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Linking School Mapping with Educational Planning

Tribhuvan University
Research Centre for Educational Innovation and Development (CERID)
Balkhu, Kathmandu, Nepal
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Acronyms and Abbreviations

ASIP	Annual Strategic Implementation Plan
CERID	Research Center for Educational Innovation and Development
CBOs	Community Based Organisations
CDO	Chief District Officer
CLC	Community Learning Center
CAS	Continuous Assessment System
DEP	District Education Plan
DOE	Department of Education
DEO	District Education Office/Officer
DDC	District Development Committee
EFA	Education for All
EP	Educational Planning
ECD	Early Childhood Development
FGD	Focus Group Discussion
FSP	Flexible Schooling Program
GIS	Geographical Information System
GPS	Global Positioning System
GO	Governmental Organization
GER	Gross Enrolment Rate
HSS	Higher Secondary School
HT	Head Teacher
HM	Head Master
JICA	Japan International Cooperation Agency
KU	Kathmandu University
LSS	Lower Secondary School
LDO	Local Development Officer
MEP	Metropolitan Education Plan
MOES	Ministry of Education and Sport
MOE	Ministry of Education
NESP	National Education System Plan
NGO	Non-Government Organization
NFE	Non- formal Education
NER	Net Enrolment Rate
PTA	Parent Teacher Association
PPS	Pre- Primary School
PPGIS	People Participation Geographical Information System
PS	Primary School
PCL	Proficiency Certificate Level
RP	Resource Person
RC	Resource Centre
SMC	School Management Committee
SSR	School Sector Reform
STR	Student Teacher Ratio
SISM	Support for Improvement in Primary School Management
SS	Secondary School
SM	School Mapping
SLC	School Leaving Certificate
SOs	Section Officers
SSs	School Supervisors

SOP	School Outreach Program
TOT	Training of Trainer
TU	Tribhuvan University
TMS	Total Management Service
UNICEF	United Nations Children's Fund
UTM	Universal Transverse Mercator
VEC	Village Education Committee
VEP	Village Education Plan
VDC	Village Development Committee

Executive Summary

Background

Ministry of Education has selected Rasuwa, Kapilvastu and Dadeldhura as the model building districts. They are also known as SSR pilot districts. In these districts, the government has formed District Co-ordination and Facilitation Team and has completed the act of providing orientation to the staff of District Education Office for establishing school mapping database. The school mapping exercise provides help for educational planning by identifying current status and future needs and requirements of schools especially with reference to quality, coverage and efficiency. Thus, it gives momentum to educational planning process incorporating a comprehensive database of all schools, pupils, teachers and resources (TMS, 2008).

The School Sector Reform Plan (SSRP), Volume 1 (2009-2015) was formulated on the basis of the Core Document of School Sector Reform program developed by Ministry of Education, Nepal. The government planned its piloting in three model building districts: Kapilvastu, Dadeldhura, and Rasuwa.

Major Reform Agendas in the SSSR

The following are the major agendas for reform in Nepalese education conceptualized by SSR.

- Change in the school structure, having two layers: the Basic and Secondary levels,
- Change in focus from 'access' to 'quality';
- Change in organizational culture towards service orientation, client satisfaction, and performance accountability,
- Grade 1-8 as the 'basic' and grade 9-12 as 'secondary' education,
- Introduction of technical and vocational streams from grade 9 onwards;
- Provision of alternative mode of schooling up to the secondary level with equivalent status as formal education and certification through the same National Examination Board;
- Planned distribution of schools by local authority based on defined norms and criteria and facilitated through a comprehensive school mapping and intensive schemes;
- Introduction of multi-grade schools as pedagogical choice in remote and sparsely populated areas.

Tasks of SM in Three Model Districts (DOE 2008)

The study of current policy documents showed the following activities being done in the three SSR pilot districts – Rasuwa, Kapilvastu and Dadeldhura.

- Preparation of VDC wise maps
- Preparation of household survey form
- District level orientation (on household survey, school survey, map reading and verification, locating the schools in the map)

- Data collection – including household survey, school survey, GPS (Global Positioning System) reading, locating school and settlements in the map, GIS (geographical information system) orientation
- GIS and social data integration
- Analysis and mapping
- Output production

Research Questions

More specifically, the research was conducted with the aim to seek answers to the following questions:

1. What are the contributions of school mapping in the three model building districts of SSR?
2. What processes have been employed to complete the school mapping task in the three districts?
3. What strategies have been adopted in school mapping in order to support educational planning?
4. How will school mapping contribute to further educational planning and programs in SSR phase?

Methodology of the Study

The study followed both the qualitative and quantitative approaches to achieve its goal. An extensive field study was made to collect primary data from 3 model building districts of SSR. Altogether 15 schools were sampled for the study from the 3 model districts.

The educational situation of the sample areas has also been included in the study. This report has presented the summarized account of the information related to the VDCs and Municipalities visited for the field study. The important facts of the VDCs and Municipalities were studied regarding the number of schools at various levels of schooling, teachers, school-going age children in the VDCs/ Municipalities and the population therein.

The major study tools employed for the collection of qualitative data from field include: interview guidelines, FGDs, and survey forms. The informants include: District Education Officers, Section Officers, School Supervisors, Resource Persons Head Teachers, Teachers, SMC, parents, social workers and community leaders.

Summary of the Major Findings

The major study findings relevant to the research questions are mentioned below.

Contribution of School Mapping in Local Educational Planning

To some extent, the attempts of making the link between school mapping and SIP have been noticed in the districts - more particularly in Rasuwa, and to a little extent in Dadeldhura and in rare cases in the schools of Kapilvastu.

The linkage of school mapping in VEP has also been found in Rasuwa, whereby the VDC received the data of SM, identified and rationalized the local educational needs,

determined the programmes to be launched in the upcoming years, and then planned for mobilizing various sorts of resources from various sectors. Except for the case of Rasuwa, VEPs were not found prepared in the other districts, so there could be no question of linkage between SM and educational planning at the VDC level.

Accumulating the information gathered from SM, RC level data bank has been established in the entire Resource Centres of Rasuwa district; and Dadeldhura is also planning to establish the same thing, though works are lagging behind towards this end in the case of Kapilvastu. Wherever such databanks are established, it has been easier to identify the major needs for school reform at the RC level as well.

The sample districts have also prepared their DEPs based on the needs identified from SM data and local level expectations of the stakeholders.

Strategy to Support Educational Planning at Local Level

Wherever linkage has been established successfully at the local level (school to the district) between the SM data and educational planning, the following strategies have been adopted (particularly in the case of Rasuwa):

- Aware the local people on the importance of SM data in justifying plans;
- Expose the survey data to local community people;
- Share the responsibility to CBO/ NGO in supporting the activities for school development;
- Establishment of RC level data bank/ profile;
- Preparation of DEP based on bottom-up planning – i.e. DEP based on SIP and VEP.

Processes Adopted to Complete School Mapping

More or less, there was uniformity in the 3 sample districts with regard to the process adopted in completing the school mapping task. The procedure adopted included the following activities:

- Training of Trainers (TOT) in the district – for School Supervisors, Resource Persons, selected teachers etc. – with the aim of orienting them towards GPS reading, school survey and household survey in the VDCs/ municipalities;
- GPS reading of all the schools in the district - done in the leadership of School Supervisors and RPs;
- School survey using the survey forms;
- Recruitment of household surveyors and their training for the survey at the RC level, whereby the surveyors were instructed on how to gather information using the household survey forms;
- Household survey and data collection;
- Data entry in the computer in DEO office.

How Can School Mapping Assist Planning in Future?

The present study has pointed out that school mapping will be helpful in the future planning, particularly at the local level in the following ways:

- As the baseline for future educational planning;
- For the identification of real and genuine needs at local level;
- For rationalizing new programmes/activities and convincing the local CBO/NGOs in mobilizing local resources;
- For the demarcation of school catchment areas and making detailed profile of the service areas;
- For school restructuring based on population; walking distance between children's house and the school, and the geographical situation of service areas.

Recommendations

1. Local level stakeholders in the schools as well as in the service area (particularly parents) should be made more aware towards school mapping (SM) – so that they will realize the importance of data in planning. Then, policies should be adopted to use the SM data mandatorily in making School Improvement Plan (SIP).
2. Different types of Community Based Organisations (CBOs), Non-Government Organisation (NGOs) working in the community should be made accountable on SM and the school improvement activities.
3. The data collected during SM should be available in each and every Resource Centers (RCs) and on the basis of these data RCs should establish data bank. Moreover, schools should be oriented to carry out the survey of their service areas and gather data. The data obtained in this way should be communicated to the local stakeholders including parents.
4. When SM programme is extended to other districts, the concerned personnel should be given training on GPS reading with a greater care – devoting more time on the cautions to be made in handling the GPS machine. In this connection, it would be better to depute geographers/geography teachers rather than others.
5. The work of information collection on socio-economic condition of households from the VDCs should be continued – so that the information can be used to support the school going children from the poor and backward families in particular.
6. Bottom-up planning approach should be adopted in making the DEPs in the districts.
7. The general consideration of population alone would not be a sufficient criterion for deciding the number of schools in all the regions of the country. In addition to this, natural/geographical boundaries should also be considered in the SSR stage.

Acknowledgements

School mapping is the art and science of building Geo spatial databases with relational databases of educational, demographic, social and economic information for schools and educational directorates to support educational planners and decision makers.

In the 10th Plan also, the government had followed the policy of giving permission to open new schools on the basis of school mapping. In the same way, the existing Interim Plan (2064) has followed the policy of implementing the programme of establishing at least one school in a settlement (pocket) area, and that will be done based on school mapping. It aims to implement the concept of one school in a village after school mapping.

According to the Interim Plan, the government has followed the policy of giving a lump-sum grant to the schools according to the local level Education Plan and School Improvement Plan.

We express our sincere thanks to Prof. Dr. Arbinda Lal Bhomi, Executive Director of CERID and Dr. Kishor Shrestha, the Coordinator of Formative Research Project/CERID for entrusting us to carry out this study. Their technical and moral support was also considerably acknowledgeable to guide the study in the present form. Thanks must also go to Hari Lamsal and Ghanashyam Aryal of the Department of Education (DOE) for accepting their role as resource persons and helping us supplying the necessary documents and information.

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CHAPTER I

Introduction

Context of the Study

A comprehensive school mapping exercise will provide the basis for structural integration of schools and also for opening new schools including its types (e.g. residential, non-residential, or open school etc.) and level such as foundation, primary, upper primary, secondary, higher secondary, etc. (MOES, 2008).

The trend towards using school mapping to support educational planning for Ministry of Education is in the implementation stage in many developed and developing countries of the world (Al-Hanbali, 2003). School mapping is the art and science of building geospatial databases with relational databases of educational, demographic, social and economic information for schools and educational directorates to support educational planners and decision makers. For appropriate planning, educational sector should not start any project before making available to all involved parties a comprehensive database of all schools, pupils, teachers and resources. Building that part of Geographical Information System (GIS) layers showing school locations and other significant geographic features such as streets, railroads, city-zoning, school-directorates, sub-districts, districts, governorates and other features would provide an excellent tool for planners (Alzooubi, et al., 2008).

Educational reports/plans and policy documents in Nepal have highlighted the need of school mapping for planning purposes for a long time.

The EFA 2000 Assessment country report has felt the need of school mapping exercises to be conducted by Village Education Committee (VEC) for the purpose of school consolidation to achieve economy of scale (MOES, 2008).

The document has further stated that the structural integration of primary and lower secondary level of education into basic education will contribute to improve students' performance by facilitating curricular integration and consolidating the competency-based learning program. Consolidation also helps to make teacher, head-teacher, and School Management Committee (SMC) trainings more efficient. A 1-8 basic education structure will additionally have a positive impact on teacher management and development (MOE, 2008). The plan for integrating grades 1-12 into a school system was mentioned in the document of Education for All, National Plan of Action 2001-15 (MOE, 2003).

To initiate school mapping exercise in the country, Ministry of Education has selected **Rasuwa, Kapilvastu and Dadeldhura** as the model building districts, that have also been called the 'SSR pilot districts'. In these districts, the government has formed District Co-ordination and Facilitation Team and has completed the act of providing orientation to the staff of district education office for establishing school mapping database (See chapter IV for situation analysis of these districts and appendix 2 for the district profiles). The school mapping exercise facilitates educational planning by identifying current status and future needs and requirements of schools especially with reference to quality, coverage, access and efficiency. Thus, it gives momentum to educational planning process - incorporating a comprehensive database of all schools, pupils, teachers and resources (TMS, 2008).

To carry out the school mapping exercise, the role of the stakeholders who are managing and/or using the data is important. They require expertise needed to collect and efficiently use the available data.

Rationale of the Study

The trend towards using school mapping to support decision making for educational management in many leading developed and developing countries is growing rapidly in the recent years. In fact, funding agencies such as World Bank, Asian Development Bank and donors approve loan/grants to the needy countries based on school mapping data, considering it as a standard indicator. The core document of SSR, Nepal has aimed at implementing school mapping program for educational planning especially to identify the needs required for structural integration of school education system. To promote it in future, the three districts have been declared as the model districts. Thus, the collection of experience from these districts will be quite useful for promotion of the program in other districts.

The present study is expected to provide the concerned authority with the scenario of the existing practices of school mapping exercises. Moreover, the study findings will also shed lights on the attempts of establishing linkage between school mapping and educational planning at various levels – so that feedback can be derived regarding further actions to be taken in the coming days.

The present study has been conducted with the belief that it would be significant to give feedback for stepping up towards reform in Nepalese education in the SSR phase in the years ahead.

Objectives of the Study

School mapping exercise is considered as one of the basic steps for planning the preparatory activities of SSR. In this context, the initiation of school mapping programs in the piloting districts requires to be analyzed from SSR prospective. Accordingly, the present study was conceptualized and initiated with a desire to find out the linkage of school mapping with educational planning in three model building districts of SSR. The study was conducted with the objective of seeking answer to the following research questions.

Research Questions

To make the research objective more concrete, the following research questions were formulated:

1. What are the contributions of school mapping in the three model building districts of SSR?
2. What processes have been employed to complete the school mapping task in the three districts?
3. What strategies have been adopted after school mapping in order to support educational planning?
4. How will school mapping contribute to further educational planning and programs in SSR phase?

CHAPTER II

Review of Related Literature

In this chapter, a comprehensive attempt is made to review the related documents and present an overview of school mapping in Nepal from historical perspective, from the perspective of the existing governmental policies and the realities of the 3 school sector reform (SSR) piloting districts as shown by the educational statistics. This overview is expected to provide a foundation to understand the context more clearly, and it will help us to understand the interpretation of field-based data in chapter IV and V.

Origin of School Mapping

In 1963, the Government of France decided to extend the period of compulsory schooling to the age of 16, which required the establishment of a large number of new schools. It quickly became apparent that the education ministry could not itself plan the location of all the new schools, nor did the regional offices have the methodological means to decide what types of schools were needed and where. Collection of circulars, regulations, standards and procedures were prepared at that time and given the name 'the school map' (UNESCO, 2008).

When large scale reform or significant expansion of an educational system takes place along with SM, Geographical Information Systems (GIS) and Public Participation GIS (PPGIS) function at an interesting and often paradoxical social and geo-political position. As micro planning approaches, technologies and/or exercises SM, GIS and PPGIS operate at the confluence of decentralization efforts and centralized resources and mandates. Specifically, SM, GIS and PPGIS can be valuable decentralized educational micro planning efforts, but they often (perhaps even nearly always) depend on some significant level of centralized expertise, resources and/or decision making for their implementation. The discourse in SM, GIS and PPGIS, within their environment of interplay between the decentralized and centralized domains, often confronts the question of whether these three approaches are simply map based ways of facilitating micro planning efforts or whether they are focused on creating and supporting decentralized participatory democracy. ''In this regard, it is time for advocates of educational micro planning to more seriously consider the fact that SM, GIS and PPGIS processes occur in complex social and geo-political 'spaces of dependence', containing localized relations and place specific conditions … [and that] securing this space leads to the creation of 'spaces of engagement' at multiple scales". The complexity of spaces of dependence and engagement is often overlooked and consequently efforts at democratic decentralized micro planning using SM, GIS and PPGIS often face challenges that would not exist if educational planners more directly accounted for these complex social and geo-political conditions. In these social and geo-political spaces of dependence and engagement there is a fine balance and tension between decentralized control of planning and decision making and centralized expertise, resources and policy mandates. At just what point do, or should, the balance tip in favour of one level of operation and responsibility over the other? When does or should a decentralized micro planning project with centralized support become a centralized macro- planning exercise with local input? Who should decide if a particular planning project should emphasize one sphere of operation over the other?

To what degree is this tension between the local and national unavoidable, and perhaps even vital in the assertion of the needs of both decentralized and centralized participants in educational planning processes? How are SM, GIS and PPGIS similar in their impact on the balance and tension issues that exist between the macro- and micro- planning levels? What are the geo-political realities and implications of these questions in educational micro-planning? Such questions form a common core of questions and issues that are likely found at the centre of any contemporary implementation or discussion of SM, GIS and/or PPGIS that attempts an honest inclusion of decentralized participants at any scale.

Development and Implementation of School Mapping

SM as a technical exercise has become a relatively normalized and institutionalized practice in educational micro planning. Its function in offering technical input into any educational micro planning effort is virtually self-evident. It should be noted that SM (a process) is not the same as a school map (the typical product of SM process). More than simply being a tabular, graphical or cartographical representation of a particular space or place, SM involves the consideration and inclusion of various forms of technical data that impact and 'populate' the physical and social context of analysis. As a process that produces specific functional products, SM is fundamentally an educational micro planning effort focused on increasing school resource efficiency and equity.

Historical Background of School Mapping

Through the review of the global practices, it is found that school mapping was started from France in 1963 (DOE 2008) – which was adopted by other countries later on. Essentially, school mapping emphasizes on rationalizing the physical location of a given school within the fixed catchment area, so educational planners have employed it as a strategy before making decisions on several key issues related to educational management in a wider geographical region.

School mapping had started in Nepal in the course of the implementation of NESP in 1972. In the mapping task, field survey was completed in the schools of all the 75 districts, maps were prepared showing all the VDCs of the country and all sorts of schools were located in the maps. Then the details of the schools were also collected, studied and interpreted (DOE 2000).

In 2038-39 B.S. (around 1981), Seti Project had carried out the task of school clustering on the basis of school mapping. In the same way, during the implementation of Primary Education Project (in 2042-43 B.S.), school clustering was done after school mapping in the districts of Jhapa, Dhankuta, Tanahun, Kaski, Dang and Surkhet.

In the fiscal year 2044-45, a VDC-wise survey was done and school mapping was completed in all the 75 districts of the country. In the mapping, the existing schools and those that were needed were located (DOE 2008.).

From the year 2049 (B.S.), the work of school mapping was continued to launch the Basic and Primary Education Project. Accordingly, the mapping of all the schools of 75 districts was done; and schools were clustered on the basis of geographical situation and number of schools nearby. After doing so, one of the schools in a cluster (usually the centrally located one) was developed as the Resource Centre. Programs were launched in the school clusters through the Resource Centres – such as construction and rehabilitation and maintenance of physical infrastructure,

teacher training, textbooks distribution, school management, coordination among schools and supervision, etc. (DOE, 2008).

In 2001 and 2002, school mapping was done in Jhapa and Syangja districts– GPS was used for the mapping, and the data received were processed through GIS software for mapping (DOE, 2008).

Aims of School Mapping

School mapping will be helpful for making decisions on proportional distribution of educational opportunities in various places. It will also assist in improving the educational situation. The information collected through mapping will be helpful to assess the need of schools in the new place, to upgrade the school and to merge the schools if needed. DOE (2000) has indicated the importance of SM, mentioning the following aims of it:

- Analyze the social, economic and geographical situation of the VDC where the school is located;
- Assess how far the school is located (at a proper place or not?);
- Assess the situation of the schools in the VDC,
- Inform the public about the boundary of the school's service area, the distance between the school and community (settlement), and other educational facilities within the boundary of the service area, etc.
- Analyze the demographic structure of the school's service area, and prepare maps showing the ethnic, religious and linguistic composition of the population,
- Prepare various educational indicators applicable in the school's service area – such as GER, NER, promotion, repetition, dropout rate, student-teacher ratio, school-teacher ratio, student-school ratio, achievement level, teacher and student regularity etc.
- Identify the educational needs of the VDC in the future – considering the existing educational situation as regards the schooling facilities from ECD centre/pre-primary education to Higher Secondary level, special education and alternative education program, literacy, gender equality, needs of the backward community children, etc.
- Assess how far the available resources have been properly utilized towards the expansion of educational opportunities in the VDC,
- Collect, analyze and present the information needed for Village Education Plan (VEP) and School Improvement Plan (SIP),
- Prepare the educational map of the school, VDC, Resource Centre, district and the country,
- Increase educational awareness through community mobilization by disseminating the available information.

Reviewing the international practices, it is found that the countries which practiced school mapping have done so with the following aims (DOE, 2008):

- providing the basic and upper level education for all the children of school-going age – according to the available limited economic resources and the socio-economic needs of the country,
- providing equal access to the educational facilities based on geographical distance, and distributing the human resource, physical/material resources as well as financial resources in equitable manner,
- improving the educational system maintaining the performance in proportion to teaching-learning methods

Criteria to Consider for School Mapping

According to DOE (2000), the following criteria are considered for school mapping in the Nepalese context:

a) Population: The minimum population required for running a school having grades 1-3 is the settlement area having 300-500 people in the service area – depending upon the geographical situation – in order to have the required number of students. But according to SSR 2008, the population required for running the foundation level education (1-3) is the settlement area having 150-200 people.

b) Average distance between children's home and school and the time needed to reach the school: Generally, the time needed for children to reach the school from their houses should not be more than 30 minutes. The distance between the school and settlement should not be more than 1.5 KM.

c) Size of students' enrolment and school level: School's level should be decided considering the existing rate of enrolment of students from the school's service area, and after a comparative analysis of educational needs locally. For upgrading the school, the position/situation of Leader School and Feeder School should also be considered.

d) Physical infrastructure: The minimum requirements/facilities and the existing situation should be analyzed. Besides, the minimum local resources that can be used by the school should also be analyzed.

e) Minimum number of teachers: At least 2 teachers are required for the schools having 1-3 grades; and 3 for those having 1-5 grades – according to the existing provisions. Teacher-student ratio is determined 1:35 for High Mountains (the Himalayan Region), 1:45 for mid-land Hilly Regions, and 1:55 for the Terai region.

Tools and Methodology Employed for Mapping

So far, the tools employed for school mapping are: school survey form, community survey form, maps of school catchments area, VDC/district, etc. (DOE 2000).

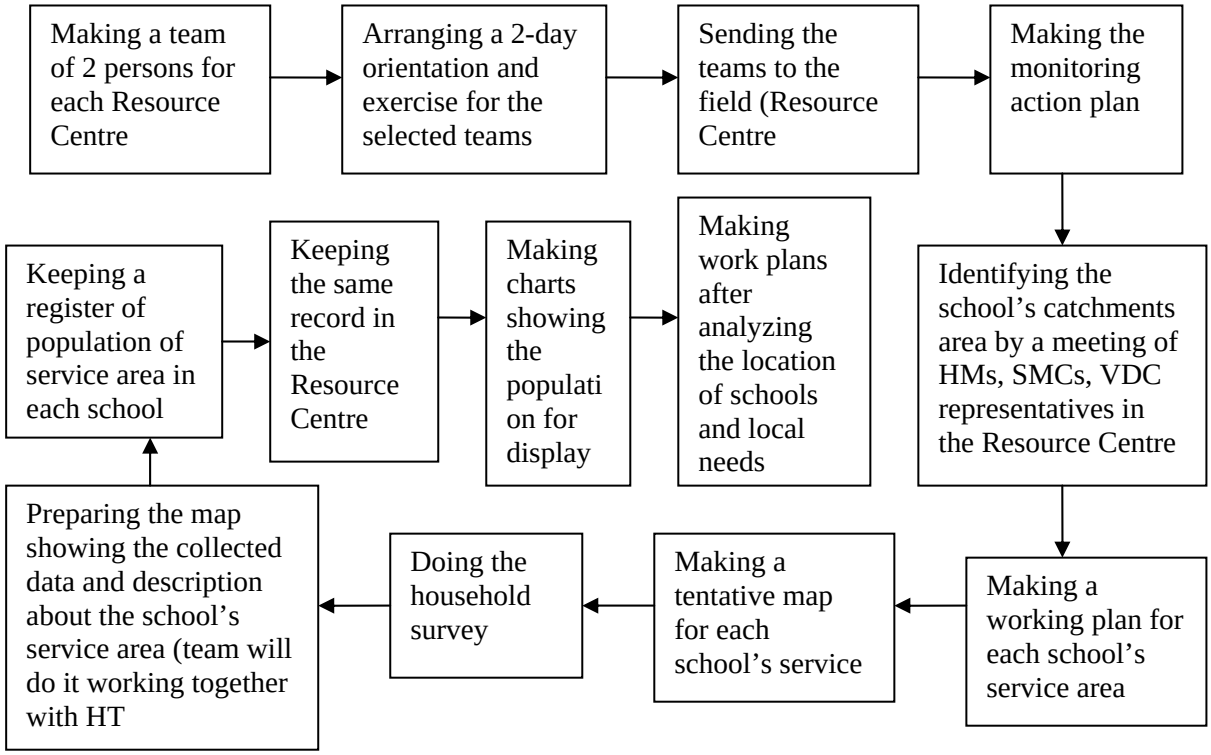
Regarding the methodology to conduct school mapping tasks, the DOE has followed the following methodological procedure to complete the task: (DOE, 2008)

1. Giving orientation exercise to the selected team with the required tools/forms and instruction,
2. Visiting the VDCs and schools, consultation with the Head Teacher, SMC and VDC representatives for determining the school's service area. Even if VDC

map is not available, the rough map of VDC should be sketched in paper, and school's location, settlement, wards, pathways and stream/rivulets etc. should be indicated,

3. Recording the students' population in every school and the VDCs in the resource centres, and then
4. Keeping record of the educational indicators in the VDC and Resource Centre.

Earlier, the DOE (2003) had figured out the methodology to complete the school mapping exercise as given in the chart below.



(Source: DOE 2003)

From the study of the chart just given, it seems clear that, since the final step of school mapping is related to the task of "**making work plans after analyzing the location of schools and local needs**", school mapping is directly concerned with the works of educational planning. So, wherever the works of school mapping have been completed, one of the issues for research interest should be related to how far the mapping works have been directed towards establishing the link between mapping and planning, or whether anything has been done after the mapping to facilitate educational planning at the local level, or whether the stakeholders have considered the need for doing something new according to the data accomplished after completing the SM activities, etc.

Thus, it seems clear to us that the final stage of school mapping is concerned with the preparation of the local operational plan for new developments. The following things need to be considered for planning at the final stage of school mapping (DOE, 2008).

a) the new primary school(s) to be opened, additional classes (upgrading) and the number of new teachers to recruit,

b) new classrooms to build, and the number of classrooms to be replaced,

c) the classes, sections and schools to be closed according to the accepted norms,

d) allocation/reallocation of teachers' post, etc.

Importance of School Mapping in Micro Planning

In order to do proper planning, the educational sector should not start any project before making available to all included parties a comprehensive database of all schools, pupils, teachers and resources. Building the part of GIS layers with showing school's location and other significant geographic features such as streets, railroads, city zoning, school-directorates, sub-districts, districts, governorates, and other features would provide an excellent tool for planners. For example, school mapping was utilized in Jordon to approve proposal for constructing new schools and/or renovating existing schools.

School mapping can make "educational decision support system usable and applicable and at the same time, will make the decision makers creative to ensure alternative solution as they really know the reality and what is considered applicable solution" (DOE, 2008.).

Relationship between School Mapping and Educational Planning

In the existing documents of the government, the relation between school mapping and educational micro - planning has been pointed out as given below:

- School mapping can be used as a means for equitable distribution of the resources and investment in all regions and various classes of people,
- Geographical, socio-economic, and physical (infrastructure) conditions of the schools are studied through school mapping so that the planners understand the ground realities and it will help to decide what can be and what cannot be done.
- School's catchment area is identified in school mapping, and distance between human settlement area and school. Similarly, the pathway (road), river/rivulets, bridges etc. are located accurately. Doing so will help in policy formation, planning, implementation, monitoring and evaluation etc. – for the purpose of all-round and balanced educational development.
- After 2057-58 B.S. (2000), the DOE adopted the policy of relating the school mapping with School Improvement Plan, School's Physical Infrastructure Plan, Educational Management Information System (EMIS) and District Education Plan (DEP), etc. Thus, the government began to follow the policy of instructing the local level prepare these plans and systems on the basis of school mapping information.
- Through school mapping, information is collected after field based survey on the Resource Centre level, VDC level and school level – with a view to enforce proportional distribution of educational opportunities and resources, so as to increase the access of education among the school-going age children and enhance the quality of education, etc.

School Mapping in the Government Plans

To review the government's plans and policies on school education, it seems the need for school mapping has been considered for a long time in Nepal. In the Seventh Plan (1985-1990), the government had realized the need for school mapping

on the basis of which new schools would be established wherever needed. The plan stated: ''Establishment of new schools will be encouraged on the basis of school mapping" (The Seventh Plan, 1985 p. 745).

In the 10th Plan also, the government had followed the policy of giving permission to open new schools on the basis of school mapping. In the same way, the existing Interim Plan (2064 B.S.) has followed the policy of implementing the program of establishing at least one school in a settlement (pocket) area, and that will be done based on school mapping. It aims to implement the concept of one school in a village after school mapping. According to the Interim Plan, the government has followed the policy of giving a lump-sum grant to the schools according to the local level Education Plan and School Improvement Plan.

Recent Attempts

The government has made the following attempts towards school mapping in the country in the recent years (DOE, 2008).

- The DOE gave school mapping training to the persons concerned with planning in all the 75 districts in the fiscal year 2063/064;
- After the planning, all the districts were provided with the maps of VDCs and municipalities, and the trained personnel in the DEO have been working to locate the schools and sending the snapshot reports to the Department of Education (DOE, 2008);
- Twelve office bearers in the DOE have got training on GIS software.
- The work of digitization of school maps in the GIS software is being done on the basis of the maps received from district and the snapshot report.

Thapa (2008) has reported that the government has started the work of school mapping and data collection after the decision of implementing grades 1-12 school structure in the country. The work of mapping and data collection has taken place in Rasuwa, Kapilvastu and Dadeldhura districts because these districts have been selected for the piloting of school mapping with the concept of maintaining 2 levels of schooling: (a) basic education with grades 1-8 including the existing pre-primary, primary and lower secondary; and (b) secondary education including grades 9-12.

For the purpose of school mapping in these districts in the year 2008, the digital technique of Global Positioning System (GPS) has been followed to identify the location of the school. In this technique, a special device called GPS machine is used, which shows three things about the location of the school: latitude, longitude and altitude.

Future Plans of DOE

From the study of documents, it is known that the following things are being done in the future with regard to school mapping in the country.

- Establish GIS lab in the Department of Education, and do all the works related to school mapping in the DOE itself.
- School mapping will be done including all the schools of the country.
- Plans will be prepared on the basis of information received from school mapping, and policy for resource allocation will also be based on the same.

CHAPTER III

Methodology of the Study

The study basically followed qualitative approach to achieve its objective, but some quantitative information was also sought from the field. An extensive field study was conducted to collect primary data from three model building districts of School Sector Reform (SSR): Rasuwa, Kapilvastu and Dadeldhura. Study tools were developed for the field work. The study tools include interview guidelines for the stakeholders, school survey forms, community survey forms and Focus Group Discussion (FGD) guidelines. These tools were administered to elicit the required information. The study procedures employed for the study are given below.

Data Collection Procedure

The major activities undertaken in connection with the present study are briefly mentioned here.

1. Consultation meeting with policy makers: The researchers visited the District Education Office (DEO), met with the concerned office bearers, and sought information on the works being conducted for school mapping. Relevant documents were also collected and reviewed.
2. Review of related documents: The related literature on the concept of school mapping and government policies on it were reviewed to shed lights on the present study, as discussed in chapter II.
3. Field visits: The sample districts were visited, the DEO office personnel were consulted, interviewed, and sample schools and pocket areas were selected for field visits. Then, the selected sample schools were visited; school-related information was gathered using the school survey form. Moreover, the school-level stakeholders (including the head teacher, SMC /PTA members, teachers, and others were met, interviewed and FGDs were organized for knowing the details on SM process, data management and use, etc.
4. Survey of selected catchment area was done using a community survey form after visiting the pocket areas (service areas of schools); and then the essential information related to households were collected.

Sampling Procedure

This study was carried out in three SSR piloting districts in consultation with the program implementation section of Department of Education. The study elicited the required information primarily from District Education Offices, Schools and Pocket areas of the sample district. Five schools and two pocket areas were selected from each sample district. These schools and pockets were selected in a discussion session in the presence of concerned DEO officials by making representation of urban, sub-urban and rural areas. Thus, the study included 3 districts, 15 schools and 6 pockets as study sample for the present study.

Sample Districts

The selected sample districts are SSR piloting districts of the government, as decided by the proposal finalization meeting held before the field study. The districts are: Rasuwa, Kapilvastu, Dadeldhura.

Selection of Schools

After visiting the DEO, the researchers asked the officials to suggest 5 schools from 2 pocket areas. According to their suggestions, the schools where School Mapping activities were done in a relatively more intensive manner were selected as purposive samples.

Selection of Pocket Area

In each district, two pocket areas were selected involving the catchment areas of the schools that were selected as the purposive samples as mentioned above. In a district, thus, one pocket area had covered two sample schools while the next one had covered three schools mentioned above. The researchers had visited the community of these 'pockets' to seek the situation or SM activities related to community survey, the people involved thereby and the process adopted, etc.

Selection of Respondents

Respondents were selected including the stakeholders from 3 levels: District, RCC and school. The people actively involved in SM process were included in the list of respondents, as presented in table no. 3.2.

Table 3.1: Sample Districts and Dchools

S.N.	Development Region	Geographical Region	No. of schools	District
	Central	Mountain	5	Rasuwa
	Western	Tarai	5	Kapilvastu
	Far-western	Hillside	5	Dadeldhura

Study Tools

The following study tools were used in the course of the field study:

1. Interview guideline for District Education Officers, Section Officers, School Supervisors;
2. Interview guideline for Head Teachers and Teachers.
3. Interview and FGD guideline for SMC, parents/guardians, social workers, and community leaders
4. School survey form
5. Community survey form
6. Interview guideline for Resource Persons and teachers

More specifically, the following table will summarize which tool was employed to seek the relevant information from whom at various levels (from district to the community).

Table 3.2: Informants at Various Levels and Tools Addressed to Them

Level	Respondents and tools
District level	Interview with DEO, SO, SS, (Program section), statistician, LDO, CDO FGD with DEO, SO, SS, concerned personnel's
RPs, HM(RC), geography teacher, or related person in RC	Interviews; FGDs among RCs
School level	Interview with HT, Geography teacher, surveyors FGD with RP, HT, (RC), SMC, Geography teacher and concerned personnel in RC FGD with HT, teachers and other concerned personnel School survey form
Community Level (Catchment areas of schools)	Interview with SMC chairperson, PTA chairperson FGD with SMC, PTA, social activist (educationist, politician, mother group, CBO, NGO etc.) Community survey form

The most important points covered by the data collection tools employed in the field are briefly mentioned below.

Table 3.3: Contents of Tools Addressed for Respondents

S.N.	Tools and Respondents	Contents of the Tool
1.	Group discussion guidelines with DEO, SO, SS, RP	Training and days of school mapping, participants, matters learned, processes, responsibilities, trainers, effect of education planning (previous) matters included in education planning (recent), preparation of education planning, difficulties while preparing education planning, areas of effect by education planning in future, bases of education plan preparation (previous), learned matter help to prepare education plan, ease and difficulties faced while preparing education plan differences in the preparation of education plans in the past and now, improvement of school mapping, help in the areas of physical facilities like physical survey, school building construction, physical planning, determination of classroom size, drinking water, toilet, furniture, physical status of school, design, drawing and specification of physical construction, physical construction and rehabilitation, preparation of manpower for physical construction, school mapping
2.	Group	Training, days, learned matters, processes, trainers,

	discussion guideline with HT, T, SMC	contribution of school mapping, construction of school planning in the past, affected areas by education planning in previous educational, physical, quality level, matters included in education planning in recent, preparation of education plan using school mapping, difficulties faced at the time of education planning, effect on education areas in future by education planning bases of education planning, learned by school mapping for education planning, help in educational planning learned from school mapping, differences between previous and recent education planning, how to make effective school mapping.
3.	Group discussion guideline with social leader, educationist, social worker, NGO	Knowledge learned from school mapping training, process of training institution, contribution, preparation of VEC in the past, effect on physical, educational and quality of education planning, matters included in education plan recently, preparation of education planning on the basis of school mapping, difficulty and ease to prepare education plan, affect on education area by education plan in future, basis of education planning in the past, learned matters by school mapping for education planning, help of the learned matters in education plan, difference between previous and recent education plan, effectiveness of school mapping.
4.	School survey form	Level of school, description of students enrollment, average attendance of students and teachers, distance of school, teacher student ratio, physical facilities (building, no. of classrooms, no. of students, space available per student in class, description of furniture, toilet, drinking water, play ground, status of classroom, adequacy of classroom, catchment area of school, distance of school in k.m. and time, description of other school nearby, description of supplementary school.
5.	Community survey form	Description of caste, occupation, education, work done in community, no. of schools, reasons for not going to school, distance of school and time spent, occupation of children not going to school, educational environment of school, status of physical facilities, availability of teachers, textbooks, educational materials, examination system, monitoring and supervision, teaching (instruction) in mother/language/tongue, social justice, no. of schools in VDC, level, distance, time, population (0-17 years), school going children in VDC, population in VDC with the age of 18 years and above, literacy rate in VDC, catchment area of VDC, distance of school from VDC, catchment area, k.m., time spent, hindrances for children of VDC/community, total house hold nos. of VDC/community, gender-wise no. of children, school going and not going children's no., no. of dropout children's no. of local languages in the VDC/ community.

The following is the tool matrix that indicates which of the four research questions were addressed to which respondents.

Table 3.4: SM-EP Linkage Tool Matrix

Research questions	Respondents										
	DEO	*SO*	*SS*	*RP*	*HT*	*T*	*SMC*	*Leader*	*Educationist*	*SW*	*NGO*
1.Contribution of school mapping	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
2.Strategies adopted in school mapping	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
3.Process adopted in school mapping	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
4. ontribution of school mapping in further educational planning	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑

Workshop

One workshop was organized in each district during the field study. The district level and school level stakeholders who were involved in the school mapping exercise had participated in the workshop. Qualitative data related to the process of school mapping, strategies for linking school mapping with planning, and problems and difficulties, etc. were sought based on the participants' experiences expressed thereby. They were noted down by the researchers in their field diary – to be analyzed and interpreted later.

Data Analysis Procedure

Basically the qualitative data were collected in the study, though some quantitative information was also solicited from the field – especially from the DEOs and sample schools visited in the course of field study. In the case of qualitative information collection, the data were recorded using the field notes.

After coming back from the field, the quantitative information was tabulated, presented and the situation identified based on the data. In the case of qualitative data, the vast information collected was further condensed and put under various topics related to the research questions put earlier (page 2).

Here, in this report, the analysis and interpretation of quantitative and qualitative data have been demonstrated in different chapters – quantitative in chapter IV, and qualitative in chapters V and VI.

CHAPTER IV

Situation Analysis of Sample Districts

Introduction

In this chapter, the situation of the 3 sample districts is briefly presented incorporating within it some of the major statistical figures related to school education, including the number of schools offering various levels of education, student number, number of teachers, population of VDCs, etc. Then, the figures related to sample VDCs have also been presented. Moreover, based on the data and the SSR norms, a proposal for opening new schools as well as merging or reducing the old ones has also been suggested in the end.

Dadeldhura

There is one municipality and 20 village development committees (VDC) with altogether 191 wards in Dadeldhura district. According to the population census record of 2058 B.S. (2001 A.D.), the rate of female literacy is 35.42 and male literacy is 69.74; and in total it is 53.31 percent. The total number of schools is 246. Among them, 151 are primary, 50 lower secondary, 35 secondary and 10 higher secondary. There are two types of schools: community based and institutional. Among them, 234 are community based, while 12 are institutional.

In Dadeldhura, the total number of Early Childhood Development Centers (ECD) is 205.There are two types of ECD centers: community based and school based. The total number of community based ECD centers is 75 and that of school based is 130. Altogether there are 205 ECD centers. The total number of children studying in the center is 3797.

The total number of students studying at the primary, lower secondary and secondary level is found 30512, 9311and 3592 respectively. There are 3696 boy and 3973 girl dalit students at the primary level. In total, there are 544 teachers at primary level, 178 at lower secondary and 108 at secondary level.

Under non-formal education, there are 14 school outreach programs, 15 women education programs, one community learning center and 10 flexible schooling programs (support by UNICEF Nepal).

At primary level, student-teacher ratio is 52:1. Dropout rate of primary level is 20.82. Repeater rate is 19.76. Pass percentage of grade V is 80, grade VIII 47% and SLC 28.

There are 8 resource centers (RC). Among them, 2 were selected as study samples. There are 94 schools in the two sample RCs. There are 67 schools in the sample municipality and VDC. One municipality and one VDC were selected as sample. Five schools were selected as sample schools. Among them, one is higher secondary, one secondary, one lower secondary and two primary schools.

There are 800 students in the primary level, 499 in lower secondary, 340 in secondary and 389 in the higher secondary level in the sample schools. There are 23 teachers in the primary, 9 in lower secondary, 10 in secondary and 8 in higher secondary level.

Rasuwa

In the case of Rasuwa district, there are 18 Village Development Committees. The total population of the district is 47052. Among them, 25005 are males and 22047 are

female. There are 8036 households. Among them, 212 are Dalit families and 6200 are *Janajatis*. The total population of *Janajati* is 36513. Among them, male population is 18958 and female 17555. The total number of schools is 111.Among them 85 are primary, 13 lower secondary, 10 secondary and 3 higher secondary schools. There are 12947 students in total, and teachers are 1031. 8914 students are studying in the primary level, 2762 in lower secondary, 1271 in secondary. Total number of teachers is 809 at primary, 150 at lower secondary, 65 at secondary and 7 at higher secondary level. There are 8 RCs established in the district. Among them, 4 RCs were selected as sample RCs for the field study. There are altogether 57 schools in the sample RCs. Among them 44 are primary, 6 are lower secondary, 4 are secondary and 3 are higher secondary schools.

There are 4 sample VDCs where altogether 39 schools are located. Five schools were selected as samples for the purpose of study. In the sample schools, there are 681 students in primary, 1026 in lower secondary, 541 in secondary and 259 in higher secondary level. In respect of teachers, 22 teachers are teaching in primary, 15 in lower secondary, 23 in secondary and 4 in higher secondary level. The number of trained primary, lower secondary, secondary and higher secondary teachers is 32, 15, 17, 4 respectively. The untrained teachers in primary and secondary levels are 4 and 1.

Kapilvastu

There is one Municipality and 77 village development committees in the district. The total population is 457723 in the district. There 245378 males and 212345 females. The total number of students in primary level is 86092, in lower secondary level the number is 18894, secondary 8662 and higher secondary 3181.The grand total number of students is 106829. Among them, girls are 43263 and boys are 63566. In total, there are 368 schools. Out of the total 368 schools, 265 are primary schools, 31 lower secondary, 53 secondary and 19 higher secondary schools. There are 1975 teachers. Among them 1481 are male and 494 are female. There are 1453 teachers in primary, 303 in lower secondary, and 219 in secondary schools.

There are 419 ECD centers. There are 31 flexible schooling programs (FSP), and 15 school outreach programs (SOP).The Resource Centers established in the district are 10, among them 3 are selected on the basis of the best SSR practiced RCs. One Municipality and 2 VDCs are selected as samples of the study. The total population of sample Municipality and VDCs are 32642; among them 17345 are male and 15297 female.

Three sample schools from municipality and 2 sample schools from VDCs were selected for the study. The total number of students in the sample schools is 3226, among them 1727 in primary, 992 in lower secondary, 397 in secondary and 110 in higher secondary levels.

In respect of teacher, altogether there are 68 teachers, among them 41 in primary ,14 in lower secondary and 13 in secondary level, 32 teachers found to be trained.

School Merging Practice

Based on the information collected through school mapping in Dadeldhura district, the DEO has initiated the work of merging schools wherever needed. In the case of two schools having very small students' population and the distance between the schools (primary) being not more than ½ hours walk for the children, the decision

was made after convincing the SMCs of both schools. After the merge, a new school was built in between, canceling the both primary level schools, and then starting grade six in the newly built school. From this, the school was upgraded with the same manpower. Two incidents of such merging have already been completed – which have been made possible after the completion of school mapping in the district, based on the data. And, there are several possibilities of merging schools in the district based on student number, population of the catchments area, local resources and needs, etc. This practice was found only in Dadeldhura district. In Rasuwa and Kapilvastu also, the district level authorities have said that they will initiate the merging process after finalizing the DEP.

Additional Facilities of Teacher Quota

Under SSR, some *Rahat* quotas have been provided to the schools according to the student number figured out by school mapping. This has been provided to all the sample districts, and teachers have been appointed accordingly. In Kapilvastu, Pancha Primary School, soon after hearing that the Rahat quotas would be provided to the school once it plans to be upgraded, it initiated to begin 6th grade in the school, got the quotas and appointed teachers accordingly. However, the district has not yet identified which schools can be upgraded for running grades 1-8 or 9-12. This is the complaint of teachers in Rasuwa and Kapilvastu districts. In Kapilvastu, the researchers found that the stakeholders came to the DEO for the purpose of upgrading a primary school to run grade 6; whereby they said "SSR document says no additional money needs to be deposited for running grades 1-8. But the DEO has made it mandatory to deposit the money, citing the old rule.

Educational Situation in the Sample VDCs/Municipalities

The educational situation of the sample VDCs and Municipalities included in the present study is summarized below. The following table mentions the most important facts of the VDCs and Municipalities regarding the number of schools at various levels of schooling, teachers, school-going age children in the VDCs/ Municipalities and the population therein.

Table: 4.1 Population, Schools and Teachers in the Sample Municipality/VDCs

Districts	MC/VDC	Population	Schooling children Age group 5-18	Schools				Teachers
				P.S	L.S	S.S	H.S	
Kapilvastu	Kapilvastu Municipality	19237	4976	15	4	6	5	75
	Banganga	8579	4636	5	0	2	0	40
	Gotihawa	4826	2049	2	0	0	0	11
Daaeldhura	Amargadhi Municipality	18390	NA	22	4	5	3	NA
	Jugbudha	18810	NA	21	7	4	1	NA
Rasuwa	Dhaibung	5599	1989	5	0	1	1	190
	Laharepauwa	5831	1689	6	1	0	1	127
	Dhunche	1864	631	3	0	1	1	57
	Syafru	2133	760	3	1	1	0	62

To see the table, we come to know that, in Kapilvastu district, a total of 19237, 8579, and 4826 people reside respectively in Kapilvastu Municipality, Banganga VDC and Gotihawa VDC. There are 15 schools, 4 lower secondary, 6 secondary and 5 higher secondary schools in Kapilvastu Municipality. Similarly, in Banganga VDC, there are 5 primary and 2 secondary schools. In Gotihawa, there are only 2 primary schools, having no school of upper level.

In Dadeldhura district, Amargadhi Municipality has the population of 18390, and Jogbudha VDC has 18810. To see the number of schools in the VDC and Municipality, Amargadhi has 22 primary, 4 lower secondary 5 secondary and 3 higher secondary schools; while Jogbudha has 21, 7, 4 and 1 primary, lower secondary, secondary and higher secondary schools respectively.

Out of the 4 sample VDCs of Rasuwa, the population of Dhaibung, Laharepauwa, Dhunche and Syafru is 5599, 5831, 1864 and 2133 respectively. To see the number of schools, Dhaibung has 5 primary, 1 secondary and 1 higher secondary schools. Similarly, Laharepauwa has 6 primary, 1 lower secondary and 1 higher secondary schools. The number of primary, secondary and higher secondary schools in Dhunche VDC is 3, 1 and 1 respectively. Last, Syafru has 3 primary, 1 lower secondary and 1 secondary schools.

Proposed Norm for School Establishment in SSR

In the proposed SSR Core Document (MOE 2008), a couple of norms have been mentioned for the establishment of new schools and their relocation. Among them, population of the service area is one of the most important considerations. Accordingly, the following norms have been mentioned.

Table:4.2 School Establishment Norm by Population

S.N.	School levels	Population required for a school
1	**Basic Education (1-8)**	
1.1	Foundation level (grades 1-3)	150-200
1.2	Primary level (grades 1-5)	500
1.3	Upper primary (grades 1-8)	1000
2	**Secondary Education (9-12)**	
2.1	Secondary level (grades 1-10)	At least 1 in a VDC
2.2	Higher secondary level (grades 1-12/9-12)	At least 1 in a constituency

School Restructuring Proposal for the Sample VDCs/Municipalities

Now, after having a look on the general norm for establishing a new school in a given community as given above, it would be relevant to indicate how school restructuring can be done in the sample VDCs/Municipalities. In the following table, the schools to be added and reduced in the given VDCs/Municipalities have been indicated, based on the population of the respective VDC/Municipality and the SSR norm of school establishment (by population) indicated above. Population has been considered as the determining factor to estimate the required number of schools in the respective areas. Of course, though the SSR norm also considers geographical

barriers (rivers, Jungles, mountains of extreme forms of inaccessibility etc.), they were not applicable in the present study, since the researchers did not find such barriers in the sample VDCs.

Table: 4.3 Suggested Restructuring of Schools in the Sample VDCs

Districts	Schools to be added		Schools to be merged
Kapilvastu district	Basic School (1-8)	Secondary School	
Kapilvastu Municipality	-	-	Reduce 10 P.S.
Banganga	2	-	-
Gotihawa	4	1	-
Dadeldhura district	-	-	-
Amargadhi	-	-	Reduce 3 P.S.
Jugbudha	-	-	Reduce 6 P.S.
Rasuwa district	-	-	-
Dhaibung	1	-	-
Laharepauwa	-	-	-
Dhunche	-	-	-
Syafru	-	-	-

It is expected that the suggested restructuring in terms of establishing new schools or merging them can be the examples for the concerned authority to initiate similar works in the future.

The above mentioned suggestion is based on the existing norms for opening new schools. However, the norms are not sufficient. In the case of Syafru VDC (Rasuwa), people have initiated the works towards establishing a higher secondary school. Now, the walking distance to reach the nearest higher secondary school from this VDC is around 4 hours. The basic requirements for the establishment of higher secondary school are already fulfilled in the VDC – students, teachers, financial condition, physical infrastructure like building, classrooms and furniture. Given this situation, the existing norm of having one higher secondary school in a constituency (Rasuwa district having only one constituency) is not sufficient. Therefore, the existing norm regarding the establishment of higher secondary schools needs to be reconsidered; and it seems reasonable to open a higher secondary school in Syfru.

Schools and Children's Walking Distance

The table given below summarizes the distance between the school and children's houses in terms of the walking distance from house to school in the case of all the sample schools. From the study of the table, it would be easy to see how long it takes for the children to arrive at school from home. Moreover, in case of the school not offering the classes for upper level/s, the table also clarifies how long the children should walk to reach the other school (of upper level) from their house. The average time required for children to walk to school is given here.

Table: 4.4 Walking Distance for Students to Reach School

Districts	Sample schools	No. of Villages and walking distance	**House to school distance (maximum)** Note: * = children going to other school of upper level				
			Pre-P.S.	P.S	L.S.S.	S.S	H.S
Kapilvastu	Kotigram P.S	No. of Villages 4	0	4	1*	1*	-
		Walking Distance	0	30m	1.30h	1.30h	1.30h
	Yashodhara S.S	No. of Villages 4		2	4	4	-
		Distance	0	30m	40m	1h	-
	Banganga H.S.S	No. of Villages 5	2	2	4	5	3
		Distance	15m	30m	1h	1.30h	2h
	Pancha L.S.S	No. of Villages 2	2	2	2	1*	-
		Distance	15m	30m	30m	30	-
	Kapilvastu P.S.	No. of Villages 2	0	2	2*	2*	-
		Distance	0	15m	35m	35m	-
Dadeldhura	Ghatal S.S	No. of villages 10	4	4	10	10	-
		Distance	0	30m	1h	2h	-
	Janajyoti P.S	No. of villages 3	0	3	1*	1*	-
		Distance	0	30m	45m	45m	-
	Lateshwor L.S.S	No. of villages 4	0	4	4	2*	-
		Distance	0	30m	45m	1h	-
	Siddhanath P.S	No of villages 4	1	4	1*	1*	1*
		Distance	15m	20m	1h	1h	1h
	Siddhanath H.S.S	No. of villages 5	0	3	3	4	5
		Distance	0	30m	45m	1h	1h
Rasuwa	Rasuwa H.S.S	No. of villages 4	0	1	4	4	4
		Distance	0	10m	20m	30m	30m
	Shyamewangphel S.S	No. of villages 7	0	2	4	7	-
		Distance	0	20m	45m	45m	-
	Kalika Himal H.S.S	No. of villages 13	2	2	6	7	13
		Distance	15m	20m	1h	1h	1.30h
	Nilkanth Namuna S.S	No. of villages 7	1	3	7	7	1*
		Distance	15m	45m	1h	1h	1.30h
	Nawa Vijay Mahendra S.S	No. of villages 10	7	7	10	10	1
		Distance	15m	30m	30m	30m	1.30h

In Kapilvastu district, the shortest time needed for children to walk to school from their houses is 15 minutes for primary, 30 minutes for lower secondary, and 30 minutes for secondary, and 1.5 hours for higher secondary level. To see the longest time required to reach schools from house, the record is found 30 minutes for primary, 1.5 hours for lower secondary, 1.5 hours for secondary, and 2 hours for higher secondary level.

To see the case of sample schools in Dadeldhura, primary school children walk for 20-30 minutes to reach their schools from houses on average. At lower secondary

level, the walking distance is of 45-60 minutes (1 hour). They have to walk for a minimum of 45 minutes to the maximum of 2 hours. The average walking distance for students to reach the school in the case of higher secondary level is 1 hour.

In the case of Rasuwa, the minimum time needed for students to reach school in the primary, lower secondary, secondary and higher secondary schools is 10 minutes, 20 minutes, 30 minutes and 30 minutes respectively; while the maximum time required is 45 minutes, 1 hour, 1 hour and 1.5 hours.

Thus, the increase in the level of schooling seems to have increased the walking distance for students to reach their school as well – applicable more or less in all the sample schools in the three districts.

CHAPTER V

Data Analysis and Discussion

This chapter is basically concerned with the analysis and discussion of the qualitative data derived from field study. Based on the information collected through interviews, FGDs, on-the-spot observation and enquiry with the authorities at central level, district level, school level and community level stakeholders, the analysis and interpretation has been presented in this form – after the triangulation of relevant information. The entire chapter is devoted to seek answer to the four prime research questions mentioned earlier in the first chapter of the report: link of SM information with SIP, processes followed in the districts to complete SM activities, strategies adopted to support educational planning, and relevance/contributions of SM data in the SSR phase.

Contribution of School Mapping in the Local Planning

Right from the beginning of the implementation of SSR program, the activities of school mapping have been done in the three sample districts – from which there have been some notable achievements towards the establishment of the foundation of SSR in the coming days. In this section, therefore, it will be relevant to discuss the major contributions of school mapping in terms of the achievements of this task. The topics that follow will shed lights on it.

Linking SM with SIP

In Rasuwa, the schools carried out SM and thus gathered data about the household and population in their service areas, having all sorts of related information. Then, they initiated to prepare SIP using the data gathered as such. In the preparation of SIP, the schools involved the SMC, PTA, students, teachers, parents, local NGOs, VDC, CBOs, etc. and collected their opinions on the needs of the schools, what should be the priorities, what can actually be done, which institution can help them in what way, etc. Based on the meetings and consultations with the stakeholders in this way, they determined the objectives of SIP; and programmes were set accordingly. The budget estimate was calculated to fulfill the objectives.

Before finalizing the SIP programs, the schools also sought written commitments from various sectors willing to provide financial support for the success of the SIP programs in the coming 5 years period. This procedure was followed in all the sample schools of Rasuwa district, while in the case of the remaining 2 districts the situation is different. In Kapilvastu, the school head teachers said that the district did not issue any instruction for preserving the SM data, nor were they advised to conduct the household survey on the schools' own initiative. Except for one primary school (Kotigram P.S. Gotihawa), no other school has preserved the household survey data for making SIP. However, one school in Kapilvastu has carried out the household survey of its service area on its own initiative, which is different from the way done by the DEO: While the DEO collected the ward-wise data from VDCs, that school (Pancha L.S. School, Baijalpur) collected the data from its service area (irrespective of the political boundary of Ward or VDC). The school has systematically developed a map showing all the households in the service area; and the details of the family members in each of the households have been recorded (including their age, educational status, who is the guardian in the family, where the children are studying, and so on) in the register separately.

In Dadeldhura, since teachers were not involved in the household survey, the schools were mostly unknown about the SM data. Nor were the schools provided the data collected in the initiation of DEO. As a result, there was no way of establishing linkage between SM data with SIP or any other school level planning. However, one sample school was found to have initiated to establish the link between SIP and the ground realities of the service area in a different way – by carrying out the household surveys of its own service area, keeping the record of the details of population and households (and children) thereby and making the SIPs accordingly. The School Supervisor said that altogether 11 schools have initiated this sort of SIP in the district altogether. According to him, compared to the VDC-wise or ward-wise household survey in the way just completed by the DEO, school's own initiative to do the SM and establish the link between SIP and SM would be more relevant for school development.

SM and VEP

In Rasuwa, 4 VDCs were studied. VEP has been prepared in all those VDCs. VDC used the information about household and school mapping data collected in the initiation of the school teachers. Thereafter, calculation was done on how many schools existed in the VDC area, and where the additional schools are required. The plan was prepared for 5 years in the VDC regarding what sort of physical facilities to be provided to the schools in the given period. But a weakness in the VEP was that some schools' head teachers were not involved in the planning process; but political partymen were involved, as said by the head teachers. When they were asked if the lack of head teachers' participation would create any problem for the plans, the VDC level stakeholders expressed the view that, since school activities are governed under the Ministry of Education while VDC activities are under that of Local Development, this kind of lacking is natural to occur from the centre and to the village level. School teachers have also blamed that the VDC has mostly been ignoring the proper needs and concerns of schools and acting on its own. To the question of the responsibility given to VDC for managing ECD and primary level education (authorized by the Local Governance Act 2055), the teachers say that the Act has not been implemented at the village level, so schools have run it in their own way.

In case of Kapilvastu district, the DEO and School Supervisors said that 22 VDCs had prepared the VEPs – that too, not using the SM data. But no VEPs were found in the 2 VDCs and a municipality sampled for the study. The stakeholders said that they would prepare the VEPs afterwards. Since there was no instruction to preserve the SM data at the VDC level, they did not care about its use – thinking that the information would be only for the DEO rather than for schools.

No VDC or Municipality of Dadeldhura visited for the purpose of field study had prepared the VEP (or MEP) based on SM data. SM data, according to the stakeholders, were not available to the VDC. They said, "Since the VDC has not been formed with the people's representatives, we have not considered it relevant to discuss any policy matters on education just with the decision of the VDC secretary." There was the lack of responsibility and authenticity of such a document even if it is prepared.

RC Level Data Bank

Incorporating the information related to the schools and their catchment areas in the respective Resource Centres, data bank has been established in all the Resource

Centres of Rasuwa district. In the data bank, school related information and household related information have been preserved separately. In the school level information, number of schools, teachers, students, physical facilities, distance between the schools, etc. have been recorded. Similarly, in the household related information, the record of the number of households, population, educational status of the population, caste and religion of ethnic groups, number of school-age children etc. have been recorded. The RPs have initiated to work out the programs to be incorporated in DEP based on the RC level data bank. In the rest two districts, RC level data bank has not been prepared; and mostly the RPs have submitted the household survey and school survey data to the DEO, without preserving it at the RC level.

Establishment of District Level Data Bank

A detailed data bank has been established in all the sample district that incorporates most of the required information related to school education in the district – including the student and teacher population, the village population of various age groups, the distance between schools, location and geographical as well as demographic characteristics of the school catchment areas, etc.

Thus, the school mapping activity has contributed a lot to make it easy to see the existing situation and ground realities. Stakeholders can have a look at the data and understand the situation – which will help in identifying where the school education has been accessible to the population, where it is less accessible, where the problems are more acute, etc. – so that one can think towards what can be done for educational policy and programs to be initiated in the district in the future.

The data bank has been established in all the sample districts. The stakeholders are of the opinion that data bank established as such can be helpful in the future in making the local education plans - from the school/village to the district level - more realistically.

Basis for Dispute Resolution

After the establishment of data bank, it has been the basis to settle the cases of disputes, if any, at the local level in planning or educational management – because statistical database will provide the ground for the authenticity of any decision. The works of data collection and computer entry have been systematically done in Rasuwa and Dadeldhura districts – so the stakeholders are quite confident that data will resolve most of the problems in the case of disputes. However, in Kapilvastu, even the DEO is not confident about the accuracy of data. The reason is: due to the mistakes of wrong data entry, correct understanding of the reality is missing.

SM and DEP

The procedure of *SIP-RC level profile-DEP* was followed in Rasuwa. After finalizing the SIP based on SM data, RC level profile was prepared – for which the respective RPs were assigned the task. The profile made it clear showing the details of the schools in the area, the students' and teachers' population, population in the service area of all the schools, etc. The RC level profiles prepared by all the 8 RCs were assembled together in the district, and the programmes to be included in the DEP were decided based on them. A district level committee – called 'DEP Preparation Committee' - was formed for seeking suggestions regarding the DEP programmes

and activities. Accordingly, a group of RPs assisted by a teacher (for writing purpose) has written the final version of DEP. Despite these efforts of DEP preparation, no attempt of making linkage between the DEP and VEP was found. When asked the question if the district has made any decision on merging schools or opening new schools, or upgrading the primary / lower secondary schools etc., the stakeholders (from teachers to school supervisors) said the same thing: "This issue will be settled only after finalizing the district's ASIP, prepared after the DEP."

As the DEO of Kapilvastu said, the district level authorities were not going to wait for the SIP or lower level planning to finalize the DEP; so they are going to prepare it first, and then only go towards the preparation of lower level activities accordingly. Based on the SM data, they are going to make decisions on school merging, new school opening, upgrading, providing additional facilities wherever needed, etc. At least they are going to hold a consultation meeting in each RC with the view to seek suggestions from stakeholders on the programmes to be included in the DEP. The DEO and School Supervisor said that, since the SIPs prepared by schools in the past were neither realistic nor genuine, it would be difficult to make decisions at the district level on the basis of such demands put forward in the form of 'SIP'. RPs were also asked the same issue, to which they replied, "Schools are not really prepared for making a genuine SIP since they were not instructed to preserve the SM data - particularly the household survey data". Though they are in favour of SIP preparation, they think it cannot be done immediately and the DEO cannot wait for the schools' plans before making DEP.

In Dadeldhura, the DEO and School Supervisor said that it would be difficult to implement the order of SIP-VEP-DEP – the main problem being budget limitation. They even said that DEP cannot address all the schools' demands with the limited resources provided from the centre. So, the district decided to prepare the DEP based on the major needs of the district indicated by the SM data and prioritize them on wholesale basis after consultation with the lower level stakeholders, rather than concentrating on each and every school's needs. Towards this end, they have organized the consultation meeting at the village level (involving all the schools in the village). A similar meeting was organized at the RC level with the representation of all the VDCs (SMC/PTA/HTs) to prioritize the needs/demands put forth in the village level consultation meeting. Based on these needs prioritized as such and the reality of situation shown by SM data, the district has prepared the outline for DEP.

School Mapping Processes Adopted

The school mapping process was initiated in the three SSR model districts of the country right from the beginning of academic year 2065. In the beginning, the school supervisors and RPs were called to the centre for the necessary orientation and for making some outline of the work plan implementable in the districts towards school mapping.

The major activities completed in the districts during the SM process, as found in the field study, are reported here in the topics that follow. Each of the topics involve a step of SM process, as discussed thereby.

TOT in the District

Prior to the commencement of School Mapping tasks, a district level **TOT** was organized, whereby the School Supervisors, Resource Persons and DEO personnel

were the participants. The main purpose of organizing the TOT programme was to orient the concerned personnel/stakeholders on the use of GPS machine in order to determine the location of the school. Similarly, they were also given orientation for school survey (including student survey, teacher survey and the survey of other facilities in the school) as well as household survey in the VDCs/ municipalities. The TOT programme in the pilot districts had concentrated on clarifying why the surveys are needed, and giving practical lessons on how to conduct the tasks for the survey – with a view to enable the participants in giving orientation for the household surveyors.

District Action Plan for the Survey

After the TOT, the district prepared an ***action plan*** aimed of conducting the school mapping activities in the district – when to do what event concerned with the mapping. In the action plans, the DEOs included the activities of district level orientation, GPS recording, household survey training, school survey, data collection through the household survey, etc.

GPS Reading/Recording

In all the Resource Centres of the 3 sample districts, RPs completed the tasks of recording the schools' locations in their respective Resource Centre areas. Similarly, the works of school survey were also completed by filling up the forms after visiting all the schools – done by the RPs.

Using the Global Positioning System (GPS) machine, these things were identified: 1) UTM I (related to longitude), 2) UTM II (related to latitude), and 3) altitude of the school. Accordingly, the task of recording the schools' locations was completed after visiting the all the schools in the district – using the GPS machine.

Some technical problems occurred while recording the schools' locations using the GPS machine. In Dadeldhura, the School Supervisor explained the problems in this way: While it was said earlier in the TOT orientation that the GPS machine would give accurate results no matter how many times the measurement takes place; some differences were found in the two consecutive measurements of the same place (i.e. same school) regarding the UTM I (longitude), UTM II (latitude) as well as altitude records. The reason for this difference must be, according to him, related to the lack of favourable weather during the measurement rather than the capacity of the machine itself. In practice, these two things might have played a disturbing role while handling the machine during the measurement of altitude, longitude and latitude: 1) use of the machine to record the location when the weather was cloudy; 2) recording the data without establishing the connection of the machine with at least 3 satellites. (In the orientation, it was said that the machine is connected with altogether 7 satellites, and the indication of connection is shown in the machine after it is opened; and it must be connected with a minimum of 3 satellites for accurate measurement. Similarly, it was also said that measurement should not be recorded in the cloudy or foggy weather). Practically, these two conditions were difficult to maintain during the measurement for the RPs when they visited the schools particularly during the rainy and cloudy seasons. As a consequence, the recorded measurement could not be so accurate.

The RPs and head teachers of Rasuwa raised a doubt over the very reliability of the machine itself, since it could not show the school's location with uniform UTM I,

UTM II or altitude. The RPs of Kapilvastu have also expressed similar opinions. For better GPS recording, the school supervisor of Dadeldhura suggested that it would be better to verify the GPS-based data by locating the schools in the map of the district after GPS recording (based on the UTM I, UTM II and altitude shown by GPS machine) – so that the reliability of measurement could be verified and GPS recording could be done the second time if needed - in the cases where problems occurred. But this was not done in any district.

Training for Household Surveyors

A household survey training was conducted at the RC level in Kapilvastu and Dadeldhura. In the case of Rasuwa, the RPs said that they did not organize any formal training, but gave some instructions to the surveyors (teachers) who carried out the household survey. In all districts, surveyors were deputed for the survey, giving incentives for their works. Wherever the survey training was organized, the prospective surveyors were trained on how to collect the information required for household survey, how to record it in the survey form, etc. In addition to telling them the way of filling up the forms, they were also given a practical task of recording the information from some households nearby; and discussion-cum-feedback session was also organized to improve their skill in data collection. In the case of Rasuwa and Kapilvastu, school teachers were deployed for the survey, while in Dadeldhura the DEO deliberately did not employ the teachers for this purpose – since there could be, according to the DEO and school supervisor, disturbance in the schools' instructional activities if they were deployed. Instead, Dadeldhura DEO deployed the unemployed SLC graduates (or those studying at the college level) to accomplish the task of survey.

Household Survey

After having the training, the surveyors went to the houses in all the wards of all VDCs (and municipality) in each of the sample districts. They inquired the details of the households including the household head, the parents, children (or grandchildren), and other things as required by the survey form; and then they filled in the forms. After completing the work of filling in the forms after household visits, the surveyors submitted the collected information to the Resource Person. In Dadeldhura, the RPs said that a few (2-4) cases of the surveyors' works of data collection were monitored; and from the monitoring it was found that, overall, information was collected in a right way. But in the rest two districts, there was no monitoring in the surveyors' works on behalf of the RPs or *upper level* authority.

As per the instructions given to the surveyors, the collected information was sent to the district through the proper channel (i.e. the RP); but no attempt was made to send it to the schools in Dadeldhura and Kapilvastu.

When the surveyors and RPs were asked how comfortable they felt in the survey work, they said there was a problem: In a few points, the household survey form was not very clear. For instance, it required to record the 'living standard' or 'economic standard' of the households after asking the family head or other members. Since the options to tick against under the 'living standard of the household' were all subjective rather than being objective, it was difficult to get the task done accurately – so, though the work was completed on the basis of what the household members said or based on what their neighbours said (or even on the basis of the surveyor's

own observation in many cases), the information derived as such could not be so reliable. This happened in many cases.

Some other problems faced by surveyors during the household survey, as they said, include: not meeting the family members during the visit, the family members unable to speak clearly and explicitly, need to depend on other neighbours for the details of the family due to these reasons, etc. Despite these difficulties, the surveyors said that they are confident in the reliability of data.

Data Processing

The works of data entry in the computer have been completed very carefully in the districts of Dadeldhura and Rasuwa. So, the data have reflected the reality of situation in most respects in these districts. In Dadeldhura, data entry was done in the DEO itself, without giving the task to any other party for completing the job outside – whereby the DEO personnel (including 3 additional local computer professionals) were involved in the task; and during the entry itself the computer entry was verified checking against the recorded data in the survey forms; and wrong entry was rectified instantly when needed. So, the DEO (Dadeldhura) is fully confident that the databank established as such is reliable. In the case of Rasuwa, the RPs got the responsibility of data entry; so they entered on their own initiation – done by themselves or got it done by computer professionals under a close supervision.

But in the case of Kapilvastu the DEO office itself is not sure about the accuracy of data. According to DEO and School Supervisor, the work of data entry was accomplished by giving the task to some computer professionals in the market on contract; and the entry process was not monitored by the office. In addition, there was no instant verification in the entry – no tally between the data entered and that recorded in the household survey form. Therefore, the 'computer professionals', who were just the learners in fact, were not so careful for entering data accurately. As a result, knowingly or unknowingly, they entered one thing in place of another in several cases – affecting the accuracy and reliability of the information in a very severe way. They said that, in some VDCs, for example, if male population is shown 500, women's population is mentioned just 5 (which is difficult to believe!). The RPs have pointed out that, in many cases, one school's data have been entered under a different school, etc. In order to solve the problem of data entry, the DEO officials have said that they would consult the DOE in order to find a way for rectifying the mistakes and to project a more reliable picture of data.

Through the household survey, data were collected and entered ward-wise from all the VDCs and a municipality in the districts. But the problem is: There is no way to find school-wise (catchments-area wise) information about the households and community population. As the School Supervisor of Dadeldhura said, the SM data have been sent to the centre as collected. According to him, the DOE has assured the district that the SM data will be combined with the individual school's information, and the information about each school's catchments area will be worked out, and then it will be provided to the district later on.

Seeking the Linkage of Data for SIP/VEP/DEP

For the purpose of preparing SIP in Rasuwa district, a consultant agency called Support for Improvement in Primary School Management (SISM) played a vital supporting role in creating awareness among the district level as well as village and school level stakeholders for household survey. It also supported to establish the linkage between the survey data and SIP actions. Accordingly, the SISM played role in the following things:

1. It informed all the district and school level stakeholders about the importance of household survey data for better planning. After being informed about the importance of data, the stakeholders were instructed on the know-how of using the tools for data collection.
2. It also supported schools in carrying out the household survey and collecting the required information. Accordingly, the households of the schools' service area were surveyed and the details were preserved in the schools.
3. SISM also assisted the schools by identifying the various sectors including local agencies/ institutions that can provide financial support for school development. Accordingly, SIPs were finalized based on the survey data, local needs and the cooperation of various institutions in the initiation of SISM. Some of the major institutions supporting SIP are: VDC, DDC, Chilime Hydropower Project, etc. Formal commitment was made on behalf of these institutions to support the various programmes of schools incorporated in the SIP.

In Kapilvastu, a school has preserved the SM data (particularly the household survey data) - where the head teacher said that he would use it for making the school level plans afterwards, though SIP has not been prepared yet. But most of the schools in the district were not found conscious over keeping the data with them. In Dadeldhura, SIPs were prepared in 11 schools based on the data collected through the household survey of the schools' respective service areas in the schools' own initiation (the task completed in support of UNICEF). But there was no any link between the SM data gathered by the DEO and SIP preparation in those schools since the school teachers were not involved in the survey and there was no attempt of making the data available for the schools.

So far, the SM data have not been used for the preparation of VEP in two sample districts (Kapilvastu and Dadeldhura); and the data have not been available for the VDCs/Municipalities. But in the VDCs of Rasuwa where SISM has supported the household survey and school mapping, VEPs are being prepared based on the SM data.

The districts have used the SM data for district level planning and preparation of DEP. Kapilvastu and Dadeldhura have developed the outline of DEP, and Rasuwa is finalizing the DEP. In Dadeldhura the DEP has been prepared on the basis of SM data and the stakeholders' needs collected through consultation workshops conducted in all the RCs of the district. In the case of Kapilvastu, although the DEO has prepared the outline for DEP, there is a problem to establish the linkage between the SM data and planning because, as discussed earlier, the very reliability of data is a question. Moreover, one of the major problems expressed by the school supervisors and RPs in the case of Kapilvastu is associated with the untimely transfer of the DEO manpower to the other districts. As they said, since the works of SM data management, study of needs shown by data and linking them with the programmes

in the plan etc. require more time for a person who is unknown to the earlier activities, there would be a problem to run the planning tasks smoothly.

Strategies to Support Educational Planning

Here, it is tried to show the ways in which the stakeholders in the sample districts have tried to establish a link between the SM data and the programmes incorporated in the local educational plans at various levels (from school to the district). In this connection, it would be relevant to present the things being done in the district in the form of strategic measures. In the same way, some particular activities adopted for making plans more realistic are also described in brief.

SchoolLevel

There was the practice of making School Improvement Plans (SIPs) in schools from 2056 B.S. (1999) and even earlier. To review the past trend of making SIPs in the sample districts, as the researchers were told by stakeholders, it was found that most of the programmes and activities mentioned in SIPs remained either incomplete or not even implemented. This situation resulted due to over ambitious planning and the subsequent difficulty of its implementation.

Now, gradually, the stakeholders (particularly School Supervisors, RPs, and head teachers) have begun to realize that most of the local level plans in the past were prepared without adopting any kind of strategic measures for establishing the link between ground realities and stakeholders' expectations for educational development. In this context, they have initiated to think of adopting some strategic measures to make successful and more realistic plans at various levels.

Recently, much better SIPs have been prepared in 11 schools of Dadeldhura district (as said by the School Supervisor in the DEO office). In order to make the plans more sustainable, based on ground realities and real needs, the strategy of massive discussion among local stakeholders (parents, community people, SMC members, teachers and students) was adopted in the schools in the process of finalizing the SIPs. The SIPs were finalized through the mass meeting of these stakeholders.

Stakeholders at the school level (parents, SMC and teachers) have expressed the opinion that in the preparation of SIP from now on, the practice of determining the activities solely on the Head Teacher's wish should be stopped; and the new programmes should be decided after receiving the school mapping (including household survey) data by requesting the DEO; determining the school's needs and new activities; proposing the activities to the meeting of SMC, teachers and parents; discussing them in detail; and finalizing the plan in the presence of all these stakeholders.

Some schools of Dadeldhura (e.g. Lateshwor L.S.S. Malam) have adopted the strategy of linking the school level planning with school mapping information in their own way – by carrying out the household survey on their own, without having the SM data gathered by the DEO. This was done with the involvement of SMC/PTA, teachers and students; and then decisions for the selection of new programmes were made on the basis of the information locally collected as such. Some of the major programs/activities mentioned in the SIP (2066-2070) of the schools that have prepared it based on their own locally collected data (like Lateshwor Lower Secondary School and Masta Bajinath Lower Secondary School of Dadeldhura) include the following:

1. Continue Assessment System (as per SSR),
2. Child friendly teaching-learning,
3. Building additional classrooms, fencing the compound etc. (addressing the needs of additional school-going age children, compatible to household survey),
4. Managing the teaching staff in the required number as needed for students' population,
5. Orientation meetings for parents,
6. Transparency in the school's income, expenditure and instructional activities like the days of homework assigned for students, etc.,
7. Library establishment and management; child clubs formation and mobilization,
8. Establishing code of conduct for children, teachers, SMC and parents,
9. Upgrading the LS level school to the High School (addressing local needs, as per the population shown by household survey of service area), and
10. Enrolling all the school-age children of the community in the school for the purpose of providing access to education for all children in the service area.

Thus, the schools having the practice of making plans based on the mapping of their own service areas seem to have a clear vision not only on addressing the needs of providing schooling facility for children but also on quality improvement in the instructional delivery.

Village Level

VECs have been formed in most of the villages of Dadeldhura district – which can work out the outline for educational development in the respective VDCs on their own. But the district does not have any plan to empower the VECs for local level planning. The VECs, if become aware, can think about the strategy to link up the SM data with the village level educational planning – though no work has been done in this line. The main reason for this is that currently there is no authorized body of people's representatives in the VDCs, so they hesitate to initiate serious works along this line. In the case of VEC formation, definitely, SM data can be highly relevant for planning purpose. VEC formation was not reported in Kapilvastu, nor in Rasuwa.

RCLevel

In the case of Dadeldhura, as the RPs stated, now the RC level is considering to make the schools realize the need for making plans according to the ground realities shown by the SM data. The UNICEF has given a training for the RPs on making the link between data and planning; and a new format has also been provided to them by the UNICEF for data collection. The RPs are thinking of orienting the schools towards school mapping according to that format and designing the activities for SIP accordingly.

As told by the RPs in Dadeldhura, the DEO is also thinking about the strategy of making the link between the SM data and educational planning by initiating the works for RC level plans. Since the data available in the district can be sought and preserved at the RC level also, the study of data will shed light on the existing

ground realities regarding the population composition of the VDCs and wards, the geographical/topographical situation, people's living standard and socio-economic situation, ethnic composition and people's expectations etc. in the RC area. Based on it, as the RPs say, the local needs can be identified and the activities as well as grant policy can be adopted accordingly.

No attempt for a separate RC level planning was reported in Kapilvastu, though the stakeholders talked about initiating RC level data bank in the future. Though works for RC profile have been done in Rasuwa, no separate plan for educational development at RC level was initiated.

District Level

In Dadeldhura, though the district level stakeholders say that the strategy of bottom-up planning is a sound one, there are difficulties to implement the planning procedure in the order of SIP→VEP→DEP. So far, the main problem has been the budget limitation; so the DEP cannot address the demands made by all schools– with the limited resources provided from the centre. So, the district is thinking about the strategy of preparing the DEP based on the major needs of the district indicated by the data and prioritized after consultation with local stakeholders on the whole rather than on the basis of individual school's needs. Towards this end, the following strategic measures are being adopted in the initiation of the DEO: (Since it will not be possible to include all the schools' demands/plans in the DEP).

1. Orientation programme has already been conducted in which all the RPs and some Head Teachers of the district have participated. In the orientation, they were suggested to identify and prioritize their needs.
2. Public notices have been issued through local newspapers and FM radios, whereby people have been asked to give their suggestions for the preparation of the Plan.
3. Village level orientation: VEC has been formed in each of the VDCs of the district. A 2-day orientation meeting of the VEC has been organized. Through the meeting, the stakeholders' suggestions have been sought regarding the VDC level needs and the possible ways of attaining them. This has been done in the coordination of the concerned RP. Teachers, students, local intellectuals, and political party representatives had participated in the meeting.
4. RC level orientation: Thereafter, a one-day discussion meeting was organized at the RC level as well. In the meeting, there were 40 participants selected from those who had attended the meeting at the village level. The event was called the Orientation Meeting on District Education Plan. Thus, suggestions were sought from the meeting regarding the activities to be prioritized for the District Education Plan. After the event, the suggestions derived from the village level orientation were reformulated, prioritized and written in a report that was submitted to the DEO.
5. Preparation of DEP outline: Thereafter, an outline of DEP has been prepared in the district for 2009-15. But it is yet to be finalized and released.

More objectively, as the School Supervisor of Dadeldhura has pointed out, these things are being considered for finalizing the DEP: the data taken from Central Bureau of Statistics (related to Dadeldhura district), the information derived from SM, and SSR Core Document.

Dadeldhura has also attempted to implement the programme of school merging where needed. But the activity of merging did not work alone. Along with the decision for merging the two primary schools into one, the DEO also tried to follow the strategy of providing additional facilities to the school established in the new place after the merge – e.g. making new building and providing additional physical facilities.

Rasuwa seemed to have developed the DEP after the SIP; so the influence of SIP can be seen in DEP. In the case of Kapilvastu, the DEO categorically rejected the possibility of waiting for SIPs in order to finalize the DEP – since there is the possibility of lacking maturity in SIPs if the schools are instructed to prepare SIPs in a hurry, and the DEO cannot wait longer to finalize DEP. At most, as said by the DEO, they have thought of simply organizing consultation meetings with the head teachers and SMCs at the RC level, seeking their suggestions and then making decisions to choose programmes for DEP on priority basis.

Raising Awareness among People

Awareness campaigns were launched in the initiation of SISM in Rasuwa district, with the involvement of stakeholders including RPs, SMC/PTA, teachers and students and their parents. Through the awareness, these stakeholders were reminded about the importance of understanding the reality of situation demonstrated by the data. As the researchers found in the course of field visits, community people were much aware of the importance of data. They have realized the need for school mapping for the purpose of making important decisions on various aspects of planning at the local level. After their awareness, there has been increase in the feeling of contribution on behalf of community people – with the realization of the need for doing some new action based on the data shown by school mapping and household survey.

In the rest two districts, however, the situation was found a bit different. In Kapilvastu, when head teachers were asked as to how the SM data could contribute towards making more realistic educational plans at the local level, some of them said that the data are important to take some decisions regarding the matters of additional classrooms/ buildings, number of teachers required, furniture and other facilities for children etc., and to predict the potentiality of increase or decrease in students' enrolment in schools in the upcoming academic years. But some other head teachers could not articulate the relationship between the data and decision making regarding educational activities/ programmes in this way. In the case of other teachers and SMC/PTA members, mostly the situation of ignorance was noticed on this issue in Kapilvastu.

In Dadeldhura also, SMC, PTA members and parents are quite unknown about the relationship between SM data and school level planning. But Head teachers and teachers of schools were found aware of it – as some of them expressed, for example, that if data on the socio-economic situation, population and occupation of the service area of a given school are available, decisions can be taken on what sort of support can be expected from the community to improve the school conditions – in the form of financial or other types of contribution, etc.

Exposing Survey Data to the Public

In Rasuwa, in the researchers' interaction with the SMC/PTA members, parents and community people, they were found well familiar with the existing reality of the situation in the village and school regarding the number of children in most of the households (not only in neighborhood but also quite far away), number of school-going children, number of students studying in the class, and so on. Asked how they came to know about these details, they replied that they knew these things from the school after the school called them in meeting whereby they were told about the situation demonstrating the relevant data. The school, according to them, also explained in what ways new things could be planned for school improvement using the data. Thus, the schools were found to have exposed the SM data to the public.

Contrary to this, the researchers did not find any attempt of exposing the SM data to the teachers, parents or community people in the schools' initiation in Kapilvastua and Dadeldhura.

Responsibility Sharing

The strategy of sharing responsibility for school improvement among various sectors, institutions and individuals was noticed in Rasuwa. In making the SIP successful towards the achievement of SSR vision, the VDC, DDC, DEO, various CBOs/NGOs, and individuals interested in educational development have distributed their responsibilities/ contributions for school improvement – and accordingly, it has been clarified in paper who or which sector/institution will contribute to which activity specified in the SIP. The timeline for their contributions has also been specified very clearly and transparently.

In the present field study, the researchers did not find this sort of clear-cut outline for responsibility sharing among stakeholders and contributors in the rest two sample districts. It seems the government's policy of establishing the culture of sharing the responsibility (for development) among stakeholder is yet to be exercised in the case of Dadeldhura and Kapilvastu.

Future Considerations in School Mapping and Educational Planning

After the analysis of the processes adopted during the SM activities carried out in the sample districts and the strategies they have adopted in making the link between the SM data and local level educational plans, now it would be relevant to discuss the ways in which the districts have worked to make the school mapping data much helpful in the future, and if there are things to be especially considered for the improvement of the survey process or handling the information to establish the link between data and planning, etc. The topics below will deal with these issues, based on the data collected from field.

Use of the SM Data

Most of the stakeholders at district level are convinced that the SM data collected in 2008 can contribute a lot for planning purpose, particularly at the village level and upwards, since it has the well-managed information on the population of each of the wards of the VDC by age group and it also includes several things on the demographic characteristics of the population including their ethnicity, socio-economic status, etc. More specifically, the SM data can be used for the following purposes.

1. Need identification for planning: The RPs and school supervisors have the opinion that SM data will be useful for planning purpose in the stage of deciding what educational facilities are actually needed in the locality. After a careful study of the existing situation shown by the SM data, as they say, one can locate the real educational needs in the village or communities. For example, if the SM data have shown a very large number of school-going children in a particular ward of a VDC but there is no school nearby, the planner can think of establishing a new school in that locality. Similarly, if the ward has two or three schools in the same location but the population is less, decisions can be made to merge the schools.

Or, in the case of large classrooms – students' population being very high – the planners can think of recommending additional classrooms, physical facilities and teacher quotas, etc. In the same way, based on the information related to the literacy and age-group of the population in the schools' service area, programmes for some alternative modes of schooling programmes can be initiated – e.g. SOP (School Outreach Programme), FSP (Flexible Schooling Programme), adult literacy classes, etc. – wherever the problem is acute.

The SM data gives information related to the ethnicity and socio-economic condition of the population in the schools' service areas. So, the stakeholders have pointed out that planners can decide what sort of contributions can be expected from the people in the educational development in the locality. This can assist a lot in making plans 'more realistic rather fantastic'.

To see the SIPs of the 5 schools of Rasuwa, it was found that the schools have identified the needs of the schools' service areas in terms of how many classrooms are needed in the upcoming five years, based on the population. Similarly, they have also estimated how many children will be enrolled, what sort of additional physical facilities will be required, etc. Wherever needed, they have also worked out for upgrading the schools (from primary to lower secondary or lower secondary to secondary, higher secondary etc.). In the same way, the district is trying to identify where new schools are needed. Thus, they have identified their needs for the future in a very transparent way.

In the case of Dadeldhura, as said by the DEO, School Supervisor and RPs, there is the need for merging the schools, as the SM data show that population of students is too small and the schools in some pocket areas are in close distance. Based on the SM data, the cases required for merger have been identified and they will be incorporated in the DEP. Similarly, the places to open new schools, as they say, can be identified easily. Apart from the identification of needs to be done at the district level in this way, the schools having their own household survey data have also identified their needs in terms of upgrading the school, adding physical facilities, managing the teaching staff required for the additional students' population, etc. Their SIPs have been developed on the basis of these and other needs. But the schools that have not carried out their own household survey are lagging behind in identifying the needs as such. This shows that when SM data are available at the schools or VDC, they can have the authentic information to justify their priorities expressed in terms of needs.

In Kapilvastu, the DEO has not yet identified the needs; though they are planning to do so. However, a sample school (Kotigram Primary School) has identified its needs that are justified according to the SM data – e.g. the need for upgrading the school

and starting grade 6 immediately; additional building to cater to the need of increase in student number, and the physical facilities, etc.

2. Mobilization of Local Resources**:** The present study also tried to see whether the SM survey attempted to identify/explore the local resources available in the surroundings that could be utilized for school development. In almost all cases, it was found that the survey did not explore that much about the local resources to mobilize. However, it was noticed that SM data can be highly supportive to convince the various sectors interested in educational development – with a view to mobilize the potential resources wherever possible.

An attempt was made to study the existing trend of local resource mobilization at the school level planning and its implementation. In the case of Dadeldhura, except for the nominal students' fees and some attempts of people's contribution, no other forms of local resources were identified or mobilized at the school level – mostly having the tendency of dependence on the budget allocated by the centre through the DEO.

In Kapilvastu, Banganga H.S. School has mobilized the land resource for school development – by selling the land, the money thus obtained has been utilized for building construction. Similarly, Pancha L.S. School (Baijalpur) has got the opportunity to utilize the local community forest. The school building and furniture have been made with such forest resources.

The schools of Rasuwa have also used the local wood available from the local forests – for making the furniture items and buildings. A school at Shyaphru (Shyamewangphel S. School) has been giving the electrical training to the local girls using the locally produced wood. One of the schools visited for the field study has utilized the land resource for school construction by selling the land.

3. Mobilization of Local CBO/NGOs**:** Considering the government's policy of promoting educational development with the cooperation and mobilization of CBOs and local NGOs, an attempt was made to see if the schools have attempted to seek the cooperation of such institutions in association with the promotion of schools in general and SIP in particular. Some attempts have been found in this direction in Rasuwa – For example, DDC, VDC, Search Nepal, Chilime Hydropower project, SISM, etc. have signed contract with the schools, with the commitment regarding what activity they will support for and what amount of financial support they will provide in the stipulated time frame. In the rest two sample districts, no such attempts were found in the sample schools visited in Kapilvastu and Dadeldhura districts.

As such, if SM data are well documented, it has been found that they can help to contribute also for the mobilization of other partners interested in school development.

4. Demarcation of School Catchment area**:** In general, after having the information on the distance between schools, population, geographical boundaries, roads etc. in the human settlement areas, educational planners can work out the boundary of school catchment areas and demarcation can be done accordingly.

Although teachers agree the idea of demarcating the school's catchment area, different kinds of opinions have been expressed by teachers and RPs in different districts. In Rasuwa, teachers suggested to decide the catchment areas for primary level so that it would be comfortable for them to record the detailed information

about the students' household matters including the parents' literacy, economic status, number of children, etc. In the case of secondary level, according to them, it is difficult to work since there would be overlap between the primary and secondary; and the secondary school teachers cannot manage to record the household information about the students because they come from a very long distance to attend the school.

Regarding the situation of Kapilvastu and Dadeldhura, teachers and RPs said that there will be overlaps even between the primary schools in the densely populated areas such as municipalities – where there are several cases of the children from the same household going to more than one school. In such cases, a clear demarcation is difficult to establish. Some schools (e.g. Pancha L.S. School Baijalpur) have determined their service areas on their own, recorded the location of households in the map, and maintained the database of the details of these households and children coming to school from the households in a very wonderful way. The school supervisor of Dadeldhura also pointed out that, though the SM data collected in 2065 will be relevant in preparing the VEP and DEP, schools need to demarcate their service areas on their own and establish the database about the concerned area so that the information gathered in this way could be directly relevant for making SIP and other school development activities.

Baseline Data for Future Education Planning

In the case of Rasuwa and Dadeldhura, stakeholders have the opinion that the SM data is sufficient to show the reality of situation. The details of parents' situation have been identified from the data. It can show the people's conditions who are under the poverty line, so it has been easy to identify what sort of focus should be laid in which place, etc. Similarly, it also clearly gives the picture of the population of below school going age and school going age children - so that the school can make projection on the potential number of children coming to school. This sort of information will help to take many decisions for planning in the future. They say that the SM data have been the baseline; and if they are updated regularly, most of the problems will be resolved comfortably.

Similarly, at DEO level, the work of locating schools has been successfully conducted. When this information is studied in connection with the household survey data and the information related to students' population in schools, most of the things related to controversy will be resolved. In this way, the data bank has become the 'baseline' for future works in most respects.

School Mapping for SSR: Some Cautions

Mostly, the district level authority have expressed the view that in the future, the SM exercise has paved the way for stepping up towards the proposed SSR phase. After the completion of basic activities of household survey, school locating, school survey etc. and the establishment of baseline data bank, the decision-making will be facilitated in the future regarding school establishment, upgrading and improvement in many respects including quality development. To see the situation of Rasuwa and Dadeldhura, the DEO and its working hands seem to be ready in various respects.

However, they have raised a couple of issues that can cause problems on the way. According to the district and lower level stakeholders, despite the high sounding approach and activities of SSR, the government itself has not fulfilled its

commitments. In the case of Dadeldhura, as the DEO, School Supervisor and RPs have said, despite the assurance that additional facilities would be provided to the newly developed schools after merging two schools, all the commitments could not be fulfilled after the merge. As a result, there are some instances of grumbling among people due to this; and there is also the danger of the spread of negative message towards school sector reform, which needs to be taken with a great caution. Therefore, special attention is required in the future on the issue of school merging and school sector reform activities. In Rasuwa, the stakeholders said that the government had committed to allocate the budget for initiating the works towards restructuring the school system (making 1-8 Basic Level and 9-12 Secondary Level) in the district from 2008. But the commitment could not be materialized in action. Budget was sent to the district only in 2009 in the name of SIP Fund. But no activity for restructuring was done in the district.

Still, despite a massive dissemination of SSR programme in Kapilvastu and Dadeldhura districts, people have understood it only in terms of changing the existing structure of education (i.e. grade 1-8 for Basic Education and 9-12 for Secondary Education). There is, as the stakeholders say, a lack of awareness on improving access of children in schools, and more particularly on quality improvement and the roles of various sectors including parents and community towards this end. They also do not know the importance of understanding the specific ground realities shown by data and linking the information with the planning of new activities. Even the SMC chairpersons and members have not been found well aware of these matters except for a few places visited in the field. So, efforts are needed to increase awareness among stakeholders in the future.

CHAPTER VI

Findings of the Study

After the analysis of the existing situation in the sample districts and interpretation and discussion on the qualitative data derived from the field study as presented in the earlier chapter, now the major findings of the study are summarized and presented in the paragraphs that follow.

Government's Policy and Program on SM

After the review of government's policy documents on school education and after discussion with the concerned DOE authorities, school mapping policy was understood in some detail, as presented earlier in chapter two. The policy papers have delineated the idea of maintaining 2 levels of education in the coming SSR phase: (a) basic education, involving the grades 1-8; and (b) secondary education, involving the grades 9-12. From the study of these documents, the research team came to know that SM activities have been conducted during 2008-09 in 3 districts of the country identified as the SSR model districts, namely Rasuwa, Kapilvastu and Dadeldhura.

The relevant literature also showed that, on behalf of the government, the following attempts were made towards school mapping in the past:

1. SM training provided to the persons concerned with planning in all the districts,
2. Maps of VDCs and municipalities provided to all the districts,
3. Training on GIS software for the office bearers of DOE,
4. Digitization of school maps in the GIS software based on the maps received from district and the snapshot reports, etc.

Recently, the DOE decided to employ a different instrument for the purpose of identifying schools' locations in various parts of the country – that employs the digital technique of Global Positioning System (GPS), for the purpose of maintaining accuracy and uniformity across the country.

As the policy papers have stated, the main aim of initiating school mapping in the districts is for facilitating the process of educational planning and resource allocation, based on the information received from it. Regarding what kind of activities will be undertaken after the completion of mapping, the documents state that school's catchment areas are identified based on mapping; distance between human settlement area and school will be displayed; pathway (road)/river/rivulets/bridges etc. will be located; so that it will help in policy formation, planning, implementation, monitoring and evaluation of the new programmes and activities – for the purpose of all-round and balanced educational development.

To talk about the use of SM information in educational planning, it seems clear to us, from the study of policy documents, that the final stage of school mapping is concerned with the preparation of local operational plans for new developments. For instance, some of the things that can be considered for planning after the completion of school mapping include: the new primary school(s) to be opened; additional classes and number of new teachers to be recruited; new classrooms to be built; the

schools to be closed (if needed and justified) according to the accepted norms; allocation/reallocation of teachers' post, etc.

In the future, as stated in the policy documents, school mapping will be done including all the schools of the country. Besides, the DOE has thought of establishing GIS lab in the Department, and all the works related to school mapping will be done in the DOE itself, based on the information collected from districts.

Reflection on School-House Distance and School Merging

Regarding the distance between children's houses and their schools, some disparities were found across the various levels of schooling. In most cases, there is increase in the walking distance for students to reach their school alongside the increase in the level of schooling. Accordingly, the walking distance for pre-primary and primary school children is shorter, while that for the secondary and higher secondary students is longer; and this situation is applicable more or less in all the sample schools in the three districts.

Based on the existing population of the respective VDCs/Municipalities visited in the course of field study (presented in chapter IV) and the opinions of stakeholders consulted for the collection of qualitative data, the researchers identified several cases of opening new schools and merging the existing schools. Accordingly, in the sample VDCs, it was found that altogether 7 additional schools of 'basic level' are required, while 1 additional secondary school is needed to open. In many places, however, the need for closing or merging the primary schools has obviously been found. This is the case for altogether 19 primary schools in the sample VDCs and Municipalities of the 3 districts visited for field study.

Based on the SM data, the practice of school merging has already been started in Dadeldhura district, though there are difficulties to do so at the local level, according to the DEO. This was done in the case of primary schools having a short distance between the two; and the decision was made after convincing the both SMCs. After the merge, the newly built school was upgraded to class six with the same human resources. Although Rasuwa and Kapilvastu have not worked anything for merging, they are convinced, in principle, that merging should be done if needed as per the data and as necessitated in accordance with the SSR norms.

Linking Between School Mapping and Planning

In the present study, one of the main concerns was the exploration of the attempts of liking between the SM data and local level planning – i.e. at school, village and district levels. In this connection, the information derived from the field-based qualitative data discussed in Chapter V is summed up and presented here; by seeking answers to these questions for particular: Have any attempts of using the SM data been made at SIP, VEP and DEP? If made at all, how?

SM and SIP

Except for a few cases, SM data have not been preserved in the schools in Dadeldhura and Kapilvastu districts. The DEO office had not given direction to the schools for preserving the information, so the data collectors understood, in most cases, that the task they were to do was for the DEO office rather than for their school. However, in the case of Rasuwa, the DEO had instructed the schools to

preserve the data; so they acted accordingly, collected the required information, sent it to authority and also preserved it for the school. Ultimately, they identified and thereby tried to justify their needs on the basis of the SM data; prioritized the new activities in the SIP, and finalized the plan accordingly. The link between SM and SIP was established very closely in the schools of Rasuwa.

Despite this general trend of data preservation in the sample districts, some schools' attempts were found different from the general practice. For instance, in one school of Kapilvastu, the head teacher's attempt of preserving the record of household survey at school (in addition to sending it to the DEO through RP) was noteworthy – despite the lack of any such instruction from the higher authority. This can be said the consequence of the school's and head teacher's awareness for the ownership of data and the consciousness towards justifying/rationalizing the school's new activities and programmes in the SIP to be prepared.

It is notable here that the school just mentioned above is one of the sample schools of CERID's research project on 'Longitudinal Study of System Indicators' under FRP. As a result of the head teacher's participation in various workshops on data preservation and several consultations between the head teacher and CERID on data maintenance, he seems to have understood the importance of data not only in terms of the official requirements of the higher level authority but also for the purpose of his and his school's own benefits. When the research team asked why he thought it important to preserve the data as such, he replied, "Why not to preserve the information about my school's service area that was collected with the involvement of me and my staffs? In fact, I was thinking to do it on my school's own initiatives when the district authority deputed us to carry out the household survey. For my school, this became an opportunity for reducing my load (i.e. like 'killing two birds with one stone'). So I preserved the data very carefully with a view to develop further plans of school development on the basis of it."

Among the many schools visited for field study, one in Kapilvastu and one in Dadeldhura had carried out their household survey and preserved the data of their service areas (rather than the VDC's wards) in their own way – without considering the SM data collected in the instruction of the DEO. They said that this kind of data would be more relevant for preparing their SIP, since it is based on the school's actual service area rather than the data derived from the political boundary such as VDC or ward etc. For example, Pancha L.S. School of Baijalpur (Kapilvastu) has wonderfully developed the map of its service area, showing all the houses in the map and maintaining the detailed record of all the households and family members living in the service area in a very systematic way. The researchers have been convinced, after the study of it that this practice can be an example for replication in other places as well. The school's head teacher has claimed that school's all sorts of plans, including SIP, will be successful only after developing this sort of databank at the school level. So, this school is preparing its SIP considering the information gathered as such.

The School Supervisor and RPs of Dadeldhura have also expressed the view that though the SM data gathered from the VDCs and wards (as done last year, 2008) are useful for educational planning at the village level and above, the data collected from the household survey of the particular school's service area will be of direct relevance for planning purpose at the school level.

Except for the cases just discussed, no attempts of linking were found between SM data and SIP in Kapilvastu and Dadeldhura, while most of the schools of Rasuwa were found to be very much aware of the need for making the link between the two.

SM and VEP

Among the three sample districts of the study, works for establishing link between SM data and VEP have been found in most of the sample VDCs of Rasuwa district. They have finalized their VEPs, specifying the new programmes and activities in the upcoming years.

Despite the realization that preparation of VEP could contribute more positively to the improvement of educational situation in the locality, the remaining two districts (Kapilvastu and Dadeldhura) have not shown concern towards the preparation of VEP, nor has there been any attempt of preserving SM data in the VDCs. These districts have pointed out two things for their hesitation to show the concern for VEP: the VDCs having no authorized body of people's representatives; and no authority given to the DEO towards giving any direction to the VDCs and its personnel. In such a context, they have said, "Even if VEPs are prepared, there will be questions of their legality from various quarters."

SM and DEP

In all the districts visited for the study, DEPs have been prepared; and efforts have been made to decide the programmes and activities in the plan, based on the SM data. Thus, they have tried to link the SM data with educational development activities in the upcoming years.

Despite this similarity between districts, some differences were noticed across districts on how the link was considered. In Rasuwa DEP was completed after SIP and VEP; and the link between SM data and future educational programmes was considered at each of these three levels. But in the other two districts (Dadeldhura and Kapilvastu), the lower level plans were not considered formally – i.e. the DEO did not wait for SIP or VEP for the completion of DEP.

RPs were given special responsibility to work out the RC profiles and decide the programmes/ activities for DEP in Rasuwa; so it seems that more relevant process has been adopted in the case of Rasuwa – because they have the probability of knowing the ground realities.

School Mapping Process Adopted

The process adopted in the sample districts was found more or less uniform. In all cases, the researchers found the following process maintained for the completion of school mapping tasks.

1. A Training of Trainers (TOT) was organized in the district, with the participation of the School Supervisors, Resource Persons, DEO personnel, some head teachers and selected teachers – with the aim of orienting them towards GPS reading, school survey (including student survey, teacher survey and the survey of other facilities in the school etc.) as well as household survey in the VDCs/ municipalities.
2. GPS reading of all the schools was done. In some places, the task was done in the leadership of School Supervisors, while in others RPs completed it. Schools

were visited, the GPS machine was opened and the school's longitude, latitude and altitude were recorded as shown by the machine. However, due to some technical problems as said by the RPs and School supervisors, GPS recording could not be that much accurate as expected – e.g. as a result of recording the data during the cloudy/foggy day, etc.

3. During their school visits the school supervisors and RPs carried out the school survey, by filling up the school survey forms – that included the teacher survey and student survey.
4. A training was organized for household surveyors at the RC level, whereby the persons who were supposed to visit the wards of VDCs/Municipalities were given orientation on how to gather information using the household survey forms. In addition to the instructions given, the trainees of the programme also spent time by doing the practical work of filling up the forms by visiting the households nearby and discussing and reflecting on how that exercise was done, etc.
5. In Rasuwa and Kapilvastu, teachers were deputed for the household survey, while in the case of Dadeldhura the DEO appointed non-teachers (mostly the SLC graduates or those studying at the college level) for that purpose, with rationale that there would not be disturbance in the schools' teaching schedule on one hand, and the schools' and teachers' tendency of making a greater (hence unreliable) projection of data that is far from reality on the other.
6. The RPs collected all sorts of required information including that gathered from GPS recording; school survey, and household survey; and then the records and forms containing the information were submitted to the DEO office.
7. Data were entered in the DEO office. The data entered in the DEO of Dadeldhura and Rasuwa are found mostly reliable, while in the case of Kapilvastu the DEO personnel involved in data entry said that the entry was not so reliable – due to the lack of close monitoring and verification of record in the form against the computer entry.
8. Data bank was established in the district, after computerizing the information gathered from all parts of the district.

Policies Adopted to Support Planning

Out of the three districts and 15 schools visited for the field study, the schools of Rasuwa have been found adopting a relatively clearer and more systematic policy in using the SM data as well as selecting the programmes and activities for educational development – whereby a bottom-up policy has been followed in planning and taking most of the decisions. Not only in making the link between SM data and the local level planning (including SIP, VEP and DEP), the schools and higher level authority have been found more aware of the importance of seeking cooperation from various quarters in the smooth implementation of the plans finalized by the schools, VDCs, as well as the district. The DEO, with its working hands (i.e. the Resource Persons) seems to have successfully coordinated with the schools and VDCs to make them responsible for ownership of the data and its linkage with plans. Moreover, VDCs, community people and other sectors have been inspired and encouraged successfully for contribution towards school improvement; and they have been made responsible through commitment for the supports they can provide for the schools.

Despite the realization of the need for linking the SM data with educational planning at various levels, the other two districts seem to have lagged behind compared to the case of Rasuwa in establishing coordination for planning support. This, however, does not mean that systematic planning is absolutely nil. As regards the school level works, seriousness to achieve this goal in Kapilvastu or Dadeldhura is just limited to particular school/s. Although Dadeldhura is trying to create a positive environment at the district level, the efforts have not yet reached a concrete shape below the district level. So far as the systematicness of databank is concerned, Dadeldhura is found to have worked more scientifically than Kapilvastu – which can pave way towards positive direction in the future.

It should be noted that a couple of new and creative ideas have emerged in the districts that have been overlooked by the SSR Core Document (2008) itself. For instance, Rasuwa has already developed RC level databank; and Dadeldhura has been thinking of the concept of RC level planning as the strategic measures towards supporting the DEO in successfully implementing district level planning and coordinating the school level plannings. These measures seem essential to be replicable in other districts as well in the upcoming SSR phase (2009-15).

Future Directions for Sound Planning

Having observed the situation at the sample districts, there are a couple of points relevant to mention – which could be worthwhile to consider in the SSR phase for the purpose of preparing sound plans in educational development at the local levels in particular, so that they will be based on ground realities, local needs will be addressed clearly, and planning can help to achieve the goal of strengthening access as well as quality of education. At this juncture, it seems relevant to present the most important findings derived from the field study. The paragraphs that follow will shed lights on them.

The attempts of creating awareness on SM data found in Rasuwa in particular are noteworthy. Trainings, workshops, and meetings on data awareness for stakeholders seem to have very fruitful impacts on need identification and the subsequent activities of educational planning at the school and upper levels. If such attempts are made, local level planning can benefit a lot.

Maintenance of baseline databank at the school, VDC, RC, and district levels has been found as a noteworthy attempt for making the SM information more and more useful as per the local needs. Using it, various things can be done in the days to come – for identifying the genuine realities as well as for making sound plans.

Particularly in the places where the political boundary and the boundary of a given school's service area do not coincide, the strategy of household survey and maintenance of databank of the service area alone (disregarding the political boundary) adopted by some schools (e.g. in Kapilvastu and Dadeldhura) seems to be one of the exemplary works – which can guide the schools for better understanding of ground realities for need identification in the future. It seems to be the responsibility of educational authorities to replicate this sort of practice in other parts of the country in the upcoming SSR phase.

Finally, the coordinated efforts made for the mobilization of local resources found in Rasuwa can, if replicated in other districts as well, be a good source of inspiration for schools, SMC members, teachers, DEO personnel, and others interested in educational development.

CHAPTER VII

Conclusions and Recommendations

After the detailed analysis of data presented in chapter V and the abstraction from it in the form of study findings given in chapter VI, the major conclusions are given in this chapter, and then some recommendations are suggested thereafter – which can be the feedback to the concerned authority for consideration in future programmes and policies.

Conclusions

The government's policy documents have suggested that, in the SSR stage, a settlement area having the population of 1000 can have a school that offers the 'upper primary' level of Basic Schooling (grades 1-8); while the population of 500 and 150-200 will be required to build a school offering the 'primary level' (grades 1-5) and 'foundation level' (grades 1-3) respectively (MOES 2008: 22).

So far, SM data have not been preserved in most of the schools of Dadeldhura and Kapilvastu districts, since there were no directions given to them by the DEO office. In most cases, the data collectors understood that the task they needed to complete was for the DEO office rather than for the school. But in one school of Kapilvastu, the head teacher's attempt of preserving the record of household survey at school (in addition to sending it to the DEO through RP) was noteworthy – despite the lack of any such instruction from the higher authority.

This school being one of the samples for CERID's "Longitudinal Study of System Indicators" project, its awareness of data preservation seems to have resulted from the head teacher's participation in various workshops on data preservation and several consultations between him and CERID on data management. It seems that the head teacher understood the importance of data not only in terms of the official requirements of the higher level authority but also for the purpose of his and his school's own benefits.

Unlike the general trend of negligence just mentioned in the two districts, SM data (including the household survey information) have been preserved in almost all schools of Rasuwa; and the link between SM and SIP was established very closely in the schools of this district.

In a school of Kapilvastu, the map of school's service area has been developed wonderfully – showing all the houses in the map and maintaining the record on the details of all the households and family members living in the service area in a very systematic way. But such practices have not been noticed elsewhere. Such an idea has been appreciated much by district level experts as well.

Regarding the relevance of SM data, stakeholders have said that the data gathered from the VDCs and wards (in the course of school mapping in 2008) would be useful for educational planning at the village level and above. Field study showed that wherever the SM data have been used at VDC level (e.g. Rasuwa), it has been possible to coordinate various sectors to seek their cooperation for school development; and accountability has been established.

Works for establishing link between SM data and VEP have been found in most of the sample VDCs of Rasuwa district. They have finalized their VEPs, specifying the new programmes and activities for upcoming years. But Kapilvastu and Dadeldhura have not shown concern towards the preparation of VEP.

So far as DEP preparation is concerned, it has been developed in all the sample districts; and efforts have been made to decide the programmes and activities in the plan, based on the SM data. Thus, linkage between SM data and educational planning seems to have been recognized at least at the district level in all sample districts.

In Rasuwa, DEP was completed after SIP and VEP. Thus, the linkage between SM data and future educational programmes was considered at each of these three levels. But in the Dadeldhura and Kapilvastu districts, the lower level plans were not considered formally – i.e. the DEO did not wait for SIP or VEP for the completion of DEP.

A creative idea has emerged in Rasuwa and Dadeldhura – an idea that has been overlooked in the central level policy document related to SSR. This is the idea of RC level databank and RC level planning. They are exercising these after the completion of district level databank.

In order to carry out the school mapping process, a Training of Trainers (TOT) was organized in each of the pilot districts, with the participation of the School Supervisors, Resource Persons, DEO personnel, some head teachers and selected teachers – with the aim of orienting them towards GPS reading, school survey and household survey. Thereafter, SM activities in the district were planned and executed.

In the pilot districts, GPS recording was done for all the schools by School Supervisors, RPs, and in some cases teachers especially trained in GPS. However, due to some technical problems as said by the RPs and School supervisors, GPS recording could not be that much accurate as expected in almost all cases.

For household survey, teachers were deputed in Rasuwa and Kapilvastu, while in Dadeldhura the DEO appointed non-teachers (SLC graduates), trained them, gave them the survey forms; and assigned them the task of household visits to record the information.

The School Supervisors and RPs of Dadeldhura and Rasuwa are satisfied with the process of data entry, as they have said that the entry in the DEO office was systematic. But in the case of Kapilvastu, the DEO personnel involved in the entry are not satisfied with the entry; since there were errors which could not be verified instantly.

Recommendations

Based on the findings of present study, the following suggestions are recommended.

1. Local level stakeholders including the head teachers, teachers, social workers, politicians, educationists, Mother's Group, parents etc. should be made more aware towards school mapping (SM) – so that they will realize the importance of data in planning.

2. The use of school mapping data should be made mandatory for the preparation of effective School Improvement Plan (SIP).
3. Different types of Community Based Organisations (CBOs), Non-Government Organisation (NGOs) working in the community should also be mobilized for SM and the school improvement activities.
4. The data collected during SM should be available in each and every Resource Centers (RCs) and on the basis of these data RCs should establish data bank.
5. Schools should be oriented to carry out the household survey of their service areas on their own, preserve the data and use it in making the micro plans for school improvement at school level.
6. When SM programme is extended to other districts, there is the need for more focused trainings for all concerned stakeholders on GPS reading, importance of data, data collection procedures, uses and preservation of data. More particularly, the technicalities involved in handling the GPS machine must be taught to them with thorough practice.
7. The data/information obtained from SM should be communicated to the local level stakeholders. At least, data should be made available to the schools; and schools should communicate the relevant information to the concerned public in the service area, including parents.
8. Information should be collected on socio-economic condition of households to find out the actual situation of their children – so that the information can be used to support the school going children from the poor and backward families in particular.
9. For the purpose of getting more accurate GPS record, geography teachers need to be deployed – so they should be trained for that purpose; and responsibility of GPS recording should be given to them instead of others.
10. Bottom-up planning approach should be adopted in making the DEPs in the districts.
11. Although the general consideration of population has been adopted for decision making on school establishment, only the consideration related to this would be insufficient. In addition to this, natural/geographical boundaries should also be considered in the SSR stage. In this context, uniform standard for the Himalayan, Hilly and Terai regions of the country will not be practicable.

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Appendices

Appendix-1

District wise Catchment Area of Sample Schools

District-Kapilvastu

Sample Schools	Coming from villages	Going to others schools	
1 Shree Kotigram PS Gotihawa	1.Gotihawa 2.Shivpura 3.Daldalha 4.Kudan	1.Kalikajan SS, Sauraha	
2.Shree Ashodhara SS,Taulihawa	1.Dewangadiya 2.Vikshachowk 3.Gaudichowk 4.Anandbag	1.Budha Jyoti HSS	
3.Shree Kapilvastu PS,Rajpur	1.Rajpur 2.Nandanagar	1.Shree Bal SS,Bairiya 2.Shree Janta SS,Pipara	
4.Shree Banganga HSS,Gajahera	1.Gajeheda 2.Hariharpur 3.Gangauliya 4.Thati 5.Materiya	----------	
5.Shree Panch LSS,Baijalpur	1.Baijalpur 2.Pipara	1.Janta SS,Pipara	
District-Rasuwa			
1.Shree Nava Bijay Mahendra SS	1.Mani Gaun 2.Dhakal shwara 3.Bhalayo Danda 4.Pairobesi 5.Bimire 6.Chaur Kharka 7.Karmi Danda 8.Kol Danda 9.Paripakha 10.Kuwapani	1.Shree Kalika Himal HSS,Kalikasthan	
2.Shree Nilkanth Namuna SS	1.Yarsha 2.Sharanthali 3.Sarsau 4.Ghormu 5.Khalnet 6.Jyanglang 7.Jibjibe	1.Shree Kalika HSS,Kalikasthan	
3.Shree Kalika Himal HSS,Kalikasthan	1.Yarsa 2.Saranthali 3.Syafru 4 Bhorte 5.Dhaibung 6.Laharepauwa 7.Dhunche 8.Gambo Danda 9.Jibjibe 10.Dharapani 11.Katunje	----------	

4.Shree Shyamewangphel SS, Syafru	1.Syafrubesi 2.Koman 3.Gatlang 4.Timure 5.Thoman 6.Chilime 7.Dhading	----------	
5.Rasuwa HSS Dhunche	1.Haku 2.Thade 3.Bharkhu 4.Nagung 5.Dhunche	----------	
District-Dadeldhura			
1.Shree Janjyoti PS,Adityanagar	1.Adityapur 2 Josina 3.Kandekot	1.Shree Ghatal SS,Nuwakot	
2.Shree Ghatal SS,Nuwakot	1Kande 2.Chaural 3.Markatte 4.Saungaun 5.Aiet 6.Josina 7.Suneda 8.Kaulun 9Pokroda 10.Gujarlek.	1.Amargadhi Municipality,Khalanga	
3.Shree Lateshwor LSS,Malam	1.Nidal 2.Maurad 3Hatshera	1.Baijnath SS, Maurad	
4.Shree Sidhanath PS,Betrani	1.Gujadi Bazar 2.Laldhunga 3.Jogbuda	1.Shree Sidhanath HSS,	
5.Shree Sidhanath HSS	1.Gaibadh 2.Betrani 3.Patiyani	----------	

Appendix-2

Situation of school and community in three SSR model districts (District profile)

Rasuwa

Total VDC-------18

Total population : 48052
Male :25005
Female :22047

Household :8036

Dalit

Household :212
Total population :1327
Male :659
Female :668

Janajati

Household :200
Total population :36553
Male :18958
Female 17595

Appendix-3

Educational Statistics of Rasuwa

No. of School	Primary School 85	L. Secondary school 13	Secondary school 10	Higher Secondary School 3
No. of student	8914	2762	1271	N.A.
No. of Teachers	Male :527 Female :282	Male :95 Female :55	Male :9 Female :56	Male :3 Female :4

Appendix-4

Rcwise Number of Schools teachers, and students of Rasuwa

Total RC	Primary School	L. Secondary School	Secondary school	Higher Secondary School
8	85	13	10	3
Sample RC				
4	44	6	4	3
Number of students	Boys 334 Girls 347	Boys 521 Girls 505	Boys 286 Girls 254	Boys 116 Girls 143
Number of Teachers	Male 13 Female 9	Male 13 Female 2	Male 21 Female 2	Male 4 Female 0

Appendix-5

Physical Facilities of Rasuwa

Total School	111
Sufficient Classroom	40
No sufficient Classroom	71
Library	20
No Library	91
Science Lab	3

Appendix-6

Sample schools	5	
Types Schools	Secondary school 3	Higher Secondary school 2
Number of students	Boys 286 Girls 254	Boys 116 Girls 143
Number of Teachers	Male 4 Female 2	Male 2 Female 0
Trained Teachers	Total 17	Total 4
Untrained Teachers	Total 1	Total 0
Student Teacher ratio		

Appendix-7

RC wise school

Rasuwa				
Total School in Sample VDC,	Primary	L. secondary	Secondary	Higher secondary
Dhaibung 17	13	1	2	1
Dhunche 13	11	1	0	1
Laharepauwa 11	7	2	1	1
Syafru 16	13	2	1	0

Appendix-8

VDC wise schools 39

VDC	School
Dhaibung	14
Dhunche	6
Laharepauwa	12
Syafru	7

Appendix-9

Dadeldhura

Municipality	1
VDC	20
Wards 191	VDC180, Wards 11
Literacy rate	In 2058 Female 35.42, Male 69.74 Total 53.31

Appendix-10

Total no. of school	Primary	L. secondary	Secondary	Higher secondary
Community based school	143	49	33	9
Institutional school	8	1	2	1
Total	151	50	35	10

Appendix-11

Total no of student	Boys	Girls	Total
Primary level	14697	15833	30512
Lower secondary level	4915	4396	9311
secondary level	2036	1556	3592
Total no. of dalit student in Primary level	3696	3973	7669

Appendix-12

Total no. of Teachers	Male	Female	Total
Primary level	485	59	544
Lower Secondary level	178	0	178
Secondary level	108	0	108

Appendix-13

Non- Formal Education

School outreach Program (SOP)	14
Community Learning Center (CLC)	1
Women Education	15
Flexible Schooling Program	10 (Support by UNICEF Nepal)

Appendix-14

Educational Indicators

Enrollment of Dalit Percentage	Boys 25.15 Girls 25 Total 25.14
Student Teacher ratio in Primary level	39.57 (Along with Rahat Teacher)
Student Teacher ratio in Primary level	52.16 (According to agreed appointment)
Student Classroom ratio	1.40
Gender parity Index	0.96
Dropout rate in Primary level	Boys 19.81 girls 21.87 Total 20.82
Repeater rate in Primary level	Boys 20.59 girls 18.85 Total 19.76
Gross Enrollment in Primary level	125
Net Enrollment in Primary level	93

Appendix-15

Educational Indicators

Enrollment of Dalit Percentage	Boys 25.15 Girls 25 Total 25.14
Student Teacher ratio in Primary level	39.57 (Along with Rahat Teacher)
Student Teacher ratio in Primary level	52.16 (According to agreed appointment)
Student Classroom ratio	1.40
Gender parity Index	0.96
Dropout rate in Primary level	Boys 19.81 girls 21.87 Total 20.82
Repeater rate in Primary level	Boys 20.59 girls 18.85 Total 19.76
Gross Enrollment rate in Primary level	125
Net Enrollment rate in Primary level	93
Grade 5 passed percent	80
Grade 8 passed percent	47
S.L.C passed percent	28

Total RC	8
Sample RC	2
Sample School	5
Higher Secondary school	1
Secondary school	1
Lower Secondary school	1
Primary School	2

Appendix-16

Number of student of sample School	Boys	Girls	Total
Primary level	377	423	800
Lower Secondary level	263	236	499
Secondary level	184	156	340
Higher Secondary level	223	166	389

Appendix-17

Number of teachers of sample school

Level	Male	Female	Total
Primary level	14	9	23
Lower Secondary level	9	0	9
Secondary level	10	0	10
Higher Secondary level	8	0	8
Student Teacher ratio			4.5

Appendix-18 RC wise School

Name of RC	Number of school
Khalanga	38
Jogbuda	56

Appendix-19 Municipality/VDC wise School

Municipality/VDC wise School	Number of School
Khalanga	34
Jogbuda	33

Appendix-20

Number of trained and untrained Teachers

Levels	Trained Teacher	Untrained Teacher
Primary	16	4
Lower Secondary	7	2
Secondary	10	0
Higher Secondary	6	2

Appendix 21:

Kapilvastu

Municipality-1
Village Development Committee-77
Total Population-457723 Male-245378, Female-212345
Number of Students

Primary	Lower secondary	Secondary	Higher Secondary	Total
86092	18894	8662	3181	116829

Number of Schools

Primary	Lower Secondary	Secondary	Higher Secondary	Total
265	31	53	19	368

Number of Teachers

Primary	Lower Secondary	Secondary	Higher Secondary	Total
1453	303	219	NA	1975

Number of Non-formal Classes

Flexible Schooling Program (FSP) -31 Centers

School Outreach Program (SOP) -15 "

Total Number of Resource Centers-10

Sample Municipality and VDC-3

Total Number of Population

Male-17345 Female-15297 Total-32642

Total number of schools -28

Total Number of Teacher-126

Number of Sample schools -5

Number of student in sample schools

Primary	Lower secondary	Secondary	Higher secondary	Total
1727	992	397	110	3226

Number of Teachers

Primary	Lower secondary	Secondary	Higher secondary	Total
41	14	13	NA	68

Number of Trained Teachers

Primary	Lower Secondary	Secondary	Higher secondary	Total
19	8	5	NA	32

Number of Untrained Teachers

Primary-4