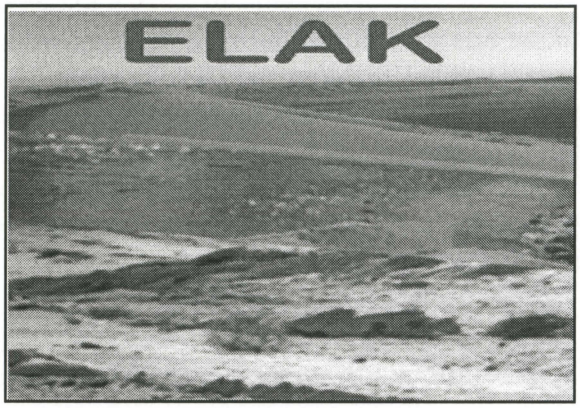
EXTERNAL EVALUATION OF THE PROJECT: INTERACTIVE LEARNING AND ACTION IN THE KUISEB (ELAK)



FINAL REPORT

Consultant: Dr. J.C Fitter
Place: Windhoek, Namibia
Date: February 2004

Implemented by :

DESERT RESEARCH FOUNDATION OF NAMIBIA

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In addition, the programme was streamlined during a regional workshop held in October 1999, at the Organisational Training and Development Centre, Harare which addressed three main target implementation areas which are (1) Strategy Development (StrateBEC), (2) Information Gathering & Exchange (IgeBEC) and (3) Demonstration Projects (DemoBEC). These were to be supplemented with higher level activities to enhance project management and co-ordination, advisory services to government services and project backstopping services.

Goal and Objectives of Namibia's Biomass Energy Management Programme

Goal

To put in place a National Biomass Energy Management Strategy that will contribute to the sustainable utilisation and supply of traditional biomass energy for private households and small-scale industries in Namibia.

Objectives

1. Identify organisations and programmes involved in, and key stakeholders and partners for future involvement in, biomass energy conservation activities.
2. Co-ordinate and liase at national and regional levels with organisations and partners involved in biomass energy conservation.
3. Mobilise stakeholders nationwide to formulate a national strategy and programme for promoting sustainable use of biomass energy resources in Namibia.
4. Identify potential stakeholders and assist with planning, including for pilot projects in Namibia.

Goal of the Baseline Biomass Survey

To provide basic information which is necessary for the integration and improvements of Biomass Energy Conservation measures in the ongoing activities of the DRFN through the Regional Awareness Project and Namibia's Programme to Combat Desertification. Some of the data are also used for the impact monitoring of BEC measures in the frame of the demo projects.

Objectives of the Baseline Biomass Survey

To reach this goal a survey was conducted with the objectives of:

- developing an effective baseline of information
- identifying appropriate energy technologies that increase the efficiency of biomass use and
- mobilising relevant organisations to manufacture and disseminate appropriate technologies.

CONTENTS

Chapter Two. BACKGROUND

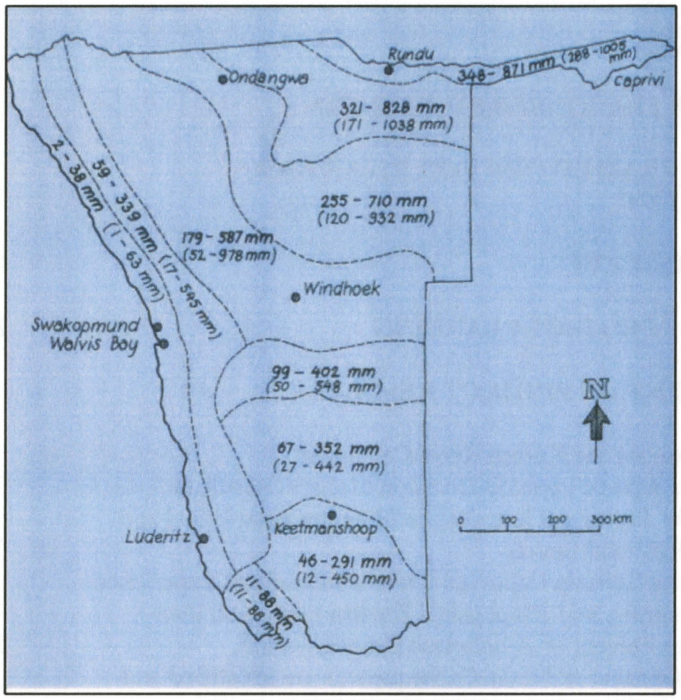

Figure 2.1 Namibia's rainfall map
Dark numbers indicate the range expected 90% of the time
Lighter numbers indicate the 95% range

Namibia is the least populated country in SADC, with some extreme environmental limitations especially in relation to rainfall and its variability (figure 2.1). Consequently there are severe limitations to provision of firewood in Namibia because of the low rainfall-limited growth rate of biomass within the country.

Regional Statistics

This chapter gives a brief overview of the regions in which the survey was conducted and of the chosen study areas. The regions consist of areas of the country with higher than average population densities (see Table 2.1), this is also indicative of the more productive nature of the land within these regions due to the higher level of rainfall than in many other parts of Namibia. The table presented below the descriptions summarises the data.

Ohangwena Region

The Ohangwena Region occupies an area of 10 582 km^2, and has a population of 190 858 people. This is the highest population number for a region, however the population density is lower than in the Oshana Region. There are 25 574 households, of which 57% were female-headed in our sample. The most densely populated sub-area of Ohangwena has the lowest average income (*Wamukonye & Hamutwe 1998*).

EXECUTIVE SUMMARY

General Findings

i. The "Interactive Learning and Action in the Kuiseb (ELAK)" project is based in the Kuiseb Ephemeral River Basin, one of the westward flowing ephemeral rivers in Namibia. From up to down stream, freehold-tenure and communal farmers, a national park, and the port and municipality of Walvis Bay all derive water from this source.

ii. The draft Water Resources Management Bill for Namibia proposes the creation of basin management committees as mechanisms to ensure more equitable, efficient and effective sharing of water resources and their benefits. The ELAK project, implemented by the Desert Research Foundation of Namibia (DRFN) in close consultation with Namibia's Water Resources Management Review (NWRMR) with funding from the European Union (EU) has succeeded in laying the foundation for the integrated management of the Kuiseb river basin through the gathering and sharing of information concerning stakeholders' needs and expectations based upon involvement and participation. Through the creation of the Kuiseb Basin Stakeholders Forum and its concomitant Kuiseb Basin Management Committee, ELAK created the institutional foundation for developing and testing an integrated basin management approach.

Recommendations

iii. ELAK has accumulated a vast amount of knowledge and experience which should be shared by managers of similar initiatives in the country. The stepwise approach towards integrated basin management developed by the project can serve as guiding principles for imitation.

iv. More attention should be given to the need for active participation of governmental institutions, the adequate estimation of time budgets for capacity building, the formulation of less ambitious objectives, and the strengthening of the principles of self-help and self-reliance among participating stakeholders. Some of these issues call for an adaptation of the time schedules and modifications in the logical framework.

v. Approaches and concepts developed and used by ELAK are applicable and replicable in other ephemeral river basins. Hence, the external evaluation recommends the extension of the project into similar ecological environments for enhancing the livelihood of Namibians dependent upon the natural resources of Namibia's river basins.

Omusati Region

Omusati occupies 13 638 km^2 and has a population of 153 030 people who live in 21 822 households (*CBS 1994*). Just over half the households sampled (53%) were female-headed. Nearly all the people reside in the rural areas. The regional town Uutapi was proclaimed in 1997. About 65% of the economically active population is employed in agriculture (*Wamukonye & Hamutwe 1998*).

Oshana Region

Oshana is the smallest region in Namibia, with a land area of 5 291 km^2 and is populated by 161 491 people living in 24 198 households. The population density is nearly 30 people per km^2 making Oshana the most densely populated region of the whole country. Nearly 47% of the economically active are employed in the trade and service sectors. The average income is N$10 528 and only 53% of the population is employed in agriculture (*Wamukonye & Hamutwe 1998*)

Table 2.1 General statistics for the three regions surveyed *(Wamukonye & Hamutwe 1998)*

	Ohangwena	Omusati	Oshana
Area (km^2)	10 582	13 638	5 291
Population	190 858	153 030	161 491
Population Density (No.people/km^2)	18	11	30
No. of Households	25 574	21 822	24 198
Female-headed %	55	53	52
Average Income N$/year	6 439	8 441	10 528
% population employed in agriculture	72	65	53

Most people in the northern areas of Namibia are subsistence farmers, mainly farming with crops and stock. Consequently, they consume a lot of wood for cooking, heating (the winters are relatively cold at night), fences (around mahangu[1] fields and goat kraals) and building materials for homesteads. These factors, combined with the increase in new settlements and subsistence farming, play a crucial role in deforestation in northern Namibia. This form of land degradation leads to a considerable decrease in the livelihood security of people dependent on woody resources.

Although Namibia's population is low, it is increasing at a high rate, >3% nationally with an even greater rate in the urban informal settlements. This puts severe pressure on a limited resource and there is an ever-increasing demand for fuel-wood. Land degradation is one result of this phenomenon, shown through the complete loss of many wooded areas in Namibia, and the incremental loss of biodiversity in these same

[1] Mahangu is the local name for millet(*Pennisetum glaucum*)

1.0 PROJECT BRIEF

01. The management objectives for the Kuiseb River, as for other ephemeral rivers in drylands, must encompass sustainability of water resources. Basin management approaches that integrate ephemeral and perennial flows, surface and groundwater and land as well as water, are essential to promote sustainable use and management of ephemeral river resources. Participation of all resource managers and users is a key element for appropriate and sustainable management. Partnerships amongst agencies and institutions, coupled with full user participation and focused on integrated resource management, must be at the core of management objectives for ephemeral rivers.[1]

02. The three-year pilot project "Environmental Learning and Action in the Kuiseb (ELAK)", initiated in 2001, promotes the introduction of new approaches to basin management, encompassing all aspects of integrated water resource management, throughout the Kuiseb basin. The project, now in its third and final year, was initiated by the DRFN, in collaboration with the Gobabeb Training and Research Centre and in consultation with the Namibia Water Resource Management Review (NWRMR), and is funded by the European Union (EU). ELAK, with a strong focus on environmentally sustainable development, facilitates communication, cooperative learning and integrated action among all people dependent upon the natural resources of the Kuiseb River Basin for the enhancement of livelihoods. ELAK has focused heavily on building the capacity of rural communities and other persons within the basin, bringing together stakeholders for workshops to share information, discuss ideas, and make decisions. A major success of the ELAK project has been the establishment and running of the first Basin Management Committee in Namibia.

03. In the past few years, the Namibian Water Resource Management Review (NWRMR) compiled the Draft Water Resources Management Bill for Namibia.[2] One chapter of the Draft Bill is entirely devoted to basin management committees (Chapter Four). The document makes provision for the establishment of these committees for all basins or inter-related groups of basins in the country. Although the legislation has not yet been promulgated, pilot basin committees are already being established. One of the pilot initiatives has been undertaken by the Desert Research Foundation of Namibia (DRFN) in collaboration with the NWRMR.

2.0 OBJECTIVES OF THE EXTERNAL EVALUATION

04. ELAK covers the period 2001-2004, and with the scheduled completion time of June 2004 approaching, it was agreed between the DRFN and the European Union to conduct an external evaluation in the final year of the project. The evaluation shall identify:[3]

1. the strength and weakness in project implementation;
2. the lessons learnt from the analysis of the project's operation, organisation and impact;
3. areas of replicability and
4. recommendations for implementing similar projects in the future.

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[1] Republic of Namibia, Ministry of Agriculture, Water and Rural Development: National Water Policy White Paper, Windhoek, August 2000, p. 33.

[2] Republic of Namibia, Ministry of Agriculture, Water and Rural Development: Draft Water Resources Management Bill 2001, Windhoek, November 2001.

[3] DRFN: Interactive Environmental Learning and Action in the Kuiseb Project, External Project Evaluation, Terms of Reference, Windhoek, January 2004, p. 2.

areas where valuable firewood species, such as Omusati[2] (*Hardwickia (*syn. *Colophospermum) mopani)* are removed.

Biomass fuel is the main source of energy used for heating and cooking in Namibia by most rural settlements and some urban communities (figure 2.2).

The socio-economic status of the people in these areas is thus crucially linked to the status of the biomass resource. Biomass fuels are in great demand within these 3 northern regions, Oshana, Omusati and Ohangwena, but are diminishing in availability and accessibility as a result of lack of feasible alternatives and the unsustainable use of the increasingly limited resource. This is shown by the fact that less than half of the people use wood for cooking and heating having to use a diverse array of other materials used.

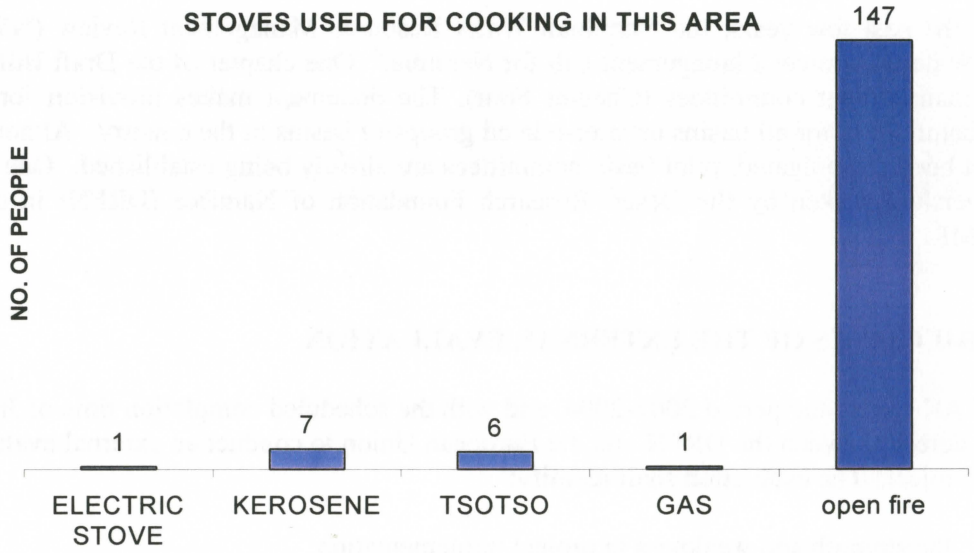

Figure 2.2 Number of people using different types of stoves for cooking in the three regions surveyed (n = 160 households)

There is a need for feasible alternatives to be encouraged, which will be willingly used by communities. Figure 2.3 shows the dependence on biomass fuels for burning compared to alternative stove technologies. Alternatives must, however, be continuously available and always accessible to communities in order for them to want to use them.

[2] This is the local Oshiwambo name for the Mopane tree.

3.0 METHODOLGY

05. The evaluation has been conducted by a consultant[4] supported by the staff of the ELAK project, the Water Desk[5] and other staff at the DRFN. The consultant has facilitated the evaluation by applying the following methodology:

1. Compilation of a work plan with clear milestones;
2. Familiarisation with the project documents;
3. Analysis of project progress reports and any other documents related to the project;
4. Consultation of key stakeholders on progress and achievements;
5. Evaluation of reports and findings of stakeholder consultations in terms of project performance and impact;
6. Presentation of provisional findings and draft evaluation report;
7. Finalisation of the evaluation report.

4.0 PROFILE OF THE KUISEB RIVER BASIN

06. Ephemeral rivers are located in the world's drylands where aridity and climate variability are key environmental determinants. The Kuiseb River is one of two diversely developed ephemeral rivers in western-central Namibia. Draining from private farmland in the Khomas Hochland, the Kuiseb River flows through the Namib-Naukluft Park, where its vegetation and groundwater support the park's wildlife, communal farmers and the coastal town of Walvis Bay and the brewery in Swakopmund. The most thoroughly studied of the western rivers, the Kuiseb is home to the Gobabeb Training and Research Centre[6]. With the lower catchment's unique arid environment divided by this linear oasis, the region is of great conservation and tourism significance. The construction of ground dams on farms in the headwaters and the pumping from coastal aquifers has altered the availability of water within the basin.[7] Although these alterations have supported agricultural and urban development, there is concern within the Kuiseb River Basin about their contributions towards accelerating desertification, increasing impoverishment, escalating conflicts over natural resources, deteriorating economic and biophysical environment, inducing inadequate responses by decision makers and causing further inequitable water allocation.

07. The Kuiseb River occupies a basin area of 21,768 square kilometres over a westward flowing course of 420 km. Headwaters of the river lie at 2280 m with mean rainfall of 335 mm per annum. Only 5 percent of the catchment has rainfall greater than 300 mm per annum and 52 percent has more than 100 mm per annum, while mean rainfall at the coast is less than 20 mm per annum. Mean evaporation ranges from between approximately 1680-2380 mm per annum, increasing from the coast inland.[8] Surface flow in the Kuiseb in the form of floods, recorded at Gobabeb in the middle reaches of the river, has varied from 0 to 102 days per year since 1962.

5.0 POLITICAL FRAMEWORK FOR RIVER BASIN DEVELOPMENT

08. Article 95 of the Constitution of Namibia[9] prescribes that the state shall actively promote and maintain the welfare of the people by adopting policies aimed at the maintenance of eco-systems, essential ecological processes and biological diversity of Namibia.

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[4] The external evaluation was conducted by Dr. Jörn C. Fitter.

[5] The Water Desk at DRFN has been established to enhance coordination and information sharing on issues addressing water and water related topics in Namibia for the achievement of sustainable use and management of natural resources in Namibia and the rest of the SADC region.

[6] The Gobabeb Centre was formed through a partnership between the DRFN and the Ministry of Environment and Tourism

[7] Jacobson, P.J. et al.: Ephemeral Rivers and their Catchments, Sustaining People and Development in Western Namibia, Windhoek, May 1995, p. 141.

[8] Mendelsohn, J. et al.: Atlas of Namibia, Cape Town, 2002, p. 91.

[9] Constitution of the Republic of Namibia, Windhoek, 1990, p.52.

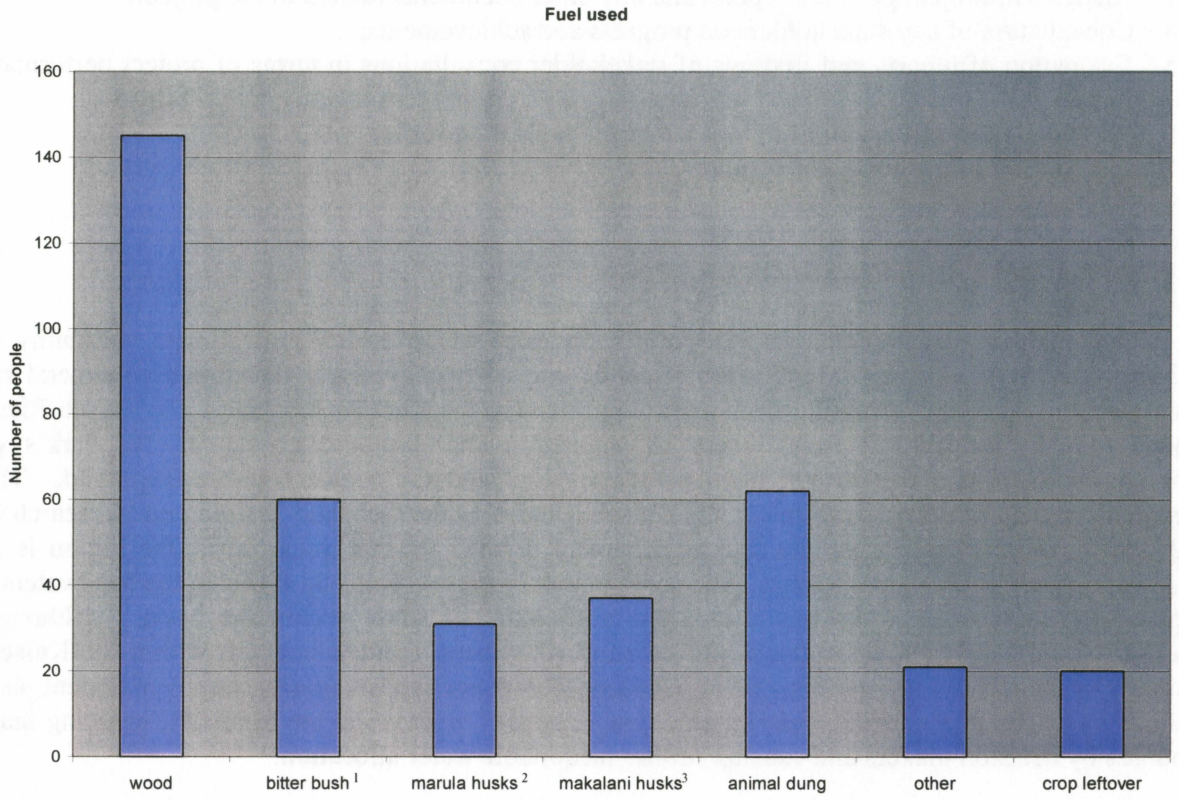

Figure 2.3 Types of fuel used for cooking in three regions surveyed. 160 people were interviewed, some using more than one type of fuel.
[1] = Pechuel-Loeschea leubnitziae
[2] = Fruit husks from the Marula Tree
[3] = Palm fruit husks

Programme for Biomass Energy Conservation

Project Background

The idea behind ProBEC is that of enhancing capacities and commitments of governments and developing institutions/organisations to plan and implement integrated biomass energy conservation programmes. ProBEC is intended to contribute to a better quality of life for the poor rural and urban populations by increasing livelihood security. This will be accomplished by enabling them to meet their energy needs in a socially and environmentally sustainable manner. Realising the importance of such a project, funding was generously provided by the Federal Republic of Germany through the Gesellschaft für Technologische Zusammenarbeit (GTZ)and by the European Union.

ProBEC is conducted in six SADC countries: Lesotho, Malawi, Mozambique, Namibia, South Africa and Zimbabwe,. One of the ProBEC outputs is the creation of demonstration projects, this being done through the bringing together of different

09. Since Namibia's independence in 1990, there have been changes in legislation and other political frameworks with the aim to protect the water resources of the country, promote the welfare of people, and maintain ecological systems and biodiversity for the benefit of all Namibians. Examples of legal documents reflecting these objectives are, for instance, Article 95 and Article 100 of the Constitution of the Republic of Namibia, the Water and Sanitation Policy of 1993, the Forestry Act and the Environmental Management Act of 2001, the National Development Plan 2 (2001-2005), the National Water Policy of 2000 and the Draft Water Resources Management Bill of 2001.

10. Integrated water resource management as the guiding approach to water issues has originated from the Dublin Principles[10] which recommend the adoption of the concept of river basin management and the application of participatory approaches involving users, planners and policy makers at all levels in water development and management. The Draft Water Resources Management Bill[11] for Namibia devotes one chapter to basin management committees as a mechanism to ensure more equitable, efficient and effective sharing of water resources and their benefits.

11. For many years, developments within the Kuiseb River basin have taken place in isolation. Little thought had been given to the effects of various water abstractions within the basin and there had been little understanding among government and other stakeholders of the functioning of the basin system. As a result, government has recognized the need for carrying out management and sustainable use of resources harmoniously in an integrated manner on basin-wide level.[12] In this context, basin management (i) is an integrated approach to managing water and related natural resources on a basin-wide scale, (ii) it allows all water and other natural resource users within the basin to participate in the planning and management of these resources, and (iii) it prevents possible adverse and unintended effects on the basin's ecology that would occur if different stakeholders adopted different emphasis on the natural resource minimising the benefits for all.

12. The objectives of basin management refer to the following issues:

1. Application of policies and strategies to ensure uniformity of approaches used,
2. Promotion of coordinated, holistic, participatory and sustainable management of natural resources at basin level;
3. Equitable and most beneficial utilisation of resources for the social and economic advantage of all; and
4. Establishment of Basin Management Committees.

13. A basin management committee is expected to assume responsibility for the following functions:

1. Promote and coordinate the implementation of basin water management policy and Act;
2. Liase on local, national and regional levels;
3. Coordinate, assess and advise on resource management activities;
4. Identify a basin water policy and strategy framework consistent with national policies;
5. Monitor and report on health of river system;
6. Monitor and report on effectiveness of policies and actions to achieve sustainable management;
7. Identify and resolve natural resource conflicts;
8. Develop an appropriate water research agenda; and
9. Educate water users, schools and communities in general on water issues.

14. Namibia is moving towards an integrated, basin-scale framework for water resources development and management. Such a framework will take into account all the variables (climatic, ecological and human),

[10] International Conference on Water and Environment: The Dublin Principles, Dublin, 1992.
[11] Draft Water Resources Management Bill 2001, Windhoek, November 2001, p. 14-15.
[12] Integrated water resource management has to have an appreciation of three levels of integration to become effective: (i) the integration of hydrological processes (the hydrological cycle), (ii) the integration across landscapes (basin or aquifers) and (iii) the integration through the national socio-economic fabric. See National Water Policy White Paper, p. 48.

partners with different sectoral expertise who can pool their complementary resources to benefit the communities

The Desert Research Foundation of Namibian (DRFN) expressed an interest in taking the lead with demonstration projects to be implemented in co-operation with the Rural Awareness Project (RAP) and Namibia's Programme to Combat Desertification (Napcod).

A baseline survey was conducted in the year 2000 which covered 110 households. The survey describes various basic information in relation to biomass. This information is vital to ensure that there will be integration and improvements of biomass energy conservation measures in the ongoing activities of Biomass-ProBEC/RAP and Napcod. An additional survey of 50 households was conducted later in Oshana region, bringing the total sample to 160 households. The purpose was to gather additional information, which wasn't covered in the previous survey. The result of both the surveys have been integrated into this report.

RAP, ProBEC and Napcod projects implemented by the DRFN deal with many similar issues with regard to deforestation. The survey was conducted by Catherine Matthew of the DRFN with support provided by the RAP staff (Menete Ashipala and Fiona Olivier) and the additional survey was conducted by Napcod staff member Otillie Amaambo all of whom were already familiar with the area and were welcomed by the people.

which affect the quantity and quality of water resources. So far, 13 river basins have been demarcated in Namibia where basin management committees will be established. The basin management committee approach is being tested in the Kuiseb and Cuvelai Basins. Experience from these two basins will be used in setting up basin management committees in all the other remaining basins.

6.0 PROJECT CONCEPT

15. The pilot project "Environmental Learning and Action in the Kuiseb (ELAK)" attempts to introduce new approaches to basin management, encompassing all aspects of integrated water resource management, throughout the Kuiseb basin. The project set as its goal to enhance the livelihoods of Namibians dependent on natural resources of the Kuiseb River Basin but guides itself by a vision elaborated by the basin stakeholders that efficient and equitable access to water and sustainable, integrated use of related resources in the Kuiseb River basin must be ensured. The main mandate of the project, however, emanates from the task of introducing, implementing and testing basin management within the Kuiseb River basin and establishing a Kuiseb Basin Management Committee. The project has facilitated this process.

16. For fulfilling the mandate, set by the Namibian Water Resource Management Review (NWRMR) and the European Union as the main donor, the DRFN established the ELAK project as a vehicle for fulfilling these aims. The ELAK team elaborated together with the land and water users in the river basin, the government institutions responsible for natural resource management within the basin and the regional authorities in a participatory manner the project purpose and the related outputs for purpose achievement:[13]

- **Project Purpose**:

  Decision makers at all levels managing natural resources in the Kuiseb River catchment have enhanced capacity to understand and manage freshwater and other terrestrial natural resources in a more sustainable manner.

- **Results**:

  1. A common vision for the Kuiseb River catchment elaborated and agreed upon by decision makers;
  2. Mechanisms for iterative, consultative planning established and functional at relevant levels;
  3. Decision makers have an improved understanding and experience of social, economic, and biophysical environments and their management to prevent or ameliorate desertification;
  4. Development options and their consequences are identified and tested;
  5. Participatory monitoring and evaluation and adjustment mechanisms applied to development options, involving all stakeholders, developed and functional;
  6. Processes, actions, information and results have been documented, synthesised and widely disseminated to interested parties at all levels;

17. Additional objectives relate to the introduction, implementation and testing of the basin management concept, the facilitation of the establishment of a Kuiseb Basin Management Committee, the compilation, synthesis and dissemination of currently accessible information, the coordination for the establishment of planning groups, the enhancement of capacity of decision makers to apply developed plans, the arrangement of exchange (exposure) visits and the dissemination of the current status of collective understanding. Through these objectives and envisaged measures the project intended to contribute to the overall goal of enhancing the livelihoods of Namibians dependent upon the natural resources of the Kuiseb River Basin.

18. Project goal and project purpose as well as the overall concept (for the introduction, implementation and testing of the basin management concept) are in line with the government objectives as expressed in NDP2,

[13] DRFN: Decision Making in the Kuiseb River Catchment: Interactive Environmental Learning and Action, Proposal submitted to the European Union, Windhoek, September 2000.

Chapter 3. BIOMASS BASELINE SURVEY

Methodology

Study Area

The study was conducted in the Ohangwena, Omusati and Oshana regions in northern Namibia. The survey focused on two villages per region. Additional people from other non-target villages who were visiting friends in the two focus villages were also interviewed, which brought the original sample size of households from 100 to 110. An additional survey was conducted later with another 50 households in Oshana bringing the total sample to 160 households

Table 3.1 Target villages and additional villages of the 160 households surveyed

Regions	Village 1	Village 2	Non-target villages
Ohangwena	Ohaingu	Omungwelume	Omatundu, Engava, Okambebe Oshiwiyu
Omusati	Okahao	Oshikuku	Onampila, Etilyasa, Uukwamatsi, Uutsima, Onoolongo
Oshana	Uupindi	Uuvudhiya	Onampila, Onkani, Oshikushashipya, Oshikango, Oneshila, Onangombe

The survey focused on northern Namibia because it was identified as being the most vulnerable area to fuel-wood shortages because of its high population density. The regions and villages which were targeted, corresponded to those where the Regional Awareness Project (RAP) and the DRFN had been active in the past. As part of environmental awareness raising, RAP promoted alternative resource use to encourage less wood consumption and thus encouraged combating of deforestation and land degradation. Their activities also supported the objectives of ProBEC.

A wide range of different individuals was interviewed to ensure an equal representation within each village especially as regards gender and age representation. People less than 21 years old were categorised as boys and girls.

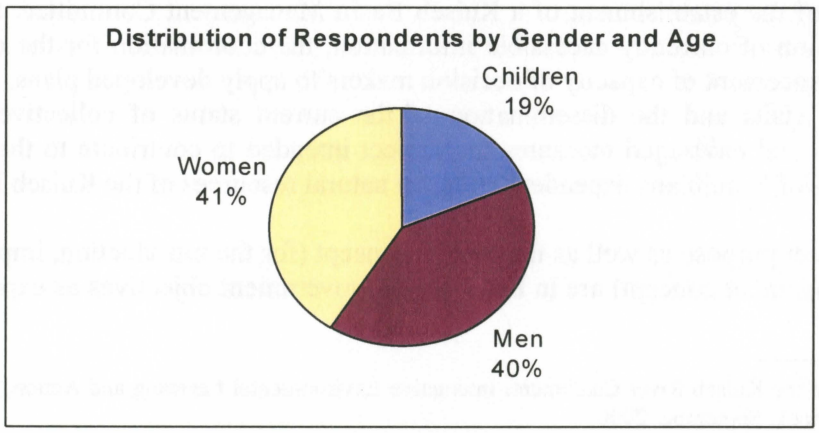

Figure 3.1 Age and gender representation of household members interviewed (n = 160 households

the National Water Policy White Paper, and various environmental policies and strategies.[14] As NDP2 has placed poverty reduction as the overriding objective of all development interventions, the project has reflected poverty as a multi-dimensional and cross-cutting phenomenon in its overall goal. However, the extent of poverty in the river basin is not yet fully known which calls for the development of poverty profiles and poverty indicators for monitoring the impact of project activities on poverty reduction within the river basin. The introduction of a comprehensive and integrated poverty monitoring system (PMS) should be based upon participatory poverty assessments (PPA).

19. The project has actively fostered institutional and individual capacity and commitment for environmental management for sustainable development. The project concept has also recognised the intrinsic poverty-environment linkage which is most evident in combating land degradation as 90 percent of the land is arid and more than 70 percent of the population is dependent upon subsistence farming in Namibia.

20. Through the installation of the Basin Management Committee and the intensive consultation and negotiation undertaken with the public sector, regional authorities and the land and water users in the Kuiseb River basin prior to the joint development of strategies and action steps, the principle of participation was clearly adhered to. Also, the efforts to pursue economically and environmentally viable and realistic approaches towards an integrated basin management are apparent. Furthermore, the initiatives supported through the project aimed at advocating equitable access to water for all people dependent upon the Kuiseb basin and tried to set out the basis for an environmentally sound and sustainable use of the natural resources of the river basin. Finally, the project supports the government in its institutional reform process aimed at improving efficiency and transparency in governmental action and thereby strengthening the principles of good governance.

7.0 QUALITY OF PROJECT PLANNING

21. The above described project concept was effectively translated into a logical framework[15] containing the basic elements of goal, purpose, result and activity. In addition, the intervention logic was supported by the formulation of objectively verifiable indicators together with their source of verification. The needs and purpose, activities, inputs and results are highly relevant and include the establishment of functional iterative consultative planning mechanisms.[16]

22. It is worth mentioning that project management succeeded, through the creation of the Kuiseb Basin Stakeholder Forum, in laying the frame conditions for joint and participatory planning which resulted in the identification of commonly agreed priorities and strategies as expressed in the project logframe.[17]

23. The good quality of the planning exercise eased the evaluation process considerably. The commonly agreed priorities and strategies where broken down into major activities which were properly incorporated into annual work plans. With the preparation of the strategic work plan for 2004 to 2007[18] by the Kuiseb Basin Management Committee (KBMC) and its subsequent approval, the participatory planning process has been completed satisfactorily.

24. Due to the underestimation of time requirements needed to build up and enhance the capacity of all decision makers within the basin, some of the expected results seem to be overambitious. This applies specifically to the task of identifying and testing development options and their consequences within the relatively short time span of the project. The monitoring report of the European Union commented on this

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[14] Government of the Republic of Namibia: Second National Development Plan (NDP2) 2001/2002 – 2005/2006, Vol. I and II, National Planning Commission, Windhoek, p. 50.

[15] DRFN: ELAK Project, Logical Framework, Windhoek, 2001.
[16] European Union: Monitoring Report, Windhoek, April 2003, p. 1.
[17] See as an example ELAK: Internal Planning Workshop, Windhoek, November 2003.
[18] Kuiseb Basin Management Committee: KBMC Strategic Plan 2004-2007, Gobabeb, January 2004.

Data processing: For many of the questions, percentages were calculated from the number of individuals who answered that question. Thus, if people could respond to more than one of the choices, the numbers used to calculate the percentages could be higher than the individuals in the160 households. All the statistics are derived from the Baseline Biomass Survey unless otherwise stated.

Results

Table 3.2 General survey findings

Number of Households interviewed	**160**
Female-headed% expressed as percentage of total interviewees	**53.4**
Male-headed% expressed as percentage of total interviewees	**46.6**
Residency times in area greater than 25 years expressed as percentage of total interviewees	**57.3**

Most households interviewed practised subsistence farming and depended on their crop fields and livestock for survival. However, some households received income from other sources.

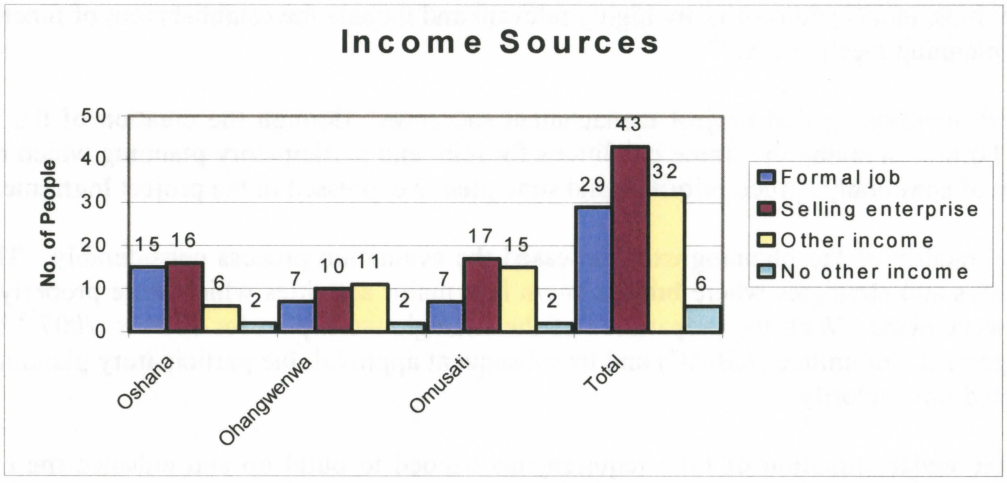

Figure 3.2 Different sources of income per region. *(Note: people may have answered more than once, so the numbers do not add up to the sample size of the number of households (160 households).*

issue that a three-year project period may be too short to achieve the common vision as it involves much attitudinal changes in virtually all stakeholder groups.[19]

8.0 ACHIEVEMENT OF THE RESULTS

25. The following chapters will briefly discuss the implementation status of each of the formulated results. More detailed information on the status of result achievement is given in the annex "Summary Table: Evaluation of ELAK Project Activities".

8.1 Common Vision for the Kuiseb River Catchment Elaborated and Agreed upon by Decision Makers (Result 1)

26. The activities of the project in this result area concentrated on (i) information search and perusal on basin management, (ii) networking with stakeholders, (iii) consultative meetings with stakeholders, (iv) compile and disseminate information to stakeholders, and (v) draft memorandum of understanding signed by stakeholders.

27. Each of the basin community members has a particular set of values, perceptions and attitudes towards the basin, its water and related resources. These groupings have been separated in their actions and consideration within the basin due to socio-economic differences and political division, despite sharing the same environmental system. The connection amongst basin users, managers, service providers and interested parties has mostly been characterized by misunderstanding, mistrust and a general lack of information.

28. Beginning in its first year (2001), ELAK held quarterly meetings with stakeholders at various venues in the Kuiseb basin. These informal meetings brought the stakeholders together and were used to introduce them to the project, the concepts of integrated water resource management and river basin management, and the need for such management approaches. The meetings facilitated an opportunity for stakeholders to meet each other, get to know one another, and to share information and experiences from within the basin. It was a slow process initially, especially given the diverse nature of the stakeholders within the basin and the newness of the approach. The project organised four of these meetings with increasing attendance and comfort with the project and other stakeholders at each successive meeting (December 2001, March, June and September 2002). After these four meetings proved to be successful, the format of the meetings with the stakeholders was changed to a workshop type event with an emphasis placed more heavily on the basin management concept. The workshop events resulted in the formation of the Kuiseb Basin Stakeholders Forum which reached consensus during its workshop in November 2002 on a common vision for the Kuiseb River Basin, e.g. to ensure efficient and equitable access to water and sustainable, integrated use of related resources in the Kuiseb River basin.

29. In the initial implementation phase, the project handled in a very systematic fashion some specific challenges for achieving sustainable basin management. Usually, there are widely disparate levels of understanding about the functioning of a system depending upon the situation of the various stakeholders and their access to information. As a first activity, the project facilitated the sharing of understanding among the stakeholders of what is happening in the basin as a prerequisite for joint strategic planning and effective management. In a logical sequence, this was followed up by promoting and maintaining communication and dialogue across the basin, both vertically and horizontally at different levels.

30. The project's efforts in increasing understanding of the functioning of the basin system and promoting and maintaining communication and dialogue across the basin have been amply documented in the respective workshop reports.[20]

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[19] European Union: Monitoring Report, p.1.

[20] See DRFN: ELAK, Proceedings of the Stakeholders Workshop, Gobabeb Training and Research Centre, Gobabeb, December 2001; DRFN: ELAK, Proceedings of the Stakeholders Workshop, Swakopmund, March 2002; DRFN: ELAK, Proceedings of the

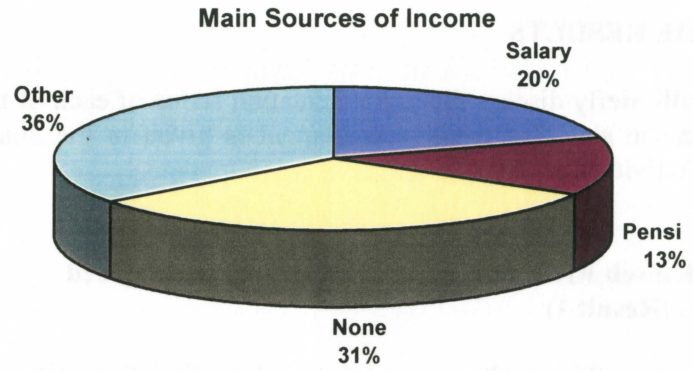

Figure 3.3 The main sources of income in the three regions surveyed (n = 160 households)

Dependence on biomass is evident in all households interviewed in the three regions (Figure 3.4). The following chart of the three regions shows the levels of different kinds of biomass used. All respondents make use of an open fire, they see it as a traditional way of preparing food and they would not like to abandon it. Open fires are used for heating, lighting and cooking. They are used one to three times per day, for an average of 1 hour at a time, with 48% of the households cooking for 6-10 people throughout the year in the rural areas.

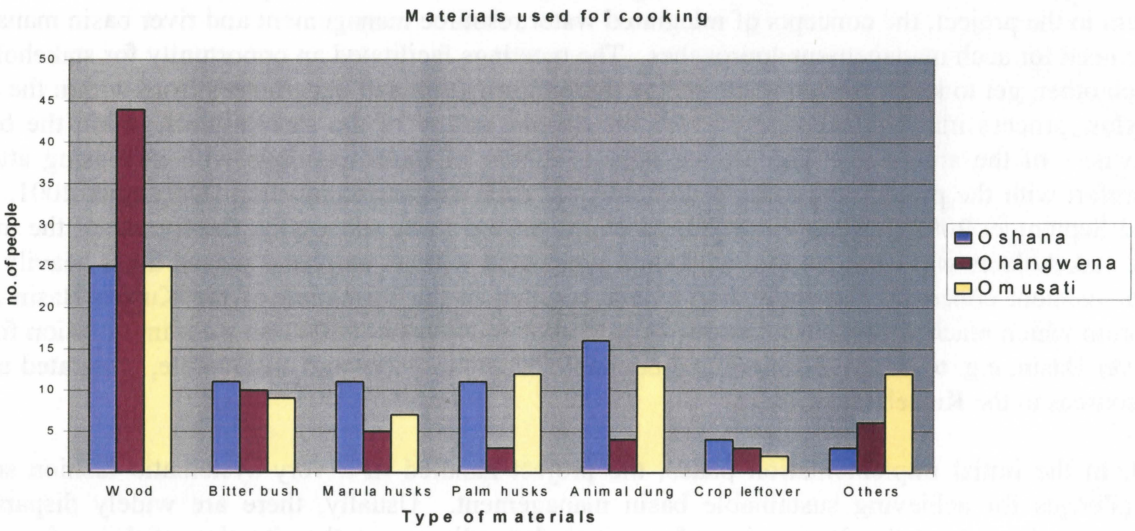

Figure 3.4 Materials used for cooking in the three regions surveyed

Figure 3.4 shows that more wood is available in the more rural area of Ohangwena, whereas the most densely populated region, Oshana, uses a far greater diversity of biomass materials as fuel.

Cooking occurs inside and outside of dwellings, these each have advantages and disadvantages. The table below shows some of the common advantages and disadvantages mentioned by respondents.

8.2 Mechanisms for Iterative, Consultative Planning Established and Functional at Relevant Levels (Result 2)

31. The activities of the project in this result area concentrated on (i) organisation and conduct of ongoing consultations (planning workshops, individual interviews) among decision makers at all levels, (ii) coordination in the establishment of relevant planning groups and development of planning procedures, (iii) enhancement of capacity within existing planning groups to encompass issues of natural resource management in the entire basin, (iv) facilitation for identification, gathering and dissemination of relevant information about the environment in its broadest sense as required for planning, (v) coordination of feedback on decision makers' plans and the planning process in ongoing, participatory manner using diverse, appropriate audio and visual media and (vi) enhancement of the capacity of decision makers to participate in and contribute to planning processes through targeted training activities.

32. On the issues of building capacity of stakeholders to interact and to speak in the basin's interest, generating and making available to all stakeholders appropriate information on which planning and strategies can be based upon and identifying options and opportunities for sustainable development across the basin, the project facilitated successfully the creation of a basin wide decision maker institution as a joint planning mechanism. The project encouraged stakeholders to undertake a planning process and decision-making regarding the establishment of a basin management committee using participatory and visualisation techniques. Despite the lengthy and time consuming consultation process, the project succeeded in encouraging the stakeholder group to develop criteria for membership of the committee, terms of reference for the committee, the structure for sector representation on the committee and to indicate their expectation on the requirements for a successful Kuiseb Basin Management Committee (KBMC).[21]

33. The aims of the committee as stipulated by the stakeholders focus on (i) bringing the stakeholders together, (ii) advising on decisions taken in the basin, (iii) promoting information sharing, generation and understanding of various stakeholders, (iv) facilitating the basin community work for sustainable development, and (v) identifying and advising planners on possible development options for the basin. Stakeholders are to be credited for their dedication to the process of developing an appropriate basin management mechanism. The participatory nature of the process of introducing basin management in the Kuiseb, as promoted by the project, has resulted in a strong sense of ownership by the stakeholders.

34. In summary, participation and interest in basin management has increased remarkably over the time span of the project. Stakeholder attendance increased from an average of twenty persons at the initial stakeholder meetings to an average of fifty at the stakeholder forums. The cross range of stakeholders includes users from within the basin, service providers of water and extension services, government ministries, departments, directorates and parastatals, governing bodies such as Regional Councils and the Municipalities of Walvis Bay and Swakopmund, non-governmental organisations and observers and donors. This has resulted in a good balance between users and managers as well as between government and non-government participants. Gender distribution has not been equal, however, reflecting the poor numbers and status of women in the different sectors associated with the basin.

35. The Department of Water Affairs (DWA) of the Ministry of Agriculture, Water and Rural Development (MAWRD) has been the most active participant sector. In contrast, the Directorate of Environmental Affairs and the Department of Parks of the Ministry of Environment and Tourism (MET) have been involved, although this has not been consistent. Irregular attendance by regional councillors has kept the political interests involved and given some authority to the decisions made. Stronger advocacy should be

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Stakeholders Workshop, Walvish Bay, June 2002; DRFN: ELAK, Proceedings of the Stakeholders Workshop, Kuiseb Basin Management, Roessing Mine, September 2002.

[21] See the comprehensive documentation in ELAK: Basin Management Workshop, Swakopmund, November 2002; ELAK: Proceedings of the Kuiseb Management Workshop, Gobabeb, February 2003; ELAK: Proceedings of Kuiseb Management Workshop, Windhoek, June 2003, ELAK: Kuiseb Basin Management Forum, Stakeholder Workshop, Walvis Bay, October 2003.

Table 3.3 Advantages and disadvantages of cooking in- or outdoors

	Outside	Inside
Advantages		
no or less smoke	X	
food prepared quickly		X
it is cooler		X
Disadvantages		
no protection from the elements	X	
lots of smoke		X

Other stoves used, which are less commonly available are:

- tsotso stoves
- gas stoves
- solar stoves
- electric stoves

They are less commonly used because people cannot afford to buy these stoves with their limited sources of income. The above-mentioned stoves are mostly found in urban settlements such as Oshakati, Namibia's second largest city, in the Oshana Region, where people have a wider variety of income possibilities (Wamukonye & Hamutwe 1998). Table 5.3 details the types of stoves found in each region.

Table 3.4 Types of stoves used in the three regions surveyed

Types of stoves used	No. of Households per region			
	Ohangwena	Omusati	Oshana	Total
Traditional open fire	30	42	38	110
Tsotso stove	1	8	9	18
Gas stove	6	10	5	21
Kerosene stove	2	4	6	12
Solar stove	1	0	0	1
Electric stove	0	1	1	2

Note the population densities for each region Ohangwena (18 people/km^2), Omusati (11 people/km^2), Oshana (30 people/km^2) and the number of respondents saying they use non-wood biomass instead of wood. The tables below also provide information on usage as well as perceptions (Wamukonya & Hamutwe 1998).

applied by the project to ensure the participation of the MET and the regional authorities as major partners and decision makers in the development of the Kuiseb basin.

8.3 Decision Makers have an Improved Understanding and Experience of Social, Economic, and Biophysical Environments and their Management to Prevent or Ameliorate Desertification (Result 3)

36. To contribute to the achievement of the third result, the project employed a variety of approaches. Activities, aimed at achieving the objective of improving the understanding and experience of social, economic, and biophysical environments and their management within the basin, have included the production of materials, training, exposure trips, and studies all targeted at providing information on the biophysical and socio-economic character of the Kuiseb basin as well as possible development and management options. The project initiated the preparation of a profile[22] of the Kuiseb River providing information about river services, the natural environment, climate, vegetation, people, wildlife, economic activities and development with an emphasis on the relationship among these basin components.

37. Given the diversity in background of the basin community, capacity building has been rightly prioritised as an important element to ensure that all groups are enabled to participate in the development process. Capacity building was undertaken amongst all stakeholders through the information sharing and exposure to different areas of the basin as well as through involvement in studies. The project recognised the marked asymmetry in the implementation capacity of the different stakeholder groups and provided a more targeted program of training and capacity building for the Topnanar community of the Kuiseb.[23] The Water Point Committees of the Topnaar community received further training on basic management of the water infrastructure, as well as basic bookkeeping and financial management.

38. The project has correctly realised that sustainability can not be engineered and managed from above. If at all achievable, sustainable development can only be realised through a political, social and technological process that involves and commits all the users of the basin's natural resources.[24] The primary issue of lack of information and sharing of available information as identified by the Kuiseb Basin Stakholders Forum has been adequately addressed through numerous community meetings, stakeholder meetings, workshops and training sessions. ELAK has succeeded in increasing communication, cooperative learning and action among all decision makers dependent upon the Kuiseb basin as evidenced by various joint actions.

8.4 Development Options and their Consequences are Identified and Tested (Result 4)

39. The activities of the project in this result area concentrated on (i) supporting the identification of development options and interventions, (ii) facilitating the implementation of the identified interventions, and (iii) enhancing the capacity of decision makers for the identification and implementation of development options through targeted training activities.

40. Stakeholders received intensive training in strategic planning which resulted, with ELAK facilitation, in the formulation of a first set of goals, activities and development options within the Topnaar community. The community members were also introduced to the activities of the Forum for Integrated Resource Management (FIRM) as a potential mechanism for mobilising self-help and gaining control over their own development process. However, it is still apparent that most rural residents expect government to fund, construct, and maintain rural infrastructure, as well as to implement and manage affiliated programmes and projects. This is not a healthy attitude as it breeds dependency on government policies, programmes and activities, which the community has no control over. Further, this attitude fosters community dependency,

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[22] DRFN: Kuiseb Basin Profile, Draft, Windhoek, without Date.

[23] The Topnaar community received training on strategic planning, natural resource management approaches, livestock management, project planning and proposal writing, alternative income generation methods, crafts development and marketing.

[24] Jerve, A.M.: What Sustains Sustainable Development? Natural Resource Management Participation in Tanzania, Forum for Utviklingsstudier, No. 1, 1990, p. 99.

Table 3.5 Oshana. Percentage of sample with reasons for using fuel (sample size 95).

Fuel	Usage		Cheap		Accessible		Convenient		No alternative	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Wood	43.3	21.4	27.7	50.0	58.8	50.0	2.8	0	15.3	0
Gas	32.8	3.6	36.4	0	50.0	3.6	0	0	16.7	0
Electricity	23.9	0	18.8	0	81.2	0	10.0	0	0	0
Agric waste	0	75.0	0	23.8	0	76.2	0	0	0	0

Source: Wamukonya & Hamutwe

Table 3.6 Omusati. Percentage of sample with reasons for using fuel (sample size 134).

Fuel	Usage		Cheap		Accessible		Convenient		No alternative	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Wood	76.6	97.5	13.9	15.8	68.1	84.2	2.8	0	15.3	0
Gas	12.8	0	0	0	83.3	0	0	0	16.7	0
Electricity	10.6	0	20.0	100	70	0	10	0	0	0
agric waste	0	2.5	0	0	0	100	0	0	0	0

Source: Wamukonya & Hamutwe

Table 3.7 Ohangwena. Percentage of sample with reasons for using fuel (sample size 128).

Fuel	Usage		Cheap		Accessible		Convenient		No alternative	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Wood	77.5	97.4	13	0	81.2	92.1	2.9	2.6	2.9	5.3
Gas	11.2	0	10	0	100	0	10	0	30	0
Electricity	10.1	0	0	0	50	0	0	0	0	0
Kerosene	1.2	0	100	0	0	0	0	0	0	0

Source: Wamukonya & Hamutwe

When the information from the Biomass survey is combined with the data from Wamukonya & Hamutwe 1998 on the usage of different fuels in all three regions, it can seen that wood is an important fuel source varying in importance from 50% to 70% in the urban areas, and 20% to nearly 100% in the rural areas (Wamukonya & Hamutwe 1998). The Oshana and Ohangwena data were confirmed by the Biomass Survey. There is however a discrepancy in the Omusati data, where in the Baseline Biomass survey data wood was found to be not as important (31% usage) while the Wamukonya & Hamutwe survey data found it to be important (97.5% usage). Looking at the sample sizes involved provides a plausible explanation of the discrepancy; the results could quite easily be artifacts of a small sample size and of differing distances from large population centres. Households closer to a population centre have less access to wood in the immediate surroundings, due to the depletion of woody vegetation

as community members passively wait for their needs to be met, rather than actively attempting to address the needs themselves. The project should accelerate efforts for equipping rural leadership with the social competence to promote self-help and self-initiative.[25]

41. Experience in the development process for a sustainable management of the basin reveals that rural communities realise that they need to come to terms with state regulations for economic as well as political reasons. They are conscious of the shrinking resource base. Resource and water scarcities are assuming scales that are, in most situations, beyond the communal means to manage. They are also aware that customs and conventions that governed traditional resource use are no longer defendable under the new laws instituted by the state. Despite these constraints and the remarkable success in mobilising the basin stakeholders to take a lead in the sustainable development of their river basin, the project should continue its attempts to build capacity in the rural communities to realise their own objectives and development aspirations. To achieve this, the project has rightly focused on the livelihood of the communal target groups instead of concentrating solely on environmental issues.[26]

42. No significant progress has been made on the implementation and testing of development options and their consequences. Reasons cited for the lack of progress include delays in the start-up phase of the project and the underestimation of the time requirements needed to build up and enhance the capacity of all decision makers to understand the concept of sustainable management and to enable rural participants to define their requirements for sustainable utilisation of the basin resources and to implement their self-developed solutions. The project should intensify support for the implementation and testing of identified solutions for the realization of tangible benefits for the stakeholders.

43. Despite this shortcoming, the project achieved a significant breakthrough in terms of stakeholder commitment with the formulation of the first strategic plan for the period 2004 to 2007.[27] The plan identifies 11 focus areas for action and details the strategy, input requirements, responsibility, completion dates, and needed resources for achievement. The strategic plan was developed by a core team composed of members of the Kuiseb Basin Management Committee (KBMC) and was subsequently endorsed on the second KBMC meeting in February 2004. The same meeting formalised, structured and institutionalised the work and the mandate of the KBMC through the adoption of its constitution.[28]

44. With these events, the ELAK project has successfully laid the institutional basis for the introduction of the concept of integrated basin management as stipulated in the Draft Water Resources Management Bill of 2001.

8.5 Participatory Monitoring, Evaluation and Adjustment Mechanisms Applied to Development Options, Involving all Stakeholders, Developed and Functional (Result 5)

45. The activities of the project in this result area concentrated on (i) enhancing capacity of decision makers to participate in and contribute to monitoring, evaluation and adjustment processes, (ii) undertaking of targeted training in participatory monitoring and evaluation for application to planning processes and to applied interventions, (iii) supporting participatory monitoring, evaluation and interventions and their consequences, (iv) providing feedback of lessons learned from participatory monitoring and evaluation in a participatory manner and (v) preparing and disseminating accessible information about implementation, monitoring and evaluation to decision makers and to relevant interested parties.

46. Progress on this result has been moderate due to the delay in designing appropriate development options. Further, recognition must be given to the fact that benefits generated from interventions in ephemeral river systems do not materialise over night. However, the project collected and disseminated information

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[25] Fitter J.C.: The Policy Context, in: Coping in a Fragile Environment - the SARDEP Experience, Ed. Kruger A.S., Windhoek, February 2001, p. 10.
[26] See Werner, W., Boois S.: Livelihoods among the Topnaar of the Lower Kuiseb, Windhoek, June 2003.
[27] Kuiseb Basin Management Committee: KBMC Strategic Plan 2004-2007, Gobabeb, January 2004.
[28] See Constitution of the Kuiseb Basin Management Committee, Gobabeb, February 2004.

The impact of a relatively high population density can be seen in Oshana (30 people per km^2) 43% of people use wood in the urban areas yet only 30% (21.4% (Wamukonya & Hamutwe 1998)) in the rural areas use wood. However, people in the rural areas of Oshana believe that wood is still accessible (Table 3.8).

Table 3.8 Perceptions about using wood in the three regions

Wood	Usage		Cheap		Accessible		Convenient		No Alternative	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Ohangwena	77.5	97.4	13	0	81.2	92.1	2.9	2.6	2.9	5.3
Omusati	76.6	97.5	13.9	15.8	68.1	84.2	2.8	0	15.3	0
Oshana	43.3	21.4	27.7	50.0	58.8	50.0	2.8	0	15.3	0

Source: Wamukonya & Hamutwe 1998

In Ohangwena it can be seen that wood is truly accessible in the rural areas as in this study most people use wood (59%) and even more are recorded to do so in the Wamukonya & Hamutwe data (97.4%). Most of the consumers use wood because it is easily available. In rural areas, consumers see wood as a cheap option for fuel. The result is that wood is the fuel most commonly used for cooking in these three regions.

Fuels Collected For Cooking

From the interviews conducted, it became clear that the sources of fuel and what those surveyed chose to use provides some interesting information. Wood is easily accessible in urban areas yet in the rural areas where the survey was done, wood is used by only 39% of all people, and many common non-wood materials, especially agricultural residues, are also used for burning (Figure 3.4).

Table 3.9 Indigenous names for commonly used fuels

Omusati wood	Oikuni
Mahangu crops residues	Omafinde oiya
Bitters Bush	Omadimba
Marula Kernels	Oiyongoti
Makalani palm seeds	Eendunga
Animal dung	Omapupa
Palm leaves	Omapokolo

There is a difference in the types of materials used as fuel by urban as opposed to rural communities. This reflects the availability of various materials. Figure 3.4 shows that wood is predominantly used in the urban area of Oshana as opposed to the use of other biomass materials in the more rural areas. These survey results partly explain the intense pressure on the woody resources surrounding urban settlements in northern Namibia. An intuitive hypothesis would be that due to lower densities of people in rural areas there should be greater availability of woody biomass. However, this has been negated in the biomass survey data and the Wamukonye & Hamutwe data. In the higher population density regions the data show the situation to be the

generated by monitoring and evaluation of current activities in the river basin. In addition, ELAK undertook a needs assessment wherein stakeholders identified their own development activities which was complemented by training measures for monitoring the impact and success of such actions. Information and experience was also gathered from the river catchment with its diverse land use characteristics and array of relevant decision makers.

47. Results of monitoring and evaluation activities were adequately documented and widely disseminated. The promotion of the ELAK experience elsewhere in Namibia has already resulted in request for an extension of the project into two additional ephemeral rivers (Swakop River and Omaruru River).

8.6 Processes, Actions, Information and Results have been Documented, Synthesised and Widely Disseminated to Interested Parties at all Levels (Result 6)

48. Areas for action under this result focused on a large number of activities. These included: (i) the documentation of workshops, interviews, consultations, training activities and cooperative learning processes and actions with videos, written papers, posters and refereed papers, (ii) the undertaking of identified studies, (iii) the compilation and synthesis of information and results produced by the project on an ongoing basis, (iv) the dissemination of the status of the collective understanding using brochures, posters, radio and television presentation, videos and lectures on an ongoing basis, (v) facilitation of the dissemination of project results throughout Namibia and the SADC region using existing DRFN network, (vi) provision of results to the Secretariat of the Convention to Combat Desertification Convention and (vii) participation of decision makers in the international conference "Desertification - Connecting Community Action with Science and Common Sense".

49. As mentioned already under result 5, the project succeeded in building up trust in its relationship to the basin community, which was not automatically awarded. This resulted from regular and excellent reporting, regular information exchange, intensive cooperation and consultation and the high level of transparency. The accumulated documentation on ELAK is overwhelming.[29] Documents such as workshop reports, field reports and studies including surveys conducted by consultants, scientists, and even students have piled up as impressive evidence of the work of ELAK. Further, numerous activities have included the production of materials, brochures, videos, posters and studies all aimed at providing information on the biophysical and socio-economic character of the Kuiseb basin as well as possible development and management options.

50. The evaluation confirms the success of the desertification conference as community members of the Kuiseb Basin were directly exposed to experiences in other arid areas of Southern Africa.

9.0 Synergies

51. ELAK benefited from the vast experience and knowledge the DRFN has accumulated over the years, which have been infused in the planning and implementation process for ELAK. Due to the leading role of the DRFN in pursuing capacity building, facilitation and knowledge generation and sharing for the promotion of sustainable livelihoods in an arid environment, synergies between ELAK and a number of DRFN implemented projects have been realised which will be of great benefit for the design of sustainable development options in the Kuiseb river basin.

52. Such synergies resulted from close cooperation between ELAK and a number of special projects under the DRFN portfolio. Among others, these are:

1. Environmental Flows Requirements for Ephemeral Rivers (EFER);
2. Floodwater Recharge of Alluvial Aquifers in Dryland Environments (WADE);
3. Global Water Partnership (GWP)- Namibia Water partnership (NWP);
4. Namibia's Programme to Combat Desertification (NAPCOD);

[29] See Annex with the respective bibliography.

opposite of what might be expected. Woody resources seem to be more limited in the rural areas of the regions of northern Namibia with high population density, even allowing for the greatly reduced densities of people in the rural areas compared to the urban areas.

Availability of Fuelwood

People do not only collect wood, but 25% of people also purchase wood weekly or fortnightly. Unemployed young wood gatherers collect wood from the Angolan border and bring it to Oshakati to sell on the open market.

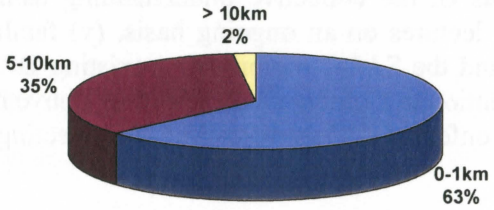

Figure 3.5 Distance travelled to collect wood (n = 160 households)

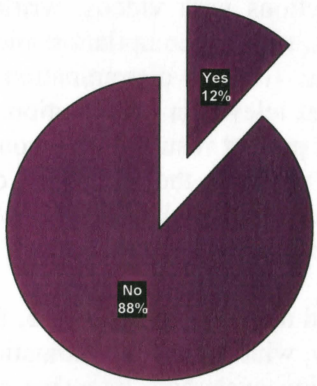

Figure 3.6 Percentages of those buying wood (n = 160 households)

Buying wood is not common now, and when people sell wood, potential buyers often find it too expensive, as much as it is needed. Only in the higher income regions such as Oshana do half the respondents not regard it as expensive (Wamukonya & Hamutwe 1998). The cost of wood may relate to difficulties in locating sufficient wood for it to be worthwhile collecting it. Where there is sufficient wood, there are long distances to be covered and the cost of transport needs to be covered and there has to be some profit so cost of wood to buyers goes up. Thus, communities have to think of alternatives.

Collection Of Fuel

Fuel collection is predominantly the task of the women and children, as in most other areas of Africa, although when necessary anyone will collect the wood, Figure 5.5 shows the opinions of respondents on how biomass is collected for the three regions surveyed.

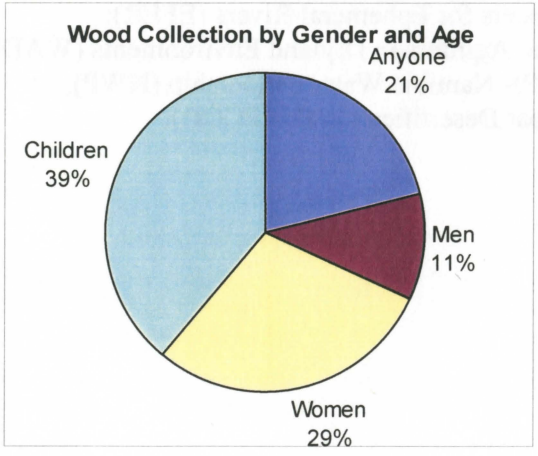

Figure 3.7 Wood Collection by gender and age. (n = 160 households)

5. Forum for Integrated Resource Management (FIRM),
6. Long Term Ecological Research (LTER)/ EONN;
7. A number of Post doc, PhD, Masters and other student group studies.

10.0 GOOD PRACTICE, LESSONS LEARNT AND REPLICABILITY

53. By considering the Kuiseb not as a river divided into different parts, but instead looking at the entire system, the ELAK project has developed an exemplary, new holistic approach towards resource management by integrating people, animals, vegetation, ecosystem and the various activities of the whole river.

54. One of the initial challenges faced by the project in its efforts to introduce basin management was the limited knowledge and understanding of the basin stakeholders on the constraints and sensitivity of their own basin and the need for appropriate joint basin management. In general, there was a lack of awareness of the basin as a holistic system in which actions have consequent reactions in a narrow and wide spatial distribution as well as both in the short and long term perspective.

55. In tackling this issue, the project demanded rightly that the capacity building process was to be started by all stakeholders together. One important aspect in facilitating the process of introducing basin management was the creation of opportunities for stakeholders to come together, to exchange information and to discuss in an open atmosphere conflicting issues, misunderstandings and gaps in information. Following along this point, ample time has been taken to achieve the desired outcomes. As there must be an unhurried pace of development, adequate consideration should be given to the time requirements in the planning process. Decisions and plans made by the stakeholders of the Kuiseb were developed over a number of workshops with initial ideas expressed and formulated, documentation being given for further workshops for reviewing and revising aspects. The stakeholders must feel comfortable that the things achieved are done at a pace they can handle and at which everybody is together. Openness and honesty make the process more transparent and creates an atmosphere of trust.

56. The basin management committee must be seen as a flexible framework adaptable to a particular context rather than a fixed and rigid structure to be imposed onto an area and its people. Stakeholders involved must be allowed to explore their needs and expectations. Hence, stakeholder participation must not be a catch phrase used to give credit to the process but the real driving force behind the process in order to reach the goal and ensure sustainability in the management of the natural basin resources. The project's decision to place the challenge of development into the hands of the stakeholders themselves by promoting important issues such as broad based consultation and participation, bottom up planning, target group orientation, participatory appraisal and assessment together with a favourable political environment has generated the trust and confidence among the basin community and must truly be regarded as the pillar for achievement.

57. The investment in human resource development at basin level was a major contributor towards commitment and confidence building. Contrary to some beliefs, basin communities are prepared to assume responsibilities in sustainable development based upon self-initiative and self-help if they receive adequate training and are allowed to participate in the design and implementation of the activities. In this regard, the project has resisted temptations to act as an implementing agent but rather assumed the supportive role of institutional organiser, development catalyst, information broker, negotiator and mediator.

58. The sequential steps, selected by the project in the implementation process, are to a large extent responsible for the achievement of the expected results. The sequences creating a conducive environment for project achievement are:

Step 1: Promoting a shared understanding of the functioning of the basin system within the stakeholder community;
Step 2: Promoting and maintaining communication and dialogue among the basin stakeholders;

Figure 5.6 shows the number of respondents who use different methods to collect biomass

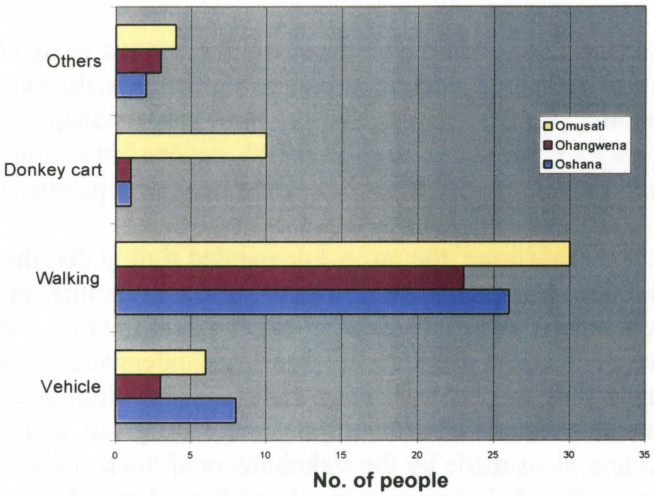

Figure 3.8 Methods used when collecting wood (n = 160 households)

The most common method used is walking, with the donkey cart being the second most common. Use of vehicles is more common in the higher income region of Oshana.

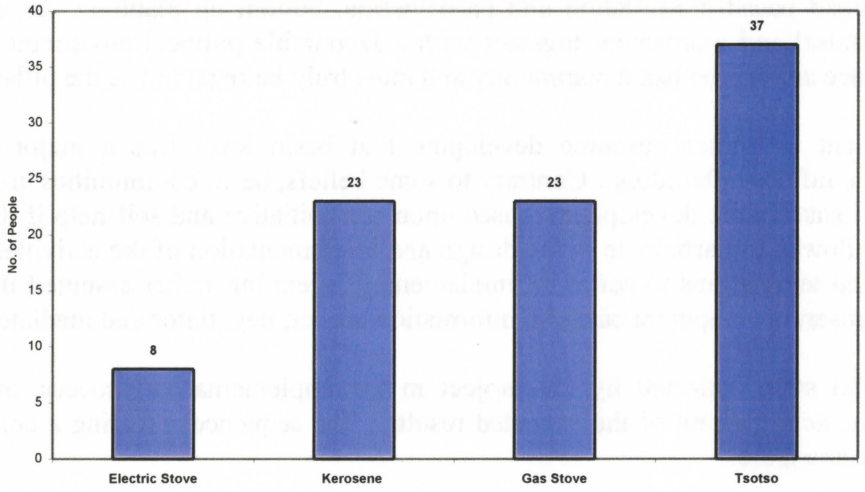

Figure 3.9 Awareness of different kinds of stoves (n = 160 households)

Step 3: Building capacity of stakeholders to speak in the interest of the basin;
Step 4: Generating and making available to all stakeholders appropriate information on which basin planning and strategies can be based;
Step 5: Identifying options and opportunities for sustainable development in the basin;
Step 6: Formulating shared vision and objectives for the development of the basin;
Step 7: Providing appropriate forums and mechanisms for the management of the basin and conflict resolution within the basin;
Step 8: Promoting integrated multi-sectoral approaches to basin management and development.

59. These logical, systematic and consistent development phases have also been successfully used in attempts to promote sustainable development in transboundary river basins.[30] The issue of sharing basin resources across regional borders has not been addressed but will need to receive more prominent attention once feasible development options have been identified for implementation.

60. In this context, reference is made to the composition of the Kuiseb Basin Management Committee (KBMC) as defined by the Stakeholder Forum. The list of membership[31] includes the Department of Water Affairs, NamWater, commercial (freehold tenure) farmers, communal farmers, municipality of Walvis Bay, Gobabeb Training and Research Centre, Ministry of Environment and Tourism, Erongo Regional Council, Khomas Regional Council, Coastal Environment Trust of Namibia (an environmental group working in the Kuiseb River) and without voting powers the Namibia Water Resource Management Review. Thought should be given to the inclusion of representatives of the Ministry of Lands, Resettlement and Rehabilitation and the Ministry of Regional, Local Government and Housing as they are a major player in the area of land use and land management. As mentioned above, regular participation of all identified institutions, organisations and persons in the committee meetings is essential for finding agreement on the implementation of identified development options. As government has put special emphasis on the concept of integrated river basin development as a new vehicle for the advancement of livelihoods and the promotion of sustainable management of the natural basin resources, there is no reason why regional planners, as an example, assigned by government to promote regional development are abstaining from such initiatives. The project should mobilise the basin community to voice their concern over the lack of commitment of some of the major players in pursuing the objectives of the government as prescribed in NDP2 and the Vision 2030.

61. Trust and confidence in the abilities of the DRFN and the stakeholder community in dealing with development challenges, encouraged the government, represented by the NWRMR, and the European Union, as the main financer, to apply the principle of 'least interference'. This has been a major contributing factor in achieving a high level of commitment among project staff and stakeholders and also increased self-confidence and enthusiasm in the work. Regular and excellent reporting, regular information exchange, intensive cooperation and consultation and the high level of transparency contributed to such operational freedom.

62. In summary, the main components of ELAK can be listed as follows:

- Through numerous community meetings, workshops and training sessions, ELAK has succeeded in increasing communication, cooperative learning, commitment and action among all decision makers dependent upon the Kuiseb basin.
- Meetings, workshops and training sessions were held in different localities of the basin, exposing people to areas they have not seen or visited before, thus promoting a greater understanding of the basin amongst stakeholders.

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[30] Namibia Nature Foundation: Best Practice Guide For Promoting Shared River Basin Management, Experiences and Methodology used by the Every River Has Its People Project as Implemented in the Okavango River Basin from 1999-2003, Windhoek, 2003.
[31] See Constitution of the Kuiseb Basin Management Committee, p. 4.

Fuel-wood is collected at various time intervals, or bought from different places. The survey results indicate that people realise that other stoves cook food twice as fast as open fires, and many have heard of what different kinds are available (Figure 3.9). People have heard about these stoves from a variety of sources (Figure 3.10).

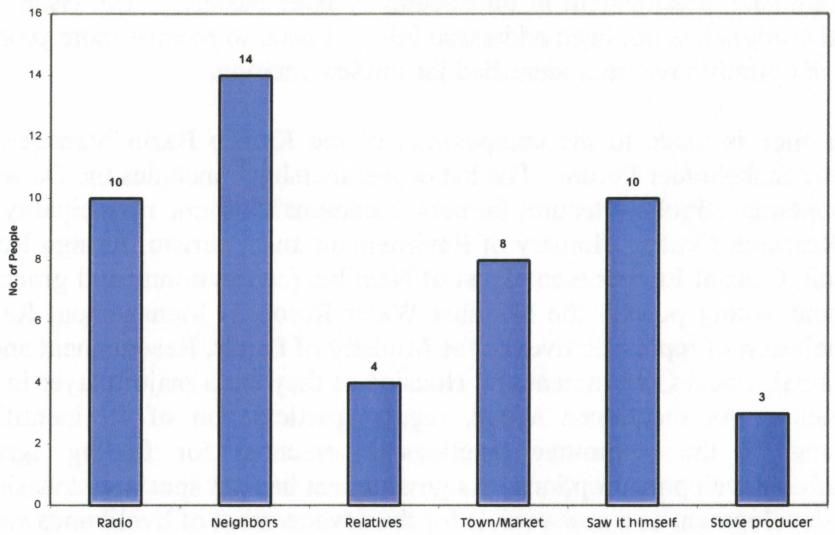

Figure 3.10 Sources of information on different types of stoves (n = 160 households)

Problems Experienced

The problems encountered related primarily to time constraints as the time allowed for the interviews was very short. People were working in their crop fields and it was difficult to keep their undivided attention. However, a longer survey would have resulted in a lot less cooperation, and the likelihood of the target coverage not being met within the time constraints. Another problem was that people thought that the study was politically motivated. A great deal of time was spent explaining, clarifying and convincing people that this was not the case.

Time constraints were the main reason for focusing on the same villages in which RAP and Tsotso stove trainers were active, well known and welcomed into the communities. This allowed for a quick completion of the survey

- ELAK established an appropriate management and institutional structure for the integrated development of the basin, e.g. the Kuiseb Basin Stakeholders Forum and the Kuiseb Basin Management Committee.
- The Basin Management Committee formalised its structure and function through the formulation of a constitution and the design of strategic action plans. The two part system of the Basin Stakeholders Forum and the Basin Management Committee allow for continued, wide participation and involvement in the management of the basin.
- Minutes and proceedings of meetings and workshops, containing presentations and handouts, were compiled and circulated, to document and record project progress. These efforts were complemented by research and the dissemination of the findings to all basin stakeholders.
- Training workshops on aspects such as livestock management, strategic planning, and water point management, community-based tourism, diversification of livelihoods etc. facilitated the development of plans and actions on micro-level.
- The compilation of the Kuiseb Profile has drawn on many sources and brought the scattered information together for accessibility of those interested and involved in the integrated development of the basin.
- Through close cooperation with the Namibian Water Resource Management Review and the Department of Water Affairs dissemination of experiences and findings as well as the benefits of cross-fertilisation among similar initiatives elsewhere in country has been achieved.

63. It is too early to objectively assess any level of improvement in the livelihood of Namibians dependant upon the Kuiseb resources. However, there are significant indications that the objectives will be reached, particularly improvement of the "level of satisfaction of decision makers", "perceptions and understanding of decision makers" and "the enhanced level of cooperation and awareness".[32]

64. In conclusion, the approaches and concepts used by ELAK are also applicable to other ephemeral river basins in Namibia. There is already ample evidence that other catchments would like to capitalise on the Kuiseb basin management approach. Hence, efforts in disseminating the knowledge and experience gained under ELAK to a wider audience should be continued for the promotion of the concept of integrated river basin management.

[32] European Union: Monitoring Report, p.2.

Chapter 4. PRELIMINARY CONCLUSIONS

The main conclusions that can be reached are based on the findings of the Baseline Biomass Survey (these results are only tentative given the small sample size of 160 households) and combined with supporting information from other sources:-

- wood is a crucial resource in rural people's lives in Namibia.
- alternative biomass sources are much used in rural areas, especially in regions where wood is unavailable.
- alternative energy sources have been heard about.
- alternative stoves have been heard about.
- collection of biomass resources is vital for people's survival.
- there is more woody biomass available in urban areas than in rural areas in regions with high population densities and higher average incomes i.e. the Oshana Region.
- woody biomass, in regions of higher population density and higher income, in both urban and rural areas, is still regarded as accessible, although in the associated rural areas woody biomass is not used much, implying that the woody biomass has come from elsewhere.
- the fuelwood collection burden is on women and, especially, children in Namibia.
- walking is the main collection method, indicating lack of access to better transport, either because of lack of transport or money to access transport.
- woody biomass in rural areas is under great pressure.

DISCUSSION

Woody biomass is of great importance in Namibia, yet it is a declining resource. This is made salient by the fact that people in rural areas can be seen to be using biomass alternatives such as dung. People in rural areas will use alternative biomass resources when some form of energy is required for burning, this implies that in certain areas there is no more wood available for those who cannot travel far. The alternative biomass resources burnt include a wide variety of non-wood biomass resources and include animal dung and crop residues, which would be better used for digging into fields to improve crop yields through better water–and nutrient–retention, and better nutrient supply.

The fact that people have heard of alternative stoves yet still use biomass residues, suggests that these alternative stoves are actually not available either due to cost or distance from the supply source. Thus there does not seem to be the necessary incentive to cause people to switch to alternative forms of energy or biomass-burning stoves. There is an urgent need for an analysis of what incentives currently exist in relation to energy markets in Namibia and why they do not seem to be working.

Although both the biomass survey and the Wamukonya & Hamutwe data (1998) find that wood is not used to any great degree, people in the Oshana region still view it as accessible. This seems to imply that the wood used in the urban areas of the higher income region is coming from areas other than the rural areas of Oshana where the use of wood is extremely low, around 21-30%. There is a strong possibility that wood for fuel is being accessed from other regions and from other countries to cater for a strong fuelwood demand in high density settlements where there is the ability to pay, i.e. Oshakati. It is vital to understand where wood for fuel is being sourced from. The main implication of this is that the urban-rural dynamic and the existence of strong

APPENDICES

urban demands, regionally and transnationally, might be crucial for understanding the driving forces behind deforestation in the rural areas.

RECOMMENDATIONS

Recognising that the ProBEC idea is an excellent idea, there is felt to be a strong need for:

- a National Coordinator or an effective level of renumeration for the time spent to effectively carry out the activities necessary for the achievement of ProBEC's goals & objectives.
- fuel subsidies on paraffin(kerosene) to reduce the demand on woody resources
- policy/legal/economic framework analysis on all aspects of energy use in Namibia, focusing on 3 key areas:-
  - woody resources and other biomass raw resources and their uses, with the impacts of increasing numbers of people using these limited resources.
  - urban-rural resource linkages, and the dynamics of the wood markets in Namibia, both regionally and across boundaries.
  - costs and incentives for people, urban and rural, in relation to the use of all different kinds of energy.
- An in-depth baseline energy survey(>1000 people target)
- increased coverage of promotion of fuel-efficient stoves
- increased commitment by funders to ProBEC
- increased commitment to NSCs by ProBEC and funders.

APPENDIX I: ELAK PROJECT LOGICAL FRAMEWORK

	Intervention Logic	*Objectively verifiable indicators*	*Sources of verification*	*Assumptions*
Overall Objectives	Livelihoods of Namibians dependent upon natural resources of the Kuiseb River catchment are enhanced.	-Level of satisfaction of decision makers is improved. -Decision maker perceptions and understanding modified. -Level of cooperation, awareness and commitment enhanced. -Institutional changes occur.	Ongoing analysis of decision maker participation, involvement and commitment.	
Project purpose	Decision makers at all levels managing natural resources in the Kuiseb River Catchment have enhanced capacity to understand and manage freshwater and other terrestrial natural resources in a more sustainable manner.	A majority of decision maker groups in the Kuiseb River catchment have a strategic plan reflecting the common vision for sustainable natural resource management and are implementing work plans based on the common vision. A majority of the decision maker groups will adopt, test, evaluate and disseminate the results of their initiatives.	Ongoing analysis of decision maker response to climate variability. Records of individual decision makers and decision maker groups	Provided SADC region remains politically stable.
Results	1-A common vision for the Kuiseb River catchment elaborated and agreed upon by decision makers.	-more than 50% of Namibian decision makers have signed a Memorandum of Understanding describing a common vision for the future of the Kuiseb River catchment.	Memorandum of Understanding	
	2-Mechanisms for iterative, consultative planning established and functional at relevant levels	-50% of communal and 50% of commercial farmers living in the Kuiseb catchment have participated in at least 6 local and 2 major planning workshops in 3 years. -50% of relevant government sectors and NGOs have attended at least 2 or more planning workshops in first 2 years. -one basin wide decision maker institution is established by the 2nd year of the project and meets twice annually.	Attendance records and minutes of planning workshops Attendance records and minutes of consultative workshops Minutes of meetings	

REFERENCES

- Wamukonya, Lucy. 1998. *Energy Consumption in Rural Namibia*. Ministry of Mines and Energy, Windhoek.

- Schneider, Stephanie. 1999.*Dissemination of improved Cookstoves, Towards a Workable Strategy for the Omusati Region in Northern Namibia*. Kungl Tekniska Högsölan, Sweden.

- Hamayulu, Reinhold L November 2000. A Socio-economic Baseline Study of Onkani Village. Polytechnic of Namibia, Windhoek.

		-two local institutions invite other decision makers to regular meetings, one or more times per year, to discuss catchment issues	Minutes of meetings	
	3-Decision makers have an improved understanding and experience of social, economic, and biophysical environments and their management to prevent or ameliorate desertification	-2 major and 6 local interactive workshops with training modules are undertaken annually -50% of communal and 50% of commercial farmers living in Kuiseb catchment have participated in at least 2 exchange visits to comparable farming areas in 3 years. -results of 3 major and 9 minor studies, as identified by decision makers, are incorporated in workshop deliberations and disseminated in written form	Attendance records, minutes and training materials together with participatory evaluations Attendance records Attendance records of workshops and written reports	
	4-Development options and their consequences are identified and tested	-50% decision maker groups have identified at least 2 development options during 3 planning workshops. 50% of these decision maker groups have tested identified options	Survey reflecting outcomes of their reports	
	5-Participatory monitoring and evaluation and adjustment mechanisms applied to development options, involving all stake holders, developed and functional	-50% of decision maker groups contributed to participatory monitoring and evaluation in at least two workshops per annum	Minutes of workshops	
	6-Processes, actions, information and results have been documented, synthesised and widely disseminated to interested parties at all levels.	-12 brochures have been printed and disseminated to workshop participants based on identified information needs -project reports and 1 paper in peer reviewed journal have been written about 3 major and 9 minor studies -annual reports (3) produced for decision makers and project sponsors -workshop reports, minutes and other materials available to decision makers on continuing basis -video documentation presented at workshops on ongoing basis and available at DRFN offices in Gobabeb	Printed brochures Project reports and publications Annual reports Reports Videos	

APPENDIX 1

A diversity of jobs were encountered, covering the:-

- formal sector
    - teachers
    - police officers
    - doctors
    - nurses
    - security officers
    - building constructors
    - road constructors
    - mine workers
    - electricians
- pensions
- informal sector selling:
    - traditional drinks
    - livestock
    - baskets
    - wood
    - mahangu containers
    - vegetables
    - cakes and drinks
    - pigs and beans
    - thatched roofs
    - traditional spinach (6 species of plants)
    - fresh mealies
    - clay pots
    - cooked meat(okapana)
    - marula husks
    - cuca shops owners(shebeens)
- remittances

		and Windhoek -radio presentations produced and broadcast in Namibia twice annually for 3 years -role-plays/ dramas presented at workshops and other venues, twice annually for 3 years -press releases circulated to local newspapers twice annually -web page on DRFN web-site established by end of first year -four Updates submitted to Namibian Parliament during project	Recordings of presentations Videos of role plays Press release files Web page Copies of updates	
	7-Project implementation team has capacity to successfully implement project	-first 6 results accomplished and purpose achieved -project progress according to time schedules and budget	Project reports and mid-term review	
Activities or Inputs	- Facilitate extensive, iterative consultations - Compile, synthesise and disseminate currently accessible information - Establish common vision - Coordinate establishment of planning groups - Enhance capacity of decision makers to apply plans - Arrange exchange visits - Disseminate current status of collective understanding	Main budget items Personnel Travel expenses Equipment Supplies and services Operating costs Evaluation and audits Administrative costs Total	Totals Requested, ECU	Namibian dollar retains its value
Preconditions				SADC region remains politically stable.

APPENDIX 2

Organisations associated with the Namibia Biomass Energy Management Programme (NBEMP)

Organisation	Status	Telephone	Fax	e-mail or PO Box	Acronym
Community Forestry & Extension Development Project	Directorate of Forestry	065-230-947	065-230-552	darudec@osh.namib.com	CFED
Association of Local Authorities in Namibia	Khomasdal Municipality	061-240914	061-240929	Allan@cyberhost.com.na	ALAN
United Nation Educational and Scientific Cultural Organisation	United Nation Development Programme	061-2046111	061-229084		UNDP
Namibia Non-Governmental Organisation Forum		061-239469	061-239471	nangof@iafrica.com.na	NANGOF
Directorate of Energy	Ministry of Mines and Energy	061-2848111	061-28482000	Lamaambo@mme.gov.na	DOE
CRIAA – Southern Africa Development Consulting	Development consultants	061-220-117 061-225-009	061-232-293	criaawhk@iafrica.com.na	CRIAA-SA DC
Directorate of Agricultural Research & Training	Ministry of Agriculture, Water and Rural Development	061-2087062	061-2087068	Ldupisani@namib.com	DART
Directorate of Community Development – Ondangwa	Ministry of Regional, Local Government and Housing	065-240-514	065-240-453		CD
Directorate of Community Development – Oshana & Omusati	Ministry of Regional, Local Government and Housing	065-220-432	065-220-342		CD
Directorate of Forestry – Windhoek and Oshakati	Ministry of Environment & Tourism	065-230-295 061-221478	065-230-552 061-222830		DoF
Directorate of Resource Management – Oshakati	Ministry of Environment & Tourism	065-230-295	065-230-552		DRM
Directorate of Resource Management – Far North (Etosha)	Ministry of Environment & Tourism	067-229-854	067-229-853	staff@tsu.namib.com	DRM
Directorate of Rural Water Supply	Ministry of Agriculture, Water and Rural Development	065-221-166 065-221-447	065-221-449		DRWS
Etunda Agroforestry Community Project	Community-Based Organisation	065-270-202			EAFCP
Forest Awareness and Tree Planting Project	Ministry of Basic Education & Culture & IBIS (Danish NGO)	065-231-475 065-230-057	065-231-475 065-230-035	forestaware@mweb.com.na	FATPP
Green Namibia Community Project	Community-Based Organisation	065-230-430	065-230-552		GNCP
Farming Systems Research and Extension Unit	Ministry of Agriculture, Water and Rural Development	065-230-284 065-230-446	065-230-570 065-230-578	fsreu@osh.namib.com	FSRE-U
Namibia Development Trust	Non-governmental organisation	065-220-444	065-222-067	ndtosh@mweb.com.na	NDT

2.6	Enhance capacity of decision makers to participate in and contribute to planning processes through targeted training activities.	Multiple training activities throughout the year (see training table and documents in folder). Training in strategic planning of Topnaars.	Enhanced capacity of certain stakeholders has Strategic planning training enhanced the capacity of the Topnaar community. This was demonstrated by the Topnaar community through the strategic plan for the rest of 2003 that was presented in the workshop in February.	Further training activities to be planned. Further training needs to be identified amongst community members. Further support to be given to the Topnaar community in developing their strategic plans as well as obtaining help from other stakeholders in achieving their goals.
Result 3- Decision makers have an improved understanding and experience of social, economic, and biophysical environments and their management to prevent or ameliorate desertification.				
3.1	Decision makers identify needs for additional information on an iterative basis	Information needs exercise undertaken at February workshop (see folder).	Information was shared amongst stakeholders. Stakeholders became aware of what information exists, who has it, where it can be accessed and how it can be used for better understanding of the basin. Stakeholders together identified the information needs, discussed where and who can get this information.	Follow-up activity on the results of the information needs activity.
3.2	Enhance capacity of decision makers to identify information requirements, identify sources, and gain access to required information.	Strategic planning sessions with Topnaar Community. Developing indicators	Can plan for themselves in the future.	Further support and training in strategic planning.
3.3	Undertake relevant studies concerning the biophysical, socio-economic and institutional environment of the basin.	Many studies and research done under auspices of ELAK including: Long Term Ecological Research Worcester Polytechnic Institute (USA) Stockholm University Geography Excursion. Socio-economic study undertaken by Salomon Boois and Wolfgang Werner. PhDs - Klaudia Schachtschneider, Petra Moser B-Tech- Olavi Makuti	Greater data, information and understanding of bio-physical, socio-economic and institutional environment of the basin gained. This was made available for stakeholders for greater understanding and for more informed decision-making.	Needed studies to be identified. Organisation of studies within the basin to be undertaken by ELAK staff as well as under the auspices of the ELAK project.
3.4	Enhance capacity of all decision makers to participate in identified, relevant studies.	Commercial farmers involved in WPI studies. Topnaar community meeting to work on Nara study.	Better understanding of the basin and its features. Baseline from which to do own or further studies in future. Identify new areas of study, issues to be resolved.	Include more stakeholders in studies undertaken in the Kuiseb. ELAK project to facilitate the presentation of future and ongoing studies within the basin.

Kerosene						
Solar stove						
Electricity						
Other (specify)						

4. What are the advantages and disadvantages of your present stove?

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

5. What materials do you use for cooking and heating?

TYPE OF MATERIALS	TICK
a. wood	
b. bitters bush	
c. marula seed	
d. palm seed	
e. animal dung	
f. crop leftovers	
g. other (specify)	

6. Where do you cook?

PLACE OF COOKING	PROBLEMS ENCOUNTERED	ADVANTAGES
Outside		
Inside		

7. How often do you buy firewood?

WHEN	WHERE	FROM WHOM	WHY

2.1	Organise and conduct ongoing consultations (planning workshops, individual interviews) among decision makers at all levels.	Five workshops held. Topnaar meetings Farmer's association Department of Water affairs. NWRMR	Better understanding from stakeholders of the ELAK project and its aims and activities. Support felt by stakeholders form ELAK project. Better understanding by ELAK project team of activities within the basin.	Further meetings to be identified and held.
2.2	Coordinate establishment of relevant planning groups and of planning procedures	Planning for ELAK activities for the next year done in June workshop with all stakeholders giving suggestions of activities. ELAK team undertakes planning of ELAK facilitated activities within the basin. ELAK has facilitated the establishment of the Kuiseb basin Management Committee and received approval from the Minister of MAWRD. Terms of reference, criteria of members, structure, MoU, and some initial expected duties of the KBMC have been developed with the stakeholders.	Stakeholders take greater ownership of the ELAK project and the activities that it undertakes. Increased capacity of stakeholders to plan activities beneficial to the basin. The new Kuiseb Basin Management Committee will give a voice and management capacity to the stakeholders. The new committee is already organised, formalised and structured for its task.	Further planning to be undertaken by ELAK. All stakeholder groups will be encouraged to share planning processes or plans within the basin. The first meeting of the basin management committee will be planned and undertaken.
2.3	Enhance capacity of existing planning groups to encompass issues of natural resource management in the entire basin	Developing indicators with all of the stakeholders has enhanced the capacity of all stakeholders to monitor the environment and its feature as well as their actions within the basin.	All stakeholders will be responsible in part for monitoring of the basin and must take this into account in their actions, plans and behaviour in the basin. By developing the indicators amongst stakeholders gave understanding and ownership to these aspects.	ELAK project team to work closely with the stakeholders to develop a proper monitoring system using the identified indicators.
2.4	Facilitate identification, gathering and dissemination of relevant information about the environment in its broadest sense as required for planning.	Profile, profile activity. Student groups Socio-economic study Activity in February to identify info needs	Better understanding of the basin and its dynamics.	Finalise profile and brochures. Production of more materials including brochures, booklets and posters.
2.5	Co-ordinate feedback of decision makers' plans and the planning process in on-going, participatory manner using diverse, appropriate audio and visual media	Stakeholders have been given the opportunity at workshops throughout the year to present on their actions and plans. Topnaar strategic plan was presented in an exercise in February whereby they presented what they had planned and asked for help from all stakeholders to achieve these goals. Presenting of ELAK activities and objectives at each meeting asking for feedback and contributions. June workshop future activities of ELAK exercise.	Stakeholders take responsibility to help each other, especially support to be given to the Topnaar Community.	ELAK to facilitate and support follow-up of Topnaar activities sign-up for stakeholders.

APPENDIX 1.3 (a)

Baseline Survey Questionnaire
Namibia Biomass Energy Management baseline survey conducted by The Desert Research Foundation of Namibia

Objective of the survey

To identify appropriate energy technologies that increase efficiency of Biomass use and mobilise the relevant organisations to manufacture and disseminate appropriate technology.

Region .....
Village .....
How long have you been in this area?.....

(a) How many people live here?

Male -
Female –
Children below 18 years-
Source of income –

(b) Who is the head of the family?
.....
.....

Which are your most important sources of income?
.....
.....
.....
.....
.....

3. What stove do you use for cooking and heating?

METHOD	USED (tick)	FOR HOW LONG HAVE YOU USED THE STOVE	HOW OFTEN PER DAY	SEASON	REASON	HOW LONG DOES IT TAKE FOR THE POT TO COOK
Open fire						
Tsotso stove						
Gas stove						

APPENDIX II: TABLE OF ELAK PROJECT ACTIVITIES' EVALUATION

No.	Activities planned	Activities performed	Impact	Follow-up actions
Result 1- A common vision for the Kuiseb River Catchment elaborated and agreed upon by decision makers				
1.1	Information search and perusal on basin management	Internet search, contacted other basin projects around the world for information, on mailing lists of some of these projects. Compiled information found used in brochure and kept in ELAK library	Materials and information on basin management in general, case studies from around the world and other water related issues are available to stakeholders. Greater understanding of basin management concept. Provides ideas for basin management from other areas.	Further networking and contact with other projects, information sources and publications.
1.2	Networking with stakeholders	Organised and attended stakeholder meetings for the Kuiseb Basin Management, also attended individual stakeholder meeting, events and activities. Attended Gamsberg Farmers Association meeting to make more Commercial farmers aware of the ELAK project process.	Project team knows a wider range of stakeholders. More stakeholders know about ELAK project and Basin Management process through networking with Project team.	More networking with stakeholders already active and involved in process. Special networking activities to be planned to contact other stakeholders not involved in the process.
1.3	Consultative meetings with stakeholders	A number of meetings with stakeholder groups and individuals have taken place with the project manager. Many of these meetings have been with the Namibia Water Resources Management Review team as well as with staff from the Department of Water Affairs.	A wider understanding of needs and expectations of individual stakeholders and groups. Co-ordination of efforts towards basin management with NWRMR and DWA.	The ELAK project team will continue to make itself available to stakeholders for meetings and discussions. Meetings will take place with stakeholder groups to evaluate our process, determine expectations and identify needs or issues of the stakeholders.
1.4	Compile and disseminate information to Stakeholders	Draft copies of new brochures and the Kuiseb Basin profile given out to all stakeholders. All stakeholders receive copies of the proceedings of each workshop.	Information shared amongst stakeholders. Greater knowledge base and understanding of the stakeholders of the basin as a whole.	More information to be disseminated from project through brochures, booklets and other materials. Library of materials and information available for stakeholder use.
1.5	Draft MoU signed by stakeholders	Draft MoU presented to stakeholders at workshop in February for discussion. Changes agreed upon, MoU revised and sent out to Stakeholders to be signed by a member of their organisation or group.	More commitment exhibited to process. Identification of expectations, role and function of stakeholders in the process developed by the stakeholders themselves.	Some outstanding MoUs need to be followed up.
Result 2- Mechanisms for iterative, consultative planning established and functional at relevant levels.				

Namibia's National Programme to Combat Desertification/Regional Awareness Project	Desert Research Foundation of Namibia	065-231-032	065-231-032	rapdrfn@mweb.com.na	Napcod/RAP
Northern Namibia Environmental Project	Ministry of Environment & Tourism	065-230-295 065-231-051	065-230-552	skean@iafrica.com.na	NNEP
Northern Namibia Forestry Committee	Directorate of Forestry	065-230-295	065-230-552		NNFC
Ogongo Agricultural College	Ministry of Agriculture, Water and Rural Development	065-257-001	065-257-043	PO Box 5520 – Oshakati	
Directorate of Research, Science and Technology	Ministry of Higher Education, Vocational Training and Employment Creation	061-2706111	061-2706100	P/Bag 133391	DRST
Ombalantu Traditional Authority	Traditional Authority of the Mbalantu	065-251-039		PO Box 437 – Ombalantu	OTA
Ondonga Traditional Authority	Traditional Authority of the Ndonga	065-245-832		PO Box 71 – Ondangwa	OTA
Ongandjera Traditional Authority	Traditional Authority of the Ngandjera	065-252-002		PO Box 2 – Okahao	OTA
Oshakati Multi-Purpose Youth Resource Centre	Ministry of Higher Education, Vocational Training and Employment Creation	065-220-354	065-220-310	PO Box 5557 – Oshakati	OMPYRC
Oukwanyama Traditional Authority	Traditional Authority of the Kwanyama	065-260-001		PO Box 444	OTA
Regional Awareness Project	Desert Research Foundation of Namibia	065-231-032	065-231-032	rapdrfn@mweb.com.na	RAP
Rural Development Centre	Ministry of Agriculture, Water and Rural Development	065-230-282	065-230-281	PO Box 1486 – Oshakati	RDC
Stewart Scott Namibia Consulting Engineers	Private Company	065-222-339 065-230-930	065-222-339 065-230-930	PO Box 1620	SSN
The Rössing Foundation: Adult Education Centre	The Rössing Foundation	065-240-259	065-240-259	PO Box 479 – Ondangwa	
Uukwaluudhi Traditional Authority	Traditional Authority of the Kwaluudhi	065-258-126		PO Box 1 – Tsandi	UTA
Uukwambi Traditional Authority	Traditional Authority of the Kwambi	065-220-668	065-221-080	PO Box 5514 – Oshakati	UTA

3.5	Facilitate feed-back to decision makers (within the basin, Namibia and the SADC region) of information in an ongoing, appropriate and participatory manner.	Presentation at Cuvelai basin workshop. Provision to Minister and PS of MAWRD with copies of proceedings and other ELAK project materials. Information regarding model within the Kuiseb disseminated through SDDI project. Mr. Zuwhao from Zimbabwe was invited to be part of the November workshop to share information and experiences of basin management in Zimbabwe and to be exposed to basin management in Namibia. Posters displayed at World Environment Day and World Desertification Day. Other DRFN project include information about the ELAK project, its approach and basin management concept in their discussions, information sharing and activities.	Sharing of information within other basins, Namibia and SADC. Increased awareness of ELAK, the Kuiseb basin model and the basin management approach. Other basins in Namibia and SADC can learn from this process. ELAK has had requests from other basins and areas to learn about the basin management concept and approach.	Plans for more feedback within Namibia dn SADC. More materials produced and widely disseminated in these areas. Booklet on Basin Management approach to be developed and disseminated.
3.6	Arrange, in a participatory manner, exchange visits to relevant areas for decision maker groups.	Community exposure trips undertaken (see copies of reports in folder) Workshop exposure trips: 1. February workshop exposure trip to Topnaar settlement and water point, Nara field and dunes 2. June 2003 workshop exposure trip in the Kuiseb Upper Catchment area to see water divide, farm infrastructure, biophysical nature of area. (See folder for reports of workshops; see CD for photos of exposure trips)	Community members from the Kuiseb are exposed to other communities and their activities. This promotes information sharing, idea creation and enhances capacity. In the workshop excursions it has increased the understanding and knowledge base of all stakeholders. It ahs served to change mis-perceptions about different people, areas, and activities in the basin.	Further exposure trips to be planned as a major part of future workshops. Further excursion by Topnaar community to be identified.

8. How often do you collect wood?

HOW OFTEN (per week)	DISTANCE (km)	WHO COLLECT THE WOOD	TIME SPEND TO COLLECT WOOD (PER WEEK)

9. How do you collect the wood?

METHOD	TICK
Vehicle	
Walking	
Donkey car	
Others (specify)	

10. What other stoves have you heard of?

STOVE	PURPOSE	SOURCES OF INFORMATION

3.7	Enhance capacity of decision makers to contribute to and gain from exchange visits through appropriate training before, during and after these visits.	Planning of exposure trips done in consultation with ELAK project team. During exposure trips lectures given on important issues. Exposure trip reports written up if individual activity, otherwise included in proceedings of workshop. Presentations by stakeholders involved in exposure trips given at workshops.	These activities provide community members with the opportunity to enhance their capacity in planning, organising, undertaking and evaluating trips. This gives greater ownership to those involved if they have been part of the overall planning and undertaking of the trip.	Further training to be undertaken with communities on planning of exposure trips.
Result 4 – Development options and their consequences are identified and tested.				
4.1	Support identification of development options and interventions	Strategic planning workshop held with the Topnaar community. During this workshop the ELAK community mobiliser facilitated a process in which the Topnaars identified goals, activities and possible development options for the next three months. The Forum for Integrated Resource Management has been introduced to the Topnaar community as a possible mechanism to help them to b in control of their own development process. A session was undertaken with the Topnaars to identify projects and activities they would like to see in their own villages. Topnaars were part of the 7th Namibian Rangeland Forum to look at rangeland monitoring methods.	The Topnaar community have been exposed to a number of options for development support. ELAK has facilitated sessions for them to identify their needs and wants for development. They can now continue this and take it further.	Continued support in strategic planning to be provided to the Topnaar community.
4.2	Facilitate implementation of identified interventions	The Topnaar community presented this three month plan at the workshop in February and asked stakeholders for help in fulfilling this.	This helps to bring the basin community together and to form a network of support amongst stakeholders. This provided the Topnaars with a platform to present and seek help for their strategic planning activities.	Further work will be done on facilitation of implementation. ELAK will facilitate a follow-up with the Topnaars to assure that support is given by stakeholders.

APPENDIX 1.3 (b)

Biomass Survey

General Information

Name of enumerator	Questionnaire number	Gender of respondent
Date	Position in Household	Region
Name of Village	Occupation	Head of Village
Region	How long have you been in this village?	Age

Family

	male	female	total
Adults			
Children			
Total			
Head of family			
How long have you been in this area and in this village?			

Income

1. What is your monthly income?

Money income in Namibian	TICK
Less than N$ 200.00	
between N$200.00 – 500.00	
between N$500.00 – 1000.00	

2. What is your most important source of income?

3. Do you have others sources of income? – selling, small business,

4. What is the nearest town to your village?

4.3	Enhance capacity of decision makers for identification and implementation of development options through targeted training activities	Strategic planning training was undertaken with the Topnaar community. ELAK supported the Topnaar community to be part of a training workshop in project planning and proposal writing and to learn about Global Environment Facility Small Grants Programme funding criteria. Training in livestock management.	Topnaar community has greater capacity to do strategic and operational planning for development and other activities within their community. Topnaars are aware of funding options and criteria, they have skills to write proposals and are able to submit a proposal for funding of a small project in their community.	Further support to be given to Topnaar community in the planning endeavours. More support to Topnaars to write proposals and plan projects for development in their community.
Result 5 – Participatory monitoring and evaluation and adjustment mechanisms applied to development options, involving all decision makers, developed and functional.				
5.1	Enhance capacity of decision makers to participate in and contribute to monitoring, evaluation and adjustment processes	Developing of indicators with all of the stakeholders was done at the workshops in February and also in June. The Topnaar community have been exposed to methods of monitoring in the Rangeland Forum and other workshops.	All stakeholders have a better understanding of hot to monitor as well as the importance of monitoring and knowing about the whole system.	Further capacity building to be undertaken in respect to monitoring, evaluation and adjustment processes. ELAK tem to work on developing indicator and monitoring system with stakeholders.
5.2	Undertake targeted training in participatory monitoring and evaluation for application to planning process and to applied interventions.	Strategic planning training gave training in evaluating the activities and processes undertaken. Livestock training given by extension officer for the area, organised by ELAK. Initial training in local level monitoring.	This training will allow the community and other stakeholders to evaluate their activities and monitoring their part of the basin. Will all contribute to greater understanding, awareness and preparedness in the basin. All will contribute to large monitoring system within the basin.	Specific training in local level monitoring to be given to stakeholders, particularly the communal and commercial farmers.
5.3	Support participatory monitoring, evaluation and adjustment of interventions and their consequences	Topnaar community have been supported in their need to monitor the !nara plant through promoting studies on the !nara and facilitating workshops amongst community members on monitoring the plant and its harvesting.. ELAK has also supported the Topnaars in their evaluation process of their activities. ELAK supports Gobabeb's program for monitoring and research within the basin.	More evaluation and monitoring has taken place within this community in the basin. Through promotion there has been greater interest in supporting the community with their monitoring process.	Support farmers in basin to develop a local level monitoring system. Support all stakeholders to monitor their part of the basin. Facilitate feedback of these activities.
5.4	Facilitate feedback of lessons learned from participatory monitoring and evaluation on ongoing, participatory manner	ELAK has invited al stakeholders to present at workshops. ELAK facilitates information coming out of the research and monitoring from the Gobabeb Centre.	Lessons are widely shared. Information and support have been given to strengthen these activities.	More specific sessions on feedback of monitoring and evaluation. Set up a system for compilation of this information.

Energy

What types of fuel do you use for?

	Winter	Summer
Lighting		
Cooking		
Heating		

What fuels do you burn in an open fire (omafiya/omasiga) (*answer yes or no)
& Why do you use these fuel types (answer as many as possible)

	use	cheap*	accessible*	convenient*	no alternative*
Wood					
Bitter Bush					
Marula husks					
Makalani husks					
Animals dung					

What fuels do you use for lighting & Why do you use these fuel types (*answer yes or no)

	use	cheap*	accessible*	convenient*	no alternative*
Wood					
Bitter Bush					
Marula husks					
Makalani husks					
Animals dung					

What fuels do you use heating & Why do you use these fuel types (*answer yes or no)

	use	cheap*	accessible*	convenient*	no alternative*
Wood					
Bitter Bush					
Marula husks					
Makalani husks					
Animals dung					

Stoves

What stove do you use for cooking & heating?

Method	Used	How often per day	Season	How long does it take to cook food	Why do you cock with this stove and not any other stove?
open fire omafiya omasiga					
Tsotso stove					
Gas stove					
Kerosene					
Solar stove					
Electricity					
other (specify)					

5.5	Prepare and disseminate accessible information about implementation, monitoring and evaluation to decision makers and to relevant interested parties.	Topnaar community have been exposed to the method of Local level monitoring.	This community is able to start thinking about monitoring of their livestock.	Further support to all stakeholders on local level monitoring as well as other methods. Information to eb compiled and disseminated to stakeholders.
Result 6 – Processes, actions, information and results have been documented, synthesised and widely disseminated to interested parties at all levels.				
6.1	Document workshops, interviews, consultations, training activities and cooperative learning processes and actions with videos, written reports, posters and refereed papers	All workshops documented in proceedings and distributed to all stakeholders and interested parties (June, September, November 2002; February, June 2003). (see folder for copies)	All stakeholders, including those not present have copies of the proceedings of the workshops with all presentations and activities provided and documented. All stakeholders are kept aware of the process, activities, information shared and decisions made at workshops.	Creation of ELAK Kuiseb Basin library containing all workshop reports for interested persons to access and use.
		Training activities documented in reports of training and exposure trips (see folder for copies)	Communities have documents of their training. These reports can be used by other projects or in the future for planning community training exercises and exposure trips.	All documents of workshops and other activities to be put into ELAK Library
		Student group interactions within the basin written up as brochures, papers, reports (see folder for copies)	Greater understanding of the basin, greater awareness of this knowledge through dissemination in thee forms.	More training groups to undertake research in the Kuiseb basin under the auspices of the ELAK project.
		Posters- ELAK poster and Kuiseb Basin mission statement poster	Greater awareness and visualisation of project and its mission both for stakeholders at workshops as well as other events.	New poster to be developed on basin using new demarcation map with clips of information on the basin.
		Papers and articles- One paper written and submitted (see folder for copies) for WaterNet and Warfsa conference, Dar es Salaam. Articles written for magazines, newspaper and other formats.	Local, regional and international awareness of ephemeral river basins, ELAK and the basin management process being undertaken.	Further papers to be written about the basin management process to date. More articles to be written to be a part of workshops, journals, magazines and other formats
6.2	Undertake identified studies	Studies undertaken by ELAK staff, students and researchers under the auspices of the ELAK project. Examples: Worcester Polytechnic Institute, Stockholm University Geography Excursion	Wider understanding and knowledge base of features within the basin. Results of studies by students from Worcester Polytechnic Institute students presented at Polytechnic of Namibia.	Synthesis of studies and results of studies made available to stakeholders.

Stoves currently used by your household

PRESENT STOVE(S)	ADVANTAGES	DISADVANTAGES

Where do you cook?

PLACE OF COOKING	ADVANTAGES	DISADVANTAGES
Outside Hut		
Inside Hut		

Have you heard of other stoves?

		no		Would you use any of these stoves if they were available?			
	yes			yes	Why?	no	Why?
Tsotso stove							
electric stove							
paraffin kerosene stove							
gas stove							
other							

From whom did your hear about these alternative stoves?

Fuel

When you collect fuel how far do you have to go to collect this fuel?

	TICK	Why do you have to travel so far for fuel?
0-1km(near)		
5-10km(far)		
10km(very far)		

How do you collect fuel?

	TICK	WHY?
Walking		
Donkey Cart		
Bakkie		

Who collects the fuel?

	TICK	WHY?

6.3	Compile and synthesis the information and results produced by the project on an ongoing basis	Presentations to stakeholders and other interested parties, presentation to Cuvelai Basin workshop on Kuiseb basin management process (see folder for copies)	Keeping al stakeholders informed of what is going. Reporting material used for awareness, evaluation and planning purposes.	Brochure on basin management process and process towards formation of basin management committee to be developed and produced. Synthesis paper to be written. Booklet outlining basin management process to be developed.
6.4	Disseminate current status of our collective understanding using brochures, posters, radio and television presentations, video and lectures on ongoing basis.	Brochures- Two brochures have been developed to a draft stage in the past month. One is on Basin Management in general while the second one provides information on Farm Dams.	More information available to stakeholders and other persons and groups on aspects of the Kuiseb basin and the basin management approach. These short brochures gives a brief overview and has a wider impact.	More brochures to be developed in the coming year. A booklet to be developed in the coming documenting the basin management process undertaken by ELAK.
		World Environment Day- Displayed ELAK poster and materials at the event for this day.	Wide public awareness of ELAK, Kuiseb basin and basin management.	Participation in future events.
		World Desertification Day - ELAK supported the events organised for World Desertification day.	Public awareness of ELAK project. Networking and support shown with the UNCCD.	Participation in future events and within the network of the UNCCD
		Kuiseb Basin Profile- A profile has been developed on the Kuiseb. This profile is a compilation of information on physical and socio-economic features within the basin	Availability of wide range of information to stakeholders and others in one easy to use document.	Profile to be finalised and printed and then distributed.

Men		
Women		
Children		

Do you purchase fuel or collect it or use other methods to get fuel?

	WHY?		WHY?
PURCHASE		COLLECT	
BARTER		other e.g. barter	

What kind of fuel do you collect?

Type of material	WHY?					
wood branches	cut from the tree		dry dead wood collected of ground		wood type	
wood stumps						
bitters bush						
marula husks						
makalani palm husks						
animal dung						
Crop leftovers						
other (specify)						

What kinds of fuel do you purchase?

type	WHY?			
Paraffin /kerosene				
Gas				
Charcoal				
Wood	omusati	kameeldoring	other	unknown

Where do you purchase your fuel from?

	tick	WHY?	how much does it costs(N$)
Woodcutters			
Garages			
others (specify)			

How often do you have to get fuel (kg or a bag compared)?

Frequency	QUANTITY(size of load)	WHY?
Once a week		
twice a week		
3 x /week		
4 x/week		

6.5	Facilitate dissemination throughout Namibia and the SADC region using existing DRFN network	Through SADC DRFN Desertification Interact project of the DRFN information regarding ELAK and the model of basin management within the Kuiseb has been and will be shared within the SADC region. ELAK project team gave a presentation at the Cuvelai basin workshop to share our experiences and process in basin management with the other pilot site for basin management in Namibia. ELAK project was presented at other workshops and events e.g Rangeland Forum, for greater awareness and information sharing. Elaboration of two proposals in collaboration with European scientists to investigate basic information concerning dynamics of Kuiseb river recharge. ELAK approach and experience shared under umbrella of Namibia's Programme to Combat Desertification. Through Gobabeb Centre ELAK experiences have been shared with ELTOSA and ILTER	Sharing of best practices, models and lessons learnt from the Kuiseb basin to other basins, others in Namibia and persons in SADC region. Development of network of basin management within Namibia and in the SADC region.	Website to be updated more often to facilitate information sharing. Networking within Namibia and SADC to develop contacts for information sharing. Giving presentations and using posters and other materials to promote greater understanding and awareness.
		Information of the Kuiseb basin, ELAK and its basin management approach were presented at the Warfsa and Waternet conference in Dar es Salaam . Through the Global Water Partnership at a workshop on environmental flows in ephemeral rivers (WPC, SA) Green Cross International workshop in Maun-partially based on ELAK experience.		

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6.6	Provide CCD secretariat with results in all formats	The example of ELAK and its use of the FIRM was shared through meeting of Group of Experts of UNCCD by Dr. Seely. UNCCD provided information through SDDI project. The work of the ELAK project with the Topnaar Community in particular was shwocsed in the preparations for the CRIC in which Arba Diallo was present.Representatives from the UNCCD were present at the Local Level Synergy workshop where ELAK was presented and its process of basin management. ELAK displayed a poster and project materials at the World Desertification Day.	Keeping links with larger network. Using basin management as a form of combating desertification and alleviating problems and poverty associated with desertification.	More pro-active dissemination of information. Setting up links with the UNCCD for appropriate information sharing. Provision of written materials to UNCCD. Promotion of ELAK project and basin management in Namibia at CoP6 in Havana, Cuba August-September 2003.
6.7	Decision makers participate in the international conference on Desertification Connecting Community Action with Science and Common Sense.	Members of Topnaar Community and ELAK staff participated in the Desertification 2000-2002 conference process workshops in this year including the September workshop in which training was given in project planning and proposal writing.	Topnaar community members were trained in project planning and proposal writing. They also received training in looking forward by planning.	Further assistance to Topnaar community in developing projects and writing proposals for funding for development projects in the community. Topnaar community and ELAK staff to be involved in final workshop of the DES 2000-2002 process in a Crafts training workshop to be held in September.
Result 7 – Project implementation team of local NGO has strengthened capacity to successfully implement project				
7.1	Recruit or redeploy required staff	Viviane Hoveka joined the ELAK team in January 2002 and is responsible for administrative aspects, research and materials development. Positions of project Manager and Community Mobiliser remain the same and continue to be effective. The Executive Director and deputy director of the DRFN continue to provide support to the project a well as one of the Grinnell Fellows, interns and other students.	Presently the ELAK team is working well. It is effective in carrying out is activities and networking with the stakeholders. Contributions to Global Water Partnership and development of Country Water Partnership have been made by EALK project staff.	No plans in terms of staffmovement in next year. ELAK staff will continue to work in their present capacities. More contributions from ELAK staff to water related projects for better integration and information sharing.
7.2	Compile job descriptions	Job descriptions of all staff written and compiled. This has been completed and job descriptions are with the Human Resources co-ordinator of the DRFN	Project staff are aware of their expected tasks. Project management have a clear idea of roles of project team members and the tasks to be completed by persons within the project.	Team building and role clarification exercise within project team to be undertaken. Project team staff to be evaluated against job descriptions.

Acknowledgements

This project could not have been completed if it had not been for the valuable co-operation and help of a whole range of organisations. These are too numerous to mention here but are listed in Appendix 1.1. Special thanks must go to the Regional Awareness Project (Fiona Oliver, Menete Ashipala and Victor Mufita), as well as other Desert Research Foundation of Namibia staff (Otillie Amaambo, Mark Robertson and Ernst Mbangula) and most importantly to the Executive Director of DRFN, Dr. Mary Seely, for the time and effort they put in to supporting this survey.

7.3	Identify training and capacity building needs of staff and develop and implement appropriate programmes	This has been done by the HR unit of the DRFN. ELAK project team has received in-house training.	Project manager and other DRFN management are aware of needs for training and capacity building within project team. Through knowing these needs , it promotes an awareness amongst the management and offers the potential for these to be realised.	Project will continue to offer opportunities to its staff to build their capacity and gain skills through identified needs. These may be satisfied through appropriate in-house training or other training.
7.4	Procure required equipment, hardware and software	A laptop computer was obtained for use by Community Mobiliser. All other required equipment has been acquired.	The equipment has allowed for more efficient and effective work within the project. The laptop is used by the Community Mobiliser for purpose of reporting, documentation of activities and presentation of training tools and information.	Identification of possible further needs in terms of equipment will be done and discussed in the project.
7.5	Develop and implement project team planning and performance management mechanisms	This is and has been done through the DRFN procedures regarding staff, their performance, and evaluation. Planning for the ELAK project has also be done within the planning for the DRFN, its activities and projects.	Staff are aware of the 'Big picture', the goals and objectives of the project as well as how it fits in with other projects, the DRFN and within the Namibia. Activities outlined have been outlined to give direction in the next year towards completing all proposed activities and achievement of the results.	Further planning on a quarterly basis is planned.
7.6	Establish reporting schedules, formats and communication mechanisms	Salomon Boois, Community Mobiliser reports each month to project manager. This has also been done within the DRFN framework. Reporting is done to the stakeholders at each workshop while the stakeholders also report to the project and each other during these meetings. Project news is also included in the workshop proceedings. Email and mailing list developed and functional for communication amongst stakeholders. Participant contact details always provided to stakeholders in workshop proceedings.	Reports from Community mobiliser keeps the rest of the project team aware of activities done with the community as well as for reporting purposes. Since the reporting at workshops is documented in proceedings it is widely available for stakeholders and others. This documentation creates a lasting history of the project and the work of the stakeholders. Stakeholders have contact details of all stakeholders.	Reports to be synthesised into workable documents to be used for information sharing and for the library.

APPENDIX III: LITERATURE LIST OF ELAK 2001-2004

- **Meeting and Workshop reports**

ELAK. December 2001. Stakeholder meeting proceedings, Gobabeb Centre, Namibia. Workshop report, ELAK project, Desert Research Foundation of Namibia.

ELAK. March 2002. Stakeholder meeting proceedings, Swakopmund, Namibia. Workshop report, ELAK project, Desert Research Foundation of Namibia.

ELAK. June 2002. Stakeholder meeting proceedings, Walvis Bay, Namibia. Workshop report, ELAK project, Desert Research Foundation of Namibia.

ELAK. September 2002. Stakeholder meeting proceedings, Rossing Uranium Mine, Namibia. Workshop report, ELAK project, Desert Research Foundation of Namibia.

ELAK. November 2002. *Kuiseb Basin Stakeholder Forum workshop proceedings, Swakopmund, Namibia*. Workshop report, ELAK project, Desert Research Foundation of Namibia.

ELAK. February 2003. *Kuiseb Basin Stakeholder Forum workshop proceedings, Gobabeb Centre, Namibia*. Workshop report, ELAK project, Desert Research Foundation of Namibia.

ELAK. June 2003. *Kuiseb Basin Stakeholder Forum workshop proceedings, Daan Viljoen and Kuiseb Upper Catchment, Namibia*. Workshop report, ELAK project, Desert Research Foundation of Namibia.

ELAK. October 2003. *Kuiseb Basin Stakeholder Forum workshop proceedings, Walvis Bay, Namibia*. Workshop report, ELAK project, Desert Research Foundation of Namibia.

ELAK. April 2004. *Kuiseb Basin Stakeholder Forum workshop proceedings, Gobabeb Centre, Namibia*. Workshop report, ELAK project, Desert Research Foundation of Namibia.

ELAK. October 2003. Kuiseb *Basin Management Committee meeting No. 1 minutes, Walvis Bay, Namibia*. Meeting report, ELAK project, Desert Research Foundation of Namibia.

ELAK. February 2004. Kuiseb *Basin Management Committee meeting No. 2 minutes, Gobabeb Centre, Namibia*. Meeting report, ELAK project, Desert Research Foundation of Namibia.

ELAK. April 2004. Kuiseb *Basin Management Committee meeting No. 3 minutes, Gobabeb Centre, Namibia*. Meeting report, ELAK project, Desert Research Foundation of Namibia.

ELAK. August 2004. Kuiseb *Basin Management Committee meeting No. 4 minutes, Namwater Facility, Okahandja, Namibia*. Meeting report, Walvis Bay Municipality and ELAK project, Desert Research Foundation of Namibia.

- **Reports**

ELAK. 2002. *Annual report of the ELAK project, 2001-2002.* Project report. Prepared by ELAK project of the Desert Research Foundation of Namibia.

Namibia's Biomass Energy Management Programme, Baseline Survey in Northern Namibia

Chapter 1. INTRODUCTION

Namibia is the most arid African country south of the Sahara. The geographic position on the western edge of southern Africa gives rise to certain climatic characteristics. The rainfall is low and highly variable with an extremely high rate of evapo-transpiration. One of the relevant net results is that the rate growth of woody biomass is fairly low.

The population of Namibia is concentrated in the northern regions of the country, comprising mainly poor subsistence farmers. The population increase is approximately 3% per annum with a higher rate in urban areas. Within the area surrounding Windhoek, Namibia's capital city, the rate of population increase results in a doubling of informal settlement populations every 13 years (NHAG 1995). There is a great demand for wood for a variety of purposes vital to people's basic survival and quality of life, both in the rural and urban areas. The climatic rainfall patterns and the population growth rates combine to put great pressure on woody resources within Namibia.

To address the needs and problems that communities face in relation to woody resources in Namibia, the Government has established Namibia's Biomass Energy Management Programme (NBEMP), under the co-ordination of Ministry of Mines and Energy (MME). The MME has set up a National Steering Committee (NSC), through the National Energy Council (NEC), whose overall goal is to put in place a National Biomass Strategy.

NBEMP networks with the SADC-wide Biomass Energy Conservation Program (ProBEC) at regional and local levels, with a wide range of local and locally-based community organisations (Appendix 1.1), non-governmental organisations (NGOs) and governmental directorates in northern Namibia. ProBEC has its main office in Harare, Zimbabwe. In Namibia, the DRFN operates as the Secretariat for the implementation of some of the activities set out under the main objectives of the programme. The aim is to reach the overall national goal as set out below.

ProBEC was launched in 1997 starting with an orientation phase for interested member countries, which lasted until June 1998. A three-year implementation phase then followed with the objective of "Enhancing capacities and commitments of governments and development institutions in six SADC countries to plan and implement an integrated biomass energy conservation programme". With financial and material support from the EU and the BMZ via the GTZ, ProBEC partners from Lesotho, Malawi, Mozambique, South Africa, Zimbabwe and Namibia have shared ideas and experience in various fora to facilitate successful project implementation and management. These included two regional meetings held in 1998 and 1999, as well as the NSC representative workshops at national level.

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- **Brochures**

ELAK. 2002. *ELAK: Interactive Environmental Learning and Action in the Kuiseb.* Brochure. Produced by ELAK and the Communications Unit of the Desert Research Foundation of Namibia.

ELAK. 2004. Basin Management. Brochure. Produced by ELAK and the Communications Unit of the Desert Research Foundation of Namibia.

ELAK. 2004. Farm Dams in the Kuiseb Basin. Brochure. Produced by ELAK and the Communications Unit of the Desert Research Foundation of Namibia.

Manning, N (ELAK). 2004. Kuiseb Basin Management Committee. Brochure. Produced by ELAK and the Communications Unit of the Desert Research Foundation of Namibia.

- **Booklets/Magazine supplements**

Manning, N (DRFN). 2004. DRFN. Magazine supplement. Big Issue edition September 2003. Produced by the Desert Research Foundation of Namibia and the Big Issue.

Manning, N (ELAK). 2004. Basin management: Working together to manage our water and natural resources. Magazine supplement. Big Issue edition June 2004. Produced by ELAK of the Desert Research Foundation of Namibia and the Big Issue.

Manning, N (ELAK). 2004. River Basin management: Working together to manage our water and natural resources. Separate Magazine .Produced by ELAK of the Desert Research Foundation of Namibia and the Big Issue.

- **Posters**

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Chapter Two. BACKGROUND

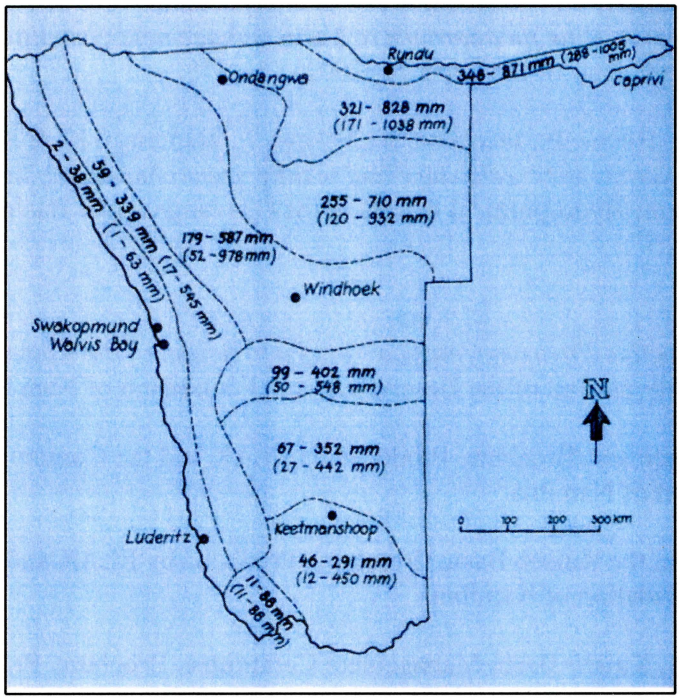

Figure 2.1 Namibia's rainfall map
Dark numbers indicate the range expected 90% of the time
Lighter numbers indicate the 95% range

Namibia is the least populated country in SADC, with some extreme environmental limitations especially in relation to rainfall and its variability (figure 2.1). Consequently there are severe limitations to provision of firewood in Namibia because of the low rainfall-limited growth rate of biomass within the country.

Regional Statistics

This chapter gives a brief overview of the regions in which the survey was conducted and of the chosen study areas. The regions consist of areas of the country with higher than average population densities (see Table 2.1), this is also indicative of the more productive nature of the land within these regions due to the higher level of rainfall than in many other parts of Namibia. The table presented below the descriptions summarises the data.

Ohangwena Region

The Ohangwena Region occupies an area of 10 582 km^2, and has a population of 190 858 people. This is the highest population number for a region, however the population density is lower than in the Oshana Region. There are 25 574 households, of which 57% were female-headed in our sample. The most densely populated sub-area of Ohangwena has the lowest average income (*Wamukonye & Hamutwe 1998*).

APPENDIX IV: LIST OF TRAINING ACTIVITIES

Activity	*Date*	*Location*	*Persons Involved*		*Description*
			Project	**Participants**	
Training Activities and Exposure Trips					
Training	June 2002		+ Joel Kooitjie (Agric. extension Officer for Topnaars)	Topnaar Community	Training given in livestock management for the Topnaar community
Exposure trip	June 2002	Spitzkoppe	Joel Kooitjie	Topnaar Community members	Part of the livestock training activity (See above). Part of livestock management plan of ELAK. Exposure to another community practising livestock management.
Exposure trip	July 8th 2002	To Gibeon in the South	Rudolf Dausab, Chief Kooitjie-drivers for trip	Topnaar community members	Study tour undertaken by the Topnaar Community Development Committee. (See Exposure trip report)
Training	August 2002		Salomon Boois (Community Mobiliser)		Basic management training for Water Point Committees as well as Community Development committees for the Topnaars
Exposure trip	September 29th 2002	To North and North -west			FIRM and community based tourism activity training (See exposure trip report)

Omusati Region

Omusati occupies 13 638 km^2 and has a population of 153 030 people who live in 21 822 households (*CBS 1994*). Just over half the households sampled (53%) were female-headed. Nearly all the people reside in the rural areas. The regional town Uutapi was proclaimed in 1997. About 65% of the economically active population is employed in agriculture (*Wamukonye & Hamutwe 1998*).

Oshana Region

Oshana is the smallest region in Namibia, with a land area of 5 291 km^2 and is populated by 161 491 people living in 24 198 households. The population density is nearly 30 people per km^2 making Oshana the most densely populated region of the whole country. Nearly 47% of the economically active are employed in the trade and service sectors. The average income is N$10 528 and only 53% of the population is employed in agriculture (*Wamukonye & Hamutwe 1998*)

Table 2.1 General statistics for the three regions surveyed *(Wamukonye & Hamutwe 1998)*

	Ohangwena	Omusati	Oshana
Area (km^2)	10 582	13 638	5 291
Population	190 858	153 030	161 491
Population Density (No.people/km^2)	18	11	30
No. of Households	25 574	21 822	24 198
Female-headed %	55	53	52
Average Income N$/year	6 439	8 441	10 528
% population employed in agriculture	72	65	53

Most people in the northern areas of Namibia are subsistence farmers, mainly farming with crops and stock. Consequently, they consume a lot of wood for cooking, heating (the winters are relatively cold at night), fences (around mahangu[1] fields and goat kraals) and building materials for homesteads. These factors, combined with the increase in new settlements and subsistence farming, play a crucial role in deforestation in northern Namibia. This form of land degradation leads to a considerable decrease in the livelihood security of people dependent on woody resources.

Although Namibia's population is low, it is increasing at a high rate, >3% nationally with an even greater rate in the urban informal settlements. This puts severe pressure on a limited resource and there is an ever-increasing demand for fuel-wood. Land degradation is one result of this phenomenon, shown through the complete loss of many wooded areas in Namibia, and the incremental loss of biodiversity in these same

[1] Mahangu is the local name for millet(*Pennisetum glaucum*)