ASIST
AFRICA

Advisory Support, Information Services, and Training

Integrated Rural Accessibility Planning (IRAP) Modular Training Package

Compiled
by
Serge Cartier van Dissel

International Labour Organisation

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Executive Summary

Throughout sub-Saharan Africa, as well as in many other parts of the world, rural men and women spend a large amount of their time, effort, and money on transport. The transport demands of fetching water and firewood, of agricultural activities, education, health care, employment, and various other basic social and economic needs all constitute a major burden in their everyday lives. Moving along paths, tracks, roads, and (foot) bridges, and using donkeys, ox-carts, bicycles, motor vehicles, but more particularly headloading, rural people in sub-Saharan Africa spend as much as 1.5 hours per person per day on transport. This is time and effort that is spent unproductively, as transport is merely a means to an end, the end being to gain access to a specific socio-economic service or facility.

In the past, transport approaches have focused on transport for economic purposes using (paved) roads and motorised vehicles. Studies carried out in the 1980s showed that most transport in terms of trip quantity, time, and effort was carried out for non-economic subsistence purposes, and away from roads, using non-motorised means of transport (mainly headloading). Furthermore, it was shown that women bore the major part of the transport burden. The main result of these studies, however, was the realisation that rural communities did not necessarily need better transport; it was rather the case that they needed easier access to basic services and facilities, and that better transport was only one way of achieving this. This led to the concept of accessibility replacing the traditional transport approaches.

The International Labour Organisation (ILO), in pursuit of its strategies regarding poverty reduction and employment generation, has been providing technical assistance in support of improving rural accessibility. The major part of this assistance has been carried out through its ASIST programme. ILO/ASIST is a programme that provides Advisory Support and Information Services and Training aimed at mainstreaming poverty alleviation through employment-intensive strategies in basic infrastructure. The programme was established in 1990 in response to growing demands for a centre of specialisation in employment-intensive approaches.

In 1996 the Access and Rural Employment (ARE) component was introduced to complement the existing programme. It was argued that while ASIST could increase the efficiency of infrastructure projects, the effectiveness of this infrastructure depended on other factors. Together with other partners, the efforts of the ILO have led to the development of an Integrated Rural Accessibility Planning (IRAP) tool, one which has been tested and further refined in a number of countries in Africa and Asia.

The IRAP tool is a planning tool for local level planners to plan and prioritise rural investment projects. An easy-to-use cross-sectoral planning tool, it seeks to optimise the use of the scarce resources available. The nine steps of the IRAP process include data collection, entering and analysis, then mapping, validation, and the production of accessibility profiles. This is followed by the prioritisation of interventions, their integration into the district planning system, and their implementation. The final step consists of the monitoring and evaluation of the entire process.

ILO/ASIST has been working together with different countries in sub-Saharan Africa to improve rural accessibility using the IRAP tool. The experiences from these countries, as well as from IRAP training workshops held in Zimbabwe, Uganda, and Malawi have led to the development of this modular training package that is meant for use in the training of local-level planners and other local government staff in the IRAP process. Although some examples from other countries are used, this document is primarily aimed at the sub-Saharan African context.

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Abbreviations

AI	Accessibility Indicator
ARE	Access and Rural Employment
ASIST	Advisory Support Information Services and Training Programme
CEO	Chief Executive Officer
CPF	Community Prioritisation Factor
EMP/INVEST	Employment-intensive Investment Branch
ILO	International Labour Organization
IMT	Intermediate Means of Transport
IRAP	Integrated Rural Accessibility Planning
M&E	Monitoring and Evaluation
NGO	Non Governmental Organisation
VDC	Village Development Committee

Introduction

Introduction

This modular training package is meant for trainers at IRAP training workshops. The document is divided into modules that may be used individually or together. Each module gives its scope and objectives, followed by the necessary preparations and materials, and a list of handouts to be given to the participants. Detailed trainer's notes are also included, giving an explanation of the different steps of the module, the training method (presentation, groupwork, field exercise, *etc*.), the materials used, and the time required.

The modules consist of a theory part, which is handed out to the participants at the end of the module. All theory is presented in summary form during the relevant module and transparencies to facilitate this presentation are also provided for each module. Some modules incorporate one or more exercises to be carried out by the participants during the module. The timing of these exercises is given in the trainer's notes.

It is important to note that this training package is merely a guideline. Based on feedback from participants and the experiences of the trainer, adjustments can and should be made to the training workshop.

Programme

The modular training package consists of 14 modules. The first three deal with the evolution from the conventional transport approach, through the accessibility approach, to the Integrated Rural Accessibility Planning (IRAP) tool. Modules 4 to 12 deal with the different steps of the IRAP process. In Module 13, participants are encouraged to assess the constraints to incorporating the IRAP tool into the existing local-level planning systems and ways in which they can be overcome.

The modules have been kept separate as much as possible in order to give the trainer optimal flexibility in the development of the workshop programme. Days can be optimally filled with a combination of various modules and exercises. It is, however, preferable to combine short modules where this is logical and possible. The proposed programme below gives examples of how this can be done. The programme is based on a period of four and a half days, although this can be extended or shortened if necessary.

DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
Opening	Data collection		Access Profiles and Intervention Prioritisation	The Way Forward
Transport approaches	Data entry and Data analysis	Field exercises (Module 4)		Evaluation and Closing session
The 'Accessibility' concept			Implementation and Monitoring and Evaluation	
Access planning	Mapping and Validation		The Way Forward	

Preparation

Before the start of a module, the trainer should go over the theory. In addition, sufficient copies of the theory, exercises, and any other forms or maps should be made in advance as handouts for the participants. The transparencies should be copied onto overhead transparency sheets for both the presentations and the exercises.

Apart from these general preparations, each module has its own set of individual preparatory requirements. Special attention should be given to the preparation for the field data collection exercise and the site visit. This groundwork requires time and should be started before the workshop begins (see Module 4).

Materials

In general, the following materials will be needed during the workshop.

- Flipchart (paper and preferably 3-4 stands)
- Overhead projector (+ screen)
- Copying machine (if the necessary handouts have not been copied in advance)
- Coloured markers (various colours)
- Masking tape
- Blank transparencies
- Coloured cards
- Background documentation
- Transport for field exercises

Other non-essential materials include the following:

- Camera (for workshop photographs)
- Certificates for participants

This is not an exhaustive list. Each module specifies exactly what materials are needed for it to be completed successfully.

Workshop Report

For future reference, a report on each workshop should be written. This report should include the following:

- Workshop programme
- Participants list
- A short description of the local planning system
- A short description of the various modules and exercises as given
- Results of exercises and discussions
- Photographs
- Speeches
- Agreements on the way forward
- Course evaluation

For reference, workshop reports of earlier IRAP workshops can be used[1] (see the references at the back of this document).

[1]For instance the reports of the workshops held in Zimbabwe, Malawi and Uganda.

Module 1:

(Rural) Transport Approaches

Introduction

Scope

This module introduces the concept of rural transport to the participants, who are subsequently encouraged to examine their own concepts of rural transport. The module then explains the evolution of the (rural) transport approach over the past five decades, from a purely roads-oriented approach to an access-oriented approach, encompassing aspects that are not necessarily related to transport.

Objectives

The objectives Module 1 are:

- To encourage the participants think about their own perception of rural transport as well as the national approach to (rural) transport in their country
- To familiarise the participants with the history of transport approaches, from the traditional focus on roads and motorised transport as an engine for development, to the current accessibility-oriented approach (the concept of accessibility will be dealt with in detail in the next module)

Preparation

No extra preparation is necessary

Materials

The materials to be used in this module are:

- Exercise No. 1.1
- Transparency Nos 1.1 and 1.2
- Flipchart
- Coloured markers
- Masking tape
- Overhead projector

Handouts

The handouts for this module are:

- Exercise No. 1.1
- Theory

Trainer's notes

Key points and activities	Method	Materials	Time
1. Present the objectives of this module	Presentation	• Transparency No. 1.1	2 mins
2. Explain exercise No. 1.1 and divide the participants into groups	Presentation	• Exercise No. 1.1	3 mins
Let the participants carry out the exercise in groups	Groupwork		15 mins
Let the different groups present their findings on flipcharts	Group presentation	• Flipchart	15 mins
Briefly discuss the outcomes	Presentation		5 mins
3. Explain the history of (rural) transport approaches	Presentation	• Transparency No. 1.2	30 mins
4. Discussion and questions	Plenary		10 mins

(Rural) Transport Approaches

Traditionally, development policies have tended to be based on the assumed superiority of *motorised road transport* as the means of meeting movement needs, emphasising the role of the road as an engine of development. Until the 1950s and 1960s, the view prevailed that improvements in transport brought about development and economic growth. Transport was seen as the springboard for economic development through its market-widening effect. This view resulted in heavy investment in the transport sector, with the construction of large road networks in order to open up previously isolated regions in order to encourage economic development. For many developing countries, transport was the largest single sector of investment, with highway construction taking the lion's share.

In the late 1950s a number of researchers re-examined this view, and transport was redefined as a facilitator of development rather than its engine, promoting rather than initiating change. Furthermore, the question of whether it was uneconomic to invest in transport improvements to achieve economic development was raised. Over-investing in roads before the economic and technological conditions that could sustain the resulting networks were in place was leading to large road networks that could not be maintained. A more effective way of promoting economic growth would be through investments in activities that were directly productive. In turn, this could lead to investing in transport only when it was clear that such investments were needed.

However, these views were largely ignored, and transport continued to be seen as a key part of releasing the 'potential' of developing countries. In the following years increased priority was given to agricultural production and rural development, with the mid-1970s marking a shift in priorities and resources in developing countries. The focus shifted away from major trunk roads towards the expansion of secondary and feeder road networks. However the focus remained on roads in spite of the shift towards the rural sector, and rural transport was seen as being synonymous with rural roads. World Bank lending for transport increased sharply during the 1970s and 1980s, and an increasing percentage of this was for rural roads (38% in 1966 and 93% in 1977). Transport research during this period also focused on roads (94% of World Bank funds targeted for transport research was devoted to this sub-sector)[2].

Since the early 1980s considerable evidence has suggested that the major investment programmes in rural roads have not in fact achieved the expected improvement in agricultural production or in the living standards of the rural population. The poor economic performance of developing countries has led to doubts about the ability of many countries to maintain their existing infrastructure, let alone expand it. In addition, the severe foreign exchange shortages suffered by many countries has restricted their ability to import vehicles and spare parts. In Ghana, for example, 70% of the vehicle fleet was found to be inoperative in 1983 due to the lack of imported spares.[3]

[2]Sources: Dawson and Barwell, 1993 and Howe, 1996.

[3]Source: Dawson and Barwell, 1993.

Researchers in a range of different disciplines found that despite the increase in rural road networks, the great majority of the rural population continued to make little or no use of motorised transport. These studies hinted at the existence of a significant transport burden in the rural areas that had hitherto been unrecognised by policy makers. In the mid-1980s a series of studies were initiated in Africa and Asia that transformed the way in which rural transport was seen, effectively linking the provision of transport and other rural infrastructure into a single framework.

Until then, rural transport analysis consisted principally of roadside surveys that focused on road users, effectively excluding from the transport planning process most rural people, who made little or no use of motorised transport. Furthermore, it focused on economic activities (mainly the production and marketing of cash crops), giving little or no attention to social and subsistence activities. This resulted in the strengthening of the bias towards roads and motorised vehicles and the perpetuation of the existing transport model. The studies carried out in the mid-1980s focused on the needs of the rural population rather than the transport system itself. The household was taken as the generator of travel patterns for these studies.

The studies showed that household members spent large amounts of unproductive time and effort on transport, with the latter merely providing a means to an end. The end, for the households and their members, was to obtain access to basic social, economic, and subsistence goods and services. This led to rural transport being seen from a new perspective, *i.e.* in terms of 'accessibility', and how to facilitate access to goods and services for the rural population.

Transparencies 1.1 & 1.2

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Objectives Module 1:
(Rural) Transport Approaches

The objectives of this module are:

- To make participants think about their own perception of rural transport and of the national approach to (rural) transport in their country

- To familiarise participants with the history of transport approaches, from the traditional focus on roads and motorised transport as an engine for development to the current accessibility-oriented approach (the accessibility concept itself will be dealt with in the next module)

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(Rural) Transport approaches

Up to 1960	• Roads and motorised transport are seen as the engine for development
1960s and 1970s	• Role of roads in development questioned by some • Shift in focus to rural roads and rural development • Focus on roads and motorised transport remains strong
1980s	• Role of other rural infrastructure and means of transport in rural transport recognised • Transport for subsistence and social activities brought to light • View of transport in terms of accessibility
1990s	• Development of 'accessibility planning'

Exercise No. 1.1: Rural Transport

Groupwork

In your group, answer the following questions:

- What are the main problems associated with rural transport?
- What are possible solutions to the problems identified above?
- Who are the main stakeholders in these problems and solutions and what are their roles?

Plenary

Present the findings of your group in plenary using a flipchart. The following format can be used:

Main problems:

- Problem 1
- Problem 2

Solutions

- Solution 1
- Solution 2

Stakeholder	Role
Stakeholder 1 Stakeholder 2	Role 1 Role 2

Module 2:

The 'Accessibility' concept

Introduction

Scope

This module aims to explain the concept of accessibility and its relevance to the transport needs of the rural population. The results of the rural transport studies mentioned in the previous module are given.

Objectives

The objectives of this module are:

- To have participants understand the concept of accessibility and its relevance to the needs of rural communities
- To enable participants identify the main aspects that differentiate an accessibility-oriented approach from traditional transport approaches

Preparation

No extra preparation is necessary

Materials

The materials to be used in this module are:

- Transparency Nos 2.1-2.7
- Flipchart
- Coloured markers
- Masking tape
- Overhead projector

Handouts

The handout for this module is:

- Theory

Trainer's notes

Key points and activities	Method	Materials	Time
1. Present the objectives of this module	Presentation	• Transparency No. 2.1	2 mins
2. Explain the different aspects of the accessibility concept	Presentation	• Transparencies Nos 2.2-2.10	1 hour
3. Discussion and questions	Plenary		10 mins

The 'Accessibility' concept

As mentioned in the previous module, the studies carried out in the mid-1980s showed transport as merely a means to an end, with the end for the households and their members being to obtain access to basic social, economic, and subsistence goods and services. This led to a new perspective of rural transport in terms of 'accessibility', and how to facilitate access to goods and services for the rural population.

These studies carried out in Ghana, Tanzania, and the Philippines had several other remarkable results. It was found that:

- Most household transport activities had no economic purposes
- Rural households spent a considerable amount of time and effort on transport
- Most journeys involved carrying small loads over small distances
- Transport in rural areas was generally carried out on foot by headloading
- Ownership of means of transport is low, especially of motorised vehicles
- Most transport takes place off the road, on paths and tracks
- The transport burden falls disproportionately on women

These findings are represented in the following figure:

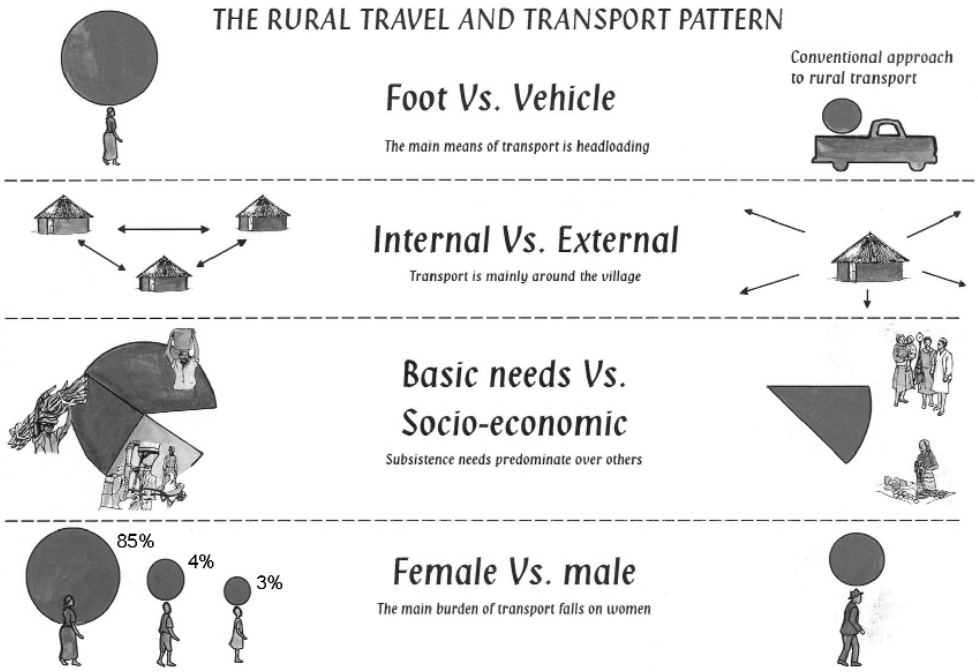

Figure 1: Rural transport patterns

Household transport activities

The studies found that most household transport activities were for subsistence activities, with the majority of trips made being for water collection. Figure 2 shows the percentage of trips made for different activities.

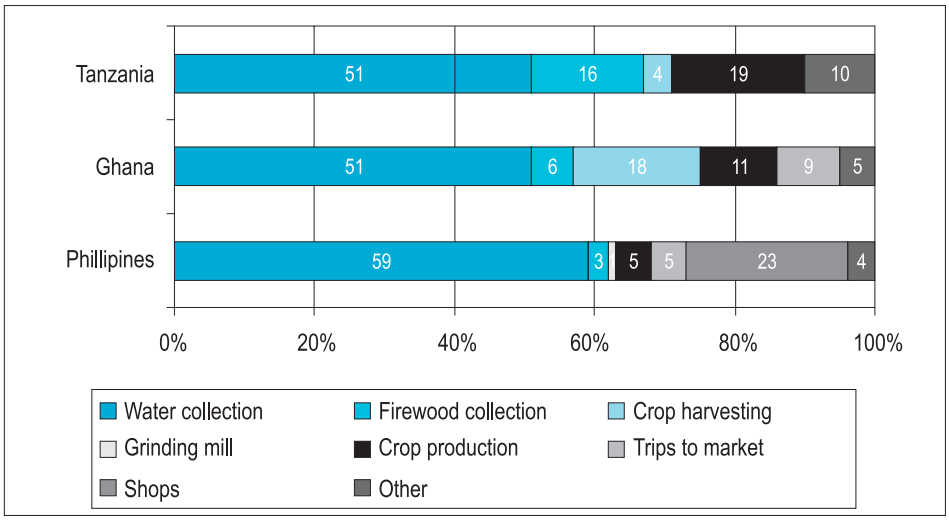

Figure 2: Percentage of trips made for different activities[4]

When looking at the time spent on transport by households, the picture is slightly different. Water collection is less important (though still taking up approximately 25% of time spent on transport) due to the fact that these trips are generally short. Trips over longer distances start to take up a larger percentage, especially trips to markets for the purchase and sale of produce. Figure 3 (below) shows the percentage of time spent of different activities.

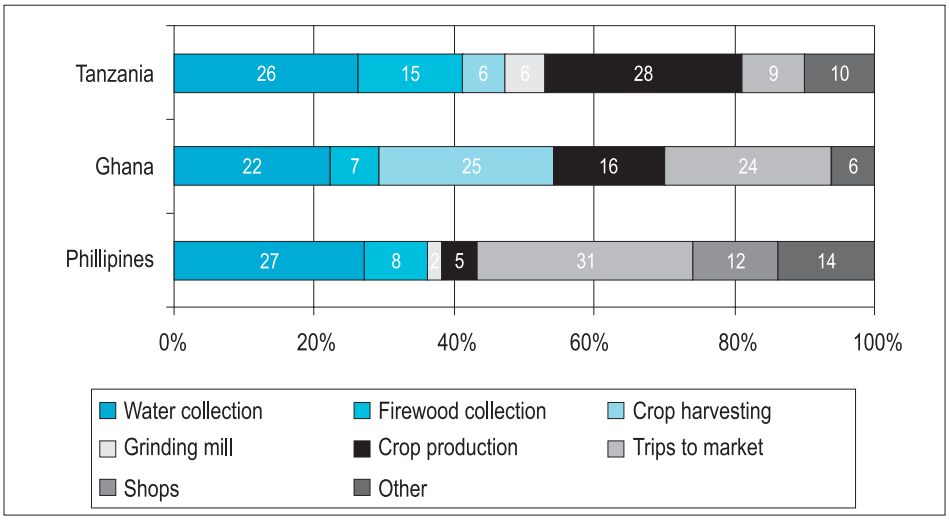

Figure 3: Percentage of time (hours/year) spent on transport for different activities[5]

Again, the picture changes slightly when looking at the effort (expressed in tonne-km[6]) spent on transport by rural households. Water and firewood collection are very important due to the heavy weights transported, whereas trips to markets are dominant due to the long distances involved.

[4]Source: Dawson and Barwell, 1993.

[5]Source: Dawson and Barwell, 1993.

[6]100 tonne-km signifies 100 tonnes transported over a distance of 1 km, or 2 tonnes transported over a distance of 50 km.

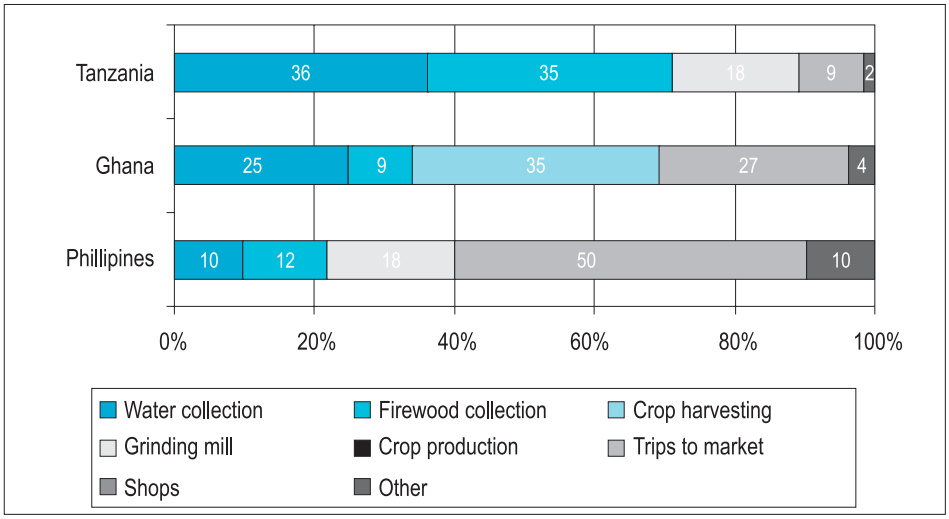

Figure 4: Percentage of effort (tonne-km/year) spent on transport for different activities[7]

In conventional transport thinking, transport was seen to be mainly related to achieving economic purposes, and that the improvement of transport (through roads and motorised transport) would lead to economic growth. These study results, however, show that most rural transport is non-economic in purpose, being mainly related to subsistence (water, firewood, food) and social (health, education) activities. This is illustrated in the following figure:

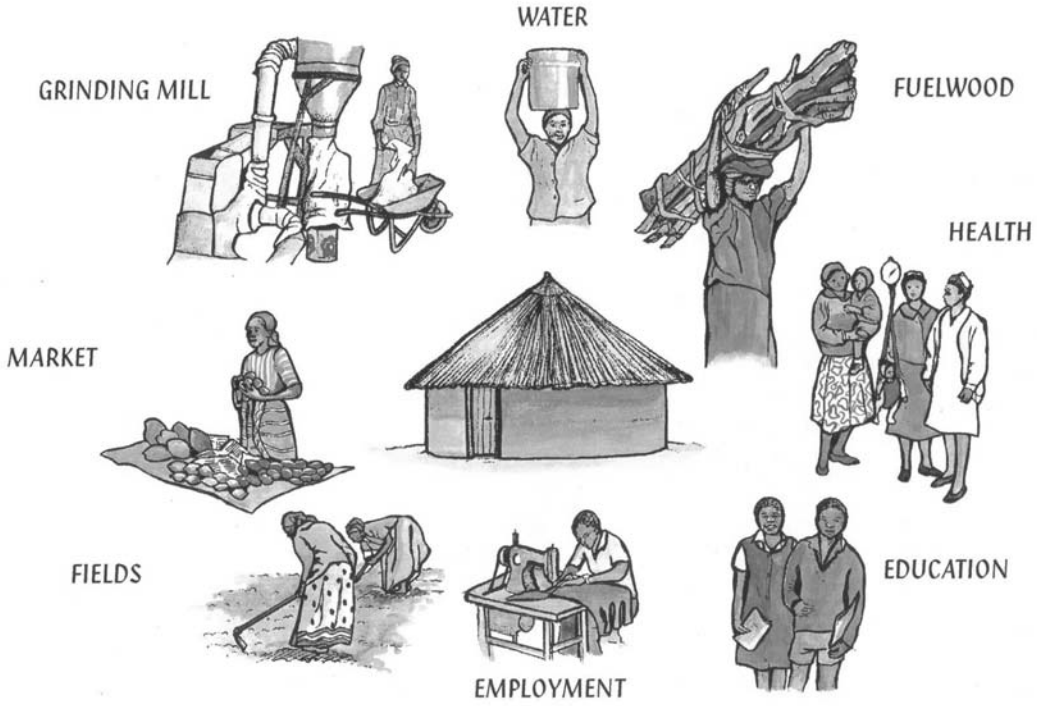

Figure 5: Household access needs

[7]Source: Dawson and Barwell, 1993.

Time and effort

With respect to the absolute time and effort spent on transport by rural households, it was found that a considerable amount of the time available to a household was spent on transport, and that the loads transported and the distances covered were also quite large. In fact, between 20 minutes and 1.5 hours were spent per person per day on transport, moving an average of between 15 and 20 tonne-km per year.

Household transport	Tanzania	Ghana	Philippines
Number of trips per year	1,772	4,224	1,914
Time spent on transport (hours/year)	2,475	4,832	736
Tonne-km transported (tonne-km/year)	87	216	92
Average household size (persons)	4.5	11.9	5.6
Number of trips per person per day	1.08	0.97	0.94
Time spent on transport per person (hours/day)	1.51	1.11	0.36
Tonne-km transported per person (tonne-km/year)	19.3	18.2	16.4

Table 1: Time and effort spent on transport by households[8]

The shorter time spent on transport in the Philippines is due to the greater use of intermediate means of transport, especially on shorter trips. This is obvious in the following table, which shows the average times required by households to reach different facilities.

	Water	Firewood	Cultivated land	Dispensary	Hospital	Grinding mill	Market
Tanzania	0:23	1:38	1:05	1:36	5:40	1:42	3:18
Ghana	0:25	0:43	0:48	1:40	2:38	0:28	2:08
Philippines	0:05	0:27	0:11	0:25	1:54	0:21	2:08

Table 2: Average time required by households to reach different facilities[9]

The fact that so much time is spent on gaining access to basic needs means that less is available for other productive or income-earning activities. In this respect, it is important to realise that transport is a derived need. It is an essentially unproductive activity that is only carried out in order to meet other needs. If the transport burden were reduced, household labour resources would be released for other more productive or socially beneficial activities. For rural households to be able to move from subsistence to higher levels of production and earnings, they must first be able to meet basic needs, and ideally spend less time and effort in doing so.

The conventional transport model, with its assumptions of increased agricultural production, was based on the premise that rural households had sufficient time available to take advantage of the opportunities provided by improved transport (roads and motor vehicles). However, these studies show that a lot of time and effort is spent on transport for subsistence purposes, leaving little time for economic activities. The provision of roads and motorised vehicles has had little impact on easing this burden, explaining, to a certain extent, the lack of use made of the improvements in transport.

[8]Sources: Dawson and Barwell, 1993 and Edmonds, 1998.

[9]Source: Dawson and Barwell, 1993.

'Internal' versus 'External'

When looking at the different services and facilities that are accessed by rural households, it is clear that these can be differentiated into two groups. On one hand, is 'internal' transport for services and facilities within and near the village. This encompasses trips for water and firewood collection to trips to fields for crop production and harvesting. On the other hand, 'external' for services and facilities outside the village. This includes trips to health facilities, grinding mills, and markets, as well as travel to places within and beyond the district. From this perspective, it can be seen that the large majority of transport is 'internal', as Figure 6 shows.

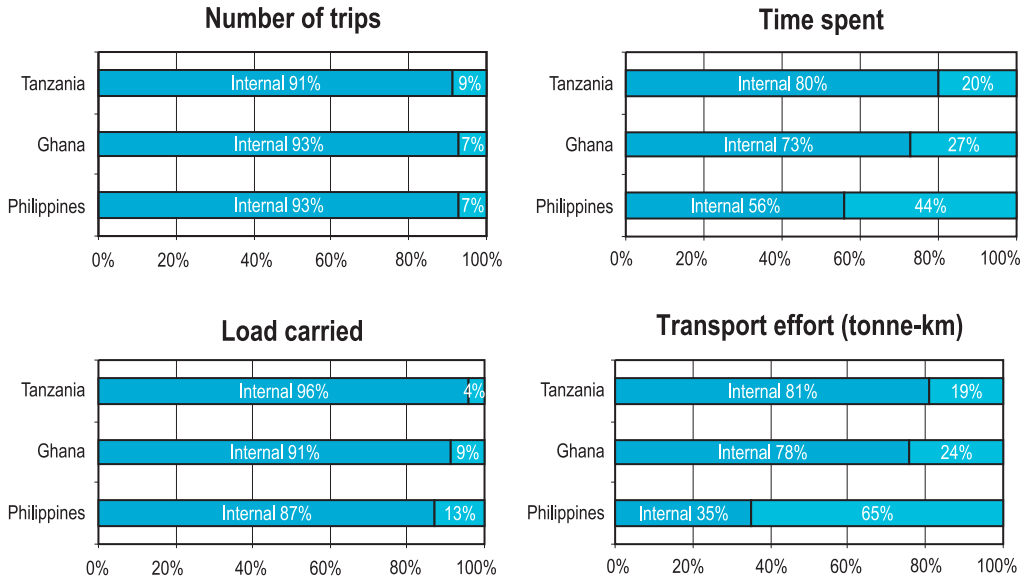

Figure 6: Internal versus external transport[10]

Again, the traditional transport approach assumed that transport was mainly 'external', i.e. between villages and places outside the village. The studies show that most transport time is spent 'internally', and that the major part of the load is transported within or near the village.

Means of transport

When looking at the means of transport used, it was found that the majority of transport took place by headloading. The use of motorised vehicles was extremely low and usually for longer distances. Intermediate Means of Transport (IMTs) were used for shorter distances, although ownership and use was relatively low. The bicycle was found to be the most common vehicle in Africa, with 28% of households in Ghana and 6% in Tanzania owning a bicycle. To a lesser extent, donkeys were also used. In the Philippines, a much greater range of IMTs were found, with some 65% of households owning a vehicle of some sort. As the studies of the mid-1980s do not give the disaggregated data for IMT use, the figures below use data from a more recent study in Zimbabwe.

[10]Source: Dawson and Barwell, 1993.

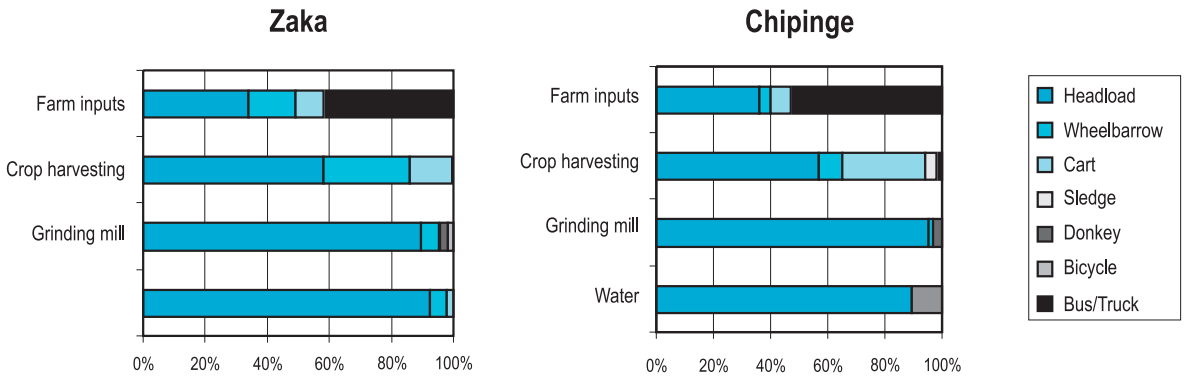

Figure 7: IMT use for different transport activities in Zimbabwe[11]

Whereas the traditional transport approach assumed the main means of transport would be motorised, these and later studies show that most transport is actually by headloading. If any other means of transport is used, it is generally a non-motorised IMT.

Transport Infrastructure

The same studies also showed that transport generally takes place off the road, on paths and tracks. This is linked with the findings mentioned earlier, in the sense that roads play only a minor role for transport within or near the village. Furthermore, the main means of transport is by foot, or the use of an IMT, neither of which necessarily need roads. Headloading, wheelbarrows, donkeys, bicycles, and, to a certain extent, sledges can be easily used on footpaths, whereas carts only need a basic track that is wide enough to accommodate them. Many facilities that people need to reach are also found away from the road (water sources, fields, *etc.*), making people dependent on other forms of transport infrastructure. Those roads that seemed so important in the traditional transport approach only play a very minor role in day-to-day rural transport.

The transport roles of men and women

As has already been mentioned, it was found that women carried out as much as 80 to 90 % of the transport tasks. As women are responsible for most subsistence tasks in many cultures, and as these tasks imply a large transport burden, women tend to spend much more time and effort on transport than men. Men, on the other hand, tend to spend most of their transport time on economic activities. When the household moves into marketing surplus produce, the proportion of the total transport task carried out by women tends to drop (in Ghana, for instance, the percentage of transport tasks carried out by women is 60 to 70%). However, their actual burden is increased due to the additional transport of produce from fields and to markets. The data describe a major transport burden for women. A typical woman in Tanzania spends 1,650 hours per year on transport, *i.e.* over 30 hours per week or over 4 hours per day. In Ghana, a typical woman spends 1,000 hours per year on transport, or nearly 20 hours per week. These figures are equivalent to 80% and 50% respectively of the time a typical worker would expect to devote to a conventional full-time job, yet they must be undertaken in addition to the many other

[11]Sources: ILO and E. Mudzamba, 1997, and ILO and T. Mbara, 1997.

domestic and other duties. A typical adult male in Tanzania and Ghana spends about 10 hours and 7 hours per week on transport respectively.[12] The figure below shows some of the differences found in terms of both total time and effort spent, and in the distribution of this time and effort over the different transport activities.

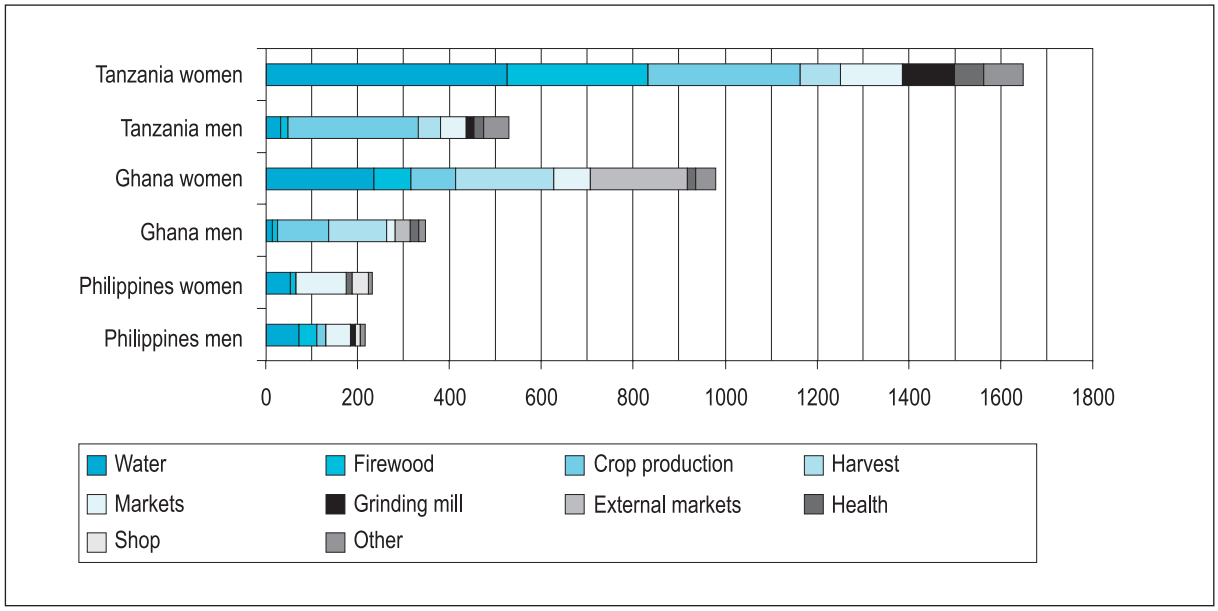

Figure 8: Time spent on transport by men and women (hours/year)[13]

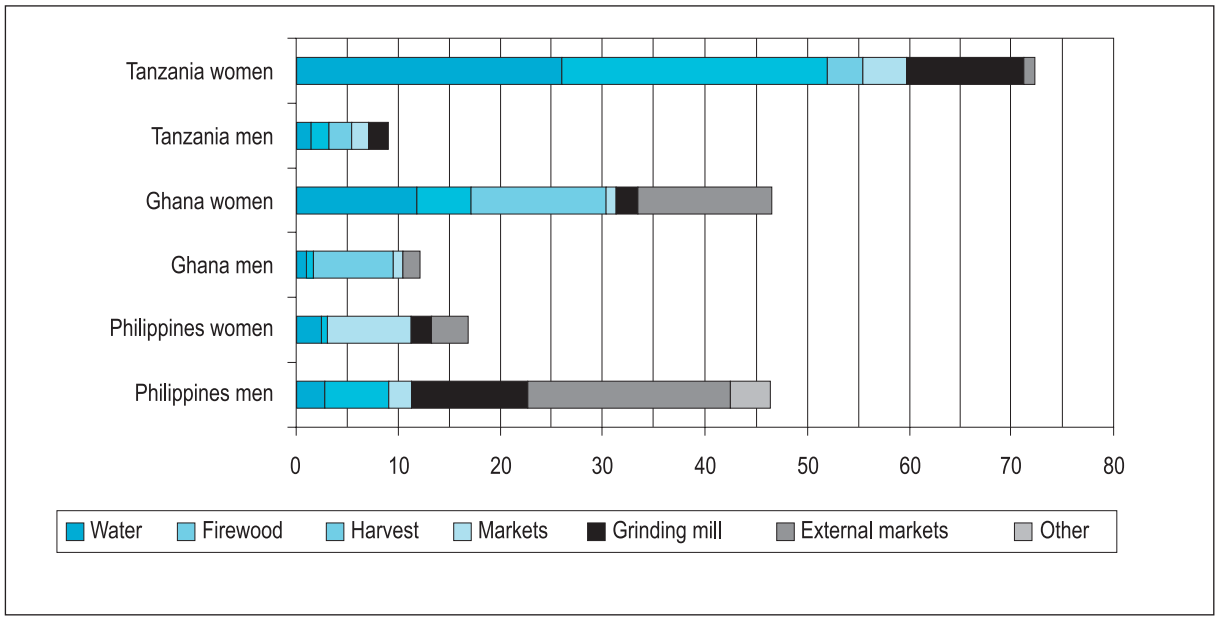

Figure 9: Effort spent on transport by men and women (tonne-km/year)[14]

[12]Source: Dawson and Barwell, 1993.
[13]Source: Dawson and Barwell, 1993.
[14]Source: Dawson and Barwell, 1993.

Studies have further shown that the ownership and use of IMTs and motorised vehicles is much lower for women than for men. This is partly due to the fact that these means of transport are generally used for transport for economic activities over longer distances, an activity that is more often done by men than by women. Yet even when an IMT is not being used by a household, women tend to revert to headloading for their transport activities. This is largely due to the fact that men decide on IMT use and do not consider women's time valuable enough to warrant the use of an IMT. Also, to a certain extent, the transport activities of women may preclude the use of certain IMTs due to difficulties in accessing the resources concerned (e.g. natural water sources may be difficult to access using a cart). As the studies carried out in the mid-1980s have no disaggregated data on IMT use, the data from one district in the Zimbabwe study have been used to give an indication of IMT use by men and women in Figure 10.

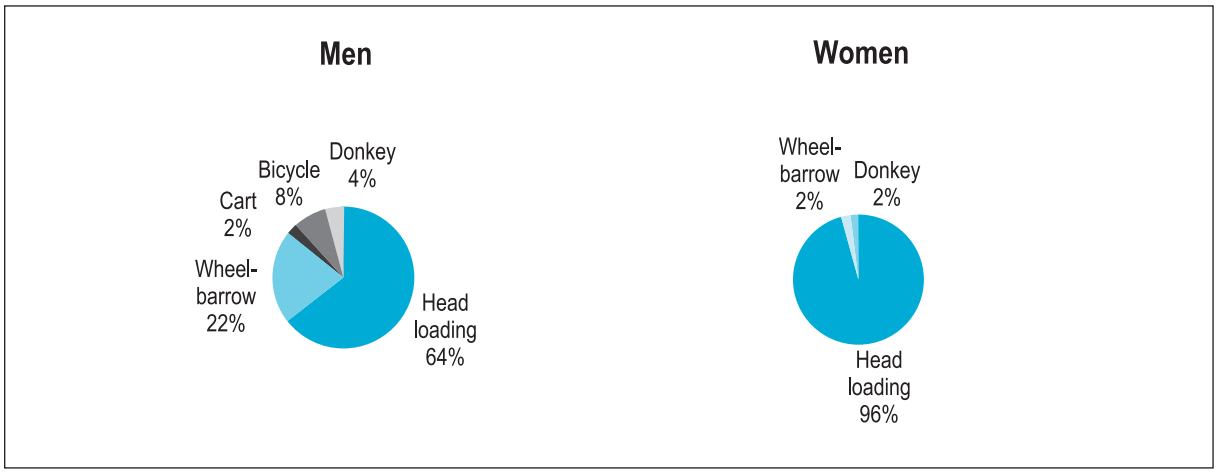

Figure 10: IMT use by men and women for transport to grinding mills in Zaka district[15]

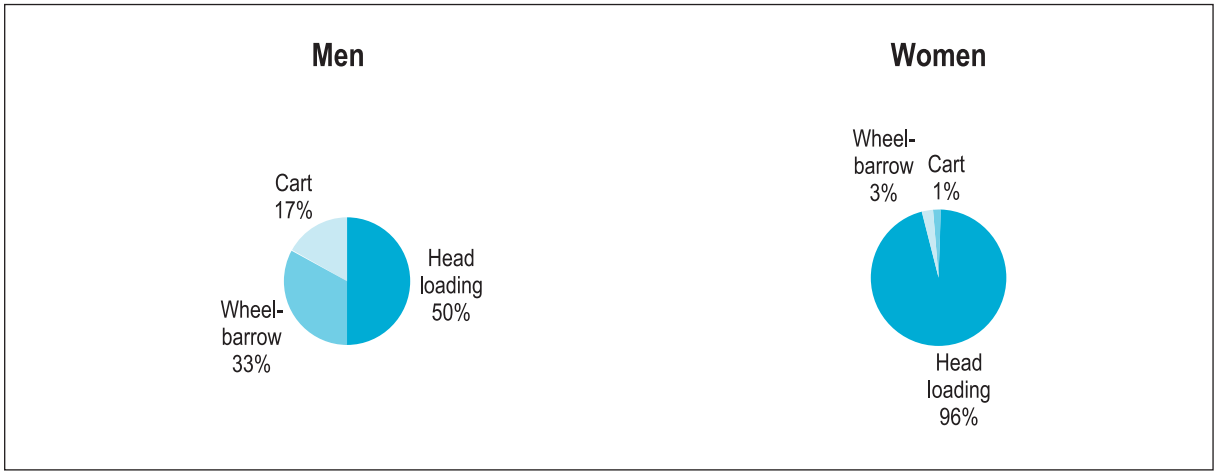

Figure 11: IMT use by men and women for water collection in Zaka district[16]

[15]Source: ILO and E. Mudzamba, 1997.

[16]Source: ILO and E. Mudzamba, 1997.

Access versus traditional transport concepts

Transport is the means by which people gain access to the facilities and services they need for everyday life. Transport is therefore a means to an end, the real need is access. Rural households need access to an increasing range of facilities and services as they develop economically and socially. Without this access, development will be restricted.

Transport involves time, effort, and cost. These are the measures of the level of access to facilities; if they are too high they constrain opportunities and potential for development. The aims of the access concept should therefore be to minimise the need for transport and to make that which is essential as efficient and cost-effective as possible.

Minimising need can be achieved by locating services and facilities closer to the users, which is an example of a non-transport solution to what seems to be a transport problem. As the studies state, 'the efficient planning and siting of services complements and, for some facilities, is more effective than measures to improve mobility'. This extends the matter beyond the transport sector, encompassing broader rural planning issues, and argues the case for an integrated approach to rural transport planning. It is mainly for this reason that the term 'accessibility' is used in preference of the term 'transport', for it covers both transport and non-transport issues.

Accessibility takes into account the findings of the studies. It not only looks at roads and motorised transport over larger distances for economical purposes but also takes into account:

- Other forms of infrastructure such as paths, tracks and water crossings
- Other means of transport, especially IMTs
- Other transport purposes, especially subsistence transport activities
- Transport over shorter distances within and near the village
- Time as a major indicator of transport ease or difficulty
- The large role women play in rural transport
- The location of facilities and services as a means of easing the transport burden

Accessibility is therefore a much more comprehensive approach to the problems of transport in the rural areas. On one hand it places transport where it should be – as a facilitator of development, whilst on the other it recognises that there are alternative non-transport solutions to transport problems.

Transparencies 2.1 – 2.10

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Objectives Module 2:
The 'Accessibility' Concept

The objectives of this module are:

- To have participants understand the concept of accessibility and its relevance to the needs of rural communities
- To enable participants identify the main aspects that differentiate an accessibility-oriented approach from traditional transport approaches

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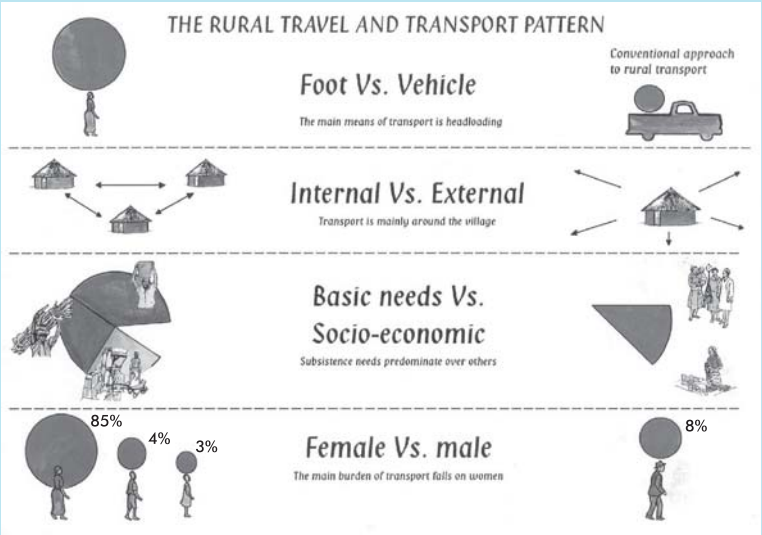
(Rural) Transport Studies

The studies carried out in Ghana, Tanzania, and the Philippines in the mid-1980's showed that:

- Most household transport activities are not carried out for economic purposes
- Rural households spend a considerable amount of time and effort on transport
- Most journeys involve carrying small loads over small distances
- Transport in rural areas is generally carried out on foot and by headloading
- Ownership of the means of transport was restricted for motorised vehicles in paticular
- Most transport takes place off the road, on paths and tracks
- The transport burden falls disproportionately on women



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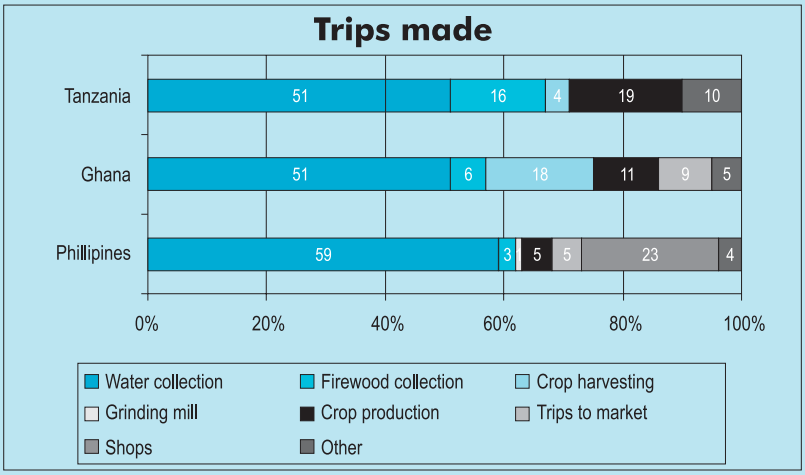
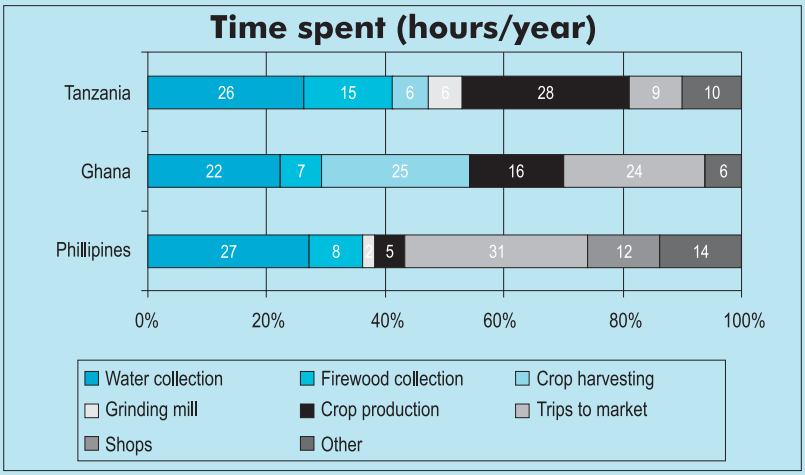
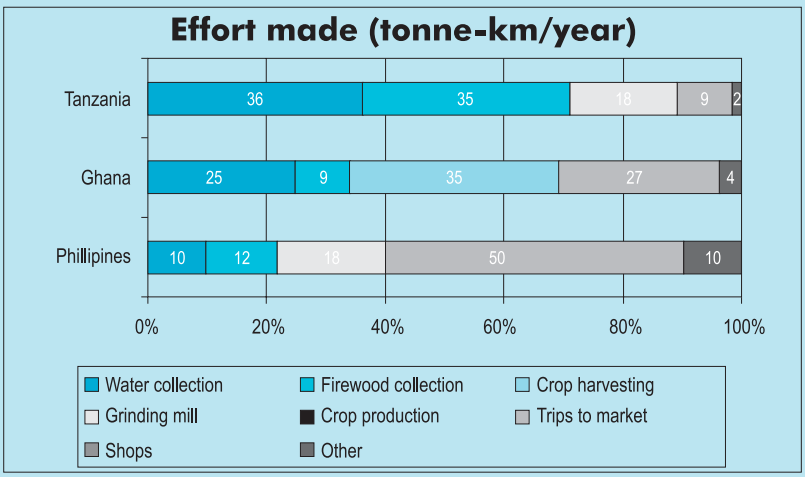
Household Transport Activities







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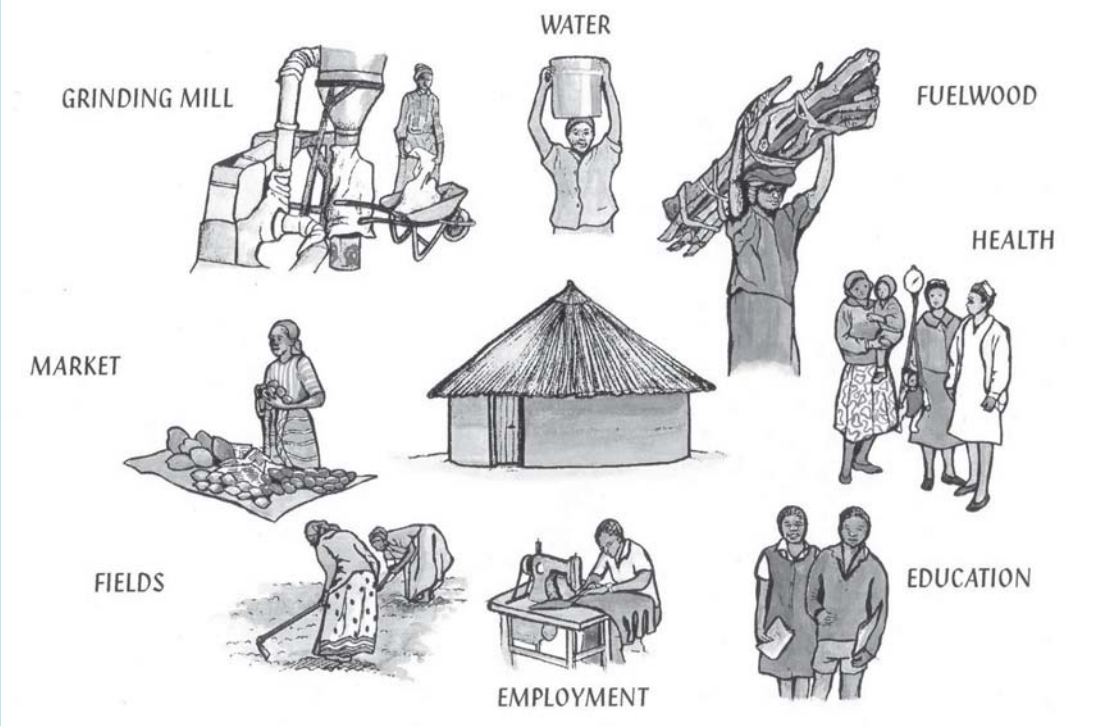
Household access needs



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Time and effort spent on transport by households

Household transport	Ghana	Tanzania	Philippines
Number of trips per year	4,224	1,772	1,914
Time spent on transport (Hours/year)	4,832	2,475	736
Tonne-km transported (Tonne-km/year)	216	87	92
Average household size (Persons)	11.9	4.5	5.6
Number of trips per person per day	0.97	1.08	0.94
Time spent on transport per person (hours/day)	1.11	1.51	0.36
Tonne-km transported per person (tonne-km/year)	18.2	19.3	16.4

Average time required by households to reach different facilities

	Water	Fire-wood	Cultivated land	Dispensary	Hospital	Grinding mill	Market
Ghana	0:25	0:43	0:48	1:40	2:38	0:28	2:08
Tanzania	0:23	1:38	1:05	1:36	5:40	1:42	3:18
Philippines	0:05	0:27	0:11	0:25	1:54	0:21	2:08

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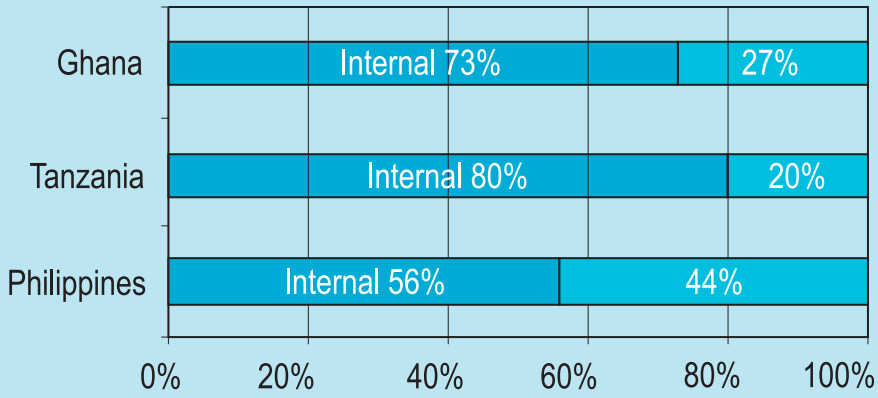
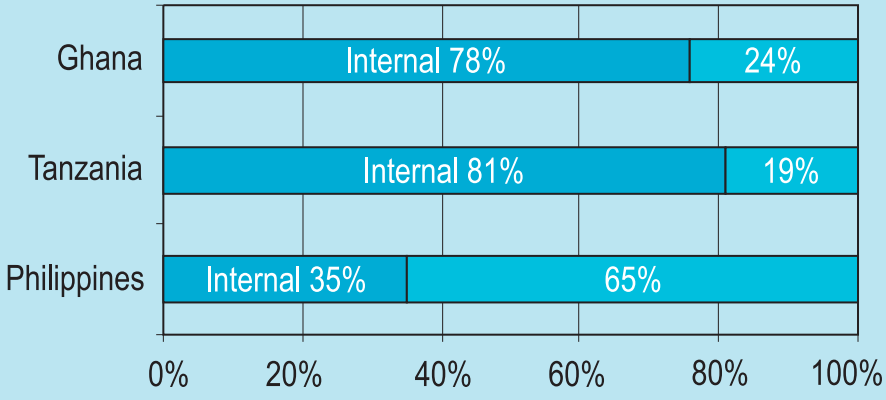
'Internal' versus 'External' transport

Time spent



Transport effort (tonne-km)



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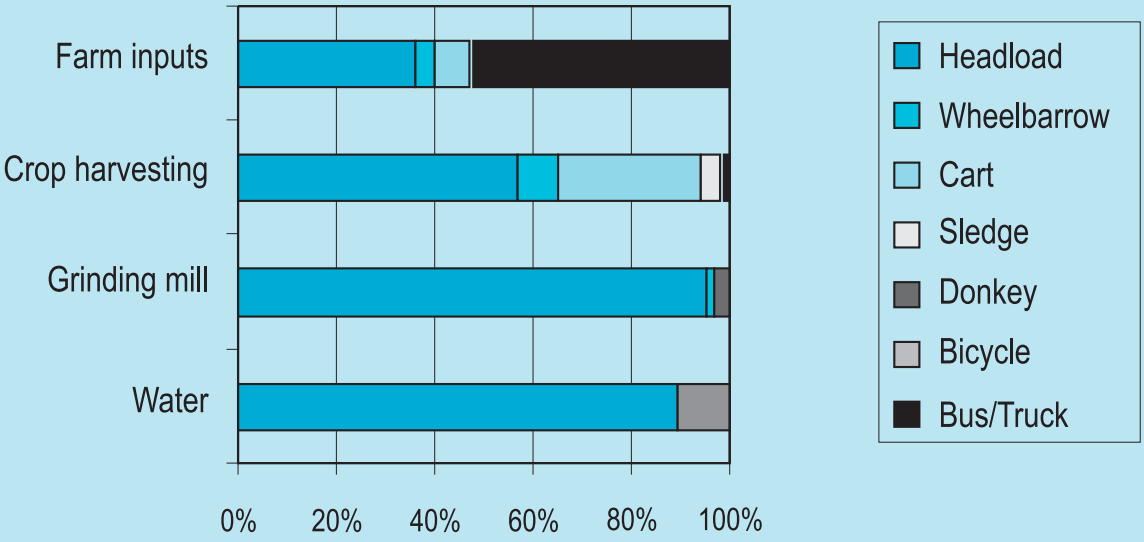
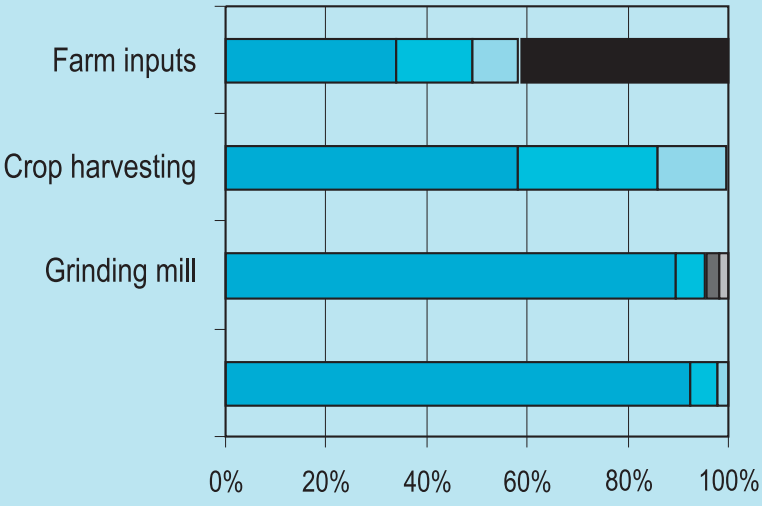
Intermediate Means of Transport use for different transport purposes

Chipinge



Zaka



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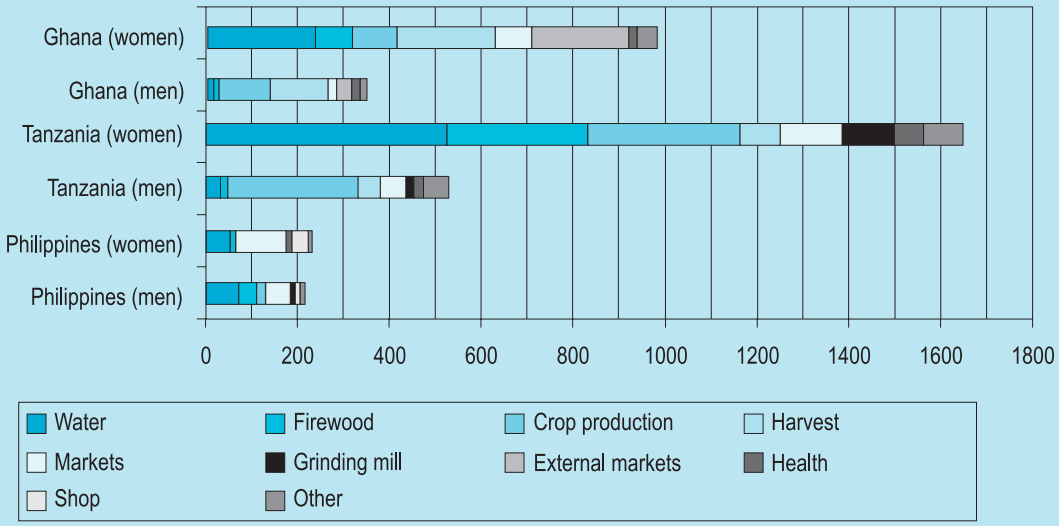
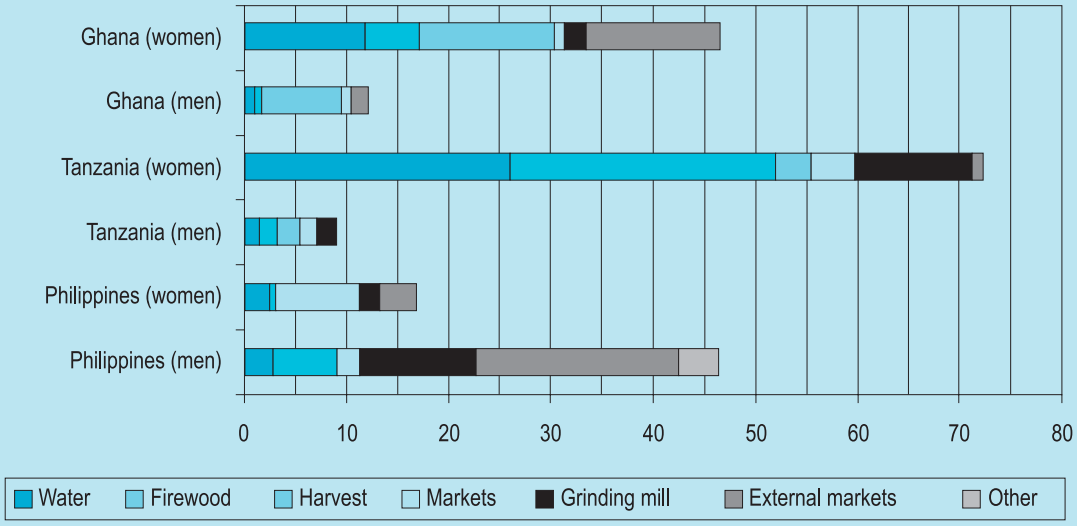
Gender Distribution of Transport Activities

Time spent on transport by men and women (Hours/year)



Effort spent on transport by men and women (Tonne-km/year)



Transparency No. 2.8
Gender distribution of transport activities

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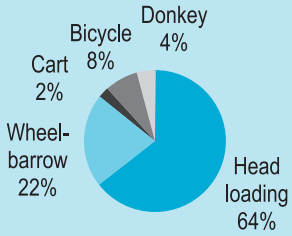
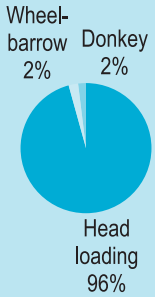
IMT use by men and women in Zaka district

Grinding mills

Men

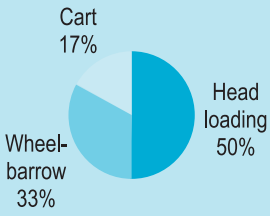


Women

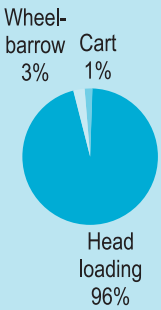


Water collection

Men



Women



Transparency No. 2.9
Gender distribution of IMT use

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Accessibility not only looks at roads and motorised transport over larger distances for economical purposes but also takes into account:

- Other forms of infrastructure such as paths, tracks, and water crossings
- Other means of transport, especially IMTs
- Other transport purposes, especially subsistence transport activities
- Transport over shorter distances within and near the village
- Time as a major indicator of transport ease or difficulty
- The large role women play in rural transport
- The location of facilities and services as a means of easing the transport burden

Module 3:

Accessibility Planning

Introduction

Scope

This module aims to explain accessibility planning and its relevance to the transport needs of the rural population. It also presents the IRAP tool and the different steps it involves. These steps will be explained in more detail in the modules that follow.

Objectives

The objectives of Module 3 are:

- To ensure the participants understand what is meant by access planning
- To present the IRAP process and explain, in general terms, the different steps involved

Preparation

No extra preparation is necessary.

Materials

The materials to be used in this module are:

- Transparency Nos 3.1-3.4
- Overhead projector

Handouts

The handout for this module is:

- Theory

Trainer's notes

Key points and activities	Method	Materials	Time
1. Present the objectives of this module	Presentation	• Transparency No. 3.1	2 mins
2. Explain accessibility planning and the IRAP tool	Presentation	• Transparency Nos 3.2-3.4	20 mins
3. Discussion and questions	Plenary		10 mins

Accessibility Planning

The realisation that accessibility is a better approach to the problems of rural transport has led to a need for a planning system that incorporates each of its different aspects. As a result of the studies carried out in Ghana, Tanzania, and the Philippines, pilot projects were started in Malawi and the Philippines so as to develop a prioritised system of planning interventions based on the access of rural households to basic economic and social services. In the Philippines, major developments took place between 1990 and 1995, leading to the development of a prioritisation process based on the time taken to reach particular services as a measure to prioritise access improvements to services.

The process recognised that accessibility has three elements:

- The location of the individual or household
- The location of the service or facility which needs to be accessed
- The link between these two factors

Based on the above, accessibility planning thus looks at the following aspects of access:

- Transport infrastructure
- The means of transport
- Transport services
- The location of facilities and services

The process that has evolved focuses on the household as the unit of generation of transport journeys. Data is collected at household level on the time taken, the manner in which households obtain access (infrastructure, means of transport, and transport services used), and what services and facilities are accessed and their location. The analytical procedure results in a demand-oriented definition of access or transport need. This uses numbers of households and the time they take to obtain access as a basic indicator of the need for better access.

The data is used to identify a set of interventions that would most effectively reduce the time and effort involved in obtaining access to supplies, services, and facilities. These interventions could be either transport (in terms of rural infrastructure, the means of transport or transport services), or non-transport (in terms of better distribution or the most appropriate siting of services and facilities).

The evolution of accessibility planning led to the development of the Integrated Rural Accessibility Planning (IRAP) tool. IRAP is the result of a continuous process of methodology development undertaken in a number of countries since the end of the 1980s, namely Bangladesh, Malawi, India, the Philippines, Tanzania, Zambia, Zimbabwe, and, most recently, Lao People's Democratic Republic (PDR). The differing contexts have permitted an exploration of different aspects of the methodology. IRAP is multisectoral in its approach, although it can also be used in planning for a specific sector. It is a needs-based, local-level planning tool that aims to ensure that infrastructure investments are directed towards the most urgent needs of rural communities.

Integrated Rural Accessibility Planning (IRAP):

- Is a **local-level planning tool** that starts from the notion that rural people's lack of access to goods and services is one of the fundamental constraints to their development.
- Uses **households as the main focal point** of the planning process and considers all relevant aspects of a household to access basic, social, and economic services.
- Is a planning tool based on a **comprehensive data collection** system. However, IRAP remains focused on access, transport, and appropriate infrastructure facilities.
- Is a tool that uses a **bottom-up** approach, involving communities at different stages of the planning process.
- Is a tool that looks at **gender** and gender patterns when considering the access needs of the various members of a household.

IRAP guides users in identifying the access needs of households and the most appropriate interventions to reduce present transport burdens. It also provides an indication of the complementary measures that are needed so that specific interventions can have the greatest possible impact.

IRAP is a planning tool that enables local-level planners to facilitate local development through the diagnosis and promotion of the most cost-effective set of interventions in order to meet the actual needs of rural populations for access to the goods, services, and opportunities needed to improve their standard of living and raise their productivity. The IRAP process is basically structured as follows:

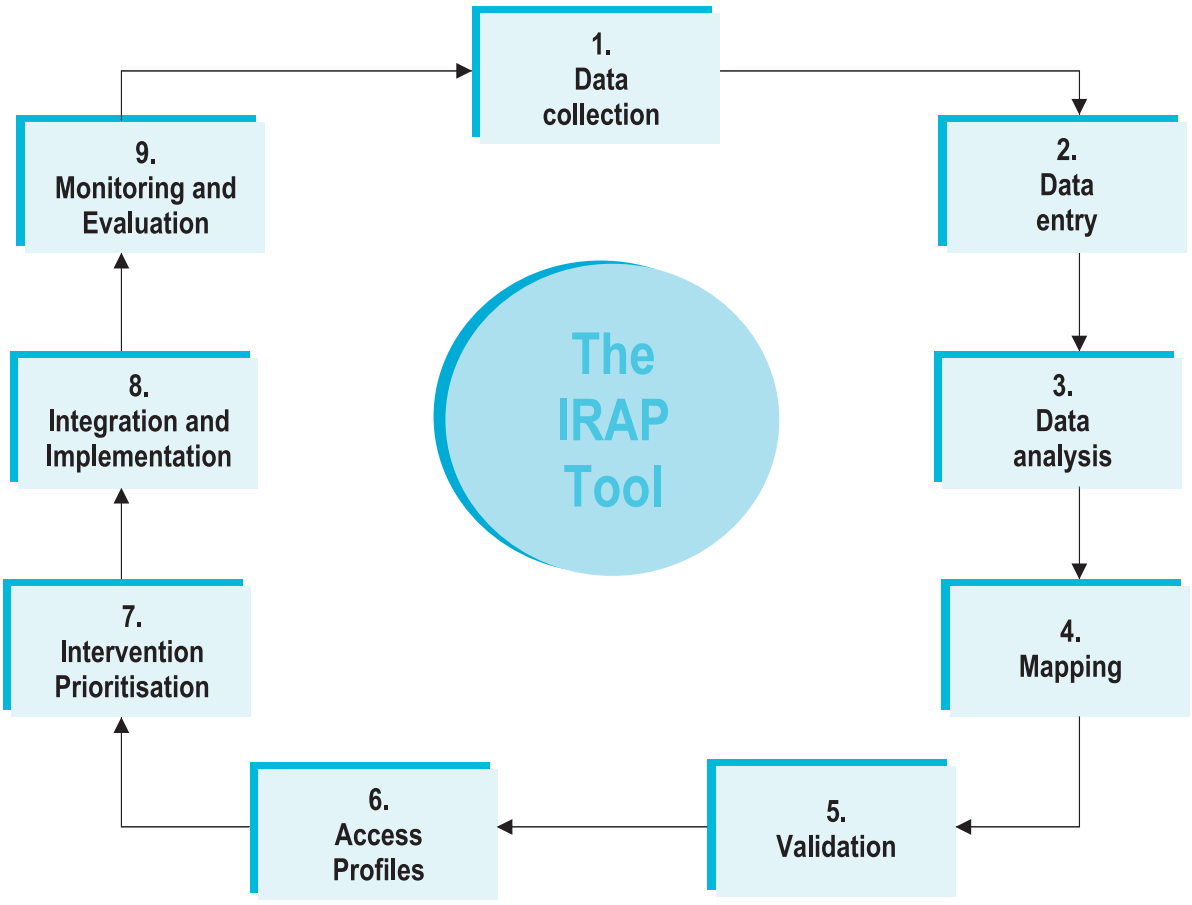

Figure 12: The IRAP process

The process shown on the previous page is usually preceded by a planning and training stage in which data enumerators and data entry clerks are trained for the data collection. Planners are also trained in data analysis and mapping, as well as in the subsequent steps in the IRAP process.

Data collection (Step 1) is the first exercise. Enumerators hold interviews with key-informant groups and households of target villages in the district, using questionnaires on accessibility in all sectors. Data is collected on the existing transport, travel, and access problems, and prioritised possible interventions for improvement.

Data processing (Step 2) involves encoding data and processing it into a computerised database.

Data analysis (Step 3) of the encoded data leads to specific information on access in all sectors. The information can be grouped for different administrative levels. Tables and graphs help the users to interpret the results.

Mapping (Step 4) assists in visualising the accessibility situation. Combining maps and overlays of different sectors will help identify the best possible solutions to achieve integrated and cost-effective access interventions.

Validation workshops (Step 5) are held to verify the data analysis output and to formulate and discuss problems and priorities, and identify interventions with the local representatives.

Access profiles (Step 6) include ranked villages and districts/wards for each sector. The profiles provide descriptive information on facilities and services. The priorities of the people themselves are listed, as are the preliminary solutions they suggested.

Prioritisation and formulation of interventions (Step 7) is the next logical step in addressing accessibility needs at the different administrative levels. Local authorities formulate proposals or alternatives to village proposals that go beyond the scope of individual villages. It is now possible to relate this assessment to local targets.

Integration and implementation (Step 8) is the stage in which the proposed interventions are integrated into the local-level planning system and are included in local development projects, ready for implementation. (Although IRAP is a tool for the identification and prioritisation of interventions, they should still be incorporated into the local development plan.)

Monitoring and evaluation (Step 9) is the final step in the IRAP cycle. Feedback is required to improve the effectiveness of all nine steps, and the results of interventions have to be assessed against the defined targets and objectives and the intended outcomes.

Transparencies 3.1 – 3.4

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Objectives Module 3: Access Planning

The objectives of this module are:

- For participants to understand what is meant by access planning
- To present the IRAP process and explain, in general terms, the different steps involved

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Aspects of Accessibility Planning

The accepted theory is that accessibility has three elements:

1. The location of the individual or household.
2. The location of the service or facility which needs to be accessed.
3. The link between these two factors.

Based on this, accessibility planning looks at the following aspects of access:

- Transport infrastructure
- Means of transport
- Transport services
- Location of facilities and services

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Integrated Rural Accessibility Planning

- IRAP is a **local-level planning tool** that starts from the notion that rural people's lack of access to goods and services is one of the fundamental constraints to their development.
- IRAP uses **households as the main focal point** of the planning process and considers all relevant aspects of a household to access basic, social, and economic services.
- IRAP is a planning tool based on a **comprehensive data collection** system. However, IRAP remains focused on access, transport, and appropriate infrastructure facilities.
- IRAP is a tool that uses a **bottom-up** approach and involves communities at different stages of the planning process.
- IRAP is a tool that looks at **gender** and gender patterns when considering the access needs of the various members of a household

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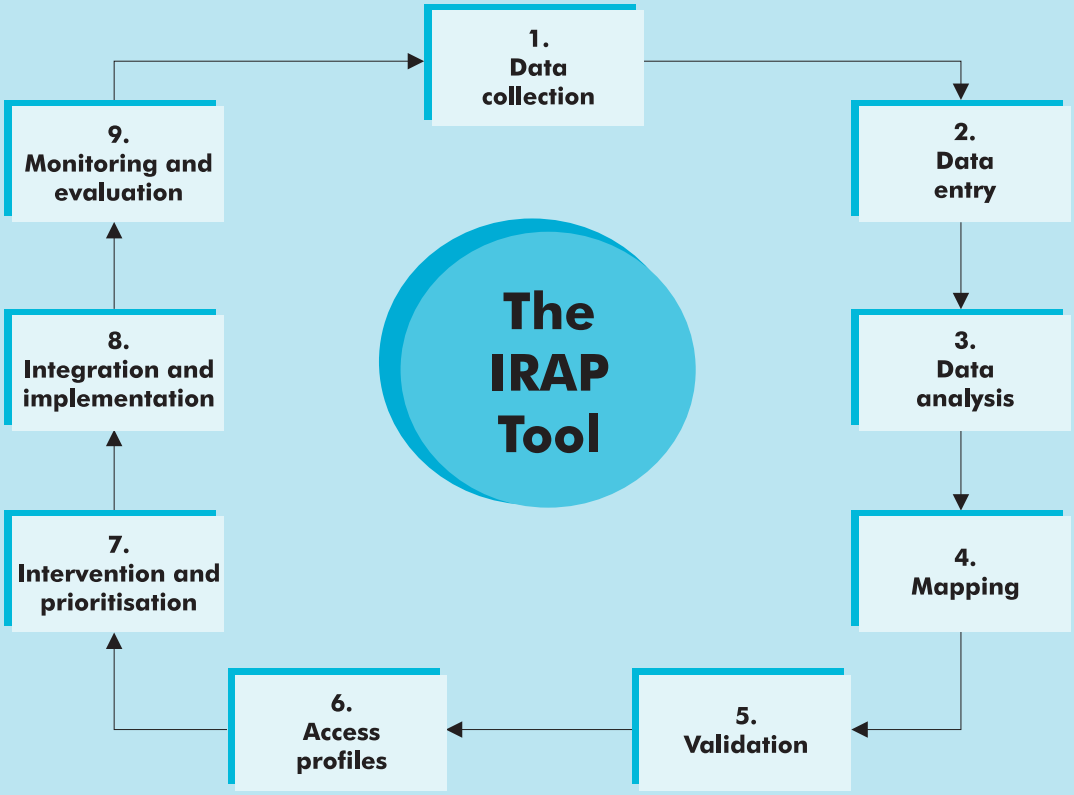
The IRAP process



Module 4:

Data collection (IRAP Step 1)

Introduction

Scope

This module aims to explain the data collection step of the IRAP process. Although the field data collection exercise and the site visit may take place on different days, they have both been included in this module. The preparations for these exercises have therefore been included in this introduction.

Objectives

The objectives of Module 4 are:

- To ensure participants understand the data collection step of the IRAP process
- For participants to gain experience with data collection and to identify both the difficulties and the changes necessary to suit their specific context
- For participants to understand the resources needed for the data collection exercise

Preparation

The field data collection exercise needs advance preparation. Three villages need to be identified for data collection. Approval of local leaders should be sought for conducting the interviews. Households and key-informant groups need to be identified and informed of the objectives of the exercise, and a time and location for the interviews has to be decided on.

A suitable site for the site visit needs to be identified. Preferably, this should be a site with a clear access problem. Approval of local leaders and representatives should be sought before a site is visited and interviews held.

Transport for the participants to both the field exercise and the site visit should be arranged.

As these two exercises require a full day, a packed lunch should be arranged.

Materials

The materials to be used in this module are:

- Exercise Nos 4.1-4.3
- Transparency Nos 4.1-4.7
- Flipchart
- Coloured markers
- Masking tape
- Overhead projector
- Household questionnaire
- Key-informant questionnaire
- Transport

Handouts

The handouts for this module are:

- Theory
- Exercise Nos 4.1-4.3
- Household questionnaire
- Key-informants questionnaire
- Dos and Don'ts in data collection

Trainer's notes

Key points and activities	Method	Materials	Time
1. Explain the objectives of the module	Presentation	• Transparency No. 4.1	2 mins
2. Explain Exercise No. 4.1 and divide the participants into three groups and assign each a sector	Presentation	• Exercise No. 4.1	3 mins
Let the participants carry out the exercise in groups	Groupwork		15 mins
Let the groups present their findings using flipcharts	Group presentation	• Flipchart	15 mins
Briefly discuss the outcomes, focusing on data quality and missing (access) data needs	Plenary		5 mins
3. Explain the theory of data collection	Presentation	• Transparency Nos 4.2-4.6	30 mins
4. Discussion and questions	Plenary		10 mins
5. Explain the data collection and the site visit exercises, divide the participants into groups, and explain the logistical arrangements	Presentation	• Transparency No. 4.7	10 mins
6. Briefly explain the questionnaires. Emphasis that questionnaire is a sample that would need to be adapted to the local situation		• Household questionnaire • Key-informants questionnaire	15 mins

Field Exercises

Key points and activities	Method	Materials	Time
1. Transport the different groups to their villages, and assure that each sub-group can find their interviewees	Fieldwork	• Transport	30 mins
Let the (sub-)groups carry out the interviews of Exercise No. 4.2. Visit as many (sub-)groups as possible during the interviews to assist and observe any difficulties		• Exercise No. 4.2 • Household questionnaire • Key-informants questionnaire	2 hours
Collect the groups and have lunch		• Transport	1.5 hours
2. Transport the participants to the access site	Fieldwork	• Transport	30 mins
Let the participants carry out Exercise No. 4.3 in the same groups as the previous exercise		• Exercise No. 4.2	1.5 hours
Transport the participants back to the course venue		• Transport	30 mins
3. After the field data collection exercises are completed, let the participants come together in their groups and finish the groupwork of Exercise No. 4.2. (this is best done on the same day)	Groupwork	• Exercise No. 4.2	30 mins
Let the groups present their findings (depending on the time available, this can be done the following morning)	Group presentation	• Flipchart	30 mins
Briefly discuss the results	Plenary		10 mins

Data Collection

Baseline data collection is the foundation of the accessibility planning procedure. The purpose of this activity is to accumulate reliable information on accessibility in all relevant sectors. However, its value depends on its reliability and accuracy as the identification of priorities for interventions to improve transport and access to services and facilities is based on this data.

Although general background data can be obtained from records, reliable and detailed data on access needs, travel patterns, loads moved, modes of transport, and local infrastructure needs to be obtained from rural households. The most reliable data is obtained from household surveys, but this requires considerable resources. The less time-consuming method of combining household interviews with key-informant groups has, at times, been found adequate.

Data is collected at different levels: at community level through interviews with households and key-informant groups using questionnaires (primary data), and at local or national level using existing data (secondary data). Although primary data is preferable, this too requires more resources. The choice therefore depends largely on the resources available and on the quality of the secondary data.

Generally, data is collected at three levels:
- Existing data sources
- Key-informant group interviews at village level
- Household level interviews

Secondary data from local or national level serves to give general economic, geographical, and demographic information of the area, allowing the planner to put access of a particular village within its context. The location of services, facilities, and infrastructure can generally also be obtained from secondary data, as can information on projects and development programmes in the area. The information collected should be disaggregated by gender as far possible. Maps for use in the mapping step of the IRAP process can also be collected at these levels. Examples of data to be collected at this level are:
- Population (number and densities)
- Distribution by village
- Number of households per village and their general structure
- Population percentage involved in economic activities
- Crops grown and sold
- Facilities in the area and their location and quality/condition
- Transport infrastructure (type, length, location, condition)
- Transport services (types, numbers, routes, frequencies, fares)
- Availability of IMTs
- NGOs and projects in the area

At community level, the data is obtained through interviews using questionnaires. Usually, a combination is made of key-informant group interviews and household interviews. Key-informants are representatives of the village and its settlements and local group

representatives, for instance village heads, teachers, women's association leaders, *etc*. The households to be interviewed should be chosen through a specific selection procedure (e.g. random, location, wealth ranking, *etc*.). Samples of the two types of questionnaires are provided in this package. It is, however, important to note that these are only SAMPLE questionnaires and that they should be adapted to the local situation in the country or area in which they are to be applied. For example, questions may need to be added, discarded, or amended.[17] Examples of data to be collected at this level include:

- Basic physical and socio-economic characteristics of the village
- Location of services and facilities, their condition and quality of service
- Infrastructure used and its condition
- Amount of time taken to reach different services and facilities
- Frequency of trips to different services and facilities
- Mode of transport used to reach different services and facilities
- Distribution of transport responsibilities within the household
- Perceptions of main access needs and solutions

The base data collected at the various levels can be grouped into the following five categories:

- Economic, geographical, and demographic characteristics of the region
- Transport patterns
- Location and quality of services, facilities and local infrastructure
- Transport system inventory
- Community priorities

Data is collected for the following sectors:

- Water
- Firewood
- Health
- Education
- Fields for crop production
- Post-harvesting facilities
- Markets
- Agricultural inputs and support services
- Employment

Preparation for this exercise entails the identification and location of the villages within the area concerned.

Training

Enumerators, preferably local people, undertake the interviews. Supervision is carried out by the local authorities. Both the enumerators and supervisors need to be trained for this exercise, and a programme drawn up for who will visit which village and when. The use of local people, preferably local representatives, as enumerators has been found to be most efficient and cost effective. A team of two enumerators can be expected to visit up to 30 villages, visiting two villages per day. Supervisors need to be trained to coordinate the enumerator teams and provide logistical support. Each supervisor can be responsible for three teams of enumerators. Supervisors should preferably be part of the local authorities. The number of villages to be included in the survey will the determine the number of

[17]An example is the question related to dip tanks, which formed an important transport purpose in Zimbabwe and Malawi but was of little importance in Uganda.

enumerators and supervisors that need to be trained. The actual survey should start immediately after the training. The training itself will take approximately one week and should more or less have the following structure:

Day	Topic	Trainees
1	Translation of questionnaire and consensus-building	Enumerators and supervisors
2	How to conduct interviews	Enumerators and supervisors
3	How to apply the questionnaire	Enumerators and Supervisors
4	Field trials	Enumerators and supervisors
5	Evaluation of field trials	Enumerators and supervisors
6	Extra day for supervision training	Supervisors

Table 3: Example of a training programme for data collection[18]

[18]Source: ILO and R. Dingen, 2000

Transparencies 4.1 – 4.8

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Objectives Module 4:
Data collection

The objectives of this module are:

- To ensure that participants understand the data collection step of the IRAP process
- For participants to gain experience with data collection, and to identify, difficulties and necessary changes required to suit their specific context
- For participants to understand the resources needed for the data collection exercise

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Levels of data collection

Generally, data is collected at three levels:

Data level	Data type
1. Existing data sources	Secondary data
2. Key-informant group interviews at village level	Primary data
3. Interviews at household level	

Collected data can be sorted into five basic categories:

1. Economic, geographical, and demographic characteristics of the region.
2. Transport patterns.
3. Location and quality of services and facilities and local infrastructure.
4. Transport system inventory.
5. Community priorities.

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Secondary data

Data collection from secondary sources includes data on:

- Population (number and densities)
- Distribution by village
- Number of households per village and their general structure
- Percentage of the population involved in economic activities
- Crops grown and sold
- Facilities in the area, and their location and quality/condition
- Transport infrastructure (type, length, location, condition)
- Transport services (types, numbers, routes, frequencies, fares)
- Availability of IMTs
- NGOs and projects in the area

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Primary data

Data collection from primary sources
Includes data on:

- Basic physical and socio-economic characteristics of the village
- Location of services and facilities, and their condition and quality of service
- Infrastructure used, and its condition
- Amount of time taken to reach different services and facilities
- Frequency of trips to different services and facilities
- Mode of transport used to reach different services and facilities
- Distribution of transport responsibilities within the household
- Perceptions of main access needs and solutions

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Sectors for data collection

Data is collected for the following sectors:

- Water
- Firewood
- Health
- Education
- Fields for crop production
- Post-harvesting facilities
- Markets
- Agricultural inputs and support services
- Employment

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Data Collection Training

Day	Topic	Trainers
1	Translation of questionnaire and consensus-building	Enumerators and Supervisors
2	How to conduct interviews	Enumerators and Supervisors
3	How to apply the questionnaire	Enumerators and Supervisors
4	Field trials	Enumerators and Supervisors
5	Evaluation of field trials	Enumerators and Supervisors
6	Extra day for supervision training	Supervisors

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The Dos and Don'ts in data collection

The Dos

- Be polite and courteous at all times
- Introduce yourself and clearly explain to the respondents the purpose of the exercise before starting the interview
- Be familiar with all the questionnaires to be used
- Ask questions in a simple and clear manner, preferably in the order presented unless there is a good reason to do otherwise
- Record answers as given by the respondents, BUT if in doubt by all means probe further
- In a situation where probing does not yield results, write a comment explaining the absence of an entry in the space provided
- Write all responses clearly, neatly, and legibly
- If in doubt, consult the supervisor
- Thank the respondents for answering your questions before leaving them

The Don'ts

- Don't put words in the mouth of the respondents
- Don't phrase questions in a manner likely to suggest answers
- Don't leave any questions blank without an explanation unless a skip instruction requires you to do so
- Don't allow any other person to speak to the respondent during the course of the interview unless consensus is required
- Don't show the completed questionnaire to any other person or discuss the answers with other people in the presence of the interviewees

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Examples of data collection

Houschold interview, Zimbabwe (Source: ILO/ASIST)

Key-informant group interview, Malawi
(Source: Rob Dingen)

Key-informant group mapping exercise, Malawi
(Source: Rob Dingen)

Exercise No. 4.1: Data needs and sources

Groupwork

For the sector (water, health or education) assigned to your group determine the following:

- What type of data is required?
- What are possible sources of this data?
- What would be the quality of data from these sources (good, medium, bad + why)?

Plenary

Present the findings of your group in plenary using a flipchart. The following format can be used:

Data required	Possible source	Data quality
Data type 1	Source 1 Source 2	Good (+why) Medium (+why)
Data type 2	Source 1	Bad (+why)

Exercise No. 4.2: Field data collection

Fieldwork

Fieldwork is an integral part of this training workshop. The objective of the data collection field exercise is to allow participants to get an appreciation of how to conduct household and village-level surveys. Participants will be divided into three groups, each group covering a separate village. Within these groups the participants will be subdivided into sub-groups of two or three persons. These sub-groups will work together to administer the questionnaires. In each group one sub-group should administer the key-informants questionnaire while the other sub-groups concentrate on the household level.

Sub-groupwork

For the household questionnaire, the head of the household will be interviewed. If the head of the household is not available, the most senior decision-making member is to be approached and interviewed. It is preferable to involve women where possible.

Interviewees need to introduce themselves and explain the purpose of the survey before asking the questions. One person will ask the questions while the other writes down the responses.

Groupwork

At the end of the exercise, the following tasks need to be performed:

- Calculation of Accessibility Indicators (AI) of a selected number of sectors to enable prioritisation and a comparison of the three villages (for the group as a whole)
- A comparison of priorities of households and key-informants in the same village

Plenary

Each group will present their findings, using the following framework:

Sector	Accessibility indicator
Water Health	

Priorities			
Household 1	**Household 2**	**Household 3**	**Key-informants**
Priority 1 Priority 2 Priority 3	Priority 1 Priority 2 Priority 3	Priority 1 Priority 2 Priority 3	Priority 1 Priority 2 Priority 3

There will be an opportunity for participants to share their experiences in a plenary during the feedback session. To this end, participants should make observations on the following and any other relevant issues:

- Respondent's understanding of the questionnaire
- Problems of translation
- Suitability of the questions
- Unusual circumstances that might have affected the responses given

Exercise No. 4.3: Site visit

The site visit involves a visit to a site where an access problem exists. The objective of the site visit is to give participants an appreciation of potential access interventions that can be implemented to assist rural communities. Participants will be encouraged to talk to members of the community in order to fully appreciate the access problem.

Groupwork

In your group answer the following questions:

- How does the community want to resolve the access problem? Is this the best way?
- What are the alternatives of resolving the access problem?
- What benefits accrue as a result of implementing the intervention(s)?

Household Questionnaire

Household Questionnaire Number .....

Village name: .....
Parish: .....
Sub-county: .....
District: .....
Interviewer's Name: .....
Date: .....
Household Head's Full Name: .....
Respondent's Name and Relationship: .....

HHD1: HOUSEHOLD COMPOSITION

1.1. How many people live in the household? .....

For each person (start with the household head (HH)) give details as below:

Name	Relationship to HH	Age	Sex

Is there any household member, attached to your household, but not presently living with you (include migrant workers/husbands, school children living away for part of the week)? For each person, give details:

Name/Relationship	Age	Sex	Where they live	How often they come home	Amount remitted to household

HHD2: HOUSEHOLD POSSESSIONS

2.1. Homesteads:

How many houses does this household use?....., of which how many are:

Thatched roof Wood/mud walls	Thatched roof Wood/brick walls	Corrugated roof Wood/mud walls	Corrugated roof Wood/brick walls

2.2. Means of Transport:

Vehicles	Number owned	Own use	Income-generating	In working order	Not in working order
Cart					
Sledge					
Bicycle					
Wheelbarrow					
Motor Cycle					
Motor Car (sedan)					
Motor Car (pickup)					
Lorry					
Tractor					
Tractor trailer					
Other (specify)					

Number of livestock owned:

Livestock type	Number	What are the animals used for?		
		Draught power	Transport (own use)	Income generation
Cattle				
Donkeys				
Other [specify]				

2.3. Agricultural land:
a. How many acres of land do you own? .....
b. How many acres did you plant last season? .....

2.4. Does the household have any idle land that has not been used this year?
If yes, what is the main reason for not using the land (tick)?
Lack of labour ..... Land not fertile..... Land too far away ..... Lack of draught power.....
Other (give details).....

2.5. Does the household own any land outside the village? Yes/No
If yes:
What is owned?..... Where?..... How often visited?.....

HHD3: SOURCES OF CASH INCOME

3.1. Does any household member travel outside the village for paid employment? Yes/No
If yes, give the following details.

Who goes? Men (M), Women (W), Boys (B), Girls (G))	Where (place and distance)	How often (Frequency)	How do they travel?		Type of work/ Employment	Earnings/ Month
			Mode	Cost/Time		

HHD4: GRINDING MILL

4.1. Does the household travel to a hammer mill to grind for grain milling? Yes/No
If yes, give the following details

Where is the mill? (distance)	Who goes? (M, W, B, G)	How often (per (fortnight)	How long to get there (mins)	Waiting time used	Mode of transport	Weight milled

If no, give details of how they grind their grain. Who? .....
How often? ..... times/week

4.2. Does the household purchase maize meal? Yes/No
If yes, give the following details:

Where is it bought? (distance)	Who goes? (M, W, B,G)	How often?	How long to get there (mins)	Mode of transport used	Amount bought

HHD5: COLLECTION OF WATER

5.1. Where (source) does the household obtain its water during:
a) The rainy season?: .....
b) The dry season?: .....

5.2. For each season's water supplies give the following details:

Season	Who goes? – Number of M, W, B, G	How many trips per day?	How long to get there? (mins)	Waiting time (mins)	How carried (mode)
Rainy					
Dry					

5.3. List the number of containers the household uses to carry water:

Type	Number	Capacity (litres)

5.4. Are there any dangerous crossings you encounter on the way? If so, specify:
..... Hilly terrain
..... Water crossings
..... Other (specify)

HHD6: FIREWOOD COLLECTION

6.1. Which type of fuel does the household use for cooking?:
Firewood ..... Charcoal ..... Paraffin ..... Other (specify).....

6.2. For firewood users:

Who goes? (M, W, B, G)	How may trips per week?	How long to get there? (mins)	Distance travelled (one way)	Collecting time (mins)	How carried (mode)

6.3. Are there any dangerous crossings you encounter on the way? If so, specify:
..... Hilly terrain
..... Water crossings
..... Other (specify)

HHD7: EDUCATION

7.1. Are there any children in the household who attend school?
If so, please give details as below:

Primary School:

Name of school	Who goes? – Number of B, G	How many days per week?	How long to get there? (mins)	Distance in km	Means of transport

7.2. Are there any dangerous crossings you encounter on the way? If so, specify:
..... Hilly terrain
..... Water crossings
..... Other (specify)

Secondary School:

Name of school	Who goes? – (Number of B, G)	How many days per week?	How long to get there? (mins)	Distance in km	Means of transport

7.3. Are there any dangerous crossings you encounter on the way? If so, specify:
..... Hilly terrain
..... Water crossings
..... Other (specify)

HHD8: COMMERCIAL CENTRES

8.1. Which main commercial centre (outside the village) does the household visit regularly? For each commercial centre, give details (put most important one first):

Commercial centre	Who goes? (M, W, B, G)	Means of transport used	Purpose*			Travel Time/cost (mins)	How often do they go?
			1st	2nd	3rd		

*A: to sell produce, B: to buy food, C: to buy household items, D: to buy agricultural inputs, E: business, F: social reasons, or G: other (specify).....

8.2. For each commercial centre named, determine how often household members go there at different times of the year.

Commercial centre	Ploughing/planting season	Growing season	Harvest/post-harvest season
1.			
2.			
3.			

HHD9: HEALTH

9.1. Which dispensary or health clinic does the household normally use for medical treatment?:
Name..... Distance.....

9.2. What is the usual means of transport used? .....
Approximate time taken: .....(mins)
Cost of travel, if applicable: .....

9.3. How often have household members been treated there in the last month?.....
Who was ill? (M, W, A, C).....

OR

When did a household member last visit the clinic? .....

9.4. Which hospital does the household use?
Name..... Distance.....

9.5. What is the usual means of transport used? .....
Approximate time taken: .....(mins)
Cost of travel, if applicable: .....

9.6. How often have household members been treated there in the last year?.....
Who was ill? (M, W, A, C).....

OR

When did a household member last visit? .....

HHD10: TRAVEL TO OTHER PLACES NOT COVERED IN PREVIOUS QUESTIONS

10.1. Does any household member visit any other places in the village? For each place, give details:

Facility	Who goes (M, W, B, G)	How many trips per day/week	How long to get there (mins)	How travel
Church				
Other (Specify)				
Other (Specify				

10.2. Does any household member visit any other places outside the village? For each place, give details:

Place	Who goes	Means of travel	Purpose	Travel time	Travel cost	Number of times per week

10.3. How may trips outside the village have been made by members of the household in the past week (the week prior to interview)? Give details of each journey:

Who went? (M, W, B, G)	Number of times per week	Means and cost of travel	Destination	Purpose of journey
1.				
2.				

HHD11: DIP TANK (If applicable)

11.1. Give details about trips to dip tank

Who goes? (M, W, B, G)	How often? (no. of times per fortnight)	How far? (km)	How long to get there (mins)	Waiting time (mins)

HHD12: HOUSEHOLD PERCEPTIONS ON

12.1. What are the major access problems faced by the village?

Sector	Access problem being experienced is attributed to:				
	Distance	Terrain	Quality	Mobility	Other (specify)
Water					
Education					
Health					
Grinding mill					
Firewood					
Roads					
Markets					
Farm inputs					
Crop production					
Crop marketing					
Public transport					

12.2. Rank three sectors of concern using the indicators below:
1 = Biggest problem
2 = Second biggest problem
3 = Third biggest problem

Rank	Sector
1	
2	
3	

12.3. What would be the most beneficial transport/access improvements to the three problems identified above?
Biggest problem .....
Second biggest problem .....
Third biggest problem .....

12.4. Would villagers be prepared to contribute, on a self-help basis, to infrastructure improvements and maintenance? Yes/No

Comment:.....

HHD13: Can the household member being interviewed draw a sketch map of the village to show the services and facilities used?

Key-informants Questionnaire

Questionnaire number .....

Village Name: .....
Parish: .....
Sub-county: .....
District: .....
Interviewer: .....
Supervisor: .....
Date: .....

Sources of data (Name and designation of key informants)

.....
.....
.....
.....
.....

VL1: Village Characteristics

1.1. Terrain: Flat/ Rolling /Hilly/ Mountainous

1.2. Population:

Total	Male adults	Female adults	Children	Number of households	Number of female headed households

Is it possible to get a listing of households in the village by name and location?.....

1.3. Sources of income:

Main source of income: ..... No. of households earning cash:.....

Second source of income: ..... No. of households earning cash:.....

Third source of income: ..... No. of households earning cash:.....

(Agriculture, Livestock, Fishing, Forestry, Regular employment, Casual labour, Brick making, Cash remittances, Beer brewing, Small enterprise, Other (specify))

VL2: Village Structure

2.1. Settlement pattern:

Clustered .....
Clustered + Outlying settlements .....
Scattered settlements .....

Do any households move temporarily to live near their farmland at peak agricultural periods?

All ..... Most..... Some..... Few ..... None.....

VL3: Transport Infrastructure

3.1. Distance to nearest motorable road:.....km

3.2. Quality of nearest road:
Used all year round: ..... Used dry season only:..... Impassable: .....

3.3. Important footpaths:

Start	Finish	Length (km)	Number of water crossings	Distance (km)

VL4: Ownership of means of transport

4.1. Ownership of means of transport:

Means of transport	Households owning	Number owned	Number not working
Work Oxen			
Donkey			
Cart			
Sledge			
Bicycle			
Wheelbarrow			
Bicycle			
Motor Cycle			
Motor Car (sedan)			
Motor Car (pickup)			
Tractor			
Tractor trailer			
Truck			
Minibus			
Bus			

VL5: Transport services

5.1. Distance to nearest transport services: km....., and/or .....minutes walking

5.2. Type of services: Bus:..... Other:.....

5.3. Service route: From:..... To: .....

5.4. Is the service: Reliable?: ..... Unreliable?:.....

5.5. Frequency of service: .....times per week

5.6. Fares (one-way):.....

5.7. Details of common trips undertaken:

Destination	Fare per person	Charge per 50 kg sack	Travel time	Waiting time

VL6: Most important local places of travel

6.1. Neighbouring villages

Name of village	Distance (km)	How do people travel there?	Usual means of travel (time/cost)

6.2. Travel to the Rural District Council offices

Distance: ..... How do people normally travel there? (time/cost).....

6.3. Other key places of travel:

Name of place	Distance (km)	Travel (time/cost)

VL7: Water supply

7.1. What are the sources of water supply in village?

Source	% Households using	Used all year round	Used wet season only	Used dry season only
Borehole				
Protected well				
Unprotected well				
Stream				

7.2. Average travel time in minutes taken:

Dry season: ..... Wet season: .....

7.3. Average queuing time:

Dry season: ..... Wet season: .....

7.4. Who is responsible for collecting water?:

Male adults..... Female adults..... Male children..... Female children.....

7.5. Average trip frequency: .....per day

7.6. What containers (size in litres) are used to collect water?:

.....

.....

7.7. Means of transport used to collect water:
No. of households head-loading: .....
No. of households using scotch cart: .....
No. of households using barrow: .....
No. of households using sledge: .....
No. of households using bicycle: .....
No. of households using..... .....

VL8: Cooking and heating fuel

8.1. Use of firewood:
No. of households collecting firewood: ..... No. of households buying firewood: .....

8.2. Do any households use other cooking fuels?: Yes/No
If yes, what fuel?:.....
No. of households using other cooking fuel:.....

8.3. Where do households collect firewood?:.....

8.4. Collection of firewood details:

Location of collecting area	Distance in time (mins)	Distance in km

8.5. Who is responsible for collecting firewood?:

Male adults..... Female adults..... Male children..... Female children.....

8.6. Means of transport used to collect firewood:
No. of households head-loading: .....
No. of households using scotch cart: .....
No. of households using barrow: .....
No. of households using sledge: .....
No. of households using bicycle: .....
No. of households using..... .....

8.7. Do any households sell firewood? Yes/No
If yes: Transport means used..... No. of households involved: .....

Who goes?
Male adults..... Female adults..... Male children..... Female children.....

8.8. Do any households buy firewood?
If yes: Means used ..... No. of households involved: .....

Who goes?
Male adults..... Female adults..... Male children..... Female children.....

VL9: Maize Grinding

9.1. No. of households going regularly to a hammer mill to grind maize…….

9.2. Location of hammer mills:
Place :..... Distance to mill..... Time taken .....

9.3. On average, how often do households use the hammer mills?:.....times per week

9.4. Who is responsible for taking maize to the mill?:
Male adults..... Female adults..... Male children..... Female children.....

9.5. Means of transport used:
No. of households head-loading: .....
No. of households using scotch cart: .....
No. of households using barrow: .....
No. of households using sledge: .....
No. of households using bicycle: .....
No. of households using..... .....

VL10: Crop Production

10.1. Write down the main crops grown and their % use:

Crop	% Own use	% Marketed	Crop	% Own use	% Marketed

10.2. Cultivated fields

How many fields do farmers usually cultivate?: 1 2 3 4 5

Do farmers cultivate separate fields for subsistence and cash crops?: Yes/No

Typical distances to fields: Subsistence crops: .....mins .....km

Cash crops: .....mins .....km

Are there any households who have no land, or very little land?: Yes/No
If yes, how many households?:..... How many of these are female-headed?:.....

10.3. Responsibilities for farming activities:

Activity	Subsistence crops	Cash crops	Activity	Subsistence crops	Cash crops
Land clearing			Weeding		
Ploughing			Pest control		
Planting			Harvesting		

Code: M – Male adults W – Female adults A – Whole Household
B – Male children G – Female children

10.4. Farm Inputs
No. of households using fertiliser: .....Where bought.....How transported: .....

10.5. Who is responsible for buying inputs?:
Male adults..... Female adults..... Male children..... Female children.....

10.6. Crop Harvesting:
Who is responsible for crop harvesting?:
Male adults..... Female adults..... Male children..... Female children.....

What means of transport is used to carry harvested crops?:
No. of households head-loading: .....
No. of households using scotch cart: .....
No. of households using barrow: .....
No. of households using sledge: .....
No. of households using bicycle: .....
No. of households using..... .....

VL11. Crop marketing

Estimates of crops marketed:

Crop	To whom sold?	Who goes?	Distance travelled	Time taken	Transport cost

Are there any traders who buy crops in the village? Yes/No

V12: Primary Education

12.1. Is there a Primary School in the Village?: Yes/No

If yes, where is it located?:.....minutes.....metres

To what level does it teach?: Grades .....to .....

Number of classrooms:..... Number of teachers .....

12.7. If no school in village, where do children go to school? .....

How far: .....minutes, ...km, Means of transport used:.....

Is the school accessible all year round? Yes/No

If not accessible all rear round, give reasons:
Too far .....
Water crossing problems .....
Other (Specify) .....

VL13: Health Facilities

13.1. Use of Rural Health Centre:

Which Rural Health Centre does the village use?: .....
How far is it?.....minutes, ...km
Means of transport used:.....

How many qualified nurses are there? .....
Are medicines available? Yes/No

Is the health centre accessible all year round? Yes/No

If not accessible all rear round, give reasons:
Too far .....
Water crossing problems .....
Other (Specify) .....

13.2. Use of hospital:

Which hospital does the village use?: .....
How far is it?.....minutes, ...km
Means of transport used:.....

Is there a resident doctor at the hospital? Yes/No
Are medicines available? Yes/No

VL14: Small enterprises

14.1. Small enterprise in the village:

Type of enterprise	Number	Type of enterprise	Number

e.g. Consumer shop; Farm input supply; Carpenter; Blacksmith; Crop trading; Brewing

14.2. Do people in the village hire their vehicle/scotch carts or use them to provide transport services? Yes/No
If yes, how many households do this work?: .....
Are any of these women?: .....

How much do they charge? .....for a load over a distance of .....km

VL 15: Markets

15.1. Where do villagers go to buy and sell goods?: .....

How far? .....minutes, ...km

15.2. What means of transport is used?.....

15.3. Who normally goes to the market (M,W,B,G)?

VL 16: Dip Tank (If applicable)

16.1. How far is the dip tank used by the village? .....minutes, ...km

16.2. Frequency of use …… times/fortnight

16.3. Who goes?
Male adults..... Female adults..... Male children..... Female children.....

VL17: Perceptions on transport and access

17.1. What are the major access problems faced by the village?

Sector	Access problem being experienced is attributed to:			
	Distance	Terrain	Quality	Other(specify)
Water				
Education				
Health				
Grinding mill				
Firewood				
Roads				
Markets				
Farm inputs				
Crop production				
Crop marketing				
Public transport				

17.2. Rank three sectors of concern using the indicators below:

1=Biggest problem 2=Second biggest problem 3=Third biggest problem

Rank	Sector
1	
2	
3	

17.3. What would be the most beneficial transport/access improvements to the three problems identified above?

Biggest problem .....
Second biggest problem .....
Third biggest problem .....

17.4. Would villagers be prepared to contribute, on a self-help basis, to infrastructure improvements and maintenance? Yes/No

Comment: .....

VL18: Community projects currently being undertaken in the village?

Project	Source of funds	Responsibility Male Female	Community contribution	Cost of project

What are the main problems affecting the implementation of these projects?

VL19: Can the key informant(s) being interviewed draw a sketch map of the village and show the services and facilities used by the household members of the village?

Module 5:

Data entry (IRAP Step 2)

Introduction

Scope

This module aims to explain the data entry step of the IRAP process.

Objectives

The objectives of Module 5 are:

- To enable the participants to understand the basics of data entry
- To enable the participants to understand the resources needed for data entry

Preparation

No extra is preparation necessary.

Materials

The materials to be used in this module are:

- Transparency Nos 5.1-5.3
- Flipchart
- Coloured markers
- Masking tape
- Overhead projector

Handouts

The handout for this module is:

- Theory

Trainer's notes

Key points and activities	Method	Materials	Time
1. Present the objectives of this module	Presentation	• Transparency No. 5.1	2 mins
2. Present the theory on data entry	Presentation	• Transparency Nos 5.2 and 5.3	10 mins
3. Discussion and questions	Plenary		5 mins

Data Entry

Data entry is the first step in the transformation of data into information that can be used by planners. The objective is to obtain information on the accessibility of rural communities to enable planners to make justified decisions on interventions in rural development. This activity results in a computerised database.

The data collected in the previous step of the IRAP procedure forms the input for this step. The completed and field-checked questionnaires are gathered together for further processing. The questionnaires should have been given a code number (based on the village) in advance to assist the filing process. Upon receipt of the questionnaires, the answers need to be coded to facilitate entry into the computer.

A simple statistical computer software package is used for this step. In Malawi, the SPSS statistical software package was successfully used. Other database or spreadsheet software programs can also be used. The entered data should be checked against the original questionnaires to ensure no errors are made.

The following resources should be available for data entry:

- Data entry clerks
- Data entry supervisor
- Computers (one per clerk)
- Appropriate software package

As a rule of thumb, one data entry clerk with one computer can enter 15 to 20 questionnaires per day.

Training

Although the data entry exercise is quite straightforward, both the supervisor and the data entry clerks will need to be given some preparatory training. The duration of such training is approximately five days. The trainer should set up the structure and coding list for data entry, then carry out training based on more or less the following outline:

Day	Topic
1	Brief introduction to the computer and its operation
2	The software
3	Coding and data entry
4	Practical exercises
5	Output and back-up

Table 4: Example of a training programme for data entry[19]

[19]Source: ILO and R. Dingen, 2000.

Transparencies 5.1 – 5.3

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Objectives Module 5: Data entry

The objectives of this module are:

- The participants to understand the basics of data entry
- The participants to understand the resources needed for data entry

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Data Entry Resources

The following resources are needed for data entry:

- Data entry clerks (15-20 questionnaires per day)
- Data entry supervisor
- Computers (one per clerk)
- Software packages (database or spreadsheet)

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Data Entry Training

Day	Topic
1	Brief introduction to the computer and its operation
2	The software
3	Coding and data entry
4	Practical exercises
5	Output and backup

Module 6:

Data analysis (IRAP Step 3)

Introduction

Scope

This module aims to explain the data analysis step of the IRAP procedure. Various formulas for Accessibility Indicators are introduced and explained, and participants gather experience in calculating these and prioritising villages based on their Accessibility Indicator for a specific sector.

Objectives

The objectives of Module 6 are:

- To provide participants with an understanding of the data analysis step
- To enable participants to calculate the Accessibility Indicator for different sectors
- To provide participants with an understanding of the different types of formulas used for the calculation of the Accessibility Indicator
- To enable participants to prioritise villages based on their Accessibility Indicators for a specific sector

Preparation

No extra preparation is necessary.

Materials

The materials to be used in this module are:

- Exercise No. 6.1
- Transparency Nos. 6.1-6.7
- Overhead projector

Handouts

The handouts for this module are:

- Theory
- Exercise No. 6.1
- Transparency No. 6.7

Trainer's notes

Key points and activities	Method	Materials	Time
1. Present the objectives of this module	Presentation	• Transparency No. 6.1	2 mins
2. Present the theory of this module	Presentation	• Transparency Nos. 6.2-6.6	30 mins
3. Let the participants execute Exercise No. 6.1 individually	Individually	• Exercise No. 6.1	30 mins
Present the solution for the exercise	Plenary	• Transparency No. 6.7	5 mins
4. Discussion and questions	Plenary		10 mins

Data Analysis

Once the data has been entered into the database, it is available for analysis. The main form of output used in the IRAP process are Accessibility Indicators (AI). AIs show the ease or difficulty households have in accessing different goods and services. They are objective indicators that are calculated for the different sectors. Calculating an AI provides a simple procedure to relate the number of households that need access to services and facilities to the time it takes to get to them.

In its simplest form, the formula for calculating the AI is as follows:

$$AI = \#HH \times TT$$

with:
- AI = Accessibility Indicator for a specific sector/service
- #HH = Number of households seeking access to a specific service
- TT = Average travel time to reach a specific service

For instance, if there are 40 households in a village who have to travel to collect water, and the average time for a return trip is 120 minutes, then the Accessibility Indicator for water in that village would be 40 x 120 = 4800.

From the planning point of view, the comparison of the AI of one sector for different villages will show which villages have greater access problems for that sector. A village with a higher AI would imply that the amount of time taken to access the service is higher, or that there are more households that need to access the service. A village with a higher AI will therefore have a higher priority for improving access to that service relative to another village with a lower AI.

This is the most commonly used form of the AI formula, and the most objective due to its simplicity. The formula can be expanded to include more specific information, for example on which household members are travelling, what means of transport are used, how the travel times relate to the target times for that sector, and so on. However, the use of such expanded formulas has two major drawbacks. Firstly, more (disaggregated) data needs to be available for entering into the formula, which implies more resources (time, money, *etc*.). Secondly, and possibly more importantly, is the fact that many of these expanded formulas use weights that are extremely subjective and provide opportunities for misuse/abuse to serve a specific interest group. The objectivity of the AI is therefore lost to a greater or lesser extent. In addition, the resulting ranking in the IRAP process may not even change with the use of an expanded formula. Some formulas are dealt with below, but users of such expanded formulas should bear in mind these drawbacks.

The information contained in a basic AI gives no information on which household members are travelling and what means of transport they use. The formula is therefore sometimes expanded to contain more disaggregated information. To include information on gender, the AI is often calculated separately for men and women:

$$AIF = \#FF \times TTF \text{ or } AIM = \#MM \times TTM$$

with:
- AIF and AIM = Accessibility indicator for women and men respectively
- #FF and #MM = Number of women and men respectively
- TTF and TTM = Average travel time for women and men respectively

With respect to the means of transport used, the underlying idea is that travel by bus takes less effort than headloading; IMTs fall somewhere in between these two. To include this aspect, an additional variable is added to the formula:

For instance, the following scoring could be used:

Means of transport (MT)	Score
Headloading	5
Wheelbarrow, handcart	3
Bicycle, ox-cart	2
Motorised transport	1

Table 5: Example of scoring for means of transport used

$$AI = \#HH \times TT \times MT$$

with:
- AI = Accessibility Indicator for a specific sector/service
- #HH = Number of households seeking access to a specific service
- TT = Average travel time to reach a specific service
- MT = Score for the means of transport used

Please note that these scores are only an example. Other scores can be used, as long as the same scores are used for different villages to allow comparison of the Accessibility Indicators. However, the constructive use of such scoring is debatable, as the scores given to different means of transport are very subjective and will severely influence the outcome of the formula, and therefore the outcome of the ranking exercise. In addition, the data collection exercise should result in information on means of transport that will illustrate if this is a hampering factor or not. Furthermore, this weighting factor is to a certain extent already incorporated in the basic formula through the different average travel times resulting from different means of transport.

An additional form of the AI formula includes the target travel time for the sector concerned. For instance, if the target travel time for the health sector is one hour, and the average travel time for a village to the nearest health centre is two hours, both values are included using the following formula:

$$AI = \#HH \times (TT1 - TT2)$$

with:
- AI = Accessibility Indicator for a specific sector/service
- #HH = Number of households seeking access to a specific service
- TT1 = Average travel time to reach a specific service
- TT2 = Target travel time to reach a specific service

Most line ministries have established targets for their sector, such as a minimum number of safe water collection points per number of households, or the maximum travel distance for children to reach their school. These sector targets often reflect the goal of the line ministries. It may be necessary to reassess these targets once the access situation in the area has been appraised, in order to obtain realistic and achievable targets for local-level planning.

Once the AI has been calculated for the different sectors and the different villages, the villages can be prioritised per sector. The 'worst off' villages will get the highest priority, and be most eligible for interventions facilitating access within that particular sector. AIs for different sectors should not and cannot be compared – this would be like comparing apples and oranges! Moreover, it is not possible to conclude that an AI of 1200 for water is less important than an AI of 3000 for a health centre. Water needs to be collected everyday, whereas the health centre will only be visited a few times a year.

While AIs may provide a standardised format for comparing access needs within and amongst villages, the final decision on what needs to be done should be taken in consultation with the community. Even if access to water seems a much greater problem than access to the grinding mill, the community might prefer to improve access to the latter. Most important is the incorporation of the community's ideas, needs, and priorities.

The following table of the AI for four sectors for four villages in Zimbabwe illustrates the priority village for each sector. The priority villages for water, fuelwood, health, and education sectors respectively are Sabhuku, Utsanana, Sabhuku and Wiriranai.

ACCESSIBILITY INDICATORS FOR PACHEDU DISTRICT

Village	Water	Fuelwood	Health	Education
Chiturikire	760	970	750	1200
Sabhuku	1850	480	900	920
Utsanana	720	1080	720	840
Wiriranai	640	570	600	1400

Table 6: Accessibility indicators for four villages in Pachedu District[20]

[20]Source: ILO and T. Mbara, 2000.

Data analysis also provides an indication of the catchment area of the different services. This is especially important for those services such as health centres and schools that cater to larger numbers of households/villages. The households/villages that access a specific service can be determined from the data, which illustrates the catchment area of that service. This can later be plotted on a map for easier interpretation (see Mapping).

Training

For the data analysis, a computer, statistical software, and the database structure developed in the data entry exercise are required. A data analyst, and those responsible for the interpretation of the analysed data, must be trained. This training takes approximately ten days and consists of training on the statistical computer package and exercises.

Transparencies 6.1 – 6.6

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Objectives Module 6: Data Analysis

The objectives of this module are:

- For the participants to understand data analysis
- To enable participants to calculate the Accessibility Indicator for different sectors
- For participants to understand the different types of formulas used for the calculation of the Accessibility Indicator
- To enable participants to prioritise villages based on their Accessibility Indicators for a specific sector

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Basic Accessibility Indicator Formula

AI = #HH x TT

with:

AI	=	Accessibility Indicator for a specific sector/service
#HH	=	Number of households seeking access to a specific service
TT	=	Average travel time to reach a specific service

Example:

Number of households = 200

Average travel time = 20 minutes

AI = 200 x 20 = 4000

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Gender Disaggregated AI Formula

$AI_F = \#FF \times TT_F$ or $AI_M = \#MM \times TT_M$

with:

AI_F and AI_M	=	Accessibility Indicator for women and men
#FF and #MM	=	Number of women and men
TT_F and TT_M	=	Average travel time for women and men

Example:

Number of women = 430

Number of men = 340

(A number of men have migrated to nearby towns for employment)

Average travel time women = 25 minutes

Target travel time men = 12 minutes

(Men tend to make more use of IMTs)

AIf = 430 x 25 = 10,750

AIm=350 x 12 =4,2000

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Weighted AI Formula for Means of transport

AI = #HH x TT x MT

with:

AI	=	Accessibility Indicator for a specific sector/service
#HH	=	Number of households seeking access to a specific service
TT	=	Average travel time to reach a specific service
MT	=	Score for the means of transport used

Examples of weighting factors:

Means of transport	Score
Headloading	5
wheelbarrow, handcart	3
Bicycle, ox-cart	2
Motorised transport	1

Example:

Number of households = 200
Average travel time = 20 minutes
Households headloading = 150
Households using wheelbarrow = 35
Households using bicycles = 15

AI = (150 x 20 x 5)+(35 x 20 x 3)+(15 x 20 x 2) = 17,700

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Target-adjusted AI Formula

AI = #HH x (TT1 - TT2)

with:

AI	=	Accessibility Indicator for a specific sector/service
#HH	=	Number of households seeking access to a specific service
TT_1	=	Average travel time to reach a specific service
TT_2	=	Target travel time to reach a specific service

Example:

Number of households	**=**	**200**
Average travel time	**=**	**20 minutes**
Target travel time	**=**	**10 minutes**

AI = 200 x (20 10) = 2000

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Accessibility Indicators for different sectors

ACCESSIBILITY INDICATORS FOR PACHEDU DISTRICT				
Village	**Water**	**Fuel wood**	**Health**	**Education**
Chiturikire	760	970	750	1200
Sabhuku	1850	480	900	920
Utsanana	720	1080	720	840
Wiriranai	640	570	600	1400

Exercise No. 6.1: Accessibility Indicators

Individually

Calculate for yourself the Accessibility Indicators for the following two exercises.

PART A: PRIORITISATION

The data below (water sector) is taken from household surveys conducted in three districts. In each district, three villages were surveyed. The names of districts and villages used have been replaced by letters and numbers.

District	Village	Number of households	Average travel time (mins)
A	A1 A2 A3	220 215 230	12 25 30
B	B1 B2 B3	200 225 218	28 15 10
C	C1 C2 C3	226 228 216	30 25 16

Funding has been secured from Government for the construction of four deep wells in the four villages with the greatest need. In villages C1 and A2 an NGO has committed funds for the construction of boreholes. Identify the four villages where interventions are to be implemented, using the basic formula for the calculation of the Accessibility Indicator.

PART B: PRIORITISATION USING WEIGHTS

Would the prioritisation in Part A change if the Accessibility Indicators were weighted according to the modes used to fetch water shown in the table below?

District	Village	Mode used
A	A1 A2 A3	Headloading Wheelbarrow Bicycle
B	B1 B2 B3	One quarter headloading,three quarters using bicycles One third using wheelbarrows, two thirds using bicycles Headloading
C	C1 C2 C3	Half headloading, half using wheelbarrows Two thirds headloading, one third using wheelbarrows Headloading

Suggested weighting factors: Head loading= 3 Using a wheelbarrow= 2 Using a bicycle= 1

Transparency 6.7

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Solutions for Exercise No. 6.1

ACCESSIBILITY INDICATORS : PART			
Village	Accessibility Indicator	Priority Part A	Funding Priority
A1	2 640	8	
A2	5 375	5	
A3	6900	1	1
B1	5600	4	3
B2	3375	7	
B3	2180	9	
CI	6780	2	
C2	5700	3	2
C3	3456	6	4

ACCESSIBILITY INDICATORS : PART B						
District	AI	Weight	AI x Weight	Priority Part A	Priority Part B	Funding Priority
A1	2 640	3	7 920	8	6	4
A2	5 375	2	10 750	5	3	
A3	6 900	1	6 900	1	7	
B1	5 600	1½	8 400	4	5	3
B2	3 375	1?	4 500	7	8	
B3	2 180	3	6 540	9	9	
CI	6 780	2½	16 950	2	1	
C2	5 700	2?	15 200	3	2	1
C3	3 456	3	10 368	6	4	2

CONCLUSION

In Part A, villages A3, C2, B1, and C3 will in this order be given priority for interventions, with villages A2 and C1 being given a high priority, although this will be dealt with by the NGO.

In Part B, villages C2, C3, B1, and A1 will in this order be given priority for interventions, with villages A2 and C1 being given a high priority, although this will be dealt with by the NGO.

The use of a different AI formula therefore influences the prioritisation.

Module 7:

Mapping (IRAP Step 4)

Introduction

Scope

This module aims to explain the mapping step of the IRAP procedure. The reasoning for mapping is explained and participants gain experience in the various aspects of mapping.

Objectives

The objectives of this Module 7 are:

- To have participants understand the mapping step of the IRAP procedure
- For participants to gain experience in mapping for accessibility planning

Preparation

Copy the map for the mapping exercise onto flipcharts (one for each group). Use the overhead projector to project Transparency No. 7.11 on to a flipchart to enable the map to be copied easily.

Materials

The materials to be used in this module are:

- Exercise No. 7.1
- Transparency Nos 7.1-7.12
- Overhead projector
- Flipchart
- Coloured markers
- Masking tape

Handouts

The handouts for this module are:

- Theory
- Exercise No. 7.1

Trainer's notes

Key points and activities	Method	Materials	Time
1. Present the objectives of this module	Presentation	• Transparency No. 7.1	2 mins
2. Present the theory of mapping	Presentation	• Transparency Nos 7.2-7.10	30 mins
3. Explain Exercise No. 7.1 and divide the participants into groups	Presentation	• Exercise No. 7.1 • Transparency No. 7.11	5 mins
Let the participants execute the exercise	Groupwork	• Flipchart	30 mins
Let the groups present their findings, and compare these with Transparency No. 7.12	Group presentation	• Flipchart	15 mins
4. Discussion and questions	Plenary	• Transparency No. 7.12	10 mins

Mapping

In addition to tables and graphs, mapping is another form of presenting information. Tables and graphs are useful for giving and comparing information, but mapping is very useful in presenting and visualising geographic information, such as the distribution and location of services, infrastructure, physical features, catchment areas, *etc*. The main objectives of accessibility mapping are to:

- Graphically portray a picture of the geographical distribution of services and facilities and access needs in an area
- Assist in the identification of access problems and in the formulation of interventions
- Enhance the communication of information and recommendations to an audience
- Evaluate the impact of access improvement projects

The procedure for mapping involves the:

- Preparation of base maps and overlays
- Identification and location of services
- Determination of catchment areas
- Identification of access problems

The art of mapping is to avoid the use of too much information. Using transparent overlays, each containing information on a particular aspect (e.g. location of specific services, target catchment areas, actual catchment areas, *etc*.) is a useful technique for highlighting different information as and when required. Combining a specific set of overlays creates the exact picture that is required by the planner. Base maps form the basis for of overlays, and generally contain the following information:

- Villages and towns
- Streams, rivers, and water bodies or marshy areas
- Roads, tracks, and bridges
- Mountains, hills, and forest areas
- Some specific features such as health centres, water collection points, and schools (depending on the intended use of base map)

In general, topographical maps of 1:50,000 are used. As the maps are not always up to date, it is important to check the features depicted on the map and amend them where necessary.

Catchment areas are frequently used for accessibility planning. Usually, target catchment areas exists, often relating to a certain distance or travel time (the latter is usually converted into distance using the formula of 1 hour = 5 kms, which is based on an average walking speed of five kilometres per hour). Thus, the target catchment area is usually a circle of a certain diameter. This is then compared to the actual area within the target travelling time of the service, based on the travel times indicated by households during the household interviews. This allows the planner to see whether less or more households than the target number are able to access the service within the specified target travelling time. A further comparison can be made with the actual catchment areas of the service, *i.e*. the area covering all households that access the service. Again, this is

based on the household interviews. This allows the planner to see whether less or more households than the target number make use of the service, in spite of travel times that exceed the target.

An example of mapping for the health sector in Malawi is given below.[21] The base map used has information on village and town location, the location of hospitals, health centres, clinics and dispensaries. The boundaries of the different Village Development Committees (VDC) are given.[22] The following four sheets have been made:

1. The base map (mentioned above).
2. The target catchment areas of the health sector, depicted as circles of 5 km radius (in this case, the target is all households that live within one walking hour of a hospital, health centre or clinic, which is depicted as 5 km radius based on a 5 km/hour walking speed) together with the actual area within one hour walking distance of the hospitals, health centres, and clinics (this information is obtained from the household interviews).
3. The actual catchment areas of the hospital, health centres, and clinics (which households go to what facilities, based on household interviews).
4. The number of households per village.

The *data analysis* results led to the following conclusions:

- VDCs 3, 4, and 5 have an accessibility problem in the sector of health.
- The average travel time to reach a health facility is the highest in VDCs 3 and 4.
- VDC 5 has the highest number of people travelling to health centres spending more than one hour on a single trip.
- The catchment areas of the health centres in VDC 1 and 4 are greater than was intended when the health centres were planned.

When looking at the maps, the following can be concluded:

1. The five kilometre catchment and 60-minute walking distance do not coincide for the health centre in VDC 4 or the clinic in VDC 5; in other words people travel more slowly in these areas than in VDCs 1 and 2. As it happens, VDCs 3, 4, and 5 are more hilly than VDCs 1 and 2, and complaints have been made about the state of the footpaths.

2. Combining Sheets 1, 2, and 4 shows that only the people (420 households) of the village in which the health centre in VDC 4 is located can access the health centre within one hour. If one looks at the 'designed' catchment area of a five kilometre radius, the total number of households is about 1400. Although the design assumed that by locating a health centre in this particular spot about 7000 people would have access to health services within one hour, the map clearly shows this is not the case.

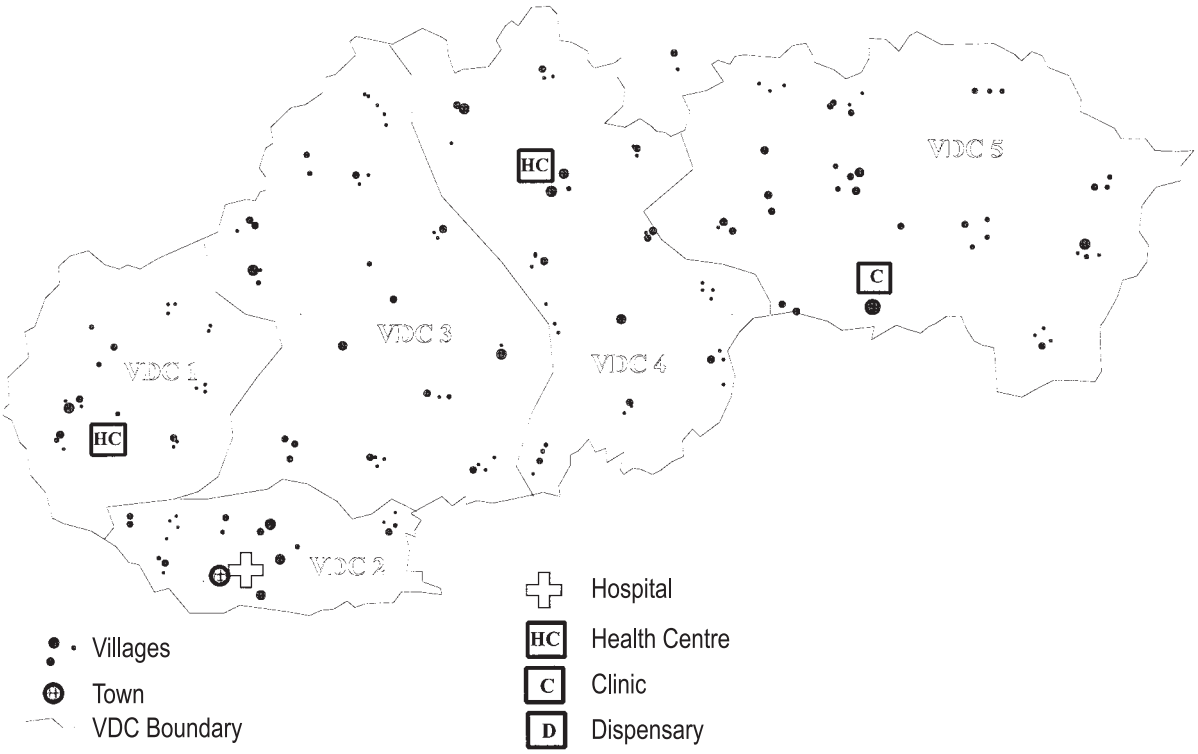
3. Combining Sheets 1, 3, and 4 shows that the catchments of all health facilities are much greater than assumed and that some villages use more than one facility. In other words, the catchment areas overlap. The catchment area of the health centre in VDC 4 wholly overlaps the catchment of the clinic in VDC 5. The conclusion? People sometimes need to have access to health services that are not provided by the clinic.

[21]Source: ILO and R. Dingen, 2000.

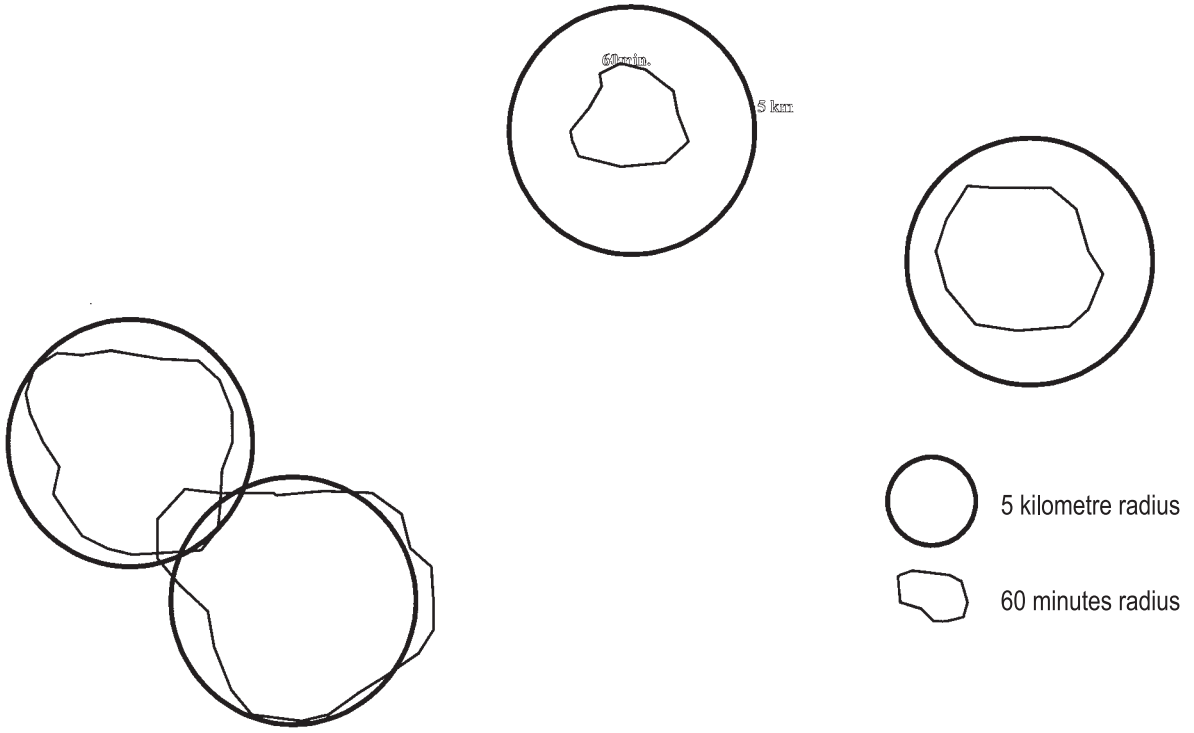
[22]A VDC is an administrative area in Malawi comprising several villages, yet is still smaller than a district.

4. Overlapping catchment areas often point to certain shortcomings in the provision of services or medication. That the catchment of a hospital overlaps the catchment of a health centre is to be expected. However, when the catchments of two health centres overlap, there must be a specific reason why people travel longer distances to reach health services than necessary. The planner should then look at the infrastructure to access the health facilities and the quality of service. In the case of the clinic in VDC 5, proposing to upgrade the clinic to a health centre is justified, as this will probably improve the access to health for many villages in VDCs 4 and 5. If the clinic is upgraded to a health centre, the catchment area of the health centre in VDC 4 will be reduced as will the pressure on this facility, which may explain why people sometimes go to the health centre in VDC 1.

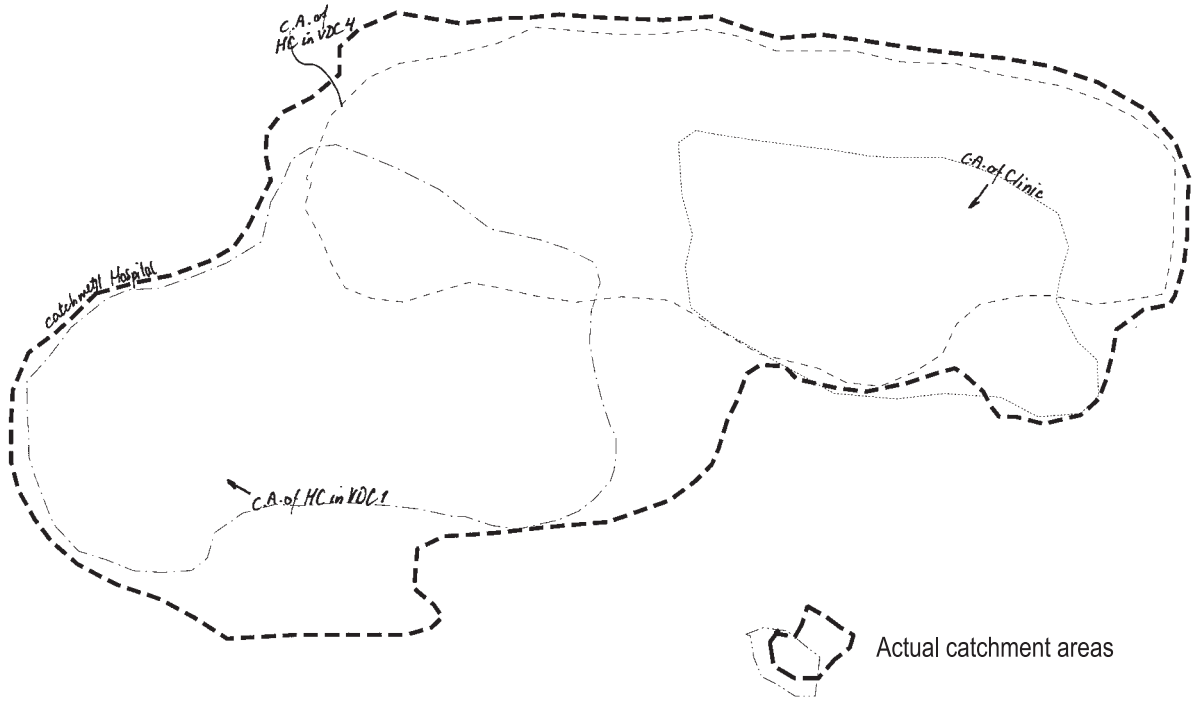
The above are just a few examples of what mapping can visualise. Although combining health maps with those of roads, education, water points, and so on will probably lead to more conclusions or questions that need to be verified, it will definitely assist the planner in finding integrated solutions to access problems that would otherwise remain unseen.



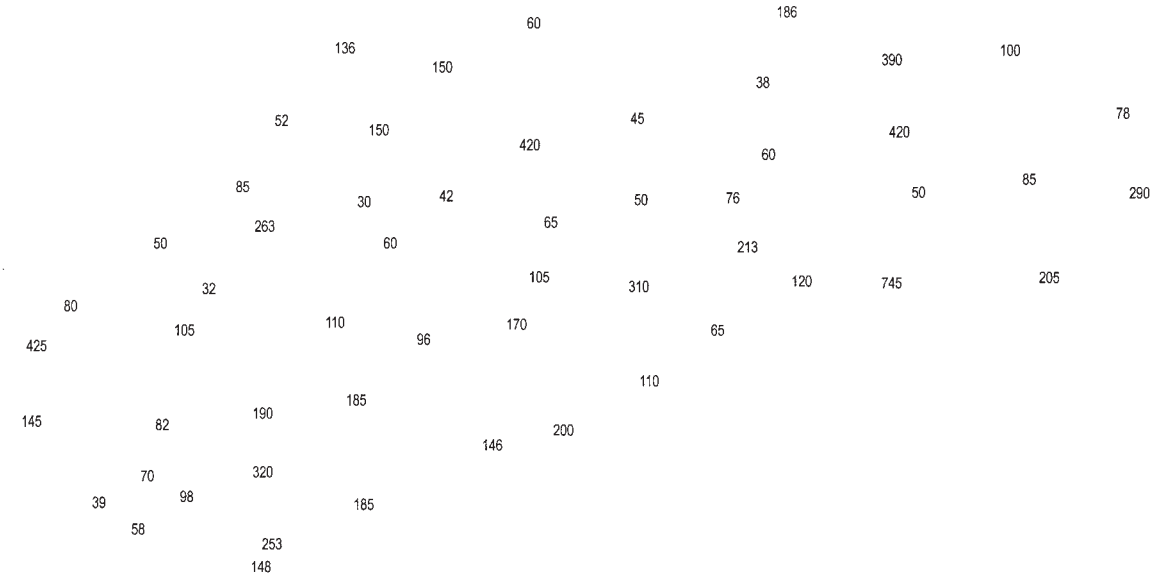
Sheet 1: Location of Health Facilities



Sheet 2: Catchment Areas

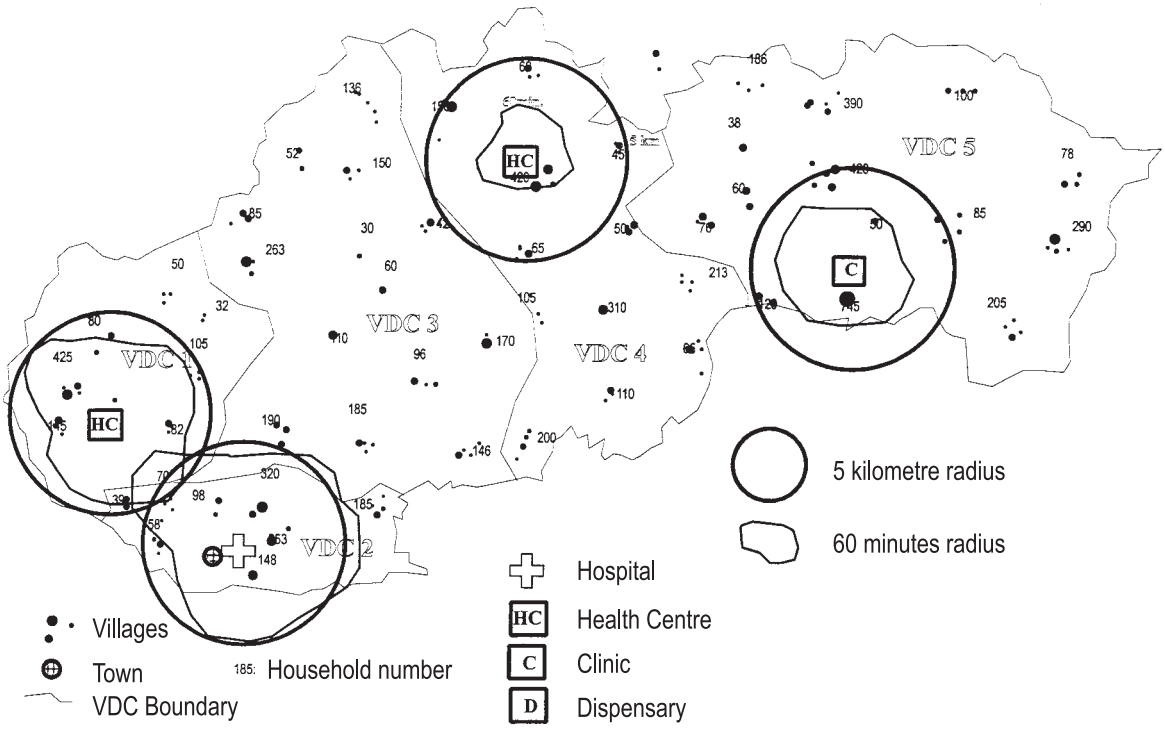


Sheet 3: Actual catchment areas

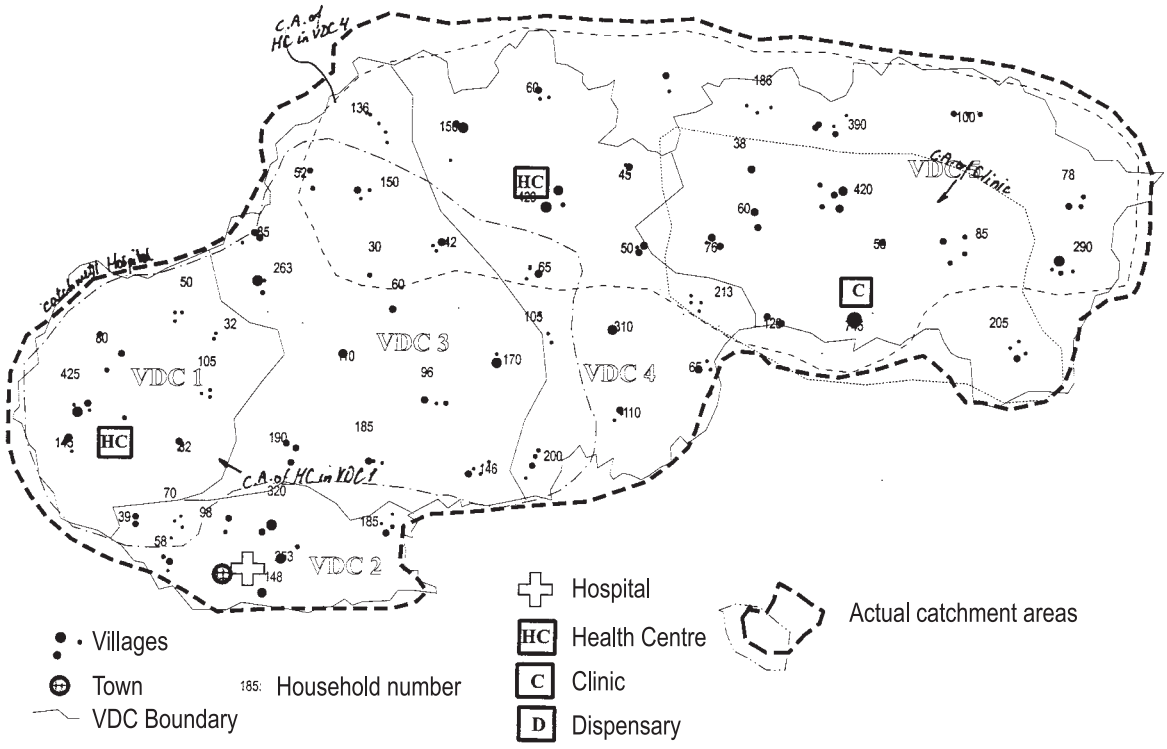


185: Household number

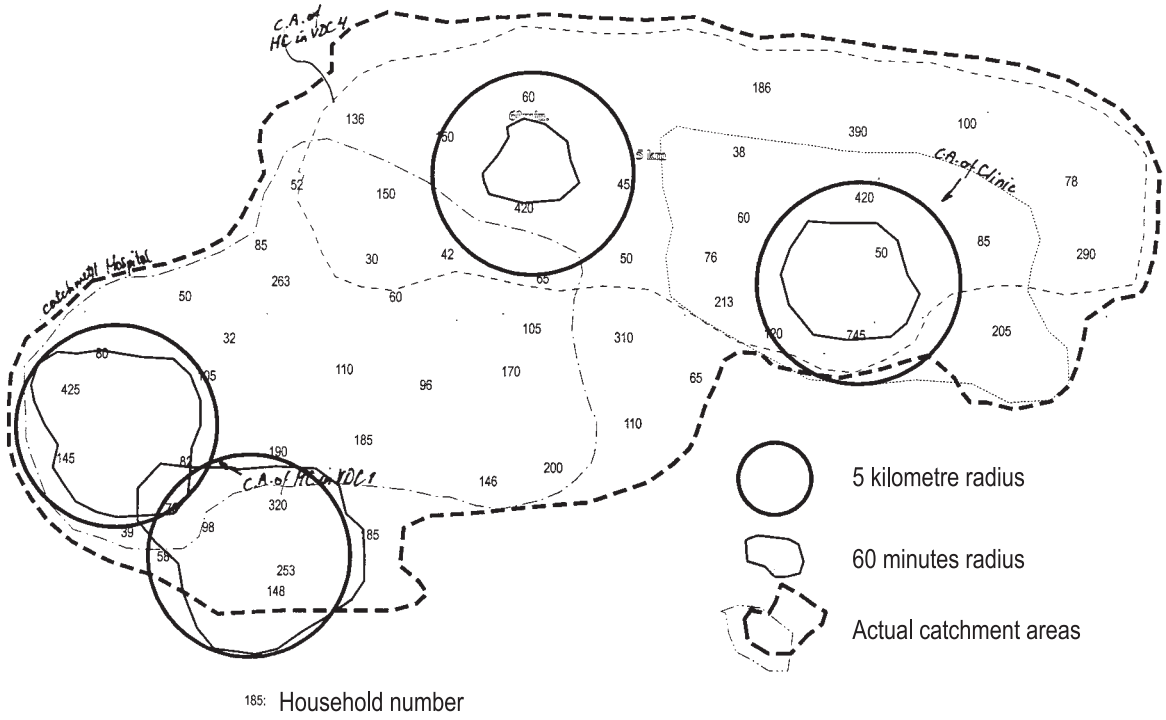
Sheet 4: Numbers of households per village



Sheets 1, 2, and 4



Sheets 1, 3, and 4



Sheets 2, 3, and 4

Transparencies 7.1 – 7.10

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Objectives Module 7: Mapping

The objectives of this module are:

- To have participants understand the mapping step of the IRAP procedure
- To gain experience in mapping for accessibility planning

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Objectives of Accessibility Mapping

The main objectives of accessibility mapping are to:

- Graphically portray a picture of the geographical distribution of services and facilities and access needs in an area
- Assist in the identification of access problems and in the formulation of interventions
- Enhance the communication of information and recommendations to an audience
- Evaluate the impact of access improvement projects

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Accessibility mapping

The procedure for mapping involves:

- Preparating of base maps and overlays
- Identifying and locating of services
- Determining of catchment areas
- Identifying of access problems

Base maps and overlays can show, for example:

- Villages and towns
- Administrative borders
- Numbers of households per village
- Accessibility Indicator per village
- Streams, rivers, and water bodies or marshy areas
- Roads, tracks, and bridges
- Mountains, hills, and forest areas
- Some specific features such as health centres, water collection points, or schools
- Catchment areas of specific facilities

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Sheet 1: Location of Health Facilities

Transparency No. 7.4
Sheet 1: Location of Health Facilities

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Sheet 2 : Catchment areas

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Sheet 3 : Actual catchment areas

Transparency No. 7.6
Sheet 3 - Actual catchment areas

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Sheet 4 : Numbers of households per village

78 290 205 100 85 50 420 390 745 120 186 38 60 213 76 65 45 50 310 110 60 65 105 420 170 200 146 150 42 96 60 150 30 185 185 136 110 52 263 190 320 253 148 85 32 105 98 50 82 70 58 39 80 425 145

185: Household number

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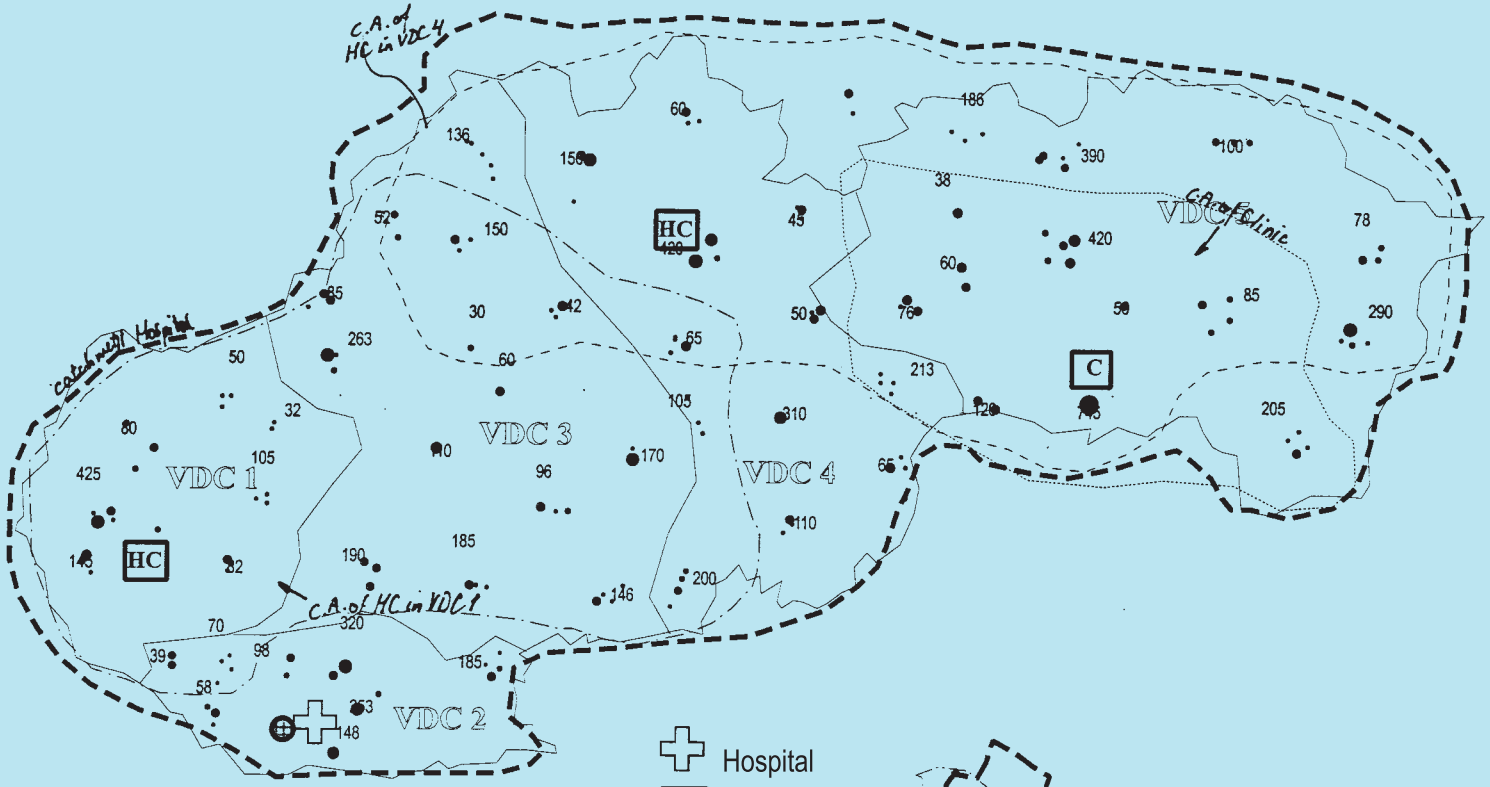
Sheets 1, 2, and 4 combined

Transparency No. 7.8
Sheets 1, 2 and 4

Sheets 1,3, and 4 combined



- Villages
- Town
- VDC Boundary

185: Household number

- Hospital
- HC Health Centre
- C Clinic
- D Dispensary

Actual catchment areas

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Transparency No. 7.9
Sheets 1,3 and 4

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Sheets 2, 3, and 4 combined

Transparency No. 7.10
Sheets 2, 3 and 4

Exercise No. 7.1: Mapping exercise

Groupwork

A map of a fictitious area is provided, in which are located villages A to P. Health centres are located in villages D, I, and L. The table below shows which households access what health centres and the travel times involved in accessing them. Using the following data and the map:

1. Draw the target catchment area (five kilometre radius) of the health centres.
2. Draw the actual one-hour catchment area of the health centres (using the travel time from different villages to the health centres, assuming an even travelling speed).
3. Draw the actual catchment area of each health centre (including all the households using the health centre).
4. Determine possible interventions to improve access to health facilities in the area.

	Travel times to health centres (mins)		
Village	**Health centre D**	**Health centre I**	**Health centre L**
A	155	-	415
B	60	-	320
C	210	-	450
D	5	-	260
E	20	-	240
F	-	540	580
G	-	-	230
H	330	-	590
I	-	5	205
J	-	190	270
K	-	100	305
L	-	-	5
M	-	85	120
N	-	-	80
O	-	-	195

Transparencies 7.11 – 7.12

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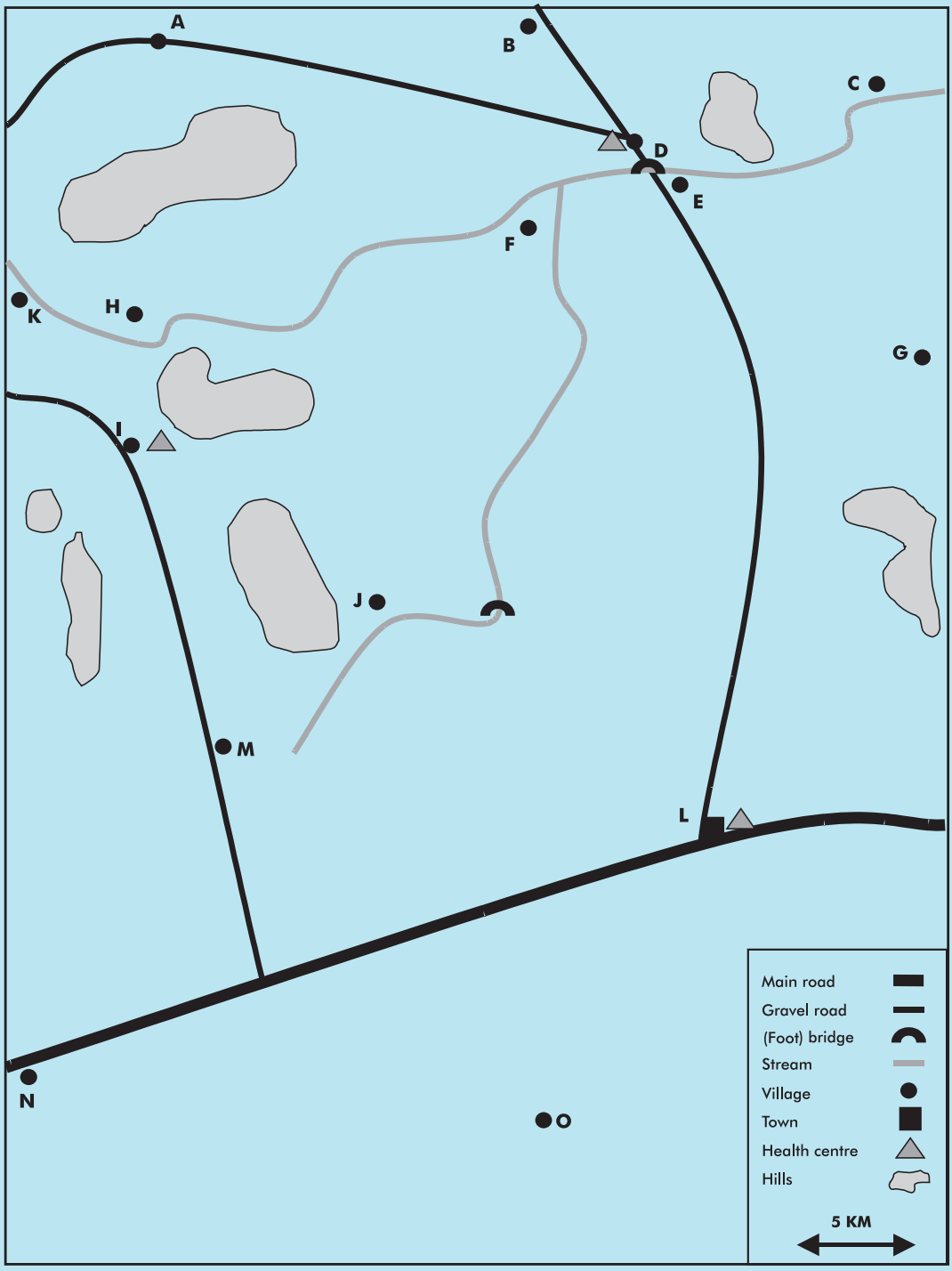
Map of fictitious area



Transparency No. 7.11
Map for mapping exercise

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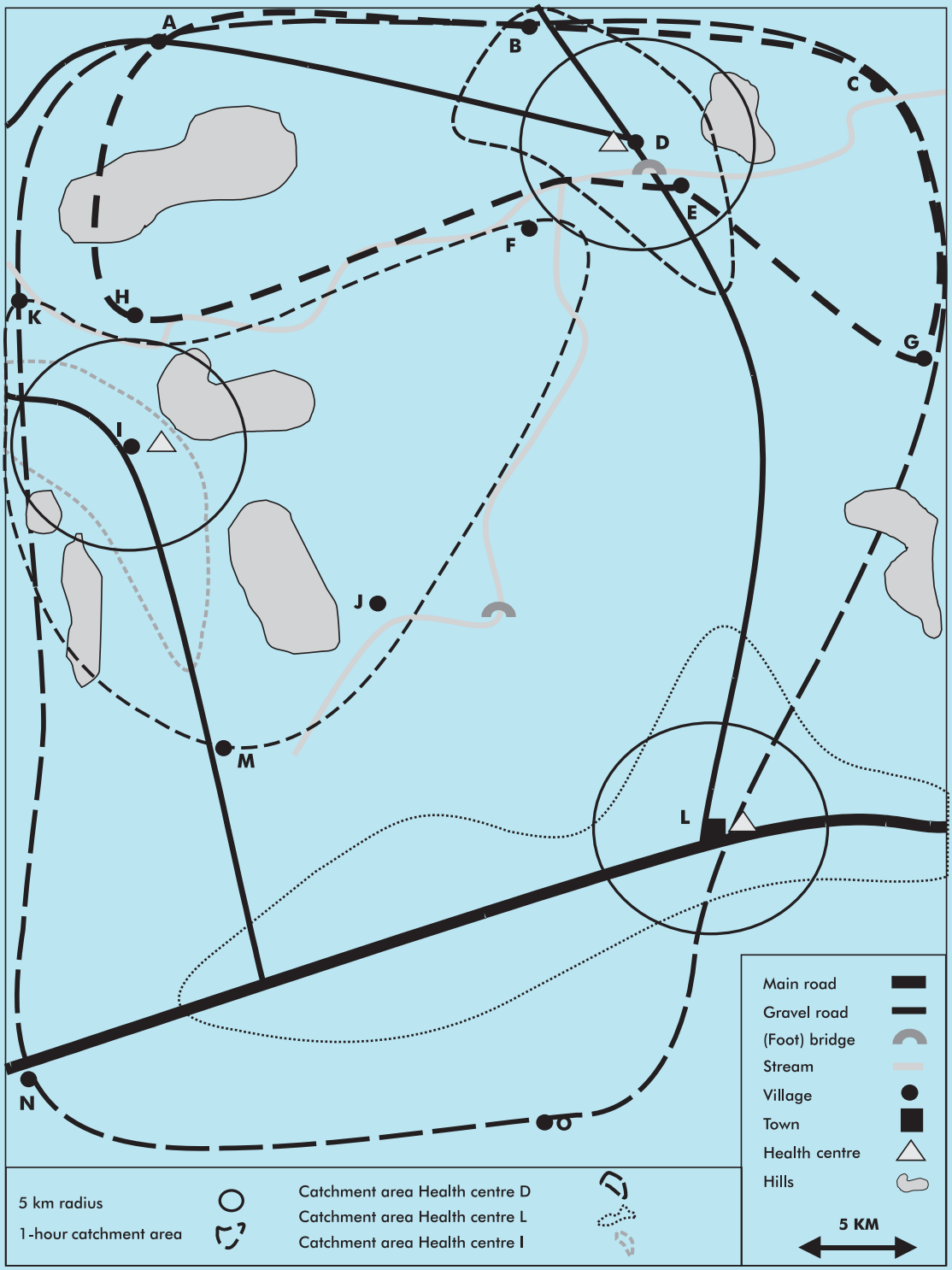
Solution to Exercise 7.1



Transparency No. 7.12
Solution for mapping exercise

Module 8:

Validation (IRAP Step 5)

Introduction

Scope

This module aims to introduce the validation step to the participants, explaining the reasoning and need for validating the information. The method of validation is also briefly discussed.

Objectives

The objectives of Module 8 are:

- For participants to understand the need for validation
- For participants to understand the validation process and the potential participants in a validation workshop

Preparation

Have pieces of masking tape ready to stick up the cards for Exercise No. 8.1

Materials

The materials to be used in this module are:

- Exercise No. 8.1
- Transparency Nos 8.1-8.3
- Overhead projector
- Coloured cards
- Coloured markers
- Masking tape

Handouts

The handouts for this module are:

- Theory
- Exercise No. 8.1

Trainer's notes

Key points and activities	Method	Materials	Time
1. Present the objectives of this module	Presentation	• Transparency No. 8.1	2 mins
2. Explain Exercise No. 8.1 and distribute coloured cards and markers	Plenary	• Exercise No. 8.1 • Coloured cards • Coloured markers	2 mins
Let the participants put their responses on the cards	Individually		15 mins
Collect the cards and stick them on the wall or flipchart	Plenary	• Masking tape	
Group them together with the participants and discuss results shortly	Plenary		10 mins
3. Present the theory of this module	Presentation	• Transparency Nos 8.2 and 8.3	30 mins
4. Discussion and questions	Plenary		10 mins

Validation and Problem Ranking

Before the planner can rely on the information coming out of the analysis, it needs to be validated in the field. To do this, local authorities will go back to the local level (this level depends on the country, but it should be higher than a village and smaller than a district) and call for a meeting with village and other representatives. Such a validation workshop should take one full day and be held in the area concerned.

The output of the collected data, after entry, analysis, and mapping in the form of tables graphs and maps, is likely to be incomplete or not entirely correspondent with reality. However, it is not the actual figures, but rather the conclusions drawn from these figures that need verification as regards the following:

- Against the opinion of the local representatives
- In relation to priorities and problems identified in the survey
- In relation to proposals already formulated by local communities

More specifically, the planner needs to address any contradictions between the collected information and priorities given by the local communities. For instance, if water is clearly a problem according to the analysis but has not emerged as a priority from the communities, then the validation needs clarify why this is so.[23]

The main objective of the validation workshop is to confirm that the data collected and analysed is a true representation of the situation on the ground. The workshop will furthermore give local communities an opportunity to participate in the formulation of their own accessibility situation, and with specific focus on the problems and solutions. This will help create a sense of ownership of interventions resulting from the IRAP process, and will aid in the understanding of the relationship between the different aspects of accessibility (infrastructure, means of transport, transport services, and service location).

The output should be a comprehensive description of the accessibility situation and priorities in the area concerned, complete with some suggested interventions to improve the situation.

The composition of the participants will differ from country to country. In any case, it is useful to separate men and women to ensure maximum participation from the latter. The same may be valid for other groups (e.g. rich(er) and poor, or different religions or castes). The use of groupwork during the workshop may therefore prove necessary. Examples of possible participants that may be included are given below:

- Village leaders
- Local representatives of line ministries
- NGOs
- Members of Parliament

[23]The opposite can of course also be the case, where a community defined problem does not emerge as a problem from the data analysis.

- Representatives of political parties
- Women's organisations
- Representatives of religious denominations
- Farmers' representatives
- Representatives of a few households
- Community-based organisations
- Private sector
- Special interest groups
- Representatives of vulnerable groups (e.g. poor, disabled, *etc*.)
- Other local representatives

During the interviews held earlier, key-informants and households are given the opportunity to rank the three most important problems and suggest possible solutions to them. At that point, however, they are not fully conversant with the scope of the IRAP approach, nor is there consensus on the main problems. The validation workshop therefore includes a problem-ranking exercise.

As a starting point, the main problems as defined by the communities should be considered, as should those identified during the data analysis. Through discussions during the validation workshop, the problems for the area as a whole are ranked and possible solutions are identified. Where the data collection and the data analysis exercises resulted in a problem ranking for each village separately, the problem-ranking exercise will result in consensus on the main access problems affecting the area concerned. This provides an opportunity to address accessibility on a larger scale and more effectively.

The problem ranking resulting from the validation workshop should be based on both the 'objective' AIs and the priorities of the communities involved. Although this should preferably be a result of discussions, a tool that can be used for an initial ranking employs a weighting factor to include the community priorities in the calculation of the Accessibility Indicator:

$$AI_{validated} = AI \times CPF$$

with:
- $AI_{validated}$ = the final AI resulting from the validation workshop
- AI = the AI resulting from the initial data analysis exercise
- CPF = community prioritisation factor

The Community Prioritisation Factor (CPF) can be found in the table below. (The factors used are merely an example and can be changed to give more or less emphasis to the prioritisation of the communities.)

Priority	CPF
Not a priority	1
Third priority	2
Second priority	3
First priority	4

Table 7: Example of community prioritisation factors

Transparency 8.1

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Objectives Module 8: Validation

The objectives of this module are:

- For participants to understand the need for validation
- For participants to understand the validation process and the range of potential candidates for a validation workshop

Exercise No. 8.1: What is validation?

Plenary

Please write on a card (more than one may be used) what you think is meant by the term 'validation'? (Use no more than four words.)

The facilitator will put all the cards on the wall, after which the term 'validation' and its context within the IRAP process will be discussed.

Transparencies 8.2 – 8.3

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Participants for the validation workshop

- Village leaders
- Local representatives of line ministries
- NGOs
- Members of Parliament
- Representatives of political parties
- Women's organisations
- Representatives of religious denominations
- Farmers' representatives
- Representatives of a few households
- Community-based organisations
- Private sector
- Special interest groups
- Representatives of vulnerable groups (e.g. poor, disabled, etc.)
- Other local representatives

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Validation and Problem Ranking

$$AI_{validated} = AI \times CPF$$

with:

$AI_{validated}$ = the final AI resulting from the validation workshop

AI = the AI resulting from the data analysis exercise

CPF = community prioritisation factor

Priority	Community prioritisation factor
Not a priority	1
Third priority	2
Second priority	3
First priority	4

Module 9:

Access Profiles (IRAP Step 6)

Introduction

Scope

This module aims to introduce the concept of access profiles. The use and content of access profiles is explained.

Objectives

The objectives of Module 9 are:

- To enable the participants to understand what an access profile is
- To enable participants to understand what information an access profile should contain

Preparation

No extra preparation is necessary.

Materials

The materials to be used in this module are:

- Transparency Nos 9.1 and 9.2
- Overhead projector

Handouts

The handout for this module is:

- Theory

Trainer's notes

Key points and activities	Method	Materials	Time
1. Present the objectives of this module	Presentation	• Transparency No. 9.1	2 mins
2. Present the theory of access profiles	Presentation	• Transparency No. 9.2	15 mins
3. Discussion and questions	Plenary		5 mins

Access Profiles

The result of the whole exercise from data collection, through data analysis, mapping, and validation is put together in an Access Profile. This is an overview of the most important information from the household and village surveys, and related access data from the district and the validation workshop. The purpose of an Access Profile is to provide a quick and easy reference for planning activities or for justifying the identification of a particular intervention. Access Profiles can be prepared for different levels, although the most practical level is between village and district level, and provide the planner with an overview of the accessibility situation for each area. Basically, an Access Profile is a brief document of 10 to 15 pages with the following content:

1. Accessibility situation depicted in graph and tables for the area, and the villages within the area
2. Accessibility maps for each sector and combinations of overlays
3. Description of the accessibility problems in the area
4. Overview of projects and activities relating to access already in preparation or execution

The ***accessibility situation*** is the output of the validated analysis. For all sectors, the villages in the area are ranked in order of access to the services in that sector, based on the AIs. It is important to note that a large village will automatically result in a higher AI, even if access is not actually a problem.[24] To avoid this, the target time for a service can be included in the formula (this may or may not include the queuing time). The following tables are included for the accessibility situation:

- Villages and other levels ranked by AIs for each sector
- Catchment areas listed by facility in each sector (which villages), including total household numbers and average travel time per facility
- The access problems and priorities for action as perceived by the communities

The ***access maps and overlays*** include topographic maps and transparent overlays of the area. Base maps should be prepared that indicate the services and other main physical features for each sector. The overlays should show catchment areas (target, 1-hour, actual) and other aspects deemed important for planning.

The ***description of the access problems*** covers the interpretation of the analysis and validation output. The ranking of access problems is therefore a result of combining the interpretation of accessibility information, which results from the analysis and mapping exercises, and the problem assessment arising from the validation workshop. All villages and other levels within the area are then ranked in terms of access problems in each sector. Attention should be given to the type of accessibility problems in the area:

- Physical infrastructure
- Means of transport
- Capacity and location problems of services and facilities

[24] This is the case if the normal formula for the AI is used, *i.e.* AI = #HH x TT.

- Transport services
- Socio-economic characteristics of the area, including gender issues

Access Profiles should be prepared and combined for the whole district. The resulting District-level Access Profile should also include a summary that lists:

- Major access problems in the area (by sector)
- Worst cases (villages or areas)
- Initiatives already undertaken (proposals and projects)

Transparencies 9.1 – 9.2

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Objectives Module 9: Access Profiles

The objectives of this module are:

- For participants to understand what an access profile is
- For participants to know what information an access profile should contain

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Access Profiles

Access Profiles should contain the following:

- Accessibility situation depicted in graphs and tables for the area, and the villages within the area
  - Villages and other levels ranked by Access Indicators for each sector
  - Catchment areas listed by facility in each sector (which villages), including total household numbers and average travel time per facility
  - The access problems and priorities for action as perceived by the communities
- Accessibility maps for each sector and combinations of overlays
- Description of the accessibility problems in the area
  - Physical infrastructure
  - Means of transport
  - Capacity and location problems of services and facilities
  - Transport services
  - Socio-economic characteristics of the area; including gender issues
- Overview of projects and activities relating to access already in preparation or execution

Module 10:

Intervention Prioritisation (IRAP Step 8)

Introduction

Scope

This module introduces the intervention identification and prioritisation step of the IRAP process. The different types of interventions are explained, as is the impact of these interventions on men and women. Participants are given an exercise for the planning and prioritisation of different interventions.

Objectives

The objectives of Module 10 are:

- To familiarise the participants with the different types of possible access interventions
- To provide the participants with an understanding of the impact of different intervention types on men and women
- To enable the participants to gain experience in the planning and prioritisation of access interventions

Preparation

No extra preparation is necessary.

Materials

The materials to be used in this module are:

- Exercise No. 10.1
- Transparency Nos 10.1-10.6

Handouts

The handouts for this module are:

- Theory
- Exercise No. 10.1

Trainer's notes

Key points and activities	Method	Materials	Time
1. Present the objectives of this module	Presentation	• Transparency No. 10.1	2 mins
2. Present the theory of Intervention presentation	Presentation	• Transparency Nos 10.2-10.5	30 mins
3. Explain Exercise No. 10.1 and divide the participants into groups	Presentation	• Exercise No. 10.1 • Transparency No. 10.6	10 mins
Let the groups carry out the exercise	Groupwork	• Exercise No. 10.1 • Transparency No. 10.6	30 mins
Let the groups present their findings	Group presentation	• Flipchart	30 mins
Briefly discuss the results from the groups	Plenary		10 mins
4. Discussion and questions	Plenary		10 mins

Intervention Prioritisation

The main objective of access interventions is to reduce the time, cost, and effort of rural people in gaining access to essential services and facilities. When deliberating between various possible interventions that improve access to a certain service or facility, it is important to compare:

- Amount of time saved
- Reduction in distance
- Increased per capita usage of the service (e.g. higher water consumption)
- Number of households it serves
- Possible additional benefits in terms of access to other services and facilities
- Cost of implementation and maintenance (especially in relation to the available budget)
- Impact on both men and women

There are four categories of interventions that can ease rural access problems, namely :

1. Transport Infrastructure
2. (Intermediate) Means of Transport
3. Transport Services
4. Spatial location of services and facilities

The first three categories are sometimes referred to as ***mobility*** interventions, which relate to improvements to the transport system as a whole, whereas the last category is referred to as ***proximity*** interventions, which are basically non-transport interventions.

Transport Infrastructure

One of the most obvious constraints to access is the poor condition of infrastructure. In this context, infrastructure means roads, tracks, paths and their associated bridges, or other forms of water crossing. Improving footpaths can greatly ease the transport burden. An improved eight kilometre footpath from Lupila to Kijombo in Tanzania reduced the walking time from 3.5 hours to 1.5 hours. The improvements consisted of steps cut in the steep sections; widening the path; and the construction of small footbridges.

A wholesale upgrading of infrastructure is rarely necessary; spot improvement of the bottlenecks in the network is usually sufficient. In particular, building or improving river crossings can dramatically affect access for rural communities. A lack of bridges or safe crossings is often the main reason for rural communities becoming totally cut off during the rainy season.

(Intermediate) Means of Transport

In the absence of adequate motorised transport, other means of transport can provide a viable alternative. In rural areas, the dominant means of transport is often headloading.

This transport burden can be greatly reduced by the use of other means of transport. The use of IMTs can greatly decrease the time (a bicycle is much faster than walking) or the effort spent (a wheelbarrow can carry up to three times the weight of a headload). An overview of different means of transport is given in the table below:

Means of transport	Means of propulsion	Typical load (kg)	Average speed (km/hr)	Daily range (km)	Transport capacity (tonne-km/hr)	Typical initial cost[25] (US$)
Human carrying	Human	25-30	4-5	15-20	0.12	-
Wheelbarrow		90	3-4	5-6	0.31	60
Handcart		200	3-4	10-12	0.70	50-100
Bicycle		50	10	40-50	0.50	100
Bicycle trailer		150	8	30-40	1.20	70-100
Pack donkey	Animal	50-80	4-5	20	0.30	80
Ox-drawn sledge		250	2-3	15	0.63	10
Donkey cart		300	4-5	20	1.35	150-200
Ox-cart		800	3-4	20	2.80	250-350
Motorcycle	Engine	50	40	150	2.00	2000
Motorcycle trailer		300	20	80	6.00	400
Single axle tractor trailer		800	10	40	8.00	3000

Table 8: Details of different means of transport[26]

Although there is a large variation of IMTs available, they tend to be used only if they can be seen to pay for themselves and are generally only introduced when the movement of produce for marketing becomes unmanageable by human porterage. As only rarely are IMTs used for subsistence transport purposes, the introduction of IMTs to improve access in such cases will most likely be unsuccessful.

In choosing between different IMTs, and except for initial and operating costs, two factors play a determining role: topography and infrastructure. Topography governs the selection between wheeled and non-wheeled IMTs, since wheeled vehicles are generally not suitable for hilly terrain due to the lack of control when going downhill. In steep terrain, pack animals or human porterage are the best options. Infrastructure, particularly the width of tracks, also has a major bearing on IMT appropriateness. In the case of paths, only single track IMTs are suitable, *i.e.* wheelbarrows, bicycles/motorcycles and pack animals.

Interventions focusing on IMTs usually take the form of the introduction of a new form of IMT (although the success of this type of intervention is limited), the introduction of new methods for manufacturing existing IMTs and their spare parts, the training of artisans for

[25]These costs are typical average costs for reasonable quality devices, but can vary from country to country depending on such factors as availability and cost of materials, cost of labour, and government policy on import of components and items. The cost of the draught animals is not included in the costing (except in the case of a pack donkey) as they are seen to be used in an extension of draught agricultural work. Although initial costs are usually the ruling criterion for selection of an IMT, operating costs should also be considered.

[26]Source: R. Dennis, 1998.

the manufacture and maintenance of new or existing IMTs, and the provision of credit facilities for the purchase of an IMT.

Transport Services

Transport services involve the movement of passengers or goods for a fee by an operator working as a business or employee of a business. They normally operate on popular routes where traffic levels are high enough for the services to be economical. However, some of the lower-capacity means of transport, such as bicycles or motorcycle-based vehicles, are able to better provide for individual needs for a more 'door-to-door' type service.

Transport services are particularly important for economic and social purposes, as they provide access to 'external' facilities and services. The means of transport used therefore needs to be more suitable for longer distance trips than the generally non-motorised means of transport used for 'internal' transport.

Transport services play a major role in the transport of produce for marketing. Lack of adequate transport services can severely hamper the transport of produce to main population centres where prices are better. In general, it is estimated that because of poor transport services, farmers in Africa receive on average 30 to 50% of the final value of their produce (after taking out intermediary costs and/or transportation costs). By contrast, in Asia, where transport services are generally in better condition, farmers receive an average of 70 to 85% of the final value of their produce.[27]

Factors influencing the operating costs of transport services are the fixed costs (depreciation, taxes, insurance, operator cost and overheads) and running costs (fuel and maintenance). These costs depend mainly on *availability* (affected by breakdowns) and usage (affected by the standing time for loading and unloading).

Interventions promoting transport services to improve access include the provision of credit for starting up a transport business, the implementation of pilot projects showing the advantages of a specific form of transport service, licensing arrangements for transport services, and the provision of maintenance and repair facilities (including ensuring the availability of spare parts).

Location of services

The facilities to which rural households require access and their location are the key issues in defining access needs. The choice of location may be *fixed* by the physical environment, as in the case of natural water sources and forests, or *constrained*, for instance with wells and bore-holes, or it may be totally *free*, as is true of markets and schools.

The effective location or relocation of facilities improves access by reducing the distance and/or time that households travel to reach the facility. The aim is to reduce the need for travel rather than making travel easier. Other related examples of non-transport interventions are:

- Collection and storage of rainwater by households
- Development of woodlots
- Use of more efficient stoves
- Development of alternative sources of fuel such as bio-gas
- Provision of preventative health care measures in the villages

[27]Source: R. Dennis, 1998.

The great advantage of this type of intervention is the fact that the benefits reach a substantial sector of the community, and usually at little or no cost to the households. They especially benefit lower-income households, who are usually not in a position to benefit from other types of intervention due to lack of credit.

For the selection of the location of a facility, of an 'accessibility index' can be used:

$$\frac{\text{number of people served by the facility}}{\text{average time of access to the facility}}$$

The final choice of a site should, of course, be discussed with the local communities.

The impact on men and women

As mentioned before, women usually bear the major part of the transport burden in terms of time and effort. It is therefore particularly important that they benefit from any interventions to improve access. When looking at different possible interventions, one should try to estimate the impact these will have on improving access for men and women separately.

The following are important guidelines for this:

- In many cultures, women's access to IMTs is very low due to their role in the household, their lack of money, and sometimes due to cultural restrictions on them using IMTs. Women are generally unable to afford IMTs, and even if the households own an IMT, women are generally unable to make use of them for most of their transport tasks as the majority of these involve subsistence purposes that have no direct economic advantage in terms of time saving. For the introduction and promotion of IMT use by women to be successful, it will have to go hand in hand with a concerted effort on the part of the project implementers to target and support women.
- In the case of improving infrastructure, the results are more mixed. Roads and tracks are generally not used to their full extent by women, as they have little access to IMTs. Improved paths do benefit women, but as these are generally improved on a more or less self-help basis, women themselves often have to do the work, as well as the maintenance, in addition to their already heavy workload.
- Improvements to transport services also tend to be little used by women, as their main transport burden is related to internal transport where transport services play little or no role. Furthermore, their lack of money tends to put the use of transport services beyond their reach.
- Interventions that reduce the transport burden by bringing services closer to users are much more likely to benefit women. In particular, increasing the proximity of subsistence facilities such as boreholes and woodlots can greatly decrease the transport burden of women.

This suggests that improved access has to take account of the clear distinction between the sexes in terms of transport needs and patterns. Previous attempts to improve mobility have generally not favoured women as the improvements were (a) not accessible to them and/or (b) irrelevant to their needs, such as water collection. The more general emphasis on access allows planning to take account of the sexual division of labour in transport and plan for improvements that alleviate the burden for both sexes.

Transparencies 10.1 – 10.9

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Objectives Module 10: Intervention Prioritisation

The objectives of this module are:

- To familiarise the participants with the different types of possible access interventions
- To provide the participants with an understanding of the impact of different intervention types on men and women
- To enable the participants to gain experience in the planning and prioritisation of access interventions

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Factors for comparing interventions

When deliberating between various possible interventions that will improve access to a certain service or facility, it is important to compare the:

- Amount of time saved
- Reduction in distance
- Increased per capita usage of the service (e.g. higher water consumption)
- Number of households it serves
- Possible additional benefits in terms of access to other services and facilities
- Cost of implementation and maintenance (especially in relation to the available budget)
- Impact on both men and women

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Categories of access interventions

There are four categories of interventions that can ease rural access problems, namely:

1. Transport Infrastructure
2. (Intermediate) Means of Transport
3. Transport Services
4. Spatial location of services and facilities

'Mobility' vs 'Proximity'

Transport interventions
vs
Non-transport interventions

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Improved Footpath, Tanzania

Source: F. Blokhuis

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Labour-based road construction, Mozambique

Source: Feeder Roads Programme(FRP) Project, Mozambique

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Footbridge construction, Zimbabwe

Source: ILO/ASIST

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Examples of IMTs

Source: ILO/ASIST

Source: Johan Steyn

Details of means of transport

Means of transport	Means of propulsion	Typical load (kg)	Average speed (km/hr)	Daily range (km)	Transport capacity (tonne-km/hr)	Typical initial cost (US$)
Human carrying	Human	25-30	4-5	15-20	0.12	-
Wheelbarrow		90	3-4	5-6	0.31	60
Handcart		200	3-4	10-12	0.70	50-100
Bicycle		50	10	40-50	0.50	100
Bicylcle trailer		150	8	30-40	1.20	70-100
Pack donkey	Animal	50-80	4-5	20	0.30	80
Ox-drawn sledge		250	2-3	15	0.63	10
Donkey cart		300	4-5	20	1.35	150-200
Ox-cart		800	3-4	20	2.80	250-350
Motorcycle	Engine	50	40	150	2.00	2000
Motorcycle trailer		500	20	80	6.00	400
Single axle tractor trailer		800	10	40	8.00	3000

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Transparency No. 10.8
Details of means of transport

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Examples of proximity interventions

- (Re-)location of services
- Collection and storage of rainwater by households
- Development of woodlots
- Use of more efficient stoves
- Development of alternative sources of fuel such as bio-gas
- Provision of preventative health care measures in villages

For the selection of the location of a facility, an 'accessibility index' can be used:

$$\frac{\textbf{number of people served by the facility}}{\textbf{average time of access to the facility}}$$

Exercise No. 10.1: Intervention planning

Groupwork

Case Description

The case is shown in the provisional map of Mouse Hill Area, which has three villages (A, B, and C) located in different types of terrain, but all in the vicinity of a town. Each village is within the administrative jurisdiction of the local authorities located in the town. The accessible tracks, routes, and roads are given, together with rivers, (dangerous) crossings, and the location/s of basic social and economic services. The services indicated on the map are explained in the reference box. The planning dilemmas are described in the three village proposals:

Village A

Village A would like to upgrade the poor gravel road to the district town to all-weather standard. It is currently full of pot-holes and barely accessible for motorised transport. Costs are US$1,500 per km (length is 2.5 km). Apart from better access to the district hospital, the upgrading of the road is expected to have significant impact on the area as a whole (*e.g.* transport increase, *etc.*). Village A also wishes to apply for a loan scheme of US$2,000 for purchasing IMTs. Village A is known for its credit-worthiness.

Accessibility Indicators:

Commercial centre	:	300	School	:	300
Health post	:	350	Mill	:	0

WHERE IS VILLAGE B?

Village C

Village C wants the dangerous crossing (3) from their village to the commercial centre and school be reconstructed to all-weather standards. A steel bridge will cost at least US$6,000, whereas a timber bridge will cost only US$3,000, but will run a serious risk of collapsing during the rainy season. This has happened twice before. 50% of the village population wants the three classes of the primary school in Village B upgraded to six (to achieve this Village B has to apply for at least three extra teachers through the local authorities). Village C also prefers the crossing (1) between Village B and A be upgraded in order to have access to the health post if their steel bridge proposal is not accepted.

Accessibility Indicators:

Commercial centre	:	500	School	:	300
Hospital	:	1000	Mill	:	300
Health post	:	300			

The Local Authorities

The authorities' annual budget for infrastructure and loan schemes in sub-district areas is US$10,000. The council is responsible for the management of loan schemes. It is unlikely that the council will approve the construction of two bridges at two crossings over the river.

Group Instruction

You have the responsible position of local planner/engineer/project officer tasked with appraising the proposals of villages A, B, and C. The CEO has requested that you to come up with a motivated plan to allocate US$10,000 to be spent on infrastructure and loan schemes for the three villages in the district. What is/are the most favourable option(s) to spend the money, taking – amongst other factors – the Accessibility Indicators into account?

Plenary

Present the results of your group using a flipchart.

Transparency 10.10

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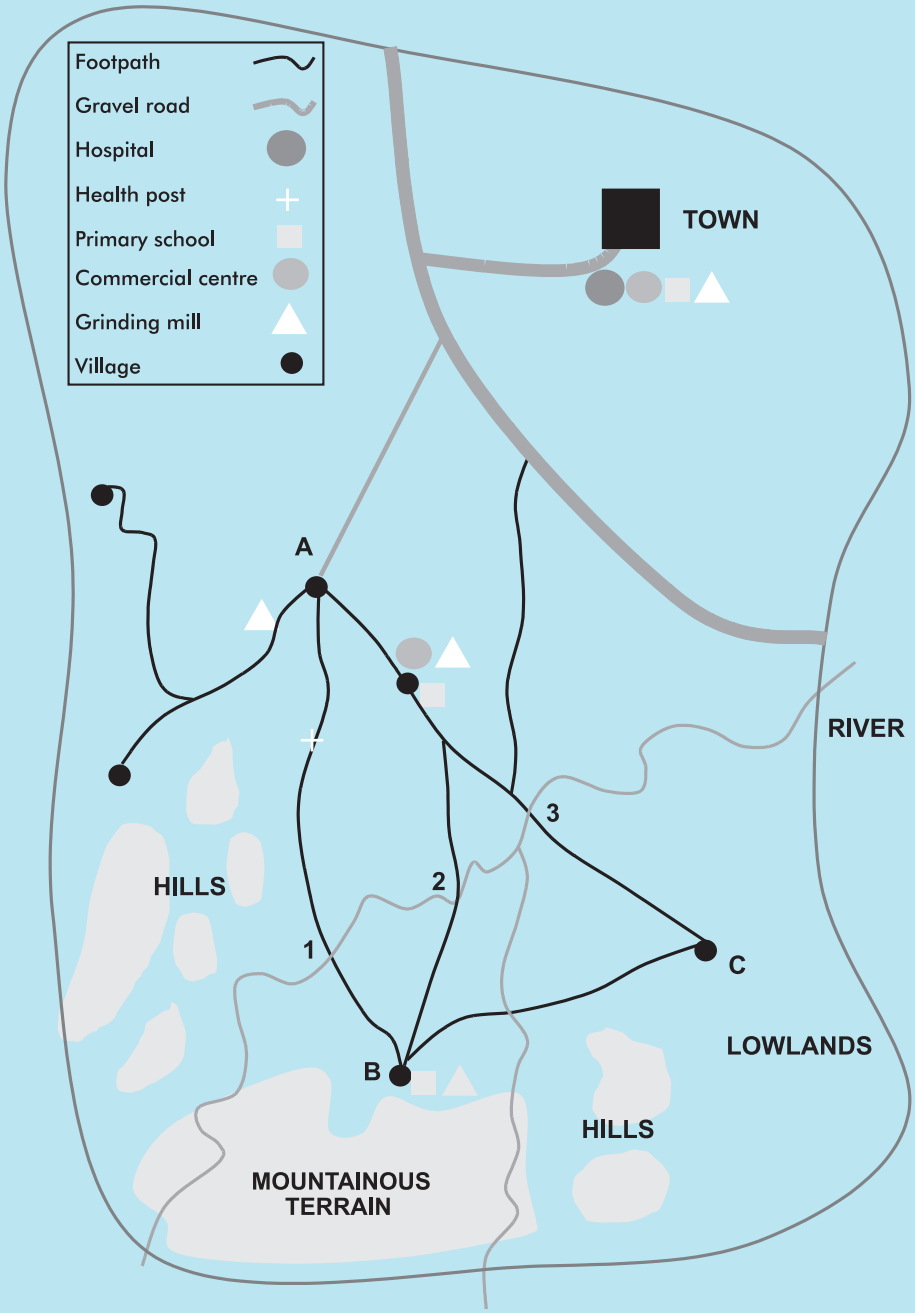
Map of fictitious sub-district 'Mouse hill'



Transparency No. 10.10
Map for interventions prioritisation

Module 11:

Integration and Implementation (IRAP Step 9)

Introduction

Scope

This module aims to introduce in general terms the integration of the IRAP tool into the national- and local-level planning system. It discusses the implementation of prioritised access interventions as part of the local development plan.

Objectives

The objectives of Module 11 are:

- To provide participants with an understanding of the role of the IRAP process within the national planning cycle
- To enable the participants to start visualising where the IRAP tool can be integrated into the planning system already in use

Preparation

No extra preparation is necessary.

Materials

The materials to be used in this module are:

- Transparency Nos 11.1 and 11.2
- Overhead projector

Handouts

The handout for this module is:

- Theory

Trainer's notes

Key points and activities	Method	Materials	Time
1. Present the objectives of this module	Presentation	• Transparency No. 9.1	2 mins
2. Present the theory of implementation	Presentation	• Transparency No. 9.2	15 mins
3. Discussion and questions	Plenary		10 mins

Integration and Implementation

The planned interventions resulting from the IRAP procedure need to be integrated into the local-level planning system before actual implementation can take place. The IRAP procedure should be linked to the local-level planning system, and the access planning results should lead back into the local-level planning cycle. Proposed interventions that address rural access will progress into projects for implementation within the framework at the local level.

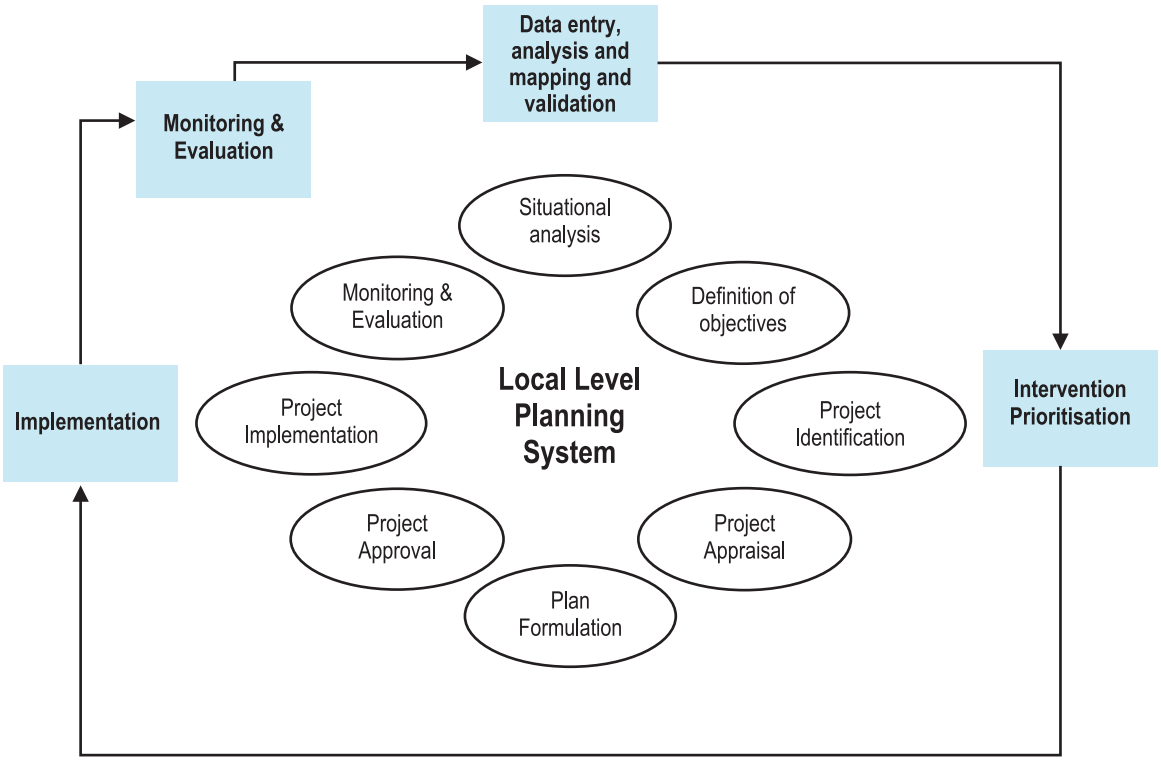


Figure 13: Integration of IRAP into the local-level planning cycle

As IRAP uses a common procedure for identifying problems and offering solutions in different sectors, it offers a common framework for all sectors to plan together for implementation. Many interventions can benefit more than one sector, and therefore the translation of proposed interventions into plans is best done with all the sectorial departments planning together. In addition, NGOs and other organisations involved in providing goods and services can be invited to attend the planning session.

One important point to make is that implementation is not only the physical execution of bridges or buildings, but that it also involves credit schemes for IMTs, public transport development, and the quality improvement of services such as health and education.

In addition, the communities should continue to be involved in all stages of the process, including implementation. When looking at the construction or rehabilitation of infrastructure and buildings, an important aspect that should be taken into account is the use of labour-based methods. By using labour with light machinery, where necessary, additional benefits other than the assets themselves accrue to the communities. For example, employment is created, skills are transferred through training, and the costs and quality of the implementation are equal (or even better) if well managed.[28]

[28]For more information on labour-based methods, the ILO and especially ILO/ASIST can be contacted.

Transparencies 11.1 – 11.2

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Objectives Module 11: Integration and Implementation

The objectives of this module are:

- For the participants to understand the role of the IRAP process within the national planning cycle
- For participants to start visualising where the IRAP tool can be integrated into the planning system already in use

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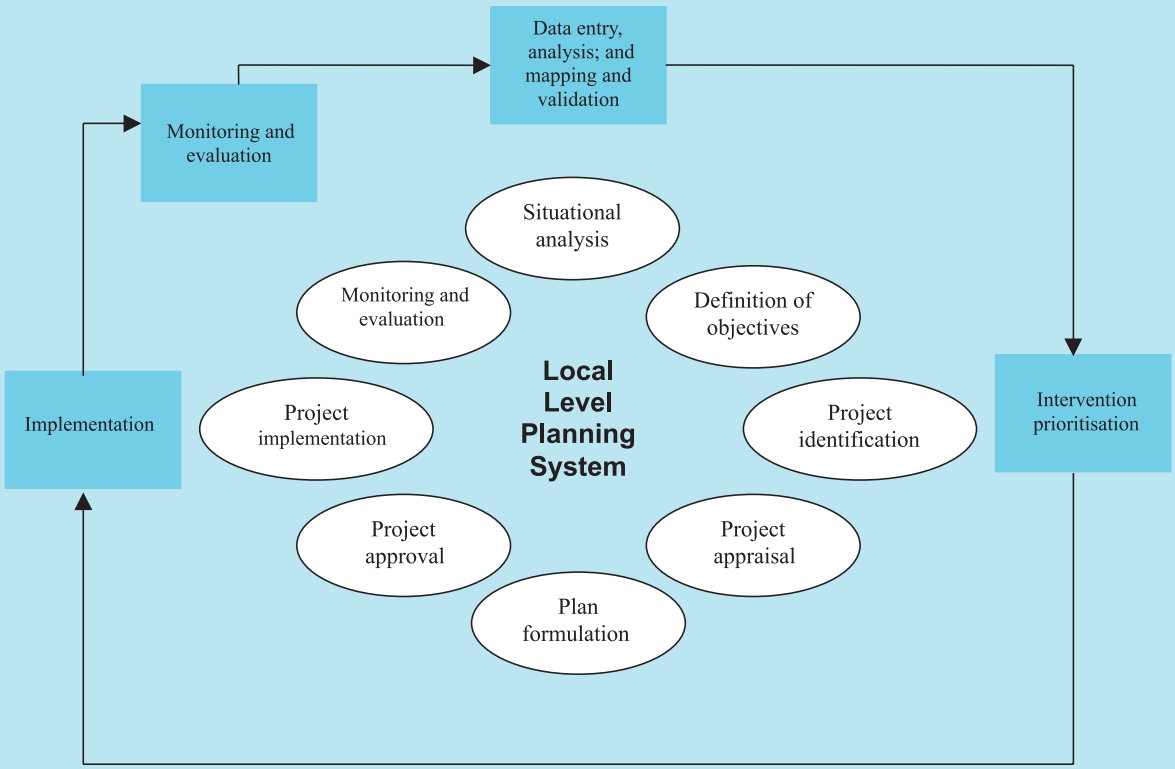
IRAP Integration



Module 12:

Monitoring and Evaluation (IRAP Step 10)

Introduction

Scope

This module aims to introduce the specific monitoring and evaluation aspects of the IRAP process. The main points of feedback within the process are discussed, and special attention is given to the gender impact.

Objectives

The objectives of Module 12 are:

- To explain the two main feedback cycles in the IRAP process
- To provide the participants with an understanding of the importance of gender within monitoring and evaluation

Preparation

No extra preparation is necessary.

Materials

The materials to be used in this module are:

- Transparency Nos 12.1-12.3
- Overhead projector

Handouts

The handout for this module is:

- Theory

Trainer's notes

Key points and activities	Method	Materials	Time
1. Present the objectives of this module	Presentation	• Transparency No. 12.1	2 mins
2. Present the theory of monitoring and evaluation	Presentation	• Transparency Nos 12.2 and 12.3	15 mins
3. Discussion and questions	Plenary		10 mins

Monitoring and Evaluation

The whole purpose of IRAP is to improve the effectiveness of interventions in rural access. It goes without saying that this effectiveness needs to be checked. Monitoring the process and the outputs can lead to adjustments and improvements.

The IRAP process has two feedback cycles:

1. After validation
   - Does the data have to be corrected and re-analysed?
   - Is the interpretation of the data correct?
2. During and after implementation:
   - Is the chosen intervention delivering the anticipated effect?
   - Are the targets correctly set?

The latter evaluation actually incorporates two different types of monitoring and evaluation:

I. Is the planning leading to appropriate interventions and consequently improving access (evaluation of the IRAP process)?
II. Is the intervention implemented as intended (evaluation of the project)?

Within the IRAP process we are mainly interested in the former, as the latter is a more conventional form of monitoring and evaluation and should form part of any project. Evaluation of Type I should lead to improvements of the IRAP planning cycle where necessary. This evaluation should, however, be part and parcel of the existing monitoring and evaluation of development projects.

Gender impact, being a crucial factor in rural access, should be given appropriate attention. The incorporation of gender related factors in monitoring and evaluation leads to more effective improvements of the IRAP cycle. As a guide, the following should be assessed and rated:

a. In the planning phase:
   - Are women involved in decision-making and priority-setting?
   - How do identified problem areas affect women, men and children?
b. During implementation:
   - Are women involved in the implementation of projects?
   - Is the implementation affecting women/men positively/negatively in terms of labour participation and/or social changes?
c. After implementation:
   - Is the project having the anticipated affect on women/men?
   - Are the women/men involved satisfied with the effects of the project?

Again, such evaluation should be part and parcel of the overall monitoring and evaluation of the project. It should not be a separate entity.

Transparencies 12.1 – 12.3

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Objectives Module 12: Monitoring and Evaluation

The objectives of this module are:

- For participants to know the two main feedback cycles in the IRAP process
- For participants to understand the importance of gender within monitoring and evaluation

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IRAP feedback cycles

The IRAP process has two feedback cycles:

1. After validation:
    - Does the data have to be corrected and re-analysed?
    - Is the interpretation of the data correct?
2. During and after implementation:
    - Is the chosen intervention delivering the anticipated effect?
    - Are the targets correctly set?

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Gender Impact

As a guide, the following should be assessed and rated when monitoring and evaluating the gender impact of the IRAP process:

- In the planning phase:
  - Are women involved in decision-making and priority-setting?
  - How do identified problem areas affect women, men and children?

- During implementation:
  - Are women involved in the implementation of projects?
  - Is the implementation affecting women/men positively/negatively in terms of labour participation or social changes?

- After implementation:
  - Is the project having the anticipated affect on women/men?
  - Are women/men satisfied with the project's effects?

Module 13:

The Way Forward

Introduction

Scope

This module aims to get participants to agree on the necessary actions and resources for the incorporation of the IRAP tool into the local-level planning system, as well as on the providers of these resources and the executors of the actions.

Objectives

The objectives of Module 13 are:

- For participants to determine how the IRAP tool can be incorporated into the local-level planning process
- For participants to list the actions to be taken to enable this incorporation, and by whom these should be undertaken
- For participants to list the necessary resources (human, financial, and equipment) to enable this incorporation, and from where these are to come

Preparation

As the existing planning process in each country is different, no specific theory exists for this module. It is therefore important for the trainer to acquire information on the existing local-level planning system before or during the course. This can be used to determine possible scenarios, actions, and constraints for the incorporation of IRAP. Although it is important that the actual decision on the above comes from the participants themselves, this information can be used to stimulate discussion and/or to question proposals that seem unlikely to be successful given the information available.

Materials

The materials to be used in this module are:

- Transparency Nos 13.1 and 13.2
- Exercise No. 13.1
- Flipchart
- Coloured markers
- Overhead projector

Handouts

The handout for this module is:

- Exercise No. 13.1

Trainer's notes

Key points and activities	Method	Materials	Time
1. Present the objectives of this module	Plenary	• Transparency No. 13.1	2 mins
2. Explain Exercise 13.1 and divide the participants into groups	Presentation	• Exercise No. 13.1 • Transparency No. 13.2	10 mins
Let the groups answer the questions in Exercise No. 13.1. If possible, more specific questions should be added based on information gathered during the course.	Groupwork		2 hours
3. On the final day, have the groups present their findings	Group presentation	• Flipchart	30 mins
Discuss the findings and the possible constraints for the incorporation of IRAP and possible solutions to overcome these. Note any new points on a flipchart. This must result in an agreed list of actions and necessary resources, and who is to provide these	Plenary	• Flipchart	2 hours

Transparency 13.1

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Objectives Module 13: The Way Forward

The objectives of this module are:

- For participants to determine how the IRAP tool can be incorporated into the local-level planning process
- For participants to list both the actions to be taken to enable this incorporation and by whom these should be undertaken
- For participants to list the necessary resources (human, financial; and equipment) to enable this incorporation and from where these are to come

Exercise No. 13.1: The way forward

Groupwork

In your group, answer the following questions regarding the actual incorporation of the IRAP tool into the existing local-level planning system and the implementation of the various IRAP steps.

1. How can the IRAP tool be incorporated into the local-level planning system (based on figure 13)?
2. What actions need to be undertaken to enable this incorporation, and by whom?
3. What resources (human, financial, and equipment) are necessary at the different levels, and who can provide these?

Plenary

Present the findings of your group using flipcharts.

Transparency 13.2

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The way forward

1. How can the IRAP tool be incorporated into the local-level planning system?

2. What actions need to be undertaken to enable this incorporation, and by whom?

3. What resources (human, financial; and equipment) are necessary at the different levels, and who can provide them?

Module 14:

Course Evaluation

Introduction

Scope

This module deals with the evaluation of the training course itself. Participants are given the opportunity to give feedback on the course through a course evaluation form and through plenary discussions.

Objective

The objective of Module 14 is:

- To evaluate the course with the aim to improve future IRAP training workshops

Preparation

No extra preparation is necessary.

Materials

The materials to be used in this module are:

- Evaluation form
- Flipchart
- Coloured markers
- Masking tape

Handouts

The handout for this module is:

- Evaluation form

Trainer's notes

Key points and activities	Method	Materials	Time
1. Hand out the evaluation forms, asking the participants to fill them in immediately. Emphasise the fact that they are anonymous and are intended for the improvement of the course.	Individual	• Course evaluation form	15 mins
2. In a plenary session, ask the participants to give any additional feedback on the course they would like to discuss. Use a flipchart to note the points raised.	Plenary	• Flipchart	30 mins

Course Evaluation

The purpose of this evaluation is to provide feedback as well as to assist the organisers in improving the quality of future workshops. It would be greatly appreciated if you could complete this evaluation form.

1. Overall quality of presentation:

Very Good **Good** **Average** **Poor** **Very Poor**

If not satisfactory, *i.e.* average to very poor, please give reasons.

_____

_____

2. Quality of visual aids and handouts:

Very Good **Good** **Average** **Poor** **Very Poor**

If not satisfactory, *i.e.* average to very poor, please give reasons.

_____

_____

3. Group discussions:

Very Good **Good** **Average** **Poor** **Very Poor**

If not satisfactory, *i.e.* average to very poor, please give reasons.

_____

_____

4. Relevance of field work:

Very Good **Good** **Average** **Poor** **Very Poor**

If not satisfactory, *i.e.* average to very poor, please give reasons

_____

_____

5. Quality of the venue, facilities and meals:

Very Good **Good** **Average** **Poor** **Very Poor**

If not satisfactory, *i.e.* average to very poor, please give reasons.

_____

_____

6. Usefulness of IRAP as a planning tool:

Very Useful **Useful** **Not Useful**

7. Was enough time allocated to:

(a) Explanation of concepts/theoretical aspects? Yes/No.
(b) Explanation and implementation of fieldwork? Yes/No.

8. Give an overall impression of how each topic was presented and explained (by putting a tick [√] in the appropriate box)**:**

Topic	Very Good	Good	Average	Poor	Very Poor
Transport Approaches					
The 'Accessibility' concept					
Access Planning					
Data Collection					
Data Entry					
Data Analysis					
Mapping					
Validation					
Access Profiles					
Intervention prioritisation					
Implementation					
Monitoring and Evaluation					

If not satisfactory, *i.e.* average to very poor, please give reasons.

_____

_____

9. What aspects of this workshop did you find most interesting?

10. What aspects of this workshop did you find least useful?

11. Please feel free to write any additional comments or proposed adjustments to the programme that you want to bring to the attention of the organisers in the space below.

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