information Utilization, Management of Information System

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1.1 Background of the Study

Most countries develop an education database using the results of school census and/or surveys that are carried out on an irregular basis. These data are published in bulky statistical yearbooks, often raw, fragmented and without analysis. Yet, policy-makers and other actors in management and planning need easily understandable and interpretable data. These should be supported by in-depth analyses on the functioning of the system, that help in policy formulation, planning of relevant actions, and in monitoring and evaluation of the latter because the needs for information are varied and becoming increasingly complex, a solid information system should be as complete as possible. It should cover all the needs and areas for information and not only aim to collect, store data and process information but should also help in the formulation of education policies, their management and their evaluation (Sylla, 1996).

Although there had been some statistical reports before, the history of EMIS in Ethiopia may be dated to 1957, the year where a research and statistics department was established in the ministry of education (MOE, 1988). At the end of 1957, the statistical work was organized into a department known as central research, plan and statistics division under the department of programmed, plan and research (Kassaw, 2001). Until 1952, the statistical work was done manually. Recently the new system of EMIS utilization includes the restructuring of the system and its

management. The guidelines developed by MOE in 2002 have given more authority and responsibility to regional education bureaus, woredas and schools, which is under implementation in Oromia education system as well (MOE, 2002).

Likewise in Gindeberet Woreda the increasing numbers of students complicates the management activities to utilize information properly especially at the school and district level. As stated by Lasonen et.al. (2005) educational administration faces the challenge of managing an information system at woreda and Zone levels and facilitating school community participation in school governance. This shows how complexity of management is enhancing and enhanced.

1.2 Statement of the Problem

According to MoE (2004) Millennium Development Goal II and III of the millennium declaration is to achieve Universal Primary Education by 2015 for boys and girls, eliminate gender disparity in primary and secondary education preferably by 2015. Net enrolment ratio is an indicator that measure performance or goal achievement. A good education indicator system is expected to provide accurate and precise information to illuminate the condition of education and contribution to its improvement. This is highly related with that of the success of EMIS.

As MOE (2004) however, implementation, capacity at woreda level is not yet at the level expected to carry out their responsibilities. Woreda capacity building programs have been initiated; deployment of staff at regional level was undertaken as first step in building the capacity at other levels. However, there is still a huge need for training on supervision, strategic planning, budgeting and education management information system at school levels.

However the government made a great effort to facilitate conditions to make EMIS functional, but yet as Mekonen (2010) the EMIS outputs of the Oromia Region lack quality in terms of accuracy, presentation and timeliness . According to the researcher, work experience what Mekonen foundation stated was true.

13. Basic Questions

1. What are the major problems and challenges faced/encountered by school stakeholders and users in utilization of Education Management Information system?
2. To what extent are efforts made to improve utilization of Educational Management Information System at School level?

1.4 Objectives of the Study
1.4.1 General objective
The general objective of the study was to assess factors that affect the utilization of educational management information system in secondary schools of Gindeberet woreda
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1.4.2 Specific objectives
1. To identify the problems encountered by school stakeholders and users in utilization of Education Management Information System.

2. To assess the efforts made to improve utilization of Education Management Information System at school level.

2. REVIEW OF RELATED LITERATURE
2.1 Educational Management Information System (EMIS)

Education Management Information System (EMIS) informs the management of education process. Managing information through informed decision making requires the availability of accurate and timely information, which links together resource input to education teaching and learning. An educational Management Information System is therefore, the basis of management, planning and evaluation of an education system. Hence, Education Management Information System is demand responsive, which means that it serves the needs of the consumers or the users of information. Thus, to serve ones clients, conducting survey of the information needs of consumers, and the capacity needs of the procedures; and produce according to user-friendly and interpretable information products and services. To develop and maintain such a vast demand responsive and user-friendly system, various kinds of knowledge and skills are required in different areas such as system development quality, assurance training, technical support, and national report (Carizo et al, 2003).

2.3.3. Challenges to the use of data

The main challenges to the effective use of data for primary and secondary school were reports to be lack of time, particularly time to update and analyze the data, difficulties in applying data to classroom situations, limitations of data. The data collected/ recorded was too narrow/ academic or did not accommodate individual needs, ICT-related issues, eg, insufficient resources or restricted access challenges to the effective use of data for secondary school were similar to those experienced by primary schools. However, having sufficient trust in the data was also of concern to secondary. Special schools reported two key challenges to the effective use of data; data systems that do not accommodate the complex needs of individual pupils, insufficient comparable data. (Visscher, 1991).

2.3.4. Problems in Utilization and Reporting Data

The increasing demand for better data information is a very promising development for EMIS. The lack of significant local demand for better data and information has often affected the utilization of educational information system. Hence, the use of computers is new in many of the developing countries, basic knowledge of operating systems, word processing, spreadsheet programs, database operation skills, use of internet facilities are needed for all as much as possible. Moreover, self-learning (individual learning) be encouraged to cope with changing (Cassidy, 2005).

A lot of money, time and other resources have been invested in efforts to improve data quality, to computerize many administrative and management functions, to build EMIS and encourage more data driven decision making over the past 15 years. The results of these efforts have been mixed. While there have been some notable successes in computerizing administrative management functions in ministries throughout the region, despite years of efforts and considerable investment development of comprehensive, integrated computer-based EMIS have been slower than anticipated. Data and information operations continue to be diffused across a number of operations and limited use of data and information standards. It is not a common to find one division or department using different soft ware and hard ware plat forms as well as different data definitions and coding schemes. Further, while some operations have been computerized, many continue to be maintained manually, which further slows processing and data integration (Cassidy, 2005). Although most education systems require schools to record information on paper, the failure of many systems to inter that information in DBMS, to analyze that information or to share results with school leadership has reinforced poor reporting practices at many levels.

3. RESEARCH DESIGN AND METHODOLOGY

3.1 Research Methodology

The main purpose of this study was to assess the factors that affect the utilization of educational management information system in secondary schools of Gindeberet woreda. To serve this purpose, both the quantitative and qualitative research methodologies were employed. It helps to gather various kinds of data in relatively minimum resources. Best and Kahn (1989) have stated the appropriateness of this method to such kinds of study.

3.2 Sources of Data

For this study, there were two main sources of data. These are primary sources of data and secondary source of data.

3.3 Population, Sample Size and Sampling Technique
3.3.1 Sample size

The population of the study includes two general secondary schools and one preparatory secondary school of the woreda and the woreda education office. The study was conducted in two of the secondary school and one preparatory secondary school that are found in the woreda including educational office. From Woreda Education Office, one Head of Woreda Education Office, five Woreda Supervisors, two Woreda Education Core Process Owner (WECPO) that is former Vice Woreda Officer, two Woreda Statistician from Gindeberet Educational Office included in the study. The sample population from general secondary schools and preparatory secondary school

includes 7 School Directors, 15 PTA members, 6 Unit leaders, 24 Department Heads, one Secondary School Supervisors and 30 Teachers were involved in the sample.

3.3.2 Sampling techniques

Gindeberet woreda has two secondary and one preparatory school. These are Gindeberet preparatory school, Gindeberet secondary school, and Chulute secondary school. These three schools were selected by availability sampling method. From the three schools 7, School Directors, one school Supervisor, six Unit Leaders, 15 PTA members and 24 Department Heads were selected purposively because they are the main role-player of EMIS. In addition, from 113 School teachers 30 (26.5%) were selected by stratified, quota sampling, and simple random sampling because they participate in EMIS activities in some extent. Whereas from Gindeberet education office One Head of Woreda Education Office, two Woreda Education Office Core Process Owners, five Internal Supervisors and two Woreda Education statisticians were included in the study by using availability-sampling method because, they were the actors and stakeholders of EMIS and decision makers.

3. RESULT AND DISCUSION

This part of the study deals with the presentation and analysis of data obtained from the sample population through questionnaire, interview, FGD, and document analysis. Questionnaires used to obtain data from school principal, WEO personal, internal supervisors, teachers, department heads and unit leaders.

About 75 questionnaires were distributed to the respondents, out of which 73 (97.3%) were properly filled and returned. From this 65 (89.4%) were school respondents and eight (10.6%) woreda education office employees. Interview was held with external supervisors. Moreover, document was also analyzed. The result obtained from the interview, FGD, and document analysis used to substantiate the data gathered through questionnaire. The major categories of respondents group involved in this study were teachers, principals, supervisors, unit leaders and department heads working at school level and officials working at education offices. The questions were similar with both types of groups. Most of the data gathered organized in tables followed by discussions. For the sake of convenience, clarity and comparison related questions were treated together. The presentation and analysis of the data begins with background characteristics of the respondents.

The items presented in alikert type scale. 5, 4, 3, 2, 1 with Very high (V.H), High (H), Moderate (M), Low (L) Very Low (V.L) and Strongly Agree (S.A), Agree (A), Moderate (M) Disagree (D) and Strongly Disagree (S.D) respectively. The total score of an item is 15, to get the average it is calculated as $\dfrac{5+4+3+2+1}{5} = 3$ during analysis, most of the mean scores Interpreted as less than 3 as less performed and greater than 3.0 as highly performed whereas 3 as average.

4.3.1 Problems related to EMIS
Table 13 problems related to EMIS

SL. No	Problems	Res	V.H		H		M		L		V.L		Mean
			F	%	F	%	F	%	F	%	F	%	
1	Absence of clear data/information policy	S	18	27.6	20	30.7	15	23	7	10.7	5	7.6	3.6
		EO	1	12.5	5	62.5	2	25	-	-	-	-	3.8
2	Poor information culture on the part of users	S	24	36.9	12	18	12	18	13	20	4	6	3.6
		EO	1	12.5	4	50	3	37.5	-	-	--	-	3.7
3	Poor design of data collection questionnaire	S	15	23	21	32	13	20	13	20	3	4.6	3.4
		EO	1	12.5	2	25	5	62.5	-	-	-	-	3.5
4	Problems related to data preparation and analysis	S.S	-	-	12	18	11	16.9	25	38	17	26	2.2
		EO	-	-	-	-	4	50	4	50	-	-	2.5
5	Lack of data/information	S	13	20	20	30.7	12	18	17	26	3	4.6	3.3

	integration	EO	1	12.5	3	37.5	3	37.5	1	12.5	-	-	3.5
6	Poor data quality	S	16	24.6	16	24.6	15	23	14	21.5	4	6	3.4
		EO	1	12.5	3	37.5	3	37.5	1	12.5	-	-	3.5
7	Delayed submission of reports	S	9	13.8	14	21.5	18	27.6	20	30.7	4	6	3
		EO	1	12.5	3	37.5	3	37.5	1	12.5	-	-	3.5
8	Low technical capacity of EMIS staffs	S	22	33.8	20	30.7	13	20	6	9	4	6	3.7
		EO	4	50	3	37.5	1	12.5	-	-	-	-	4.3
9	Inadequate manpower	S	4	6	27	41.5	14	21.5	15	23	5	7.6	3
		EO	-	-	4	50	3	37.5	1	12.5	-	-	3.3
10	Insufficient financial support for EMIS	S	19	29	25	38	8	12	9	13.8	4	6	3.7
		EO	2	25	3	37.5	1	12.5	2	25	-	-	3.6
11	Lack of incentives for those involved in EMIS activities	S	13	20	31	47.6	8	12	9	13.8	4	6	3.6
		EO	2	25	2	25	2	25	2	25	-	-	3.5
12	Poor ICT infrastructures	S	22	33.8	15	23	11	16.9	10	15	7	10.7	3.53
		EO	3	37.5	2	25	-	-	3	37.5	-	-	3.6
13	Poor coordination and leadership	S	14	21.5	21	32	10	15	12	18	8	12	3.3
		EO	1	12.5	2	25	4	50	1	12.5	-	-	3.3
14	Unhelpful managerial attitude	S	8	12	4	6	12	18	11	16.9	30	46	2.2
		EO	-	-	1	12.5	1	12.5	6	75	-	-	2.3

From Table 13, most of the school respondents considered poor design of data collection questionnaire and inadequate manpower as a moderate problem as education office respondents. The same is true for the problems poor data collection and delayed submission of reports as moderate problem for education office and for school respondents. On the other hand, poor coordination and leadership Grand Mean 3.45 and lack of data/information integration Grand Mean 3.4 were commonly perceived as moderate hindrances in both groups of respondents. In addition, the remaining two unhelpful management attitude Grand Mean 2.25 and problems related to data preparation and analysis Grand Mean 2.35 were considered as not a problem. Even though we are in information age and most of the activities and tasks are computerized, steal our school systems are suffering from different challenges facing EMIS administrative procedure. Concerning these issue different indicatives like poor coordination and leadership is challenging factors.

In relation to the problems that affect the practice of EMIS, additional information was obtained from the interview and FGD. The result have shown similarity with that of the qualitative data collected through questionnaire. Most interview and discussion members raised the aforementioned problems as critical challenges for EMIS functions at all levels of the education system. As well, Woreda statistics mainly affirmed that problems like poor data quality, delayed submission of reports, lack of technical skill, and absence of clear data/ information hampered severely the management of EMIS in their respective organization. On the other hand, low technical capacity and inadequacy of EMIS staff, insufficient financial investments, poor ICT infrastructure and lack of incentive were the most challenging problems to implement EMIS effectively in their schools and woreda education office. As Mulugeta (2001) explained, if there is any problem with the quality of data, it is unthinkable to obtain precise results. Therefore, the problem observed need to get solution in order to get reliable information.

4.3.2. In effective use of EMIS in decision making
Table 14: Problems in decision-making

SL. No	Indicators	Resp.	V.H		H		M		L		V.L		Mean
			F	%	F	%	F	%	F	%	F	%	
1	Problems in Sound decision making	S.S	6	9	20	30.7	19	29	7	10.7	13	20	2.9
		WEO	2	25	5	62.5	1	12.5	-	-	-	-	4
2	Problems in School	S.S	7	10.7	21	32	17	26	11	16.9	9	13.8	3

	planning and budgeting	WEO	-	-	6	75	2	25	-	-	-	-	3.7
3	Problems in Evaluating the normal functioning of the school	S.S	5	7.6	26	40	12	18	13	20	9	13.8	3
		WEO	-	-	5	62.5	3	37.5	-	-	-	-	3.6
4	Problems in Monitoring the ongoing process of the school	S.S	4	6	22	33.8	17	26	16	24.6	6	9	3
		WEO	-	-	5	62.5	3	37.5	-	-	-	-	3.6
5	Problems in Policy making	S.S	6	9	14	21.5	21	32	10	15	14	21.5	2.8
		WEO	3	37.5	5	62.5	-	-	-	-	-	-	4.3
6	Problems in Conducting study in the school	S.S	5	7.6	16	24.6	12	18	23	35	9	13.8	2.7
		WEO	2	25	4	50	2	25	-	-	-	-	4
7	Problems For enrolment projection and implementation	S.S	3	4.6	14	21.5	20	30.7	17	26	11	16.9	2.7
		WEO	3	37.5	5	62.5	-	-	-	-	-	-	4.3
8	Low level of knowledge for data analysis	S.S	7	10.7	14	21.5	21	32	12	18	11	16.9	2.9
		WEO	-	-	4	50	4	50	-	-	-	-	3.5
9	Poor quality of data	S.S	10	15	17	26	15	23	13	20	10	15	3
		WEO	-	-	5	62.5	3	37.5	-	-	-	-	3.6
10	Low encouragement in publication / dissemination of information.	S.S	11	16.9	17	26	15	23	13	20	9	13.8	3
		WEO	2	25	3	37.5	3	37.5	-	-	--	-	3.8

Ground mean S.S=2.95   **Ground mean WEO=3.88**

The Grand total of WEO 3.88 shows, as there was serious problem in decision making as that of secondary school respondents with Grand Mean 2.95 that shows moderate problems in decision-making activities.

On the other hand, according to FGD, *decision-making was mainly performed and priority is given to the principal and WEO personal. Only very few decision was made by assessing the data/information and profiles like student related decision. This shows the practice of using data/information in decision-making position is very low in these schools. To support this as Tricker (1996) Managers need continues flow of information in order to make appropriate decisions. Decision-making efficiency of managers can therefore be greatly enhanced by the quality of information they are able to utilize in decision- making.*

4.4 Efforts to be made in educational organization/schools

Table 15: Efforts to be made in organization/schools to improve data.

SL. No	Effort to be made	Resp.	S.A		A		N		D		S.D		Mean
			F	%	F	%	F	%	F	%	F	%	
1	Preparing data and distributing data collection formats and questionnaire	S.S	7	10.7	24	36.9	12	18	12	18	10	15	3
		WEO	3	37.5	1	12.5	4	50	-	-	-	-	3.8
2	Receiving data from immediate lower level	S.S	1	1.5	20	30.7	16	24.6	22	33.8	6	9	2.8
		WEO	-	-	3	37.5	5	62.5	-	-	-	-	3
3	Identification and analysis of	S.S	5	7.6	10	15	10	15	13	20	27	41.5	2.2

SL. NO	Training given	Resp.	F	%	F	%	F	%	F	%	F	%	Mean
	information needs	WEO	-	-	-	-	1	12.5	5	62.5	2	25	1.87
4	Verifying data	S.S	5	7.6	26	40	13	20	14	21.5	7	10.7	3
		WEO	5	62.5	1	12.5	2	25	-		-	-	4.3
5	Providing EMIS related trainings	S.S	7	10.7	9	13.8	12	18	17	26	20	30.7	2.4
		WEO	-	-	1	12.5	2	25	1	12.5	4	50	2
GM S.S=2.75											**GM WEO=3.0**		

This shows there was a great problem on giving EMIS related training in both secondary school and WEO as Grand Mean support the idea given above.

Some documents were observed in secondary schools and woreda education office. *In order to investigate the techniques they used to organize different profiles of teachers like, teachers profile starting from he/ she assigned to the school, sex, age, date of birth, service year, level of education and so on. However, WEO efforts were good some schools did not appropriately organize different profiles as needed. They told as they collect information immediately from the concerned bodies, according to the format sent by different parts of education sector. Even though such kind of activities is not recommended it is better to have full information about their employee.*

Table 16: Training given for capacity building

SL. NO	Training given	Resp.	S.A		A		N		D		S.D		Mean
			F	%	F	%	F	%	F	%	F	%	
1	Training given to administrative staff application	S.S	5	7.6	6	9	11	16.9	10	15	33	50.8	2
		WEO	-	-	1	12.5	2	25	5	62.5	-	-	2.5
2	Work procedure and task management	S.S	3	4.6	4	6	15	23	12	18	31	47.7	2.0
		WEO	-	-	1	12.5	4	50	-	-	3	37.5	2.3
3	Leadership style quality management	S.S	4	6	12	18	15	23	11	16.9	23	35	2.4
		WEO	2	25	3	37.5	-	-	3	37.5	-	-	3.5
4	Good governance	S.S	6	9	9	13	15	23	12	18	23	35.4	2.4
		WEO	4	50	2	25	2	25	-	-	-	-	3.7
5	Effective and maximum use of ICT	S.S	2	3	24	36.9	9	13.8	14	21.5	16	24.6	2.7
		WEO	-	-	1	12.5	1	12.5	4	50	2	25	2.1
	GM WEO =2.95											**GM S.S=2.3**	

As indicated, in the table 16 most training was given for administrative staff like for WEO. *However, as it was analyzed through interview and FGD, the training given was on different management system like, good governance, leadership and the like but there were no training given on computer application for these administrative staff. Training is given only by interest of the authority personal; the interest of worker did not assessed however, the problem was there. Work procedures and task management at school level and Woreda education office were treated. This training mainly concern principals at school. Moreover, as Bethke et al. (2004) EMIS is successful when, resources (computers, software, skilled personal) are in place, and field staff have been trained in EMIS staff because It is very difficult to have qualified and trained personnel for work which requires EMIS at all levels and particularly at the level of educational establishments. That is why training seminars for personnel should be organized in parallel with the setting up and the development of EMIS.*

5. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS.

5.1 Summary of the Major Findings.

The major objective of the study was to assess the factors that affect the utilization of educational management information system in secondary schools of Gindeberet woreda
and forward the possible recommendations.

The finding shows, Majority of problems regarding on decision-making are widely observed in secondary schools as the Mean and Grand Mean of both groups shows. The Grand total of secondary school shows, as there was serious problem in decision-making. This shows high schools did not make appropriate decision making due to lack of adequate knowledge about importance of data in decision-making process.

According to the Grand Mean of secondary school and woreda education office, a lot of efforts are done regarding the implementation of EMIS in the woreda. However, on the providing of EMIS related training Grand Mean of secondary school and Grand Mean of WEO shows as there is a shortage of EMIS related training in the schools and woreda education office. The finding showed that the Mean of Secondary School and WEO shows as in WEO there is some training was given regarding on administrative staff application but below the average for secondary school respondents. On the other hand, training on effective and maximum use of ICT did not given, as it is needed according to the Mean of both respondents. The same is true in the interview part of the respondents, it emphasis that no training was given on administrative staff application and maximum use of ICT.

5.2 Conclusion

Allocation of adequate resource and maximum use of utilization information technology were found to be scanty at secondary schools of the woreda. This might affect the quality of information, time used for different purpose, like, facilitating the activities related to school management, student registration, and fee collection, reporting and timetabling processes. Effective decision can be made when information is made available at the right time to the right recipients but the use of information for different decision-making activities of the three secondary schools of the woreda were poor. This might greatly affect the quality of information that able to utilize in decision-making and to give appropriate decision.

Institutional structure and comprehensive package of capacity building activities are vital issues for facilitating the overall functions of EMIS, however, the study reviled that activities like provision of relevant training, incentives, and similar activities that needs the efforts of woreda education office did not performed as it was expected in the woreda. This has an impact to perform EMIS activities efficiently and effectively and to cope up themselves with the changing situation and with the new technologies. Therefore, in light of these findings it could be concluded that the utilization of EMIS in Gindeberet woreda secondary schools were constrained for so many problems to meet the purpose of the education in the woreda.

5.3 Recommendations

Depending on the major findings and conclusions, the following recommendations are forwarded. This age is obviously an information age in which information and information management is crucial agenda. Individuals have to run inline of time, and technologies. This is full filled if and only if EMIS utilize effectively starting from its main source like schools.

➢ Supervisors should make users or stack holders aware the worth of information to help them in achieving their objectives and establishing chance for stack holders to use information through conference and workshops especially on the great value of data in decision-making process.

➢ Managers should spend sufficient financial and material resources to EMIS unit at worda education office and secondary schools by collaborating with different levels of education offices. Hence, new technologies like computer, internet soft ware development, etc need to introduced for easy and direct access at all levels. The expansion of ICT motivates schools to use different electronic devices (formats) for data or information utilization. Stipulation of incentive structure for those involved in EMIS activities is important for schools.

> ➢ Most of the workers were unsatisfied with that of the training given. This is due to the absence of need assessment on the area on which training is given. As a result, the need and interest of the workers were not clearly addressed. Therefore, (SWOT) analysis has to be done well in both WEO and secondary school of the woreda. To do this different levels of educational office and the woreda education office might organize and give intensive training on the concepts related to EMIS at WEO and its secondary schools. In the form of seminars, workshop, conference and experience sharing programs to equip them with new technologies and activities of EMIIS. Therefore, these all observed issues are crucial and serious events that we cannot put it aside. Authorized individuals, communities, parents, NGOS, together with government have to take serious consideration on these observed problems.

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