

Integrated Rural Accessibility Planning



His Majesty's Government
Ministry of Local Development
Department of Local Infrastructure Development
and Agricultural Roads

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Department of Local Infrastructure Development
and Agricultural Roads



Ref.

HIS MAJESTY'S GOVERNMENT
MINISTRY OF LOCAL DEVELOPMENT

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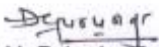
Subject:-

Forewords

The Constitution of the Kingdom of Nepal in its Directive Principles and Policies of the State has envisaged providing maximum opportunities for the participation of the people in the governance of the country through decentralization. The local self-governance act 1999 provided the autonomy to local institutions and most of the local development projects are formulated, implemented and operated through these agencies. As the part of the policy, number of basic services like local infrastructure development, primary education, agriculture and livestock extension programmes have been devolved to local institutions. Poverty reduction is the main objective of the tenth plan; the objective can only meet by improving the access of rural deprived, poor people to service, opportunity and resources. To meet the purpose these local institutions have to be strengthened by providing resources and capacity enhancement.

Since the jurisdiction of local bodies been widely extended and the recent local infrastructure development policy 2004 covers almost all local infrastructure sectors; the local infrastructure development planning (IRAP) is a local-level planning tool with a participatory and bottom-up approach. It provides an objective basis for local development planning and facilitates need-based project identification and prioritization; which also can be used in broader perspective of local development. In Nepal's context, IRAP fulfils the need of an objective tool in existing local level planning system, and therefore, these guidelines are prepared on a way of adapting to the country context.

I appreciate the numerous efforts made by Department of Local Infrastructure Development and Agriculture Roads (DoLIDAR) to prepare this guideline on behalf of Ministry of Local Development. I am grateful to ILO ASIST AP Bangkok, who provided the technical assistance with sharing international experiences. The ministry of thankful to all the ministries, departments, ADDCN, projects and offices that provided their valuable comments and cooperation during the preparation of these guidelines.


Dolakh Bahadur Gurung
Act. Secretary,
Ministry of Local Development

Preface

The Department of Local Infrastructure Development and Agricultural Roads, Ministry of Local Development after conducting rigorous exercises both at the district and central level has been able to prepare the updated version of the Guideline on Integrated Rural Accessibility Planning (IRAP) for Nepal with modifications over the first version. This Guideline is in harmony with the Local Infrastructure Development Policy 2004, Approach Manual for the Development of Agricultural and Rural Roads, and Local Self-Governance Act 1999 and Regulations.

The IRAP, a local development-planning tool, is particularly useful for the identification and prioritization of local infrastructure projects aiming at improving access in rural areas, in a bottom-up and participatory planning context. The tool uses "accessibility" as a common denominator in an integrated approach and participatory process to identify and prioritize need-based projects that will improve access of the communities to basic needs and social and economic services. This document introduces the different IRAP tools available to help local authorities to undertake regular local-level planning in the context of decentralization in which they are gradually assuming higher roles and responsibilities for rural access planning and local infrastructure development in the country. The guideline provides an opportunity to objectively identify and prioritize the need-based intervention, which improves the access to basic services of rural people. In addition the document could equally be useful to the planners and other individuals who have interest and involved in local level planning in one way or the other.

It is reiterated that the DoLIDAR, as the only technical department under the Ministry of Local Development including others is mainly responsible for providing technical backstopping to the local authorities in local infrastructure (mostly rural infrastructure) development. It is my sincere hope that this Guideline and the corresponding manual and training material will contribute in a significant way in helping the local authorities to undertake their planning responsibilities.

The Guideline focuses on introducing IRAP in the Nepali context of local development planning with its detailed procedures and steps to be followed. Portraying the structure of the local-level planning context in

Nepal, the document as the outset shows where and how this process can or may be applied. The Guideline also offers an explanation as to why it is better to look at "accessibility" in stead of "transport" only. The guideline comprises all steps and activities, including data collection and compilation, accessibility mapping, the identification of access poor communities, project identification and prioritization.

The department is thankful to ILO ASIST AP for its technical assistance and financial support in piloting and demonstrating IRAP and developing this Guideline and other complementary materials. I would like to extend my sincere thanks to the officials of Ministry of Local Development for their guidance, support and cooperation made during the process of preparation of the guideline. I would like to acknowledge to all stakeholders involved in the course of developing this Guideline and complementary materials.

I would like to express my gratitude to all the DDC and VDC staff of the 4 piloting districts (Dhading, Makawanpur, Nawalparasi and Myagdi) and Rasuwa, the demonstration district without whose inputs this document would not have been possible. Mr Arjun Paudel, Senior Divisional Engineer, Mr. Jagannath Ojha, Agricultural Economist and Mr Sushil Chandra Tiwari, Engineer of the department are equally thankful for their involvement and contribution made during the preparation of this guideline.

Finally, I extend special thanks to Mr. Chris Donnges (Senior Planning Advisor, ILO ASIST AP) and Ms. Chloë Pearse (Infrastructure Services Specialist, ILO ASIST AP) for their suggestions, technical assistance and valuable comments on earlier drafts.



Sohan Sunder Shrestha
Director General,
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Acronyms

AD	Accessibility Database
AI	Accessibility Index
AI _{TT}	Access Indicator Travel Time
AI _Q	Access Indicator Quality
DDC	District Development Committee
DoLIDAR	Department of Local Infrastructure Development and Agricultural Roads
DTO	District Technical Office
GFS	Goods, Facilities and Services
HH	Number of Households
HMGN	His Majesty's Government of Nepal
IMT	Intermediate Means of Transport
INGO	International Non-Governmental Organisation
IPDS	Information, Publication and Documentation Section of MLD
IRAP	Integrated Rural Accessibility Planning
LGP	Local Governance Programme
LSGA	Local Self-Governance Act
LP _{SCORE}	Local Priority Score
MoLD/MLD	Ministry of Local Development
NGO(s)	Non-Government Organisation(s)
NPC	National Planning Commission
PDDP	Participatory District Development Programme
Q _{SCORE}	Quality Score
TT _{SCORE}	Travel Time Score
T1	Task 1
T2	Task 2
T3	Task 3
VDC	Village Development Committee



1 Introduction



Integrated Rural Accessibility Planning (IRAP) is a local-level planning process for improving access in rural areas through a participatory and bottom-up approach. It provides an objective basis for local development planning and facilitates needs-based project identification and prioritisation. As an area-based planning tool, IRAP focuses on identifying the real access needs of the community and prioritizes interventions and projects on a social and economic basis. Starting from a broader perspective of area development planning, it focuses on the planning of individual projects that improve the accessibility of rural people in general. Within the existing local-level planning system in Nepal, IRAP has been adapted to the country's planning framework and can be used as an objective tool to complement the existing local-level planning system. This Guideline describes how the generic IRAP tool has been adapted to the country's context.

Decentralisation and Local-level Planning

In 1962, the country was administratively divided into 75 districts, 14 zones, 3600 village and 18 municipalities with a view to enable the Nepali State to meet the development aspirations of the Government and the demands of the people. Later, the districts were grouped into five development regions so that the development process and achievements were regionally balanced. The *Local Administration Act of 1965* and the *Decentralisation Act of 1982* successively provided more authority to lower entities and entrusted them with limited responsibilities for local development. Peoples' participation in development at local-level was viewed more as a political agenda. After the political change of 1990, through the provision in the Constitution of 1991 for self-governing by authorities at the district and village levels, the decentralisation process in the country took a big leap forward. The latest step in this sequence of decentralisation is the enactment of *Local Self-Governance and Regulation Act, 1999 (LSGA)*, which is currently under implementation. It is the local authorities, composed of 75 District Development Committees (DDC), 58 Municipalities, and 3,915 Village Development Committees (VDC), through which *local self-governance* is promoted in the country.

The central government is structured as a council of ministers at the top with a downward structure of line ministries and departments extending their branches and activities into the regions, districts and VDCs/ Municipalities. The developmental role of this structure is to provide (or to facilitate) various services to people to meet their basic, social and economic needs and support the tapping of the country's development potential. Rural development is in part concerned with providing the goods, facilities and services that people need, such as health care, education, provision of drinking water and access to markets. The provision of these goods, facilities and services is generally governed by government standards and policy targets which are periodically revised. In Nepal's case these are reflected in its Five Year Development Plans. For example Nepal's 10th Plan aims to provide piped water to at least 85% of the population and to increase school enrolment in primary education to 90%.

The DDCs, Municipalities and the VDCs are the local bodies made up of directly elected local representatives. The secretariats of these committees have officials deputed through the central government as well as hired locally. The DDCs and VDCs have an extensive role in local level development planning in general and rural infrastructure development planning within the district or village areas in particular. The LSGA states that the DDCs should prepare District Periodic Plans for the development of the district by comprehensively taking into consideration the situation, needs and potential of the district, and aspirations of the local people. The District Periodic Plan covers a period of at least five years And on the basis of this Plan the districts are to prepare Annual Plans for development investment (there are sets of government guidelines for helping the local authorities undertake these planning exercises). In addition to the Annual Plans and District Periodic Plan, the districts are also encouraged to prepare a vision plan of the concerned district in a participatory manner. This visionary plan, generally termed the Strategic Development Plan, defines 20-year development goals in different sectors for the district. The Annual Plan is extracted from Periodic Plan, which in turn, is extracted from Strategic Development Plan.

The practice of preparing District Periodic Plans and drawing Annual Plans from it is a recent responsibility of the districts. This practice has been promoted and adopted by the Local Self-Governance and Regulation Act 1999 by defining a specific procedure (14 steps) for local level planning. The planning steps are presented in Annex 1. Not all the districts have, as yet, gone through the Periodic or Strategic Planning process and those who have, have mostly done so with the help of consultants, NGOs or donor project support. During the periodic and annual planning cycle a bottom-up process of identifying demands is

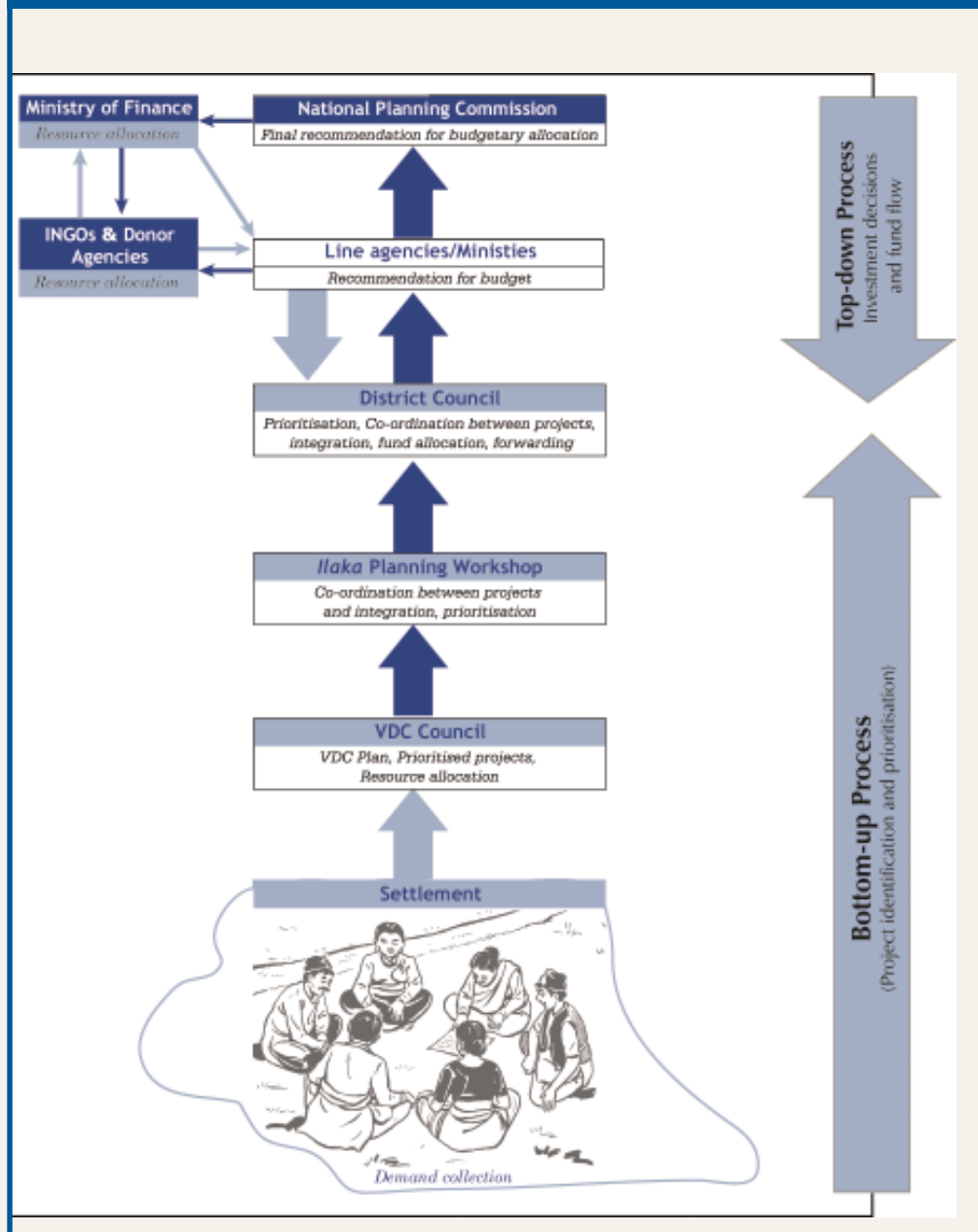
Figure 1: Deciding on project priorities at DDC level.



usually undertaken by the district authorities through a series of participatory meetings organised at settlement level. This process of demand identification starts at the *Village Council* for prioritisation and resource allocation, continues at *Ilaka* level (comprising a number of VDCs) in *Ilaka Workshops* and cumulates at the *District Council* through the District Development Committee. The District Council discusses the projects it receives from the DDC for prioritisation, co-ordination, integration and resource allocation and this results into the *District Plan*.

The District Plan includes individual projects and programmes, with a cost estimate and order of priority for implementation. Budgetary allocations are either made by the DDC itself from its own sources, or requests for funding are forwarded to government line agencies or donor agencies. Government line ministries send their sector plans to the National Planning Commission which makes recommendations for budgetary allocation to the Ministry of Finance for the following fiscal year. In addition, requests for selected project funding are also forwarded from line ministries or the Ministry of Finance to donor agencies. The following schematic diagram illustrates the top-down and bottom-up processes in the existing planning system.

Figure 2: Top Down and Bottom-up Planning Process in Nepal



Local Infrastructure Development Policy 2004

A new Local Infrastructure Development Policy was approved in late 2004. This policy covers infrastructure for local transportation, irrigation and river control, small hydro power and alternate energy, drinking water, sewerage and sanitation, housing, building and urban development, management of solid waste and social infrastructure including government offices, health, education etc.. The policy aims to increase the participation of local people in physical and social infrastructure development to enhance the social services, economic opportunities and mobilization of local resources. The policy is based on the following principles:

1. Infrastructure development is devolved to the local government agencies;
2. Institutional strengthening and capacity building of local government agencies;
3. People's participation in local infrastructure planning is key and local resources and skills will be mobilized for infrastructure development and
4. Government and donor agencies involved in local infrastructure development will network and coordinate.



Rural Transport in Nepal

Transport and Accessibility in Rural Areas

Traditionally, it was assumed that an improved rural road network would help promote economic growth to rural areas by providing greater and easier access to economic opportunities. Simply put, greater access would help to increase agriculture and household production which would in

turn help alleviate poverty in rural households.

Based on this theory, in the past road investment received a high priority in many countries, with heavy investment directed into road construction.

However, subsequently it was observed that the creation of rural roads alone did not bring about the desired economic development in these areas. In part this

happened because roads were built with very little understanding of how rural communities used them resulting in a large part of their travel and transport needs being unmet by the new rural road networks. The travel and transport needs of rural communities have very particular characteristics and only a small fraction of these needs are met purely through roads and motorised transport. While rural roads are undoubtedly important, rural transport planning needs to take into consideration the entire spectrum of the transport needs of rural households and identify interventions that best address these needs.

Through the practice and the experience in local-level development planning it has been gradually recognised that, somehow, roads alone are indeed not enough for promoting development in rural areas. A planning perspective broader than *planning for rural transport* is necessary. Experiences indicate that a perspective of planning for *improving accessibility* is

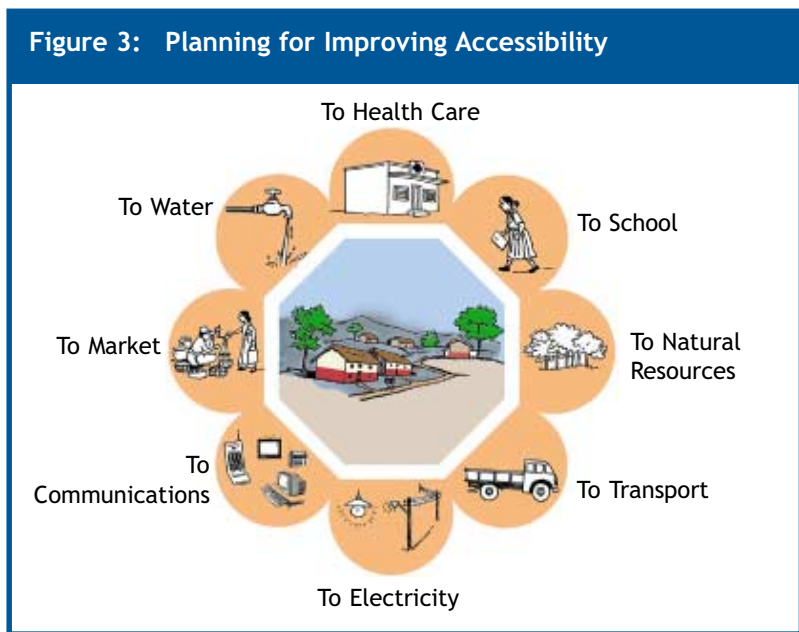


Rural Transport in Nepal



Lack of access affects many communities

likely to serve the purpose better. It is improved access to goods, facilities and services that people need for alleviating their poverty and for the State to achieve economic and social development goals. In improving access of people to the goods, facilities and services they need, travel and transport is just one important element. There are others, equally important, which need to be addressed by the planning system, such as the distribution and quality of goods services and facilities. Broadly, there are two types of interventions that deal with improving the accessibility of rural people to basic services; transport and non-transport interventions. This guideline deals with the identification and prioritisation of both types to improve the access situation of rural communities to basic services.



Defining Accessibility

Accessibility can be defined as the ease or difficulty of reaching or using a facility or service, and therefore, concerns both the mobility of people and the availability of services. Mobility is associated with transport infrastructure as well as the means of travel and transport. Accessibility of people in general can be improved either by enhancing mobility through the development of transport infrastructure and services or by making the needed facilities and services closer and easier to reach. Locating facilities at a closer distance and improved management of service provision are key elements.

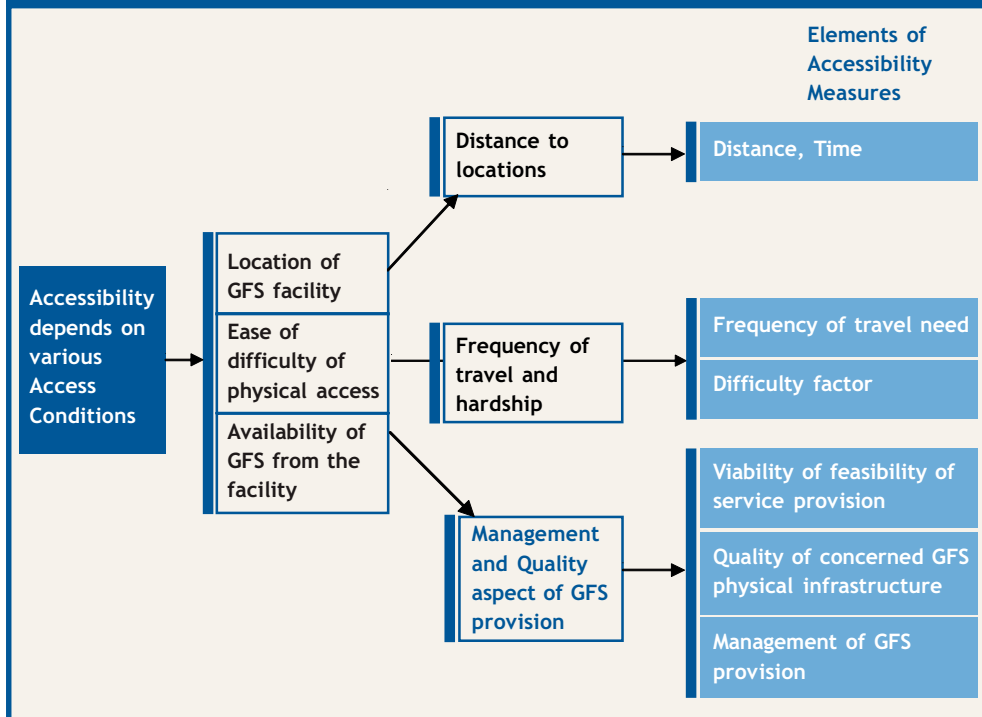


Portering in Nepal

It is important to understand that *accessibility* is also regarded as multi dimensional. While it is generally acknowledged that accessibility is used to explain and address physical barriers: within wider poverty and development theory, accessibility can also refer to cultural, gender, age, political and financial barriers. For example, having physical access to a school may not be enough if a family is unable to afford to send its child there, cultural considerations are such that it is not acceptable for that child to attend or the family can't afford to lose a family member to a non-economic activity. These other barriers must also be addressed to ensure that full access is granted to all goods, facilities and services.

IRAP has been developed to identify and address the physical barriers to access. In this context therefore the accessibility of any rural settlement depends on the access conditions of its people to the goods, facilities and services that they require. In this case, accessibility depends on two factors: the location and availability of goods, facilities and services and the ease or difficulty of physical access by people. Access conditions can be objectively assessed through various factors such as travelling time, the quality aspect of goods and service provision, the frequency of travel, and travel mode and conditions; and measurements of accessibility can be done accordingly. In some sectors this will largely depend on travel and transport conditions while in other sectors accessibility mostly depends on non-transport aspects such as the quality and availability of services.

Figure 4: Elements of Accessibility



Thus, accessibility is a function of objectively quantifiable elements such as:

- ❖ distribution of settlements
- ❖ size of settlements
- ❖ distance and travelling time
- ❖ quality of transport infrastructure
- ❖ modes of transport
- ❖ frequency of travel
- ❖ cost of travel
- ❖ distribution of facilities and services
- ❖ availability of goods and services
- ❖ quality of goods and services

Accessibility of rural households can therefore be assessed objectively by evaluating the above elements and consolidating them into accessibility indicators. Different sectors will have different indicators as different

elements of accessibility will have to be considered depending upon the characteristics of the sector and the settlements under consideration.

Accessibility of people can be improved through interventions that will reduce travel time, ease travel, improve the distribution of facilities and improve the quality of goods and services in an integrated fashion. This is the basic conceptual framework of Integrated Rural Accessibility Planning (IRAP).

IRAP: Planning for Improving Accessibility

As a planning tool IRAP aims to improve the accessibility of rural people to goods, facilities and services. It considers the following 4 aspects: a) improving transport infrastructure facilities to the desired facility or service, b) bringing the facility or service closer to the people c) a combination of improving transport and bringing services closer and d) improving the quality of a facility. In aiming to improve physical access, IRAP considers variables such as improving transport infrastructure (including rural roads, trails, pedestrian bridges) and means of transport (including public transport and low-cost means of transport). The IRAP tools have developed an integrated approach to rural transport planning and maintain a broader perspective of rural development.

First of all, IRAP identifies the access problems of selected rural settlements. Then it endeavours to find appropriate solutions to improve the access of people to the goods, facilities and services that they require. It is people themselves who know best their accessibility constraints and IRAP takes a participatory approach following a bottom-up process in assessing the problems and identifying appropriate solutions.

Accessibility problems at the local level are assessed objectively by using *Accessibility Indicators (AI)*, which are composed of various elements (time and quality based indices, see chapter 6) and indicate the severity of accessibility problems. In their simplest form, average travelling time from all the individual households in the settlement to a service or facility may make up the AI of that settlement to that particular sector.

The AI shows the actual access situation of the settlement for different sectors. It is used to help rank the problems according to their seriousness, the higher the AI, the greater the access problem. On the basis of the AI, local people themselves are able to see the access issues and see the interventions needed.

Table 1 summarizes the entire IRAP process in one matrix and is used as an easy reference chart for both VDC and DDC officials to refer to. It is useful to draw up such a table at the end of the process to show what the priorities are and what the interventions could be. For example, the villages of Simbhu and Tanche both show a need for a permanent Health Centre. For the Primary Education sector, the following four villages; Brapche, Simbhu, Paragau and Brajham all show priority either for quality improvement or physical improvement to access primary education through the upgrade of existing trails.

Figure 5: VDC representatives analyzing rural access conditions at VDC level



Table 1: VDC Level Intervention Identification Chilime VDC

Access Needs	Priority Villages for Improving Access	Interventions by Sector											
		Primary School	Secondary School	Health centre	Water supply	Local market	VDC centre	Pharmacy	Postal service	Agriculture /livestock services	PCO	Roads	Trails & Bridges
Primary education	<i>Brapche, Simbhu, Paragau, Brajham</i>	<i>Quality improvement (toilet & drinking water)</i>			<i>Water in school</i>								<i>Trail upgrade</i>
Secondary education	<i>All settlements in VDC</i>												<i>Bridge in Simbhu Khola</i>
Health centre	<i>Simbhu, atanche</i>			<i>Permanant</i>									<i>Bridge in Ronga</i>
Water supply	<i>Bringdang, Simbhu, Paragau, Gograng</i>				<i>Improve capacity</i>								
Local market	<i>Simbhu, Pajung, Tatanche</i>											<i>Chilime-Pajung-Tatopani road</i>	
VDC centre	<i>Simbhu</i>												<i>Simbhu-Chilime trail</i>
DDC centre	<i>All settlements in VDC</i>											<i>Chilime-Syphru beshi road</i>	
Pharmacy	<i>Simchu, Bringdan, Paragau, Gograng</i>							<i>New pharmacy</i>					
Postal service	<i>Simbhu, Tatanche</i>												
Agricultural/ Livestock services	<i>Simbhu, Tatanche</i>									<i>Establish agri/ livestock centre</i>			
PCO	<i>Simbhu, Tatanche, Paragau, Bringdan</i>										<i>PCO service</i>		
Roads	<i>All settlements</i>									<i>Chilime-</i>		<i>Pajung-Tatopani road</i>	

Gender, Caste and Accessibility in Nepal

For IRAP in Nepal to be truly participatory, accessibility needs to be measured for everyone, both women and men from all socio-economic and caste backgrounds. The disparity between men and women in Nepal has been addressed by HMGN and consequently highlighted in the 10th Plan. It is recognised that in Nepal there is a growing 'feminisation' of poverty. Gender biased practices related to the access to and control over resources as well as the limited access to services such as health care and education have led to greater poverty amongst women. Consequently, they are identified as the prime target group for achieving the country's overall poverty alleviation and human development strategies. Ensuring that the IRAP process is inclusive of both women and men from all castes will help to address some of these imbalances and provide services that deliver to everyone.

It can not be stressed enough the importance of dealing with excluded groups in this process. It may mean extra training of the DDC and VDC officials. This can be done by including relevant community groups, INGOs or NGOs working in the area to come in and talk about the importance of inclusion of marginalised communities in a participatory process and have these groups support the IRAP training process and help organise inclusive participatory community meetings. This inclusion will take time to root itself in the DDC and VDC institutions but a concerted effort needs to be made to ensure that groups representing all classes and castes are represented in the group meetings that look at and discuss access to goods, facilities and services

IRAP: Exercise and Steps

The complete IRAP exercise comprises an orientation workshop, three participatory workshops and a number of field and office activities between the workshops. At the District level a half-day orientation workshop is held, this introduces the IRAP tools and raises awareness at the district level of local level integrated planning. A first workshop, the T1 Workshop, is conducted for VDC level representatives usually the VDC secretaries. The main objective of the Workshop is to introduce IRAP and train the VDC representatives in data collection and mapping. The duration of the workshop is 2-3 days. The second workshop, the T2 Workshop, analyzes the accessibility data and identifies priorities at the VDC level. The duration of the workshop is about 3 days. Participants will come from the VDCs and the different sector agencies involved. A final workshop, the T3 Workshop, is organized at the DDC level to analyze the data and results of the VDC prioritization in order to set

district level priorities. Participants will come from the District level offices and representatives. The duration of this workshop is also 2-3 days. In between the workshops, VDC representatives will undertake additional activities in the field and the office such as data collection, mapping, data verification and data analysis. The entire IRAP exercise will be spread over a time period of 4 to 6 months. The main objective of the IRAP application is to identify investment priorities at the VDC and DDC level to improve access of the rural population to basic, social and economic goods, facilities and services based on the real access needs of the population and identified in a bottom-up and participatory manner. A second objective is to develop the capacity for rural access and integrated infrastructure planning at both VDC and DDC level. It is therefore imperative that all IRAP activities are implemented by DDC and VDC people. Local consultants may be used to guide the process and provide training inputs if these agencies do not have sufficient capacity.

During the T1 phase, local planners and enumerators collect data on rural accessibility in settlements and prepare maps visualizing accessibility. The data and maps are then used during the T2 phase to assess access problems and identify village and sector priorities for improving access at VDC level. Once the needs have been identified, planners will then identify and select interventions to improve access. Similar activities will be carried out



at DDC level during the T3 phase which ends with the formulation of project proposals for financing by the district, national line agencies or donors. The identified prioritized interventions will be screened according to existing sector guidelines.

In the current system of development planning, the local authorities, DDCs in particular, being the converging point between the top-down and bottom-up process, have an instrumental role to play in local-level planning. Therefore, IRAP is applied within the context of the district development planning process. It needs to be emphasized however that IRAP activities take place in all municipal rural areas. VDCs will identify and prioritize their needs while the DDC will set priorities across the different VDCs and sectors and identify interventions to improve accessibility in priority areas.



*IRAP User's Manual (in Nepali)
Version 1*

For applying IRAP in the district planning process the following detailed steps are recommended.

Orientation workshop

Preparation and definition of scope prior to starting T1

T1 (Information Collection)

Step 1: Data Collection

Step 2: Data Compilation

Step 3: Accessibility Mapping

T2 (Analysis, Calculation of Access Indicators and Prioritisation at VDC Level)

Step 4: Calculation of Access Indicators and sector priorities

Step 5: Identification and prioritisation of intervention, prepare VDC level projects

T3 (Analysis, and Prioritisation at DDC Level)

Step 6: Identification of priority VDC in each sector

Step 7: Identification of inter-sector priorities

Step 8: Identification and prioritisation of District Level projects

These steps, T1, T2 and T3 are explained in detail in the following chapters.



2 Preparation and Defining Scope



Before using the IRAP tools in the context of local level planning it is necessary to understand the existing planning procedures and practices. Although sometimes referred to as a planning process, it is not, IRAP consists of a number of planning tools and they are used within a standard planning process to strengthen it by introducing needs based methods that identify access needs and prioritize access interventions through a participatory method.

An orientation workshop is held at the beginning, both to explain the IRAP tools and how they support the existing planning procedures and practices and to provide the VDCs and DDCs with a concrete understanding of the advantages of applying a participatory planning process in the overall planning exercise at VDC and DDC level.

It is the local authorities such as the District Development Committees (DDCs), Village Development Committees (VDCs) and Municipalities that have the main responsibility for local-level development planning in Nepal. Even when international agencies and donors are preparing development projects it is usually done with and through the local authorities.

In applying IRAP it is necessary to first identify the objective of applying the tools. Will they be used in plan formulation or will the tools be used for the identification of project priorities to be funded under a sector programme or rural development project? International agencies may also wish to use the IRAP tools to identify and prioritize investment projects in a district or in an area within a district. In such a context, the international agencies would have to work together with the local authorities.

Any agency using IRAP to identify access needs and prioritize access improvement projects need to first define the geographical area to be covered. This may be a delineated settlement, a ward, a VDC, a group of VDCs or a whole district. The application of IRAP will first focus on the individual settlements to identify communities' needs and prioritize projects to improve accessibility at that level. Using IRAP as a method in the formulation of district development plans requires the inclusion of all the settlements in the district.

Figure 6: Households are often spread out on a settlement



A DDC or a VDC will have a number of individual settlements spatially spread out over an area, these settlements are usually identified as the wards of a VDC and from hereon this Guideline will regard the ward as the lowest level of settlement. Sometimes though it may be necessary to further divide the ward into sub-wards as households are again geographically spread out over a ward.

Secondly you need to identify the different sectors to be addressed e.g. education, health, market access, drinking water, transport, communication in the planning exercise. Sometimes this will depend on the access needs of the rural population at large while sometimes the exercise is limited to a specific sector. If IRAP tools are being used, for example, to prioritize rural water supply sector sub-projects then the sector is already pre-defined.

If IRAP is used in the context of general rural development planning it is necessary to identify the access needs of the rural population. General information and some primary knowledge of the area concerned usually indicates the sectors to be addressed in the planning exercise. It is important however that the IRAP exercise is limited to those sectors where physical access of rural households to basic needs and economic and social services are an issue.

Sector line agencies will often have defined policy targets and standards for their sectors. A national governmental policy might be to have at least one primary school within half an hours walking distance from each rural settlement. Similarly, a DDC may have a goal of providing safe drinking

water within 15 minutes walk from each house. Information on standards or policy targets in the relevant sectors should be collected prior to implementing the IRAP exercise.

IRAP is an inexpensive and easy to use set of planning tools. However it does require some resources and an agency intending to use the IRAP tools would need to allocate some minimal resources to the planning exercise such as the planning official implementing the planning process and resources for data collection and analysis and training.

Figure 7: Discussing standards and targets at the DDC level





3 Data and Information Collection



(T1: STEP 1)

Having defined the scope for using IRAP in a specific local-level planning task, the first step is to collect information and data about the settlements concerned. A first activity consists of collecting area-specific or sector-specific development plans at the district level. A review of these documents will show what kind of data is already available.

Specific data that is required for “the accessibility analysis” at a later stage includes data on demography and settlement patterns, the distribution of services and facilities, transport infrastructure, transport patterns, infrastructure quality, perceived access problems and access improvement priorities. This data needs to be collected from primary sources if it can not be retrieved from existing data-banks, reports and documents.

Data collection is expensive, time consuming and tedious. It is therefore important to limit the data collection to an absolute minimum. The more data that can be retrieved from existing sources the better.

Secondary Sources of Information

There are two sources of potential information. First, the District Development Committee Office typically has a significant amount of data, information and maps of the district. In addition, line agencies with representation in the district as well as NGO/INGOs working for a specific sector at district level also have information and data relevant to their sectors. Demographic data and maps of different scales and composition are also available from the Central Bureau of Statistics and the Department of Topographical Survey in Kathmandu. These sources of information need to be checked prior to data collection.

Information on standards and policy targets in different sectors should be collected from sources such as the national policy documents, local policy documents and various policy studies and strategy reports. There might also be specific policy targets at the local or regional level. If there is a gap in standard information in some sectors, it may be necessary to develop district standards at district level meetings.

Primary Sources of Information

Information from secondary sources is not usually sufficient for assessing peoples' access needs and identifying interventions for improving them. Settlements need to be visited to obtain information directly from the communities themselves. The people living and working in the settlements are the best source of primary information and this information should be used to verify and complement the secondary data. In particular, information pertaining to travel times, travel patterns, access difficulties and the perceived quality of services should be obtained from the people themselves. Key informants

including, VDC officials, VDC Secretaries, school teachers and community leaders can provide valuable information in this context. Particular questionnaires need to be developed for collecting the necessary information from the settlements concerned and it is of particular importance that data and information that is collected is representative of the community.



Looking at map of area

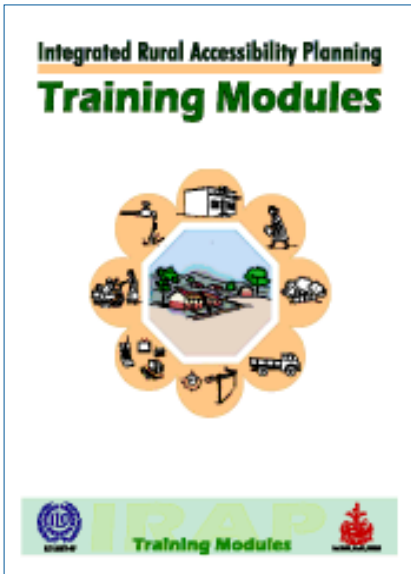
In case sector planning standards and targets do not exist, the local population could also be consulted for their views as to learn their preferences. A commonly accepted preference may be regarded as a proxy standard in a particular sector.

Developing the Survey Instrument

Once it has been decided what primary data needs to be collected in the settlements, the planning team needs to develop the survey instrument. This basically comprises the questionnaire for recording data during the village interview. A sample questionnaire is attached as Annex 2. This questionnaire could be used or modified to collect the necessary information on accessibility at settlement level.

Implementing the Survey

People need to receive some training to implement the survey. They need to be instructed on how to organize the village meeting, conduct the village interview and record the information using the questionnaire. The level of training depends on the past experiences of the interviewers. A short standard training course has been developed for this purpose from hereon referred to as the T1 Workshop. Special training modules have been prepared for this purpose.



IRAP Training Modules

Trained interviewers will visit the settlements to conduct the village interview. Prior to the interview they will gather a group of people knowledgeable about the village and inform them about the purpose of the interview. The interviewer will act as facilitator and float the question formulated in the structured questionnaire and allocate sufficient time to discuss and respond with consensus. He/she will then record the answers given. One of the biggest challenges for the facilitator/interviewer will be to manage the groups properly and provide an opportunity to all of those present to respond to the questions. This is especially so when it comes to the communities identifying village sector priorities. It will be important for the interviewer to form focus

groups to enable the villagers to work together to agree on these village sector priorities. Techniques on helping people come to decisions on priorities are many and varied but can include the use of group exercises which ask individuals to score sector priorities using stones on paper (which indicate a particular sector). There will be times when the focus groups will need to be divided by gender or by socio-economic criteria to ensure that full participation by all the community is achieved. Most of all it is important that the interviewer collects the “village view” and that he or she try to involve all key informants during the interview. If responses are not understandable, inappropriate or lack the necessary information, the interviewer should have the skills to ask additional questions to deduct the information he or she needs. It can not be stressed enough the importance of managing the group interviews, for IRAP to work successfully in identifying needs-based infrastructure access problems, the interviewer needs to understand that a wide selection of people must be consulted.

At the end of the interview, the interviewer checks if his/her questionnaire is duly completed and thanks the people for their time and efforts.



4 Data Compilation



(T1: STEP 2)

Data is collected for the accessibility analysis, in which local planners identify access needs and set priorities for improving access. Data and other information collected from the secondary and primary sources needs to be organised before it can be used. For example, the water supply office has a standard travel time of one hour to a water source, whereas local people normally speak of spending half a morning collecting water. It is therefore important to standardise (usually in minutes) this type of data so that it can be easily analysed.



Pharmacy - Rasuwa

Raw data usually comes in different forms and formats, in hardcopies or in electronic versions. Different data sets need to be compiled in a properly structured database for local planners to be able to analyze the accessibility situation in a selected area. If possible, data should be displayed in graphs, tables, and charts so that it can be easily understood.

Table 2 is an example of data from Rasuwa District organized for analysis in the “access to primary health care” sub-sector. The aggregated settlement data is used during the T3 Workshop to identify priority VDCs where access to primary health care needs to be improved.

Table 2: Access in Travel Time to Primary Health Care, Pharmacy and Dental services for Rasuwa District

VDC	Number of Settlements	Number of Households	Average Travel Time to Primary Health Care Center	Where do People go to Access Pharmacy	Average Travel Time to Pharmacy (in minutes)	Where do People go for Dental Services	Average Travel Time to Dentist (in minutes)
Bhorle	20	1,058	61	Jibjibe	92	Trishuli	120
Bridim	7	179	161	Syaphrubeshi	309	Trishuli,	403
Chiline	10	281	100	Chauhattar	204	Trishuli	213
Dadagaun	9	372	88	Betrabeti	231	Trishuli	240
Dhunche	5	340	70	Dhunche	71	Dunche	71
Gatlang	2	368	99	Chauhattar	180	Dunche	150
Goljung	4	243	41	Chauhattar	64	Dunche	233
Haku	7	493	227	Dunche	411	Dunche	411
Dhaibung	9	976	52	Jibjibe	37	Trishuli	
Lahrepauwa	17	961	60	Kalikastan	70	Kathmandu	
Langtang	5	84	20	Syaphubeshi	690	Kathmandu	690
Ramche	10	387	105	Kalikastan	169	Trishuli	54
Saramthali	11	764	107	Jibjibe	238	Trishuli	222
Shyaphru	6	344	101	Syaphrubeshi	97	Dunche	165
Thulogaun	8	285	19	Betrabeti	144	Trishuli	144
Thuman	3	218	62	Syaphrubeshi	190	Dunche	190
Timure	3	84	45	Syaphrubeshi	320	Dunche	320
Yarse	15	812	96	Jibjibe	249	Trishuli	281
Total	151	8,,249	85		187		226



All the “raw data” derived from the settlement survey should be organised in a database, which is a collection of data files organized in some logical manner. The organised data together with the accessibility maps (see chapter 5) will be further analysed to make a preliminary situation analysis of the area concerned. The focus of this analysis is on understanding the access needs and patterns of rural people and on the identification of access problems and priorities. The ultimate goal is to improve the access that rural people have to the required goods, facilities and services by identifying appropriate and effective access interventions.

A database needs to be prepared at DDC level using simple computer software such as Microsoft Excel. All VDC settlement data needs to be entered onto this database which should be able to generate DDC and VDC aggregates. It will be necessary to form a national level team to develop a standard database to be used at VDC and DDC level. The most appropriate ministry to lead this team would be MOLD/DoLIDAR as they have responsibility for local development. It is important that the database enables the user to print out both DDC and VDC level data. VDC level data will be given to VDC representatives and will be used during the accessibility analysis. The overall database is referred to as the *Accessibility Database* or AD.

People will have different access needs in different sectors. Furthermore, there will be various levels of inaccessibility within the sectors. This needs to be assessed for all relevant sectors. Access needs as perceived by the villagers may differ from what is generally acknowledged as access needs by sector specialists. Before analyzing the data it is necessary to prepare *accessibility profiles* and *accessibility maps* of the areas concerned. Accessibility profiles consist of *accessibility indicators* (see chapter 6) which are individual measurements of access to a specific good, facility or service. Accessibility maps display accessibility data and indicate where people live and where they go to satisfy their basic, social and economic needs (see chapter 5).



5 Accessibility Mapping



(T1: STEP 3)

Accessibility maps are graphical representations of access conditions at VDC and DDC level. Accessibility maps help in the analysis of the accessibility situation in a given area and can be used in the identification of access problems and access priorities. Two types of maps are produced during accessibility planning. The *base map*, which shows the distribution of settlements and existing infrastructure such as roads, bridges, schools, health centres and markets and the *priority map*. This map shows the priority areas for access interventions. The *base map* is produced before the data analysis while the *priority map* is prepared after the analysis is done. Both maps are produced at VDC and DDC level.



Preparing VDC base maps

VDC Accessibility Maps

Accessibility planning begins with the creation of the *base maps*. These maps are based on reference maps published by different institutions. These base maps show the different VDCs and indicate the location of households, service facilities, transport infrastructure and topographic features. Sometimes such a map exists but in most cases it is necessary to prepare one from scratch. The map should be simple showing only basic physical features, settlements, service facilities and transport networks. Maps should not contain too much information as it makes them difficult to read and they should be large enough (at least A0 size) so that people can see the information from a distance during meetings. VDC maps should be prepared manually using the IRAP mapping techniques.

The *base maps* need to be prepared by representatives of the VDCs before the T2 activities start. Maps can be discussed and validated during the T2 Workshop. VDC representatives will receive instructions and see a demonstration on how to produce these base maps during the T1 Workshop. The IRAP team needs to bring topographic maps of the DDC preferably with a 1:25,000 or 1:50,000 scale. VDC boundaries should be identified before or during the T1 Workshop after which the DDC map can be cut into VDC parts. The VDC representatives will then prepare the VDC *base maps* in the period between the T1 and T2 Workshops. The mapping procedure at VDC level is simple and consists of the steps outlined below. It is important that these maps are produced by the VDC representatives themselves as mapping is part of the overall capacity building process. It will also enable the VDC representatives to better grasp their geographical area which will help them during the analysis.

Figure 8:Accessibility Maps at VDC level



Preparation of the VDC *base map*:

- Step 1: Draw a base map on tracing paper using the VDC map handed out during the T1 Workshop. If the VDC map is too small it will be necessary to enlarge the image.
- Step 2: Delineate the VDC and settlement boundaries and identify the different settlements.
- Step 3: Colour the map using a variety of light colours to identify the different settlements. Colouring procedures will be demonstrated during the T1 Workshop.
- Step 4: Identify existing infrastructure and service centres on a plastic transparent overlay.
- Step 5: Finalize the map with the appropriate names, legend, orientation etc.

The VDC *priority map* will be prepared towards the end of the T2 Workshop after priorities have been identified (see chapter 6). Priority maps consist of a copy of the base map with a plastic overlay identifying settlement priorities with different coloured marks representing different sectors. The priority map informs the reader in which sector investments should be made to address priority access needs.



Preparing VDC priority map

DDC Accessibility Maps

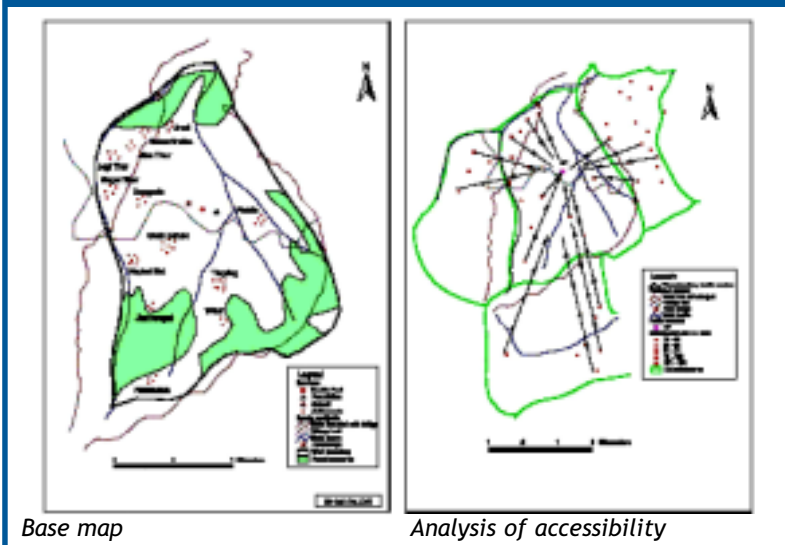
District accessibility maps will help identify and visualize district priorities during the T3 activities. District maps will have less detail compared to VDC maps and will contain several different 'layers' showing the different kinds of services and highlighting 'poor access levels' in the VDCs. These maps will be used for "higher level" interventions to improve access to the transport system, secondary education, health care and markets.

Districts having GIS facilities can prepare digital *base maps* for use at DDC level. Often these maps are already available at the DDC secretariat. Alternatively, base maps can be prepared by hand using existing maps as a base.

The accessibility maps together with the accessibility data will be used in the accessibility analysis at DDC level. Access information from the Accessibility Database (AD) can be visualized on overlays to show transport patterns and areas of influence. This can be done in different ways. For example, it is possible to draw circles around service centres identifying users of particular services and facilities. Another option is to draw radial lines of lengths proportional to the Accessibility Indicator (see chapter 6) from the settlement to a facility or service.

District *priority maps* will display access improvement priorities at district level. For further details on the mapping techniques, please refer to the

Figure 9: Sample of digitized Base Map and analysis



Different kinds of maps are available in Nepal as shown in the table below:

Figure 10: List of base maps usually available in district headquarters or Kathmandu

MAP	DESCRIPTION	SOURCE
District Map	1:125,000 scale with contours and physiographic features. VDCs are delineated, some service facilities,	DDC in any district and Topographical Survey Division, Department of Survey, HMGN, Kathmandu IPDS/MLD/HMGN
Topo Sheet (FINNIDA Map)	1:25,000 scale with 2 metres contour interval and physiographic features.	Topographical Survey Division, Department of Survey, HMGN, Kathmandu
Digitised Topo Sheet	1:25,000 scale with 10 layers of information	Topographical Survey Division, Department of Survey, HMGN, Kathmandu
Sectoral Maps	District Maps with sectoral features (for example location of schools).	Sectoral agencies present in the district
District Map with VDC boundaries	Digitised as well as hard copies in different scales	GIS unit IPDS/MLD/HMGN and some of the DDCs
District Maps with primary information	Digitised as well as hard copies in different scales	GIS unit IPDS/MLD, SNV and some of the DDCs
Service Centre Map	1:125,000 scale map showing main trails, service centres, suspension bridges and main settlements	Suspension Bridge Division, MoLD, HMGN
District Map with road network	Road networks with planned and completed roads	Department of Roads, HMGN Topographical Survey Division,
VDC Map	1:10,000 to 1:45,000 scale with VDC boundaries and main settlements	Department of Survey, HMGN, Kathmandu



6 VDC Level Access Indicators and Sector Priorities



(T2: STEP 4)

T2 activities take place at the VDC level. The main purpose is to identify investment priorities which address the real access needs of the rural communities. This takes place during a participatory process. VDC representatives will analyze collected data, calculate access indicators, draw accessibility maps, identify priority villages for improving access and prepare project outlines. These activities are described in chapters 6 and 7.

Accessibility Indicators and Profiles

A crucial step in the IRAP process is the calculation of Accessibility Indicators or AIs. AIs are used to identify investment priorities and compare settlements with each other and with national averages, standards or targets.

The data in the Accessibility Database (AD) are used to calculate AIs. Local planners and technicians will analyze the AD and determine levels of access within the different VDCs. This will be followed by the identification and prioritization of investment needs, both at the geographical and sector level.

Accessibility depends on both *proximity* and *mobility* which is measured with AIs and the results indicate the degree or severity of an access problem. AIs measure inaccessibility or the lack of access, a higher indicator implies poorer access



Average travel time to reach a facility or service is usually taken as a proxy indicator for mobility and proximity. The latter depends on the distribution of goods, facilities and services while mobility depends to a large

degree on the extent and physical condition of the transport infrastructure network and the availability of transport services.

AIs also include a *quality* element which relates to the condition and supply of infrastructure aspects and the delivery of services to a facility. For example, if a health post does not have medicines then by location, physical access by people to the facility may be good, but access to health *services* may still be poor.

In Nepal two Accessibility Indices (AI) are calculated; one based on time, called the Accessibility Index Travel Time (AI_{TT}) and the other based on quality, called the Accessibility Index Quality (AI_Q) The AI is a combination of both the travel time *and* the quality of those goods, facilities and services. Together with the Local Priority score (LP_{SCORE}), discussed later in this chapter, VDCs are able to rank the settlements by sector according to accessibility problems and local priority identification.

1) $AI_{TT} = f(\text{Households, Travel Times})$

The first AI measures physical/time, it is the AI of a settlement in relation to a particular facility, good or service. This AI is therefore a function of the number of households residing in the settlement and travelling distances. Households are taken as absolute figures, while travel-times are scored as per national norms and standards to produce time slabs.

$$AI_{TT} = HH * TT_{SCORE}$$

Figure 11: Access to Quality Health Services



For example, travel-times to primary schools are defined by the following intervals to produce the Travel Time Score - TT_{SCORE} .

Travel time to primary school	TT_{score}
0 – 30 minutes	0
31 – 60 minutes	1
61 – 90 minutes	3
More than 90 minutes	5

Table 3 is an example of the time based AI_{TT} to primary schools in Bhorle VDC in Rasuwa District. As explained earlier, the first step is to convert the real time into the slab to determine the TT_{SCORE} and multiply it by the number of households which gives the time based index of each settlement within Bhorle VDC. (For details of the other sector Travel Time slabs, please refer to the IRAP Technical Manual).

Table 3: Time based Accessibility Index - AI_{TT} of primary schools in Bhorle VDC of Rasuwa

Name of Settlement	Number of households (HH)	Travel Time (Minute)	TT_{SCORE}	AI_{TT} (HH * TT_{SCORE})
Jyanglang	40	30	0	0
Gairigaun	44	30	0	0
Sarsiu	140	45	1	140
Sarayu	100	15	0	0
Betang	91	30	0	0
Sisneri	38	72	3	114
Ghaletol	46	62	3	138
Khalchet	66	30	0	0
Gairitol	65	45	1	65
Bhorlegaun	105	18	0	0
Bhadauredada	31	15	0	0
Tallo Rupsepani	36	30	0	0
Chiti	55	30	0	0
Aapchaour	43	30	0	0
Badahare	22	30	0	0
Bahdaure (Paudeltol)	21	15	0	0
Tinkhopre	19	15	0	0
Bridim	21	15	0	0
Devkotatol	14	15	0	0
Dhuseni	61	30	0	0
Total	1058			457

The table indicates that household numbers can play a dominant role for identifying travel time access problems. Sarsiu has an average travel time of 45 minutes but due to the large number of households in the settlement it scores the highest AI_{TT} . However, the second and third priority settlements: Sisneri and Ghaletol have much smaller household numbers but score the maximum TT_{SCORE} so they too become priority settlements for investment due to their high AI_{TT} scores.



Access to electricity can not be measured with travel times

2) $AI_Q = f(\text{Households, Quality})$

The second AI looks at both the physical quality of the infrastructure and the quality of service provision. They are measured to produce one quality Accessibility Index Quality, the AI_Q . As it is not possible to consider each and every quality variable separately they are grouped into three slabs: poor, moderate and good quality slabs. These slabs are devised on the basis of national norms, standards and policy targets. The variables are grouped into three categories scored; 0 indicating no problem, 1, indicating a moderate problem and 3 which indicates a severe problem. To calculate the AI_Q , the slab is multiplied by the number of households. The higher the AI_Q is, the greater the need to address the quality aspects of this good, facility or service. An example of quality slabs and scores is shown below (for details of the other sector Quality slabs please refer to the IRAP Technical Manual).

$Quality_{SCORE}$ is defined by the following intervals:

Combination of variables	$Quality_{SCORE}$
Permanent building, sufficient teachers and furniture, availability of drinking water, toilet and playground	0
Permanent building, but lacks two or more of the other quality aspects	1
No permanent building or only one factor is present.	3

Table 4: Method of calculating the Quality Accessibility Index - Bhorle VDC, Rasuwa District

Name of Settlement	No of HH	Permanent building	Adequate teacher	Drinking water facility/ Toilet/ Play ground	Sufficient Furniture	Quality _{SCORE}	AI Quality = HH * Q _{SCORE}
Jyanglang	40	Yes	Yes	Yes	Yes	0	0
Gairigaun	44	Yes	Yes	Yes	Yes	0	0
Sarsiu	140	Yes	Yes	No	Yes	1	140
Sarayu	100	Yes	Yes	Yes	Yes	0	0
Betang	91	No	No	Yes	No	3	273
Sisneri	38	Yes	Yes	Yes	Yes	0	0
Ghaletol	46	Yes	Yes	Yes	Yes	0	0
Khalchet	66	Yes	Yes	No	No	1	66
Gairitol	65	No	Yes	No	No	3	195
Bhorlegaun	105	Yes	Yes	Yes	Yes	0	0
Bhadauredada	31	No	No	No	Yes	3	93
Tallo Rupsepani	36	Yes	Yes	Yes	Yes	0	0
Chiti	55	Yes	No	Yes	Yes	1	55
Aapchaour	43	Yes	Yes	Yes	Yes	0	0
Badahare	22	Yes	Yes	Yes	Yes	0	0
Bahdaure (Paudeltol)	21	Yes	Yes	Yes	Yes	0	0
Tinkhopre	19	Yes	Yes	Yes	Yes	0	0
Bridim	21	Yes	Yes	Yes	Yes	0	0
Devkotatol	14	Yes	Yes	No	Yes	1	14
Dhuseni	61	Yes	Yes	Yes	Yes	0	0
Total	1,058						836

Settlements are compared with each other using AI_{TT} and AI_Q . A comparative analysis enables the VDC planner to identify priority settlements where physical access, quality of services or both aspects need to be improved.

Sometimes, access needs do not really depend on aspects of distance and travelling time. For example, providing better access to irrigation or electricity will depend entirely on whether or not a project for such purpose is viable, not so much on the access needs of the people. Physical distance is of little relevance here. Still people need access to electricity and irrigation water and these sectors should be included in the accessibility analysis. The standard procedures and practices for setting priorities for individual projects will differ. The current IRAP applications in Nepal however do not look into these two sectors.

Figure 12: Explaining the Accessibility Indicators



For practical purposes it is useful to prepare a table which can be used in calculating and presenting AIs for different sectors at the settlement level. This table is referred to as the *Accessibility Profile* and it summarizes the accessibility situation of a settlement with respect to the different sectors.

Local Priority

The Local Priority score, LP_{SCORE} identifies the perceived community need for improving access in a particular sector. Similar to the calculation of the AI, the local priority is converted into slabs to determine each LP_{SCORE}

The local priority is identified during the T1 data gathering stage. The slabs are detailed below:

Local Priority	Score
Community has identified the sector as a top priority for improving access	3
The community has identified the sector as a second or third priority for improving access	1
The community has not identified the sector amongst the top 3 priorities for improving access	0

Table 5 shows the LP_{SCORE} from the different settlements in Bhorle VDC, Rasuwa District for access to primary schools according to the Local Priority score from the box above.

Table 5: Method of converting local priority into slab

Name of Settlement	Number of households (HH)	Rank of local Priority that people perceived	LP _{SCORE}
Jyanglang	40	6	0
Gairigaun	44	5	0
Sarsiu	140	1	3
Sarayu	100	4	0
Betang	91	4	0
Sisneri	38	1	3
Ghaletol	46	1	3
Khalchet	66	5	0
Gairitol	65	4	0
Bhorlegaun	105	5	0
Bhadauredada	31	5	0
Tallo Rupsepani	36	4	0
Chiti	55	4	0
Aapchaour	43	3	0
Badahare	22	4	0
Bahdaure (Paudeltol)	21	4	0
Tinkhopre	19	5	0
Bridim	21	5	0
Devkotatol	14	4	0
Dhuseni	61	6	0
Total	1,058		

Validation of Accessibility Profiles, Identification of Projects and Quality Interventions

The Accessibility Profile is then taken back to the communities during participatory meetings and must be explained to them in simple terms to receive their feedback. This can be done easily with the help of the Accessibility Maps. It is important that people understand the level of development in their area and based on this understanding, are able to recommend projects for improving rural accessibility.

Participatory meetings at settlement level are a key element in the bottom-up planning process. VDCs should take a lead role in organizing these meetings and the role of the VDC representative (often the VDC secretary) is that of facilitator and as facilitator he or she does not bias the decision making process of the settlements. The local people themselves should analyse the access situation in their area with facilitating help from the VDC representatives and identify the most appropriate and needed interventions for improving access to goods, facilities and services. It is

thus important that the Accessibility Indicators, the Accessibility Profile and the Accessibility Maps are discussed with the communities. It must be assured that a representative group of people attends the VDC meeting (from different socio-economic groups, gender, caste, ethnic groups and community based special interest groups at the village level). Organisation of the meeting should be such that everyone gets an opportunity to express his or her opinion. Again, as in the data collection and village prioritisation process in the T1 stage, different techniques will need to be employed by the VDC facilitators to ensure full participation with separate focus groups formed which allow for free discussion between different members of the village (eg. gender and caste).

First of all, the VDC chairman should present the information about the settlement to the meeting. The meeting should then review the information about their own community, propose corrections if necessary, and agree upon the number of households affected by poor accessibility, the level of access problems, specific access conditions in relation to various goods, facilities and services and average travel times to facilities and services.

This process could result in a revision of the AIs and Accessibility Profile of the area. The maps may also have to be updated as a result of the discussions. This participatory process is important as it validates the information collected as well as the accessibility analysis. The VDC meeting should agree upon priority investments that will improve accessibility in the settlement. Finally, the meeting should identify project ideas to improve rural access. The development of these ideas into concrete project outlines is the topic of chapter 7.



Priority Sectors at VDC Level

Prioritising settlements by sector enables the VDC to see which settlements are most in need of some form of intervention and why. This is done on a sector basis and it may be necessary to set priorities across sectors.

Using data collected in the T1 stage and analysed in the T2 stage, tables can be drawn up by sector which summarize settlement access scores.

Table 6 is an example of the access situation and sector priorities for primary education in Borle VDC of Rasuwa District. The sector AI is calculated by multiplying the Total Score column 'E' by the Number of HH, column 'A'

Table 6 : Calculation of Sectoral AI for Primary School in the Rasuwa District

Name of Settlement	No of HH(A)	TT _{SCORE} (B)	Q _{SCORE} (C)	LP _{SCORE} (D)	Total Score (E)	Sector AI = A * E
Jyanglang	40	0	0	0	0	0
Gairigaun	44	0	0	0	0	0
Sarsiu	140	1	1	3	5	700
Sarayu	100	0	0	0	0	0
Betang	91	0	3	0	3	273
Sisneri	38	3	0	3	6	228
Ghaletol	46	3	0	3	6	276
Khalchet	66	0	1	0	1	66
Gairitol	65	1	3	0	4	260
Bhorlegaun	105	0	0	0	0	0
Bhadauredada	31	0	3	0	3	93
Tallo Rupsepani	36	0	0	0	0	0
Chiti	55	0	1	0	1	55
Aapchaour	43	0	0	0	0	0
Badahare	22	0	0	0	0	0
Bahdaure (Paudeltol)	21	0	0	0	0	0
Tinkhopre	19	0	0	0	0	0
Bridim	21	0	0	0	0	0
Devkotatol	14	0	1	0	1	14
Dhuseni	61	0	0	0	0	0
Total	1,058					1,965

The TT_{SCORE} and Q_{SCORE} are based on the same intervals used in calculating the AIs earlier in T2, while the LP_{SCORE} identifies the perceived community need for improving access in a particular sector.

The sum of the settlement scores (1965 in the example above) can be used to compare sectors with each other and identify priority sectors within the VDC.

Therefore the VDC inter-sector settlement priority score is the following:

$$\text{Sector}_{SCORE} = HH * (TT_{SCORE} + Q_{SCORE} + LP_{SCORE})$$

The higher the sector score, the higher the priority for intervention in that particular sector. Producing these tables for all the sectors will enable the VDCs to easily identify both sectors and settlements with the most urgent access needs. It will enable the VDCs to assess access needs across the sectors thereby coming up with integrated access solutions that address the settlement needs across the sectors.

7 Initial Project Description



(T2: STEP 5)

Identification and prioritization of Interventions

Priorities for improving access need to be translated into projects and other interventions.

Figure 13: Project identified at local level



Having identified the access problems in the different sectors during the T2 Workshop, the meeting should discuss and agree on the most appropriate and realistic solutions to solve the access problems. The solutions could consist of a single intervention or a combination of interventions necessary for improving accessibility in a particular sector or across sectors. For example, a new school building with additional teachers can help improve access to primary education. A footbridge connecting two villages can reduce the travel time to health services and markets simultaneously.

VDC representatives should first identify the possible interventions to improve access before deciding on priorities. Interventions need to be discussed and agreed upon and this decision will depend on the causes of poor access, the number of people affected by poor access, the type of interventions and the costs and benefits of each intervention. As mentioned earlier, the interventions may consist of a single activity or could be composed of multiple ones. The activities should be described in more detail to enable the VDC representatives to formulate project outlines. This process should initially be undertaken on a sector by sector basis but needs to be integrated before deciding on a final list of projects.

The prioritized interventions now need to be endorsed by a participatory meeting at VDC level. The list of interventions and initial priority ranks has to be reviewed by a broad group of people consisting of the VDC council and wider stakeholder participants.

The final list of interventions contains the best solutions to improve the accessibility of settlements as perceived by the VDC itself. Projects typically include such activities as the construction of a trail, repairing a school building, arranging for health personnel in an existing health post, improving a road, assigning additional teachers to a school, repairing a



water supply etc. These activities will then need to be written up using a simple standard format, so that they can be submitted as proposals for funding or inclusion in an investment plan. Termed Project Formulation, this is the final activity under the T2 component.

Preparing a Project Outline

VDCs should prepare a *Project Outline* which describes the project and includes some key information necessary for approval and implementation. Key information will include information on the justification, scope and cost of the activity, time required for implementation, choice of technology, project inputs, operation and maintenance. Project briefs will be prepared for all prioritized interventions and will together comprise an action plan for improving access in a particular VDC. It may be necessary to ask for support from technical personnel from the DDC or the line agency but generally speaking the forms are uncomplicated and can be completed by VDC representatives trained in the T2 Workshop. Different kinds of Project Outline forms are in use in Nepal to collect village demands and lists of the projects from settlements or wards. An example is given in Annex 3. The IRAP procedure does not describe a particular form but suggests that if possible, established forms will be used or adapted. The VDC representative should work with the local people and the VDC officials in completing the Project Outline.

Figure 14: Implementing rural access improvement works





8

Analysis of Priority VDCs, Inter-sector and District Level Priorities by the DDC



(T3: STEP 6,7 and 8)

Background

T2 activities are focused at the VDC level. VDC representatives calculate Access Indicators for different villages comprising VDCs and identify priority villages, sectors and projects for improving access within the VDC. An analysis across VDCs does not happen during T2. The outcome of the T2 activity is a list of priority infrastructure investments for each individual VDC. Whether a Primary School in VDC A is more important than a Primary School in VDC B is not discussed.

During the T3 activities, DDC representatives will compare VDCs with each other and identify priority VDCs for interventions by sector. An analysis across all VDCs making up the District will take place during this time. DDC representatives will compare VDCs with each other and identify priority ones for interventions by sector. Secondly they will look across all the sectors and rank which sector is a priority for investment in that particular District.

DDC officials representing the Local Government and Line Ministries will work together during a T3 Workshop to analyse the VDC data and set priorities and discuss national norms and standards to be applied.

The steps in T3 cover:

1. Prioritize VDCs for sector investment
2. Identify and prioritize sectors for District Level investment
3. Identify and prioritize District Level investment
4. District Level mapping

Identification of priority VDCs for each sector.

The sector AI of the VDC reflects the access situation of that particular VDC in relation to a particular sector. For example, Table 6 (on p. 54)

shows that for access to Primary Education in Bhorle VDC the sector AI = 1965. DDCs now compile the sector AI for each VDC and then rank them from high priority to low priority. A high AI shows a high priority for investment in that particular sector for that particular VDC. Table 7 below shows the access situation based on the AI of the all the VDCs in Rasuwa District for access to Primary Education.

In this case the top three VDCs with a high AI are:

1. Bhorle VDC = 1965
2. Saramthali VDC = 1713
3. Laharepauwa VDC = 1272

These would then be viewed by the DDCs as three VDCs which have severe accessibility problems to Primary Education.

Table 7: Access situation of Rasuwa district in Primary Education sector

VDC	A Number of Settlements	B Number of Households (HH)	C Percentage of settlement having primary school	D Accessibility Indicator (AI) of Primary School	E = D ÷ B Average Access Index
Bhorle	20	1,058	45	1,965	1.86
Bridim	7	179	71	302	1.69
Dadagaun	10	281	50	922	3.28
Dhunche	9	372	67	117	0.31
Gatlang	5	340	80	97	0.29
Goljung	9	368	89	268	0.73
Haku	2	243	100	1,039	4.28
Langtang	4	493	25	94	0.19
Ramche	7	976	100	516	0.53
Saramthali	17	961	53	1,713	1.78
Syaphru	5	84	40	436	5.19
Thulogaun	10	387	40	226	0.58
Laharepauwa	11	764	82	1,272	1.66
Thuman	6	344	83	450	1.31
Timure	8	285	38	130	0.46
Yarsa	3	218	100	0	0.00
Dhaibung	3	84	100	935	11.13
Chilime	15	812	47	303	0.37
Total	151	8,249	60	10,785	1.31

Column 'E' shows the Average AI. This is calculated by dividing the Sector AI (column 'D') by the Number of Households (column 'B'). By dividing the Sector AI by the Number of Households the bias towards large settlements is eliminated.

$$\text{Average AI} = \frac{\text{VDC AI}}{\text{VDC HH}}$$

For Bhorle VDC the Average AI is calculated thus:

$$\frac{1965}{1058} = 1.86 \text{ Average AI}$$

This calculation can be done when a specialist intervention is required. For example, if donors specifically want to address improving access to primary education in sparsely populated areas.

The higher the Average AI the greater the access problems for Primary education are in that VDC. The table 7 shows that the top three VDCs which have severe access problems related to primary education when looking at the Average Access Index are:

1. Dhaibung = 11.15
2. Syaphru = 5.19
3. Haku = 4.28

The DDC officials are then able to refer back to data analysed during the T2 stage to see what sort of intervention is required in those particular VDCs.

Identifying District Level inter-sector priorities

The final analysis during the T3 stage concerns inter-sector priorities. This is very simply done by taking the AI Total (column D) in the VDC Sector priority table (Table 7, P. 61), for all of the sectors being assessed and adding them together so you are left with a Sector Total for the entire District. Table 8 illustrates the Sector wise Totals for Rasuwa District.

Table 8: Comparison of different sectors at DDC level for prioritization of sectors

VDC	Water Supply	Transport Services	Local Market	VDC Centre	Post al Services	Primary School	Primary Health	PCO
Bhorle	1,257	5,815	425	1,638	817	1,965	2,483	2,372
Bridim	805	1,233	536	377	427	302	464	551
Dadagaun	733	1,761	1,332	753	753	922	1,026	1,368
Dhuncha	1,197	340	0	0	0	117	183	0
Gatlang	1,181	1,723	1,452	291	97	97	1,104	562
Goljung	275	856	220	11	0	268	636	0
Haku	2,131	2,594	2,021	833	813	1,039	1,554	2,549
Langtang	176	461	0	0	0	94	101	552
Ramche	551	1,304	63	221	552	516	511	999
Saramthali	3,220	5,140	1,890	997	997	1,713	1,309	3,853
Syaphru	374	685	233	699	699	436	1,297	527
Thulogaun	517	780	354	84	72	226	282	414
Laharepauwa	2,436	831	0	777	701	1,272	1,622	392
Thuman	656	924	230	66	146	450	350	470
Timure	756	598	456	24	24	130	61	529
Yarsa	542	6,190	3,326	1,654	1,654	0	1,538	4,018
Dhaibung	1,490	1,083	0	320	89	935	1,469	403
Chilime	501	789	253	1,297	392	303	529	356
Total	18,798	33,107	12,791	10,042	8,233	10,785	16,519	19,915

The information helps to guide the DDC planners to identify VDC needs and to allocate resources for the implementation of sector projects. It is also useful for other line agencies that are willing to invest in such sector projects.

As illustrated in the table, the top four sectors with accessibility problems for Rasuwa District are:

1. Transport services = 33,107
2. PCO = 19,915
3. Water supply = 18,798
4. Primary Health = 16,519

The DDC officials are now in a position to understand the access needs both within each District looking at each VDC (Table7, p. 61) as well as an inter-sector overview (Table 8) to identify which sectors in each District are in most urgent need of attention.

Identification and Prioritization of District Level Projects

The last activity in the T3 workshop is the identification and prioritisation by DDC officials of District level projects.

Budgets are often allocated by sector and channelled through the concerned technical agencies. DDCs and VDCs have very little influence on sector budget allocations. All they can do is to try and influence policy decisions at the centre and to demonstrate that investments in specific sectors are lacking compared to other sectors. By demonstrating the real need and situation in the Districts through the use of IRAP, DDC and VDC officials are able to identify 'access gaps', and show where investment is needed supported by evidence. In time, by using IRAP to identify local needs, local governments may start to gradually influence sector allocations.

It must be remembered that sector allocations are usually based on political considerations so while lobbying at the centre is an important activity this alone will not ensure success in getting sufficient allocations to fund needed interventions. It is not recommended to simply compare different sector indicators as a way to set sector priorities, a better way is to use the sector indicators and compare them with norms, standards, targets and/or national averages in each sector. The access gap can then be identified and measured against pre-existing and accepted national standards. For example, if the national target is to provide 80% of households with adequate access to clean potable water and the Accessibility Indicator shows that in reality only 30% of households have adequate access to clean potable water than the access gap can be measured as 50%.

Most local level projects are covered by the VDCs, and the DDCs provide the funds for the implementation of priority projects, but this is dependent on the financial capacity of the DDC. However, there are still some sectors not under the jurisdiction of the VDCs and these sectors fall under DDC responsibility. These sectors include District roads, Hospitals, Ayurvedic Centres and Agricultural and Livestock Service Centres and Secondary Schools. Similarly, projects requiring technical expertise or that have high costs or are large sized projects that extend over various VDC boundaries have to be addressed at the DDC level. In such cases DDCs need to take care and analyse the access indicators of the affected VDCs, and DDCs need to find an integrated approach to addressing them. The DDCs need to organise meetings to include all the affected VDCs and hold an area workshop to identify the needs based projects. This is especially the case when looking at transport and road interventions.



For example transport is often the first priority of a VDC as a way to improve access to a particular service or facility, often, a road intervention will affect other VDCs or settlements through which the road corridor passes, so it is important to consult with all those areas which will be affected by the construction and/or upgrading of roads or tracks.

Equally, a priority for road access in one VDC may not be a priority in a nearby VDC through which the road must pass. A participatory meeting is held so that all stakeholders are able to look at and discuss the various choices for this construction, the final selection will be done by the DDC having considered the options and heard the comments and assessed the situation at the macro-level not just concentrating on the VDC level. The project is then screened according to the approach manual.

Another example may be the construction of a hospital. Current Government policy is to establish a hospital in each constituency. The location may then be selected by organising an area wide workshop to assess the appropriate location for the facility. Factors to be taken into consideration include an assessment of the travel times to certain potential sites by the surrounding settlements. In such cases, it does not mean that the health facility will be automatically located in the VDC with the highest AI but in a place where travel times to it by all affected settlements is deemed acceptable.

In both examples sited, a service flow map of people and services and facilities should be produced. This provides a good visual tool for DDC planners to understand the location of people and goods, facilities and services.

Table 9 details the transport flow in Rasuwa District showing how long people in each VDC on average walk to a road head to access bus services.

Table 9: Transport service flow table of Rasuwa District

VDC	No. of Settlement	No of HH	Place of Bus Services	Walking Time (min)	Frequency of Bus Service
Bhorle	20	1,058	Ghumti(12), Kalikstan(8)	134	2
Bridim	7	179	Shyaphu	377	2
Chiline	10	281	Shyaphu	210	2
Dadagaun	9	372	Betrabati	231	8
Dhunche	5	340	Dunche(2), Thade(1), Sole(1), Bhimali(1)	40	4.4
Gatlang	2	368	Thilo Bharhu(1), Syaphu(1)	180	2
Goljung	4	243	Syaphu	120	2
Haku	7	493	Dunche(5), Berabati(2)	403	3.7
Dhaibung	9	976	Kalikstan(5), Itpane(1), Beteni(1), Dharapani(1), Katinje(1)	16	4
Lahrepauwa	17	961	Betrabeti(8), Kaliksthan(8) Banuwa/ Ghumti(1)	49	5.8
Langtang	5	84	Shyaphu	690	2
Ramche	10	387	Drabchet(5), Gochet(3), Thade(1), Okhranitar(1)	67	3
Saramthali	11	764	Kalikstan(8), Betrabeti(3)	260	4
Shyaphru	6	344	Shyaphu(5), Dunche(1)	96	2.3
Thulogaun	8	285	Betrabeti	150	6
Thuman	3	218	Shyaphu	180	2
Timure	3	84	Shyaphu	320	2
Yarse	15	812	Kaliksthan(9), Dunche(4), Ghumti(2)	303	4
Total	151	8,249		193	3.7

Preparation of District Level Sector Priorities and Project Maps

The map produced at the District level will show three types of information:

1. Access situation map – this map shows the average level of access of each VDC for each sector.
2. An Investment Priority Sector Map – This map is produced according to the AI calculated in the previous table by categorizing the investment as high, medium or low as defined by the DDC.
3. District Level Project Map – This map is produced to show the District level projects in different sectors.

The details of the mapping process are covered in the IRAP Technical Manual produced by DoLIDAR.



9 Institutional Arrangement of IRAP Implementation



The objective of IRAP is to build and strengthen the capacity of local institutions. So adopting the process in the prevailing planning system and institutional set up will be the main task, not the establishment of a separate wing in the local institution. According to the Local Self Governance Act (1999) VDCs, Municipalities and DDCs have to formulate annual and periodic plans. There is already an institutional set-up to perform the assigned task within these structures.

VDC level

VDCs have only one full time staff member, the VDC secretary, who is responsible for day to day VDC business as well as the planning component of development works. The responsibility of VDC representatives in the IRAP process is to provide support to the officials in conducting field level work and to take part in the decision process. The VDCs have to form a special committee to support the use of the IRAP tools for plan formulation. The VDCs can also hire a private consultant to train the staff and support them in the preparation of some of the activities which may be difficult for the VDC Secretary, but this should be limited to the first year.

DDC level

The DDCs have a planning unit and a number of sector specific branches within their present structure. IRAP will be implemented through these existing structures. The DDCs can formulate a committee to expedite the process and advise the DDC body responsible for IRAP. The data gathered from the field is to be stored and analysed at the DDC level. Similarly using the mapping software to prepare maps and charts needs higher skills which the DDCs have to build. This tool is focused on infrastructure investment and delivery so it will be best to execute the process through the technical staff at the DDC/DTO when preparing plans. It is also suggested to establish a working committee under the

chairmanship of the LDO with members of line agencies; such as water supply, education, agriculture, health and irrigation and the planning officer of the DDC and technical section chief of the DDC as member secretary. The DDC chairperson and infrastructure committee head of the DDC will be advisers to the committee.

Ministry of Local Development and the Department of Local Infrastructure Development and Agricultural Roads

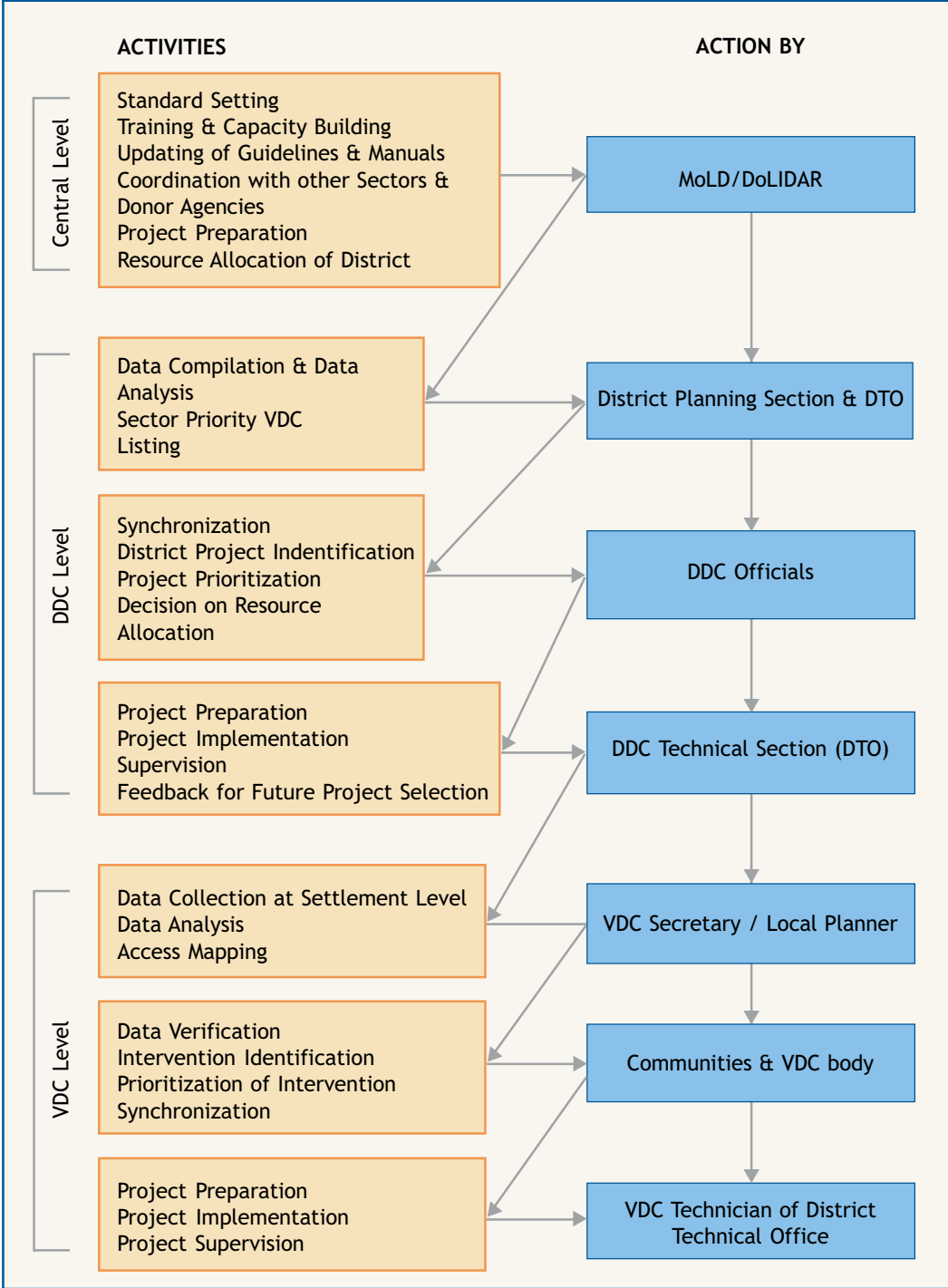
The Ministry of Local Development (MLD) and the Department of Local Infrastructure Development and Agricultural Roads (DoLIDAR) are responsible for coordinating and guiding local bodies. IRAP is a simple but new procedure that will need to be updated and adapted to the change in policy and context.

DoLIDAR has been the main Government Department involved in the pilot testing in Rasuwa District and in the preparation of Guidelines and training materials and manuals for the IRAP tools on behalf of the Ministry of Local Development. Therefore, DoLIDAR's planning section is the focal point in the Government for the implementation and mainstreaming of IRAP in the local planning system and the capacity building of the VDC representatives and DDC officials to use these tools appropriately.

Under the Local Infrastructure Development Policy (LIDP) more and more sectors are devolving responsibility to local institutions, the roles and responsibilities of the DDC are increasing and the mainstreaming of IRAP into the planning process should help them in their responsibilities to identify relevant and timely infrastructure investments.

The following figure represents the institutional and personnel responsibility for the implementation of IRAP.

Figure 15: Institutional and personal responsibilities for implementing IRAP



It is important to note that while IRAP is a useful and relevant set of planning tools for implementation at the local level, IRAP can not do everything. For example, IRAP deals with the ease or difficulty of the *physical* accessibility to goods, facilities and services only. IRAP is a set of tools to use within the existing planning process; IRAP does not replace the planning process.

Participation is an important component of the IRAP tools. Participatory meetings need to be held at community level with the VDC to gather data and identify need. At least two meetings need to be organised; one at the settlement level to conduct data collection; the second for the identification of interventions for improvement of rural access. These meetings require adequate time and resources to be allocated for them. These new ways of working present challenges to the present system and VDC representatives and DDC officials need to be aware of the time needed and plan appropriately.

Furthermore it must be recognised that the VDC representatives and DDC officials are implementing a new set of tools for local planning and identification. It is the responsibility of DoLIDAR to explain clearly these new ways of working and work with the DDC to find the best way to conduct the IRAP exercises and where and how best to store the additional information IRAP generates. It should not be expected that the DDCs will automatically have the human resources or financial capacity to undertake this work.

10

Use of IRAP in Local Level Planning



Background

The earlier chapters of this guideline explained the technical details and steps to be followed in using the IRAP tools to support integrated local level planning. These tools provide an objective basis for a participatory and needs based approach to local level development planning. IRAP analyses the real needs of people to goods, facilities and services according to their experiences and the results of this will feed directly into the existing local level planning system. This way, IRAP does not replace the planning system, what it does is strengthen the planning outcomes.

The governance system in Nepal is structured with the central government containing a Council of Ministers at the top and a downward spiral of line ministries and departments extending their activities outwards to the regions, districts and VDCs and municipalities. The development role of this structure is to provide and facilitate the delivery of services to communities to meet their basic, social and economic needs and facilitate the country's development potential.

Rural development is in part concerned with the provision of goods, facilities and services that people need locally. Such services include primary health care centres, primary and secondary education, the provision of drinking water, local transport to agricultural and livestock services centres and access to markets. In Nepal there are many different agencies both at national and local level whose responsibility is to provide local level rural infrastructure. There are 75 District Development Committees (DDC), 58 Municipalities and 3,915 Village Development Committees (VDC) through which the local development plans must be implemented.

According to the Local Self Governance and its Regulation (1999), each DDC must prepare a District Periodic Plan which sets out the infrastructure and services required in their districts as well as preparation of a District Transport Master Plan (DTMP). The first, the District Periodic Plan is devised according to guidelines developed by the National

Planning Commission and covers a 14 step planning process which is reflected in the Local Self Governance Act & Regulations (1999). The second, the DTMP, has guidelines developed by DoLIDAR/MLD. These are the two basic guidelines that should be followed for the preparation of local plans.

The Government of Nepal has begun the process of decentralisation; beginning with the full devolution of powers to local bodies. The Local Infrastructure Development Policy 2061 (2004) has set out clearly the areas of responsibility for local infrastructure development. DDCs and VDCs have the responsibility to prepare implementation plans for local infrastructure development supported by the MoLD and DoLIDAR. There is now a desire to move away from sector planning towards a more integrated (multi-sector) approach to local level development planning. In this new environment IRAP is a set of tools which can help districts prepare their infrastructure plans in a more integrated and participatory manner. The following sections explain how IRAP can help in preparing district and village level development plans on the basis of a multi-sector planning approach within the prevailing Nepalese planning system.

How does IRAP fit?

The Nepalese planning process is truly bottom-up, starting at the settlement level, to the VDC level, to the Ilaka level to the DDC level and finally to the national level (see figure 1). As an objective, participatory tool, IRAP can be used at all levels for the analysis and identification of real needs of local people.



As explained in earlier chapters, IRAP can first be used at settlement or ward level to identify priority projects through a participatory process. The communities are the places where they identify the access needs of their settlements. The focus of IRAP is to empower the concerned communities in identifying and prioritising their needs using an objective technical tool and to build the capacity of planners, VDC representatives and DDC officials to utilise a participatory and objective method to measure access need. As IRAP builds the capacity of local people to work with local partners planners to identify their planning needs, both these skills and the resulting infrastructure is better placed to be sustainable.

IRAP and the District Periodic Plan

The District Periodic Plan is a multi-sector plan addressing infrastructure and service needs at the local level. The guidelines state that the District Periodic Plan needs to be an integrated plan for the entire district and devised through a participatory method; the guideline also states that different tools and methodologies should be used to prioritize the sectors and projects. In the case of infrastructure; the accessibility of local people to services should be the main criteria for project priority. With this in mind, the use of IRAP tools in the planning process addresses these guideline stipulations as they are a participatory and objective set of tools for determining access needs and priorities.

The basic principal of IRAP is a bottom-up approach which objectively identifies the needs of local communities through a participatory approach within the existing planning system. While the District Periodic Plan is a multi-sector plan, up until now there has not been the tools developed for the identification and prioritisation at district level of sector access; the Accessibility Index is a solution to this problem. The IRAP tools are able to compare the accessibility situation between different communities and different sectors and services. IRAP addresses the steps and requirements needed to produce the District Periodic Plan such as data gathering, accessibility mapping, and analysis of the access situation on the basis of Access Indicators. IRAP tools are also supportive of the monitoring of the overall improvement of peoples access to the various goods, facilities and services. For example the Accessibility Index of a community to primary education before and after a project can show whether children's access to primary schools is improving or not and if not, will highlight the need for closer inspection of the situation. The stages, T1, T2 and T3 have already been explained and they show how IRAP can support the preparation of the District Periodic Plan.

District Transport Master Plan (DTMP)

DDC are also responsible for producing the sector focused District Transport Master Plan (DTMP). The process of preparation of the DTMP is one that most are familiar with. The plan identifies investment priorities in the transport sector as well as determining the allocation of resources between maintenance and construction. DoLIDAR have produced an approach manual for the preparation of the DTMP. IRAP can be used in project identification especially in those projects that improve the accessibility of people to basic services. The Accessibility Index identifies the sectors of priority and intervention on the basis of sector problems and this helps guide the planner in allocating resources and investment. It is clear that the outputs of the IRAP process are inputs for the process of formulating the DTMPs.

DoLIDAR intends to update both the Approach Manual and these guidelines in the near future. It must be remembered that the IRAP approach is one that benefits from revision every few years to take into account the ever changing environment of rural access planning. IRAP are not static tools but work best when updated and adapted to the changing situations at the District and Village level.

Concluding Remarks about the use of IRAP

Peoples' accessibility to goods, facilities and services is affected by physical, social and economic barriers. However, the IRAP tools only address the *physical* barriers to communities' accessibility by measuring travel time and physical quality variables. Because of this, some infrastructure services and sectors will not be covered by the IRAP process.

IRAP is an objective based planning tool, it sits within the existing planning system. For this reason, the screening process for potential projects and interventions is done according to already established screening criteria. The IRAP tools *do not* undertake any screening, the results of the IRAP exercise provides Districts with the data they need to identify prioritisation.

An important factor of IRAP is the participatory process of data collection and need identification. These participatory activities have been designed to sit within the prevailing planning process particularly the LSGA and because of this many activities under IRAP take place at the field level. At least two participatory meetings are conducted at settlement level; one meeting for data collection, the second meeting, for intervention identification. It is important to note, that conducting these

meetings may be more time and resource consuming than present practices. Additionally, although IRAP uses a simple form of data analysis, it is more efficient to use a computer for this purpose. The appropriate skills and facilities may not be present in every district and VDC.

Regarding materials required for mapping. The size and scale of maps available may be different from that which is required for the IRAP mapping procedures. It is important to produce maps of a large size, generally A0, however, enlarging facilities may again, not always be available in the districts. It is the local level planner's responsibility to ensure that appropriate maps are available, again, though this is additional work beyond their current planning practices.





Annex I: Steps for Participatory Planning Process (PDDP/LGP)

STEPS	THEME	ACTIVITY	WHO/WHEN
Primary	Information	Data analysis and preparation of resource map	DDC information centre
Step 1	Guidelines	Fix budget Ceiling	NPC/middle of November
Step 2	Revision of guidelines	Revision of guideline and budget ceiling	DDC / Third week of November
Step 3	Planning Workshop	Discussion of plan priority and budget with DDC member and line agency heads	DDC/ End of November
Step 4	VDC meeting	Discussion of possible priority sector and programme / projects at ward and settlement level	VDC/ Third week of December
Step 5	Selection of Projects	Discussion of felt need of community, prioritise projects and fill-up of demand collection Compilation of community demand,	Community/ Third week of December
Step 6	Ward Meeting	prioritisation and recommendation for VDC Compilation of ward level projects, Resource	Ward meeting/ Last week of December
Step 7	VDC Meeting	estimation, Prioritisation, Classification of projects as per resources need, and classify projects to be implemented by VDC and to be forwarded to <i>Ilaka</i> / district level.	VDC/January first week
Step 8	VDC Council Meeting	Approval, with or without alteration, of the VDC Meeting outcomes (Step 7)	VDC Council/ Second week of January
Step 9	<i>Ilaka</i> Level Planning Workshop	Compilation, Prioritisation and Recommendation of projects received from VDC Council.	Coordinated by <i>Ilaka</i> Member / First week of February
Step 10	Sectoral Planning Meeting	Classification of projects recommended from <i>Ilaka</i> level, Prioritisation and recommendation for further processing.	Sectoral Committee of DDC/ Third week of February
Step 11	Integrated Planning Formulation	Inclusion, exclusion and revision of priority of the projects on recommendation of Sectoral Planning Committee.	Integrated Planning Committee of DDC/ End of February
Step 12	DDC Meeting	Compilation and analysis of projects from Sectoral committees and appraisal of compiled projects i.e. environmental, economic and social standpoint, Prioritisation of projects, classification of projects according to resource i.e. implementation through own resource or requires central level resources through sectoral ministry.	DDC / First week of March
Step 13	DDC Council	Approval of programmes and policies of district	Second week of March
Step 14	Implementation	Presents the approved programmes to the central agencies. Implementation of programmes after approval of central agencies	Fourth Week of march / DDC and Line Agencies After approval generally at end of July / DDC and Line Agencies

Annex 2: Accessibility Survey Questionnaire

District Development Committee Accessibility Survey Questionnaire RASUWA

Settlement Name	How do People travel to VDC Center?		
Ward Number	How long does it take them? (hours/minutes)		
VDC Name	How long does it take People to Reach the motorable road head? (time in hours/minutes)		
Total number of Households?	Total Number of People?	Male	Female
Does the Settlement have a Source of Electricity?	If yes, describe the type of source	How many Households are Using this Source?	

Survey/discussion date:

Number of participants: Male:

Female:

Access to Education

Number of Primary School Age Children (6-10 years) in the Settlement?			How many of these are going to School?		How many of these are Not going to School?			
Type of School	Located within Settlement: yes or no?	If not within Settlement: where do majority of Children go?	How many Children go there?	How much Time does it take to reach the School?	How do Students Travel?	Road or Trail or Both?	River Crossings (number and name of river)?	Bridges?
Primary School								
Lower Secondary School								
Higher Secondary School								

Only Complete if there is a School in the Settlement:

Type of School	Total Number of Students?	Coming from what Settlements?	Number of Grades?	Number of Class-rooms?	Number of Teachers?	Physical Status of School (describe and identify problems, if any)?
Primary School						
Lower Secondary School						
Higher Secondary School						
Infrastructure present	Toilet	Water supply		Playground	Library	Science laboratory
Primary school						
Lower secondary School						
Higher secondary School						

Access to Health Services

Service/Facility	Located within Settlement: yes or no?	Travel time?	Bridges?		
Sub Health Post				Where do most People go for Health Services?	
Health Post				How Long does it take them to get There?	
Primary Health Center				Where do most People go to Buy their Medicines?	
Hospital				How Long does it take them to get There?	
Pharmacy					

Only Complete if there is Health Facility in the Settlement:

	Availability of Health Workers	Number of Services days in a week	Does the Facility provide Vaccinations /medicine	Does the Facility have a Laboratory	Permanent building	Other Facilities	
						Toilet	Drinking Water
Sub Health Post							
Health Post							
Primary Health Center							
Hospital							
Pharmacy							

Drinking Water Supply

Water Supplies	Is this Source used by People in the Settlement? (yes/no)	Dry Season			Wet Season		
		What is the Main Source (tick ✓)	Water Fetching Time	Sufficiency for the season	What is Main Source (tick ✓)	Water Fetching Time	Sufficiency for the season
Stream, Canal, Pond, Lake							
Well, Spring							
Piped, Tube well, Tab							
Other (describe)							

Access to Transport Services

Does the road passes through settlement?	yes/no	If yes, how many months operates in a year	What kind of vehicles are coming to the settlements?	Describe the condition of the village road access	
Are public transport services available in the settlement?	yes/no	If yes, how many months operates in a year	What type of transport available with frequency? (Regular)	What are the final destinations of these transport services and the one way fares?	
				destination	fare
				1.	
				2.	
				3.	
Road Access to Settlement	Black topped Road /All weather Road	Well Engineered Sesaonal Road	Unengineered Sesaonal Road	Describe the condition of the road	

Access to Markets

Is there a market in the settlement?	yes/no?	If yes, how often?	Do people from other settlements visit this market?	If yes, from what settlements?
Do traders visit the village?				

Type of market/store	How do they Travel there?	How Long does it take to get there? (hours /minutes)	Is there Road Linkage in the Market ?	Is there Permanent Shed in the Market ?	Other facilities		
					Toilet	Drinking Water	Telephone
Local Market							
Hat Bazar (periodical)							
Main Market (permanent)							

Access to Other Services

Services / facilities	Where do People go for?	How long it takes to	Is the service Travel? regularly?	Is the adequate available	How long will it take to get there? regular? staff and technicians
Making Phone Calls (PCO)					
Post Office					
Agriculture Service Center					
Agriculture Stores (fertilizer/chemicals/ seeds/tools etc.)					
Credit Facility/Bank					
Livestock Service Center					
Other (describe)					
Other (describe)					

Access Problems

Is Physical Access a Problem for:	Big Problem	Minor Problem	No Problem	If big Access Problem, describe why?
	tick appropriate answer			
Primary Education				
Secondary Education				
Health Care				
Drinking Water Supply				
Transport Services				
Electricity				
Agriculture Service Center				
Markets				
Livestock Service Center				
Visiting the VDC Center				
Visiting the DDC Center				
Pharmacy				
(other, describe)				

Access Priorities

What are the 3 Priority Sectors to Improve Physical Access?	What kind of Interventions (Projects) are Needed to Improve Quality Access?
1.	
2.	
3.	

Annex 3: Sample Demand Collection Form

VILLAGE DEVELOPMENT AND SELF-HELP PROGRAMME PROJECT PROPOSAL FORMAT				
1. Project Name:		District:		
2. Place of the project:		VDC:		
		Ward No.:		
3. Type of the project: New / Incomplete / Maintenance				
4. Project benefit (physical):				
a) Number of beneficiary families:		Population:		
b) Beneficiary hectare (irrigation):				
c) Others: Beneficiary Kilometre (road):				
5. Total cost estimate Rs.:				
6. Necessary resources for the project and the share to be borne by the implementing agency:				
S. N.	Resources	Total Amount	Amount to be borne by implementing agency	Amount to be borne by the community or the beneficiary
1	Construction Material			
	a)			
	b)			
	c)			
	d)			
2	Transport			
3	Wage for skilled labour			
4	Wage for unskilled labour			
5	Others			
Total				
Note: The amount to be borne by the implementing agency and the community both should be committed.				
7. Project starting date:		Project completion date:		
8. Arrangement for operation and maintenance of the project:				
9. Name list of Users Committee members:				
10. Anything else:				
11. The above mentioned descriptions are correct.				
Signatory on behalf of the applicant				
Name:				
Signature:				
Date:				
Note: 1. Names of the beneficiaries should be attached.				
2. Detailed description of the project may be attached.				

PROJECT BRIEF FORM								
Settlement Name:		VDC and Ward:		Date of filling this form:				
Name of the project::		Estimated Cost::		District::		Accessibility Index:		
Type of the intervention:		Physical Access ()		a) New facility ()		b) Existing facility ()		
Type of project:		To be completed ()		Maintenance /Rehabilitation ()		New construction ()		
						Priority No.:		
						Physical Infrastructure ()		
						Service Delivery Management ()		
						Management Improvement ()		
	Activity Description	Physical Target	Beneficiary		Investment Sharing Arrangement			Remarks
			Households	Population	Community	Local Authority	Line Agency/Donor	
1.								
2.								
3.								
4.								
5.								
Papers to be attached:		a) List of participants in the meeting b) Cost-estimate details, if available c) User Group Member list, if applicable d) Cost sharing arrangement papers, if applicable						
Planning support official's Name:				Community Representative's Signature:				
Signature:				Name:				
Designation				Designation				

NEED-BASED DEMAND COLLECTION FORM

District:

Settlement Name: VDC and Ward Number:

S. N.	Project Name	Description	Target	Proposed Implementation Period	Beneficiary Household Number	Cost Estimate	Preferred Implementation Mode	Accessibility Index	Priority Number	Remarks
1.										
2.										
3.										
4.										
5.										

- Papers to be attached:
1. Project Brief Form
 2. Users Group Name list, if applicable
 3. Cost Sharing Arrangement, if applicable

Signatory of behalf of the peoples' representative:

Name:

Designation:

Date:



These Guidelines are aimed at strengthening local-level participatory planning system in Nepal by facilitating objective assessment of access constraints of the rural communities to needed services, opportunities and resources. More specifically this planning tool helps identification and prioritisation of need-based local infrastructure projects at the local-level. These Guidelines are based on practical experience of local-level planning and supplement the existing planning system and are compatible with prevailing legal and administrative system of the country.