

**THE REPUBLIC OF
NAMIBIA**

Ministry of Agriculture,
Water and Rural
Development

Department of Water
Affairs (DWA)/
Directorate of Rural
Water Supply

**THE REPUBLIC OF
FINLAND**

Ministry for Foreign
Affairs

Finnish International
Development Agency
(FINNIDA)

**WATER SUPPLY AND SANITATION
PROJECT IN OHANGWENA REGION****REVISED PROJECT DOCUMENT**

1994-1995
and
(Possible extension 1996)

DECEMBER/1993¹

Approved by the Supervisory Board on 1.12.1993

¹b:nampd.fin

PROJECT FACT SHEET

Project title: Water Supply and Sanitation Project in Ohangwena Region, Phase I²
Project number: 28103701-6
Sector: Water Supply and Sanitation
Duration: 47 months (14.2.1992 - 31.12.1995)
12 months (1.1.1996 - 31.12.1996, with approved extension)
Starting date: 14.2.1992

Project financing:

- Government of Namibia FIM 4 320 000.-
- Government of Finland FIM 34 630 000.-

Competent Authorities:

- Namibia: The National Planning Commission Namibia (NPC)
- Finland: Ministry for Foreign Affairs/FINNIDA

Institutional framework for the project implementation:

- Namibian implementing agency:
Ministry of Agriculture, Water and Rural
Development/Department of Water Affairs
- Consultant for development assistance services
Finnconsult Oy

Arrangements for coordination and supervision of the project implementation:

- Committee of competent authorities for overall project supervision at policy level:
Supervisory Board Meeting
- Committee for project management at implementation level:
Steering Committee

² Revised Project Document, 1 December, 1993

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ABBREVIATIONS AND ACRONYMS

BDA	Business Development Adviser
CDO	Community Development Officer
CET	Chief Engineering Technician
CREO	Chief Rural Extension Officer
CRW	Community Representative(Water)
CS	Construction Supervisor
CWC	Central Water Committee
DAPP	Development Aid from People to People
DCD	Directorate of Community Development
DEES	Directorate of Extension and Engineering Services
DRD	Directorate of Rural Development
DRWS	Directorate of Rural Water Supply
DWA	Department of Water Affairs
DWP	Diocesan Water Project
EAIHP	Engela Area Integrated Health Project
EH	Environmental Health
EHA	Environmental Health Assistant
EIA	Environmental Impact Assessment
FC	Field Coordinator
FINNIDA	Finnish International Development Agency
GHA	General Health Assistant
GTZ	German Agency for Development Cooperation
HIS	Handpump Installation Supervisor
JCDA	Junior Community Development Adviser
LAC	Local Authority Council
LSU	Livestock Unit
MAWRD	Ministry of Agriculture, Water and Rural Development
MEC	Ministry of Education and Culture
MHSS	Ministry of Health and Social Services
MRLGH	Ministry of Regional and Local Government and Housing
NGO	Non-Governmental Organization
NPC	National Planning Commission
OT	Off - Take
PC	Project Coordinator
PDA	Planning and Design Adviser
PHC	Primary Health Care
RC	Regional Council
RDC	Rural Development Centre
RWS	Rural Water Supply
SB	Supervisory Board
SC	Steering Committee
SCDA	Senior Community Development Adviser
TA	Technical Assistance
TDS	Total Dissolved Solids
TOR	Terms of Reference
UNICEF	United Nations Children's Fund
VLOM	Village Level Operation and Maintenance
WASP	Water and Sanitation Policy
WPC	Water Point Committee
WSSDP	Water Supply and Sanitation Development Plan
WSSDPMC	Water Supply and Sanitation Development Plan Management Committee
WSSPOR	Water Supply and Sanitation Project in Ohangwena Region

EXECUTIVE SUMMARY

Background

The intergovernmental agreement on the "Water Supply and Sanitation Project in Marula Region" was signed on 14 February 1992 and the project commenced in March 1992. The project has been implemented by the Directorate of Rural Development under the Ministry of Agriculture, Water and Rural Development. Development assistance services have been provided by Finnconsult.

The original project period was prolonged by the Supervisory Board by one year to cover years 1992-1995. The original project budget remained the same.

At the time the project started the responsibility of rural water supply was with the Directorate of Rural Development. Rural water supply activities by the Ministry were mainly to install mechanical pumps for drilled boreholes, maintain the installations and distribute water with water tankers to communities suffering the most from drought. The staff of the rural water supply was mainly labourers. The planning of organizing a new directorate for rural water supply started in 1992 by the Department of Water Affairs. The new structure of rural water supply under the Department of Water Affairs was finally approved by the Public Service Commission and endorsed by the Cabinet in July 1993. The actual establishment, manning and handing-over procedure will take the entire year of 1993. It is estimated that the new organization will be operational at the beginning of the financial year 1994 - 1995 and will be developed to fully operational level over the next three years.

Justification

The availability of water is likely to remain a limiting factor for the social and economic development in the whole country, especially in the project area.

The devastating ecological development of deforestation has to be stopped. Sustainability of the water supply and sanitation services also calls for reforestation that protects the water catchment areas against the wind and water erosion through stabilization of the soil. The water sources of the project area are mainly unprotected and therefore subject to a constant risk for contamination. The major reasons for this are the poor sanitation situation and the uncontrolled animal husbandry. Proper sanitation services and systems for the livestock watering are required for minimizing the risks of pollution.

The recently approved organization for Rural Water Supply, present development of water and sanitation sector, new establishment of Regional Councils and Local Authority Councils as well as an increasing number of donors with different strategies and restrictions in expanding the public sector justifies this revision.

Target Groups

The ultimate target group of the project is, however, obviously the rural population of the project area.

Women are responsible for water, hygiene and health issues in the household. Therefore, they form a key group in the identification and development of services. By virtue of their social-cultural roles they are also important agents in the transfer of new knowledge to their communities.

The project fully appreciates the important role of men especially within traditional rural communities and will strive to address water supply and sanitation as a gender and development issue, ensuring that the community as a whole participates.

The target group for the physical improvement of water supply and sanitation, in addition to the users as such, shall be the local contractors and enterprises providing local logistics.

Institutional Framework

The Competent Authorities of the two Governments for the implementation of the Project shall be the Ministry for Foreign Affairs of Finland, represented in Finland by the Finnish International Development Agency, FINNIDA, and in Namibia by the Embassy of Finland in Windhoek and the National Planning Commission of Namibia (NPC). (However, in matters pertaining to the substance of the Project and not affecting the overall responsibilities of the Government of Namibia) the Ministry of Agriculture, Water and Rural Development shall have right to represent NPC. For the carrying out the activities described in the Project Document FINNIDA shall conclude a contract with FINNCONSULT Ltd.

The project will be based in the Ohangwena Region and operate under the Directorate of Rural Water Supply (DRWS) of the Department of Water Affairs (DWA).

Development Objective

The long term development objective of the project is to support the Namibian Government's efforts to secure a safe and adequate water supply as well as proper sanitation for the rural population of the project area. By achieving this objective the general health situation, standard of living and economic opportunities will be improved.

The objectives of Community Development sub-project are to encourage, organize and train communities to initiate, construct and manage their water supplies and sanitation systems by giving technical assistance complemented with material and financial support and by supporting the drilling programme in the area.

The objectives of Local Water Supply and Sanitation Construction Capacity sub-project are to develop local contracting capacity for water supply and sanitation construction and to encourage local production and supply of construction materials complemented by local transportation capacity.

The objectives of the Planning and Design sub-project are to prepare development plans for water supply and sanitation for the project area and to establish a water supply and sanitation information system serving the needs of the Government and communities

Strategy

The overall strategy is to develop rural communities' capacity and ability of the beneficiaries to enable them in future to take full responsibility for the construction and management of their water supplies and sanitation systems. This means that the people themselves are expected to take the initiative and the responsibility for improving their water supply and sanitation situation.

In practice the project will facilitate setting up the community level structures in collaboration with the Regional Council and individual councillors and will promote - to the extent possible - that these "structures and committees" have multi-sectoral functions in order to develop integrated "grassroots" development capacity. This means that at Regional and Constituency levels the project will liaise with the overall body (multi-sectoral) responsible for development. Only at the local level (areas under one particular headman) the project will channel its efforts through an individual(s) representing the area.

In the beginning the consultant will be more active in education and training of the communities and local builders allowing the Governmental organizations and resources to develop. When Government organizations are developed implementation and monitoring activities will be transferred and consolidated by the Government (Rural Water Supply organization in Cuvelai Sub-Division).

The overall strategy is that the Government will gradually employ the majority of project employees during this phase and accordingly the responsibility to carry out these activities will be transferred to the Government. It is planned that the Government of Namibia will take over the implementation at the beginning of fiscal year 1996-1997.

Inputs

The implementation of the project calls for an input from both the Namibian and Finnish Governments as well as the user communities. The financial inputs of the Governments are as follows:

- Government of Namibia FIM 4 320 000
- Government of Finland FIM 34 630 000

Risks, Assumptions and External Factors

The financial sustainability of the improved services should be a pre-condition for all physical improvement activities of the project. Providing water free of charge should be avoided. The users shall own, manage and operate their improved systems (user ownership).

The coordination of the activities of the collaborating projects calls for an active role of the Namibian administration. The absence of this coordination would endanger the community mobilization activities and the institutional sustainability of the project.

The establishment of the integrated "grassroots" development capacity through various multi-sectoral development committees is crucial for the successful, economical and timely implementation of facilities. The construction capacity is strictly limited to successful establishment of development committees and thereafter community motivation and participation. Therefore great emphasis is to be given to the identification and training of CRWs and the project's community development staff during the first quarter of 1994 and in the beginning of 1995. Full construction can not start before proper participation of development committees and CRWs is secured.

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1. BACKGROUND AND JUSTIFICATION

1.1 Background

The intergovernmental agreement on the "Water Supply and Sanitation Project in Marula Region" was signed on the 14th February 1992 and the project commenced in March 1992. The project has been implemented by the Directorate of Rural Development under the Ministry of Agriculture, Water and Rural Development. Development Assistance Services have been provided by Finnconsult.

The original project period was prolonged by the Supervisory Board with one year to cover years 1992-1995. The original project budget remain the same. The project offices were established in Ongwediva and Ohangwena. Advisors were appointed as defined in the project document. A total of 19 employees have been recruited and one technician was seconded from DRD to the project.

One of the main objective of the project has been the preparation of water supply and sanitation development plan. The main data sources have been the Regional Master Water Plan and other socio-economic studies available. The preliminary population and water recourse assessment as well as existing water supply system have been compiled. Based on these estimates the first draft of the development programme has been prepared. Some of the main characteristics have been concluded hereunder:

The project area (3 880 km²) comprises a Western part of the Ohangwena Region covering the following Constituencies: Ongenga, Endola, Ohangwena, Engela, Oshikango, Ondobe and Eenhana. Annex 1. The population of the area is about 125 000 people. The population density varies from 0 - 5 people/km² in the East to 25 - 50 people/km² in the West. Main growth points are Ongha, Engela, Ohangwena, Omungwelume and Eenhana. Hospitals are located at Engela and Eenhana. There are 127 schools having 53 000 students and 1200 teachers and 19 clinics - including health care centres - in the project area. The main connecting road and communication line with Angola also runs through the project area. The rural electrification has already reached Oshikango and Eenhana.

The topography in Ohangwena Region is characterized by an extremely flat plain. The gradient is approximately 1:2500 decreasing from North to South. The elevation is between 1090 m and 1150 m above the mean sea level. More than 70 % of the rainfall occurs between January and March. The mean annual rainfall in the project area varies between 450 mm and 550 mm being highest in the East and lowest in the West. It is estimated that on average 83 % of the total rainfall evaporates shortly after precipitation, 17 % is available as surface run-off of which 1 % recharges groundwater resources. The potential average annual evaporation in the Region varies between 2800 mm in the West to 2600 mm in the East. The average annual temperature is 23 C. The average daily maximum temperature is 35 C and average daily minimum temperature is 6 C.

The whole project area is situated in the Kalahari Group geological formation. It consist of layers of sand, sandy clays, sandstones and conglomerates up to 500 m and its age varies between 30 to 40 million years. The groundwater in the deeper aquifer in the Western part of the project area has been found to be unsuitable for human consumption due to the high concentrations of total dissolved solids. Concentrations in deep boreholes vary between 1 000 mg/l to 33 000 mg/l. In the Eastern part of the project area the groundwater at the depths of 40 to 70 m is generally potable with yields of 1 to 5 m³/h.

The perched aquifer in the project area contains potable water at depths between 5 and 25 m. The shallow potable water is still abstracted through open wells and drawn with buckets. Due to the sandy nature of the soil, the side of the water hole collapses during the rainy season. The way in which wells are operated possesses health hazards because human beings and animals have access to the open water. The project has identified about 3 000 different water points in the area from which approximately 1 500 could be developed and protected for human consumption.

The common parent material of the alluvial plain in the project area is a uniform, medium textured sand. The clay content is relatively low, varying between 2 % and 8 %. Generally the soils are non-saline, but their distribution and classification is more complex, forming also narrow lenses between the Oshanas. The clayey material was probably transported and deposited by rivers and streams while the deposition of windblown sand also took place at the same time.

The vegetation of the project area falls under the groups classified as "Mixed Woodland" and "Palm Savanna". Main species such as vaalboom and wild seringa dominate the Mixed Woodland areas while acacia and mopane shrub mainly occurs in the Palm Savanna areas. The grass cover is generally poor.

The livestock consists mainly of Sanga cattle, goats, donkeys, mules, pigs, sheep and poultry. The average herd size is 7-8 head of cattle and 5-6 goats per family. A family (8 persons/egumbo) owns on average 9-10 livestock units, where 4 goats equal to 1 livestock unit. Thirty years ago average grazing capacity was 10 ha/LSU, but it has been reduced to more than 15 ha/LSU in densely populated areas.

Although the Region is one of the most heavily populated in Namibia, it contributes little to the gross domestic product of the country. Agriculture is the primary economic activity and the backbone of the local economy. However, small factories processing wood as well as service industries like workshops and garages have been established in the project area.

About 35 % of the project area is covered by Oshanas. Main "rivers" passing through the project area are the Cuvelai and Oshigambo Rivers. The Oshanas vary between 2 and 7 m in depth and 100 to 500 m in width. The Oshigambo River is silted up and only flows in exceptionally wet years. To utilize the run-off in the oshanas, dams have been excavated. Dams are mainly open on at least one side or embankment is raised several meters above ground level and water is pumped into the round dam from a sump. Depths of the dams vary between 3 and 5 m. Dam size has been chosen to provide 2 years water supply including evaporation losses.

The main and most important water source for the whole Northern Namibia is the perennial Cunene River supplying water also to the Ondangwa-Oshikango Regional State Water Scheme, also known as the Herringbone Scheme. Total length of this scheme is about 230 km. The scheme was built in the mid 1970's and is almost completely inside the project area. The scheme was built to cope with the water demand for a 15 years period. The bottle-necks have now been solved with Oshakati-Omakango and Omakango-Omafo components. It is estimated that at this moment about 43 000 people (12 000 people at growth points and 31 000 people in rural areas) are supplied by the scheme. In rural areas the water is collected from communal taps and carried home in plastic buckets. For places far from the taps water is commonly transported in drums loaded on pick-up cars. The schools and clinics without water supply during the dry season are supplied through the tanker service.

The preparation of topography maps for the original project area started early 1992. Maps for original project area will be completed during 1993.

The data collection for the preparation of the Water Supply and Sanitation Development Plan has been mainly completed and the final preparation of the Plan can start. Due to the financial constraints the EIA study, integral part of the Plan, was postponed to 1994.

The inventory of surface and ground water sources will be completed during 1993. The existing available information leads to the conclusion that potable deep ground water resources in the project area are very limited and are situated mainly in East of project area. The shallow groundwater (10 - 50 m) resources will satisfy the need of human consumption but livestock watering has to be taken care by surface water sources through water catchment systems, such as dams.

Due to the nature of perched shallow groundwater the use of handpumps in shallow wells has become questionable. The investment of a handpump for the wells which dry up during the dry season seem not to be feasible. Therefore the project has proposed that all shallow wells will be first provided with a bucket water lifting system and later if the water source has proved to be reliable and the community is ready to contribute to the investment the handpump can be installed.

In deep boreholes the static water level is very low during the dry season causing extraordinary demand for using of pump. Suitable VLOM-type handpumps with 100 m lifting capacity are not available. Field testing of different handpumps in such conditions has been ongoing by the project but according to the results the reliability of tested handpumps has proved to be very poor, disappointing also the communities. The use of different handpumps in the project shall continue in order to find out the most acceptable handpump for deep boreholes.

During the rainy season the shallow potable perched groundwater is still the main water source for the rural communities outside the coverage of piped water schemes. These water sources are traditionally known by the communities. Therefore the project has relied on this traditional information in siting of wells. The sweet water sources in some areas are very locational. Therefore the area is often found to be full of open pits. Every pit belongs to different communities or private families. In order to improve these open sweet water wells several wells near each other have to be protected.

Studies to assess the shallow groundwater potential have been previously carried out by Diocesan Water Project, Department of Water Affairs and Ground Water Consulting Services. These studies present data from the Eastern side of the project area. About 2000 water points were identified in the Eastern part of the project area by these studies. A separate study was carried out for the Western part of the project area by Ernest W B Miller & Associates for this project. This study identified about 1000 water points (Omifimas and Ndungus). The majority of the water points show that the average water level is 12 to 15 meters from ground level. Water table is deeper in the Eastern part of the project area and gets more shallow in the West. In the majority of wells the TDS value is less than 1000 mg/l. The depth of water column in the water points varies between 10 cm to 1 meter. Only in very exceptional cases the water column is more than 1 meter.

The project has worked closely with the headmen and counsellors in the project area in approaching the communities. The cost sharing principles and responsibilities have been discussed in several meetings with the communities and accordingly the approach has been concluded. Several water committees have been established and the management of their water supplies has been closely followed-up. The project has also attended the meetings and workshops in development of water point committee and caretaker manuals. The training of project's community development staff has got great emphasis during the period.

At the time the project started the responsibility of rural water supply was with the Directorate of Rural Development. Rural water supply activities by the Ministry were mainly to install mechanical pumps for drilled boreholes, maintain the installations and distribute water with water tankers to the communities mostly suffering from drought. The staff of the rural water supply was mainly labourers. The planning of organizing a new directorate for rural water supply started in 1992 by the Department of Water Affairs. The new structure of rural water supply under the Department of Water Affairs was finally approved by the Public Service Commission and endorsed by the Cabinet in July 1993. The actual establishment, manning and handing-over procedure will take the entire year 1993. It is estimated that the new organization will be operational at the beginning of the financial year 1994 - 1995 and will be developed to fully operational level over the next three years.

1.2 Justification of the Project

The availability of water is likely to remain a limiting factor for the social and economic development in the whole country, especially in the project area. It is obvious that measures have to be taken to improve the basic needs provision, in particular in the low income areas.

The devastating ecological development of deforestation has to be stopped. The sustainability of the water supply and sanitation services also calls for reforestation, that protects the water catchment areas against the wind and water erosion through stabilization of the soil.

The water sources of the project area are mainly unprotected and therefore subject to a constant risk for contamination. The major reasons for this are the poor sanitation situation and the uncontrolled animal husbandry. Proper sanitation services and systems for the livestock watering are required for minimizing the risks of pollution.

The recently approved organization for Rural Water Supply, present development of water and sanitation sector, new establishment of Regional Councils as well as an increasing number of donors with different strategies and restrictions in expanding the public sector justifies this revision.

The objective of the revision is to adjust the objectives and strategies of the project to meet with the changed situation, to incorporate the increased knowledge of possibilities and speed of the institutional development to the project and to specify the target groups following the national policies.

A rural water supply and sanitation project is intersectoral and in the case of many donors and limited human resources cooperation between sectors and organizations is necessary even though the project is administrated under one sector. The responsibilities and cooperation between the Government and the non-governmental organizations and the project will be clarified in the revision.

2. TARGET GROUPS, ENVIRONMENTAL SETTINGS AND INSTITUTIONAL FRAMEWORK

2.1 Target Groups

The economic activities, such as animal husbandry, farming and small scale industries, combined with social services, form the basis of development in the project area. However, the ultimate target group of the project continues to be the rural population of the project area. People living in areas out of reach of existing or planned piped water supplies and of water supplies provided by other donors will enjoy priority.

The main type of supply will consist of wells located in areas where a demand for services (water and sanitation) exists but where there is no environmental risk. Although livestock play an important role in the consumption of water and in the cultural tradition of the area the project will concentrate on wells with limited recharge. Therefore livestock will not be regarded as a primary target group. Nevertheless, the bearing capacity of the environment and the cost of water will guide the supply of water for livestock.

Women are responsible for water, hygiene and health issues in the household. Therefore, they form a key group in the identification and development of services. By virtue of their social-cultural roles they are also important agents in the transfer of new knowledge to their communities. Taking into account the aforementioned plus the fact that women in Namibia, in particular women living in rural societies, have been denied access to training, a special effort will be made to provide managerial as well as technical training opportunities to women and to develop their traditional skills as trainers on a professional basis by training them as trainers. The aforementioned however does not mean that men will be excluded from development activities. The project fully appreciates the important role of men especially within traditional rural communities and will strive to address water supply and sanitation as a gender and development issue, ensuring that the community as a whole participates.

Children between the ages of 6 and 12 - regardless of their school attendance status - have also been identified as a special target group. Because young children learn new patterns of behaviour quickly and can influence peers as well as older people, special participatory programmes in the field of water supply and sanitation will be developed and implemented.

A target group for the physical improvement of water supply and sanitation, apart from the users as such, shall be local contractors and enterprises providing local logistics. This will result in job creation and will contribute to the sustainability of the project.

In the original project document the personnel of the Ministry of Agriculture, Water and Rural Development was identified as one of the primary target groups. However, this objective can only be pursued when the vacancies of the new established DRWS have been filled. Anyhow the possible employment of project personnel to the DRWS and joint implementation of community water projects facilitates the original idea.

2.2 Environmental Settings

The environmental conditions in Ohangwena Region are delicate and need to be carefully considered when planning the project activities in the area. The desertification is encroaching on the former arable land due to poor livestock management and inappropriate farming practices. The extensive use of wood as fuel and for building and fencing, without systematic renewing of the forests, also contributes towards deforestation. In the worst case this can result in an unfavourable change in the microclimate of the area. Water supply for the reforestation activities shall be given a high priority while improving the water supply services in the project area.

The improved water supply for the livestock may result in overgrazing. This can be avoided by developing livestock management, but must also be considered when deciding on the type of the water supply.

There is a risk of depletion of the sources through excessive abstraction of water, which in turn can lead to intrusion of saline water into the fresh ground water sources.

The Environmental Policy for Namibia is in process and the project will follow this policy with the available resources taking into consideration the objectives and strategies set in the Finnida Guidelines for Environmental Impact Assessment in Development Assistance.

2.3 Institutional Framework

The Competent Authorities of the two Governments for the implementation of the Project shall be the Ministry for Foreign Affairs of Finland, represented in Finland by the Finnish International Development Agency, FINNIDA, and in Namibia by the Embassy of Finland in Windhoek and the National Planning Commission of Namibia (NPC). (However, in matters pertaining to the substance of the Project and not affecting the overall responsibilities of the Government of Namibia) the Ministry of Agriculture, Water and Rural Development shall have right to represent NPC. For the carrying out the activities described in the Project Document FINNIDA shall conclude a contract with FINNCONSULT Ltd.

NPC is assessing priorities within a national development context and coordinating the overall planning of projects to ensure efficient and complementary use of resources.

The Ministry of Agriculture, Water and Rural Development through the Department of Water Affairs has the overall responsibility for water resource investigations and management, pollution control, planning for meeting the water demand and development as well as construction, operation and maintenance of bulk water supplies. The responsibility of Rural Water Supply stays with the Directorate of Rural Water Supply (DRWS) of DWA. DRWS is responsible for water supplies to communal farmers, community based water projects, drilling, geohydrological investigations and water supply skills training in rural water supply.

The Ministry of Regional and Local Government and Housing through the Directorate of Community Development in liaison with Regional Councils and Local Authority Councils and other ministries (MHSS, MEC, MAWRD) support self-help schemes and assist communities in organizing themselves. The Regional Council is responsible for planning of the development of the region with a view to:

- + the natural and other resources and the economic development potential
- + the existing and the planned infrastructure such as water, electricity, communication networks and transport system
- + the sensitivity of the natural environment

The various Development Committees at Regional, Areal (Constituency) and Sub-Areal (area of one headman) as well as the Central Water Committee play leading roles in initiating and prioritizing projects.

The Ministry of Health and Social Services in liaison with other ministries play the major role in environmental health planning, development, training and promotion. PHC Services and especially Health Inspectors and Environmental Health Assistants at District level and Community Health Workers and Promoters at local level will participate in project's implementation of sanitation, hygiene education and control of water quality. Close coordination and joint participation in establishment and training of health and water committees is required between the project and PHC Services.

The Ministry of Wildlife, Conservation and Tourism is responsible for preparation of Environmental Policy for Namibia. Preparation of Namibia's Environmental Assessment Policy is already in process.

International donors and development agencies (UNICEF, GTZ,), parastatals (RDC), the Anglican Church's Diocesan Water Project and Namibian NGOs are important partners of WSSPOR in coordinating the overall development activities in the Region, as well as in the specific development of water and sanitation procedures.

The informal Water Supply and Sanitation Technical Support Committee with members from Government offices and from NGOs, already established for Central-North Namibia, form a discussion, coordination and information exchange forum for all water and sanitation related projects, NGOs and government bodies in Northern Namibia. The committee meets when need arises.

The framework of the Project Environment is presented in Annex 2.

The project will be based in the Ohangwena Region and operate under the Directorate of Rural Water Supply (DRWS) of the Department of Water Affairs (DWA). The organization of the Directorate of Rural Water Supply in the Cuvelai sub-division is presented in Annex 3.

The responsibility of the MAWRD in conjunction with other relevant Ministries shall include, but not be limited to, the following:

- to institute the cost sharing/recovery system for the implementation of water supply and sanitation projects
- to provide adequate information to the communities about appropriate technology, costs, availability and use of water
- to provide users with education in hygiene, water habits and water point protection
- to provide training for communities in construction and contracting, operation and maintenance and management of their water supply and sanitation facilities
- to develop national policies for water supply and sanitation
- to control and monitor rural water and sanitation development and use of water resources
- to ensure the allocation of the Namibian contribution for the project and secure the timely release of funds
- to establish and maintain good coordination with other ministries and projects
- to second or attach personnel to the project as defined in this document

The consultant shall be responsible for securing competent advisers to work in the project and maintain sufficient backup human resources for short-term calls in accordance with this project document and annual work plans. The job descriptions of the key personnel are presented in detail in Annex 4.

The users shall participate in all stages of physical improvement of their water supply and sanitation services. The participation in the capital and recurrent costs shall take place according to the national policies and cost sharing system as proposed in this project document.

The improvement and use of the water supply and sanitation services of communities shall be managed by water/health/school committees representing the beneficiaries.

The planning and implementation of different rural water supply programmes by many donors and NGO's requires that main strategies and policies are equal in all projects in order to avoid confusion between the various communities. Therefore the project will attend and assist in the development of National Water and Sanitation Policy (WASP) as well as tariff system development as requested by Namibian authorities and approved by the SC. The preparation of Water and Sanitation Development Plan in the project will serve the Government in selection and planning of other similar projects in Namibia and particularly in the Region. Therefore it is important that the policy for cost recovery in community projects is similar for all. This can be only achieved through intensive participation in the development of policies. The same concerns the handpump selection criteria and monitoring systems. The Project's assistance in these activities can be separately agreed by the Steering Committee.

3. OBJECTIVES OF THE PROJECT

3.1 Development Objectives

The long term development objective of the project is to support the Namibian Government's efforts to secure a safe and adequate water supply as well as proper sanitation for the rural population of the project area. By achieving this objective the general health situation, standard of living and economic opportunities will be improved.

The achievement indicators of this long term development objective are:

- * Communities are willing to initiate, construct, finance and manage their own water supplies and sanitation systems.
- * Communities are aware of the procedures to be followed to initiate a project.
- * The water supplies are functioning satisfactorily and are managed with full recovery of the operation and maintenance costs.

3.2 Immediate objectives

The immediate objectives and achievement indicators of the sub-projects are the following:

a) *Community Development*

The objectives of Community Development sub-project are to encourage, organize and train communities to initiate, construct and manage their water supply and sanitation systems by giving technical assistance complemented with material and financial support and by supporting the drilling programme in the area.

Indicators:

- Water committees with appropriate male/female representation are established and functioning
- Consumers, (men and women) are making decisions concerning water and sanitation development goals and options through the various multi-sectoral development committees.
- Communities involved receive hygiene education as a regular project input during the process of assistance
- Caretakers trained
- Functioning water supplies and sanitation facilities
- A drilling crew trained and boreholes drilled

b) *Construction Capacity Building*

The objectives of Local Water Supply and Sanitation Construction Capacity sub-project are to develop local contracting capacity for water supply and sanitation construction and to encourage local production and supply of construction materials complemented by local transportation capacity. Local contracting capacity here means individual trained artisans who have the capability, tools and knowledge to construct wells, tanks and latrines using locally available materials with the cost affordable for the communities. In order to facilitate the work of contractors required materials and transportation shall be locally available at affordable prices. Accordingly this development will be permanent and will expand on its own based on the development capacity of the communities.

Indicators:

- 20 local water point contractors trained and working³
- 20 local sanitation contractors trained and working⁴
- All required materials available in Ohangwena Region
- Required transportation capacity available and operating for construction material transportation
- Contractors and materials available in the Region utilized for the water supply and sanitation construction

c) *Planning and Design*

The objectives of Planning and Design sub-project are to prepare development plans for water supply and sanitation for the project area and to establish a water supply and sanitation information system serving the needs of the Government and communities. Other objectives are to develop required manuals and guidelines as well as to monitor and evaluate the use of constructed facilities.

Indicators:

- Maps of the project area prepared
- Plan with cost estimates (construction and operation & maintenance costs) and implementation programme prepared
- EIA study completed and its recommendations incorporated in the construction manuals and development plans
- Forms and data collection developed and storing of data established
- Forms of the report developed and in use
- Water Point Construction Manual prepared
- Latrine Construction Manual prepared

³See annex 8

⁴See annex 8

4. PROJECT STRATEGY

4.1 The Overall Strategy

The overall strategy is to develop rural communities' capacity and the ability of the beneficiaries to enable them in future to take full responsibility for the construction and management of their water supply and sanitation systems. This means that the people themselves are expected to take the initiative and the responsibility for improving their water supply and sanitation situation. The main condition is that requests for assistance will be considered only if the consumers show a willingness to take the responsibility for the management and financing of the water supply and/or sanitation system. Community management and cost sharing are the corner stones of this strategy.

Community or user group management of the water supply systems implies that the consumers own their system, and take responsibility for managing it, pay for long-term operation and maintenance costs and preferably even save money for occasional repairs and for expansion.

Cost sharing means that consumers are expected to pay a share of the investment costs.

Community members are viewed as consumers, controlling the development process on their own behalf, rather than as beneficiaries of an externally planned and implemented service project.

As a part of the institutional integration process the implementation of the project activities will be done in close cooperation with partner institutions. This will be the case specifically in community sensitization and mobilization, hygiene education and sanitation promotion areas in which MHSS and MRLGH are involved. The General Health Assistants (GHA), Environmental Health Assistants (EHA), Community Health Workers/Promoters and Community Development Officers (CDO) under the supervision of Primary Health Care Division (PHC) and Directorate of Community Development (DCD) respectively will be encouraged to play a leading role in community mobilization and promotion of sanitation.

Communities living in the project area are still learning how to participate fully in all phases of the development process. This is not unique compared to the rest of Namibia where people are only slowly moving away from being merely beneficiaries to becoming active participants. To facilitate and speed up this process the project in close cooperation with the community, the Government (Central and Regional) and non-governmental agencies operating in the project area intends to encourage, support and assist in the establishment of various development structures.

In practice the project will facilitate setting up community level structures in collaboration with the Regional Council and individual councillors and will promote - to the extent possible - that these "structures and committees" have multi-sectoral functions in order to develop an integrated "grassroots" development capacity. This means that at Regional and Constituency levels the project will liaise with the overall body (multi-sectoral) responsible for development. Only at the local level (areas under one particular headman) the project will channel its efforts through an individual(s) representing the area.

In the beginning the consultant will be more active in education and training of the communities and local builders allowing the Governmental organizations and resources to develop. When Government organizations are developed implementation and monitoring activities will be transferred to and consolidated within the Government (Rural Water Supply organization in Cuvelai Sub-Division).

The overall strategy is that the Government will gradually employ the majority of project employees during this phase and accordingly the responsibility to carry out these activities will be transferred to the Government. It is planned that the Government of Namibia will take over the implementation at the beginning of fiscal year 1996-1997. The purpose is also to test the model of project implementation and private sector approach in order to adopt the same system in some other new areas by the Government if found feasible and possible. The local contractors trained by the project will remain in the area and practise their skills based on the local requests or requests by the Government. Selected local contractors can also be used as trainers in training other contractors in some new areas.

4.2 The Implementation Strategy

For the remaining period of the current phase the project will be divided into three sub-projects with adjusted strategy:

a) Community Development

The communities have to take full responsibility for the construction, management, operation and maintenance of their water supply and sanitation systems. The project will provide technical assistance and material support. To ensure full participation by the people in the Ohangwena Region a system of multi-sectoral Development Committees will be instituted. The Committees will identify members who will liaise with different development sectors (water, health, sanitation, agriculture, education, etc...) ensuring the integrated planning and coordination of activities in the development process. On the local level (Sub-Area under the jurisdiction of one headman) the project will assist in the formation of WPCs and provide the necessary managerial and technical training through individuals representing water (selected and appointed by the community) in the Sub-Areal Development Committees. These individuals are called 'Community Representatives(Water) [CRW]. On the Areal (Constituency) and Regional level the project will operate through the respective committees.

The CRWs will form the direct link between the communities and the project. As members of various development committees the CRWs will provide a crucial input in the development of multi-disciplinary policy. CRWs will receive the necessary managerial and technical training from the project to fulfil their obligations. The CRWs will not be paid by the project. The community will be free to decide if a system of remuneration should be instituted. However costs in relation to training will be covered by the project.

Main duties of the CRWs are:

- Assist the project in the establishment of WPCs
- Represent local communities on the various Development Committees in the field of water and sanitation
- Prepare with the community, development plans for water and sanitation
- Present and defend development plans at various Development Committee meetings
- Advise communities and sub-area development committees of decisions taken regarding the development
- Liaise with the development committee members representing other sectors (health, sanitation, agriculture, education, etc...)
- Liaise with community development officers of the project

experiment?
what levels?
local =
sub-constituency?

local water committees?
chair person?

went to / some how same as
RWFO?
→ is this accepted by GRM?
→ new institution?
heavy? Secretary of comm.

Cost-sharing

Cost-sharing will be emphasized and communities will be asked to meet the following implementation costs: land, security, storing, labour, sand, water and fencing, being approximately 30 - 40 % of the implementation costs of a hand dug well. For cost-sharing the community will have the option to provide labour and material or cash to pay for its share. Depending on the technology and level of service chosen various modalities in which the community can pay, could be negotiated on the basis of standard quantity estimates. The use of cost-effective, sustainable and locally available technologies will be emphasized.

Piped w-s

In the areas of existing or planned piped water schemes, community managed piped water supplies will be considered and if found feasible implemented jointly with the Department of Water Affairs. The feasibility of the schemes will be assessed by the DWA and materials required will be provided by the DWA and by the communities. Some material support for the construction of stand pipes, supervision of construction as well as community mobilization and training costs will be covered by the project. The project will also support DWA in matters pertaining to community participation by providing assistance and advice as well as a testing ground for developed procedures and methods.

Project inputs

Community water supplies will not be directly maintained or repaired by the project. This will be done by caretakers appointed by water committees or by the private repairmen employed by communities. The project support will be limited to monitoring, training and support of a back-up system. Efforts will be made to pursue local manufacture and distribution.

Caretakers

+ private repairmen

Project:
 ← monitor
 ← train
 ← back-up ??

The importance of good hygiene practices and proper and appropriate sanitation will be emphasized through training programmes, particularly at community level. Collaboration with the EAIHP, MHSS, MEC and UNICEF will increase the effectiveness of all hygiene education and sanitation efforts considerably and avoid duplication of efforts.

Educational materials will be developed which will encourage two-way communication between community members, Environmental Health Assistants and teachers of schools in the project area.

The construction of ferrocement water tanks and roof catchments as well as latrines for schools in the project area will be carried out jointly with UNICEF. In those schools identified by the UNICEF programme the materials and labour will be financed by UNICEF. Surveys, required agreements, transportation, supervision and evaluation is carried out by the project.

b) **Construction Capacity Building**

To improve the efficiency, and to decrease the dependency on the public sector the involvement of the private sector will be supported. Private companies and/or artisans could assume a stronger role in water supply development, maintenance, supplying of building materials, handpumps, spare parts and transportation. In the development of local water supply and sanitation construction capacity the condition is that the costs of the materials and services shall be on the affordable level to the communities. Local artisans (Local contractors) will be involved directly with technical support from the project in community level water supply and sanitation development relating to the construction of shallow wells, tanks and latrines.

The condition to this development is that the costs of the construction and contracting have to be at an affordable level for the community to continue the use of these services without external support.

A group of selected local labourers will be trained as artisans (local contractors) capable to make contracts and construct wells, tanks and latrines on site employed and supervised by the communities. The implementation of water supply and sanitation facilities will be organized in a way where the project or the Government will not transport the materials and equipment to the site. (Drilling of boreholes an exception) The procurement of materials, equipment, spare parts and transport to the site have to be arranged through local enterprises by the community or local contractors. The project will encourage local enterprises to supply materials and transportation.

The awareness of local manufacturers, suppliers of construction materials and equipment and availability of local transportation facilities will be increased among the communities facilitating future construction.

c) **Planning and Design**

The mapping of the project area started in 1992. The original project area was defined as "The Catchment Area of the Engela Hospital" (Project Document, 1992). Mapping of this area without clearly defined boundaries will be completed in 1993. During the ground positioning in April, 1992 the project area was verified to cover Ongenga, Engela, Endola, Ohangwena, Oshikango and Ondobe constituencies. The mapping of this slightly enlarged area will be completed during 1994. After the ground positioning in May, 1992 it was decided to include also the Eenhana Constituency in the project area. Ground positioning and mapping of this area will be carried out during 1995. The consultant together with DWA will prepare a water supply development plan for Ohangwena Region. The work will be supervised by the WSSDPMC having members from DWA, Project and Regional Council. The plan will be used in selecting the implementation strategy, technology and priority areas for the water and sanitation projects in the Region.

The consultant will assist and advise the Government in developing a management information system regarding water resources, appropriate technology, costs, pricing and cost recovery as required by the Namibian authority and approved by SC. The actual design of the physical facilities will take place together with the established communities in a participatory way. The Government will provide the communities with information about the availability and use of water resources, appropriate technology, costs and cost recovery. Manuals and guidelines needed in construction and in technical training will be prepared by the project.

5. SUB-PROJECTS, COMPONENTS, OUTPUTS AND OUTPUT SPECIFICATIONS

5.1 Community Development

5.1.1 Institution Building and Human Resource Development

5.1.1.1 Communities and water point committees established and ready to take responsibility for operation and maintenance and management of water points and sanitation facilities constructed

- * members of 230 water point committees trained
- * 230 caretakers trained and maintaining the water points
- * hygiene education given at 100 schools having sanitation facilities

5.1.1.2

Multi-sectoral development committee system established and in operation

- * project area divided into sub-areas and representative for water of each sub-area trained and working

- 5.1.1.3 The drilling crew of the project trained and capable to operate the drilling rig provided by the Catholic Mission for project use
- * 5 drilling crew members (3 employed by the project and 2 seconded from the ministry) trained and operating the rig properly and drilling successful boreholes

- 5.1.1.4 Appropriate training materials and equipment needed for community training developed and in use
- * evaluation of the training materials and methods assessing the achievements

5.1.2 Community Mobilization

- 5.1.2.1 The awareness of services and project procedures in the communities created through several meetings and through community representatives
- * number of meetings and participants in the meetings
 - * people awareness evaluated
 - * social and technical inspections reports for water point construction carried out

- 5.1.2.2 Water point committees established for each community water point and all required agreements signed and understood by the communities
- * 230 water point committees established
 - * signed agreements filed

- 5.1.2.3 The cost sharing formula following the National strategies and policies agreed and accepted by the communities
- * agreements on community contribution for construction of shallow wells, boreholes, communal taps or any other type of water point as well as different types of latrines for schools, clinics, public and private
 - * records of agreed contribution for construction, operation, maintenance and management for each facility

5.1.3 Water Supply Construction

- 5.1.3.1 Shallow wells using local low-cost construction methods with full community participation constructed and equipped with windlass water lifting system or VLOM-type handpump
- * 200 shallow wells constructed and in operation

- 5.1.3.2 Boreholes using the Catholic Mission Drilling rig and trained project drilling crew in the area of deep groundwater drilled and equipped with VLOM type handpumps or other feasible pumps
- * 30 boreholes drilled and equipped with VLOM type handpumps or other feasible pumping systems

- 5.1.3.3 The Omafo-Eenhana rural piped water scheme constructed and taken into use
- * materials provided by DWA and by the community, community mobilization and supervision done by the project
 - * piped water system constructed, water point committees established and maintenance and management carried out by the community

5.1.4 Sanitation Construction

- v j 5.1.4.1 Sanitation facilities available in every school in the project area and constructed jointly with the school committee (labour, sand and water provided by the community)
- * 100 schools provided with sanitation facilities, eg. 400-600 sanitation units
- z j 5.1.4.2 Sanitation facilities available in every clinic (one unit for men and one for women patients and one unit for staff) in the project area and constructed jointly with the health committee (labour, sand and water provided by the community)
- * all clinics and health centres provided with adequate sanitation facilities, eg. 32 sanitation units
- w j 5.1.4.3 Private latrines constructed according to the requests from the people with 100 % cost recovery
- * number of latrines applied and constructed according to the demand

5.2 Construction Capacity Building

5.2.1 Training of Local Contractors

- y 5.2.1.1 Water supply and sanitation contractors trained and working using local construction methods and appropriate contracting procedures and regulations
- * 20 water point contractors trained and working
 - * 20 sanitation contractors trained and working

5.2.2 Organizing Material Supply

- y 5.2.2.1 The procurement, storing and supply of materials and equipment required for water supply and sanitation construction in the project area with local, private enterprises developed
- * all needed materials and equipment available in selected local shops at affordable prices

5.2.3 Organizing Transportation

- y 5.2.3.1 Transportation of materials, equipment and personnel required for water supply and sanitation construction in the project area with local, private enterprises developed
- * most of the project materials & equipment transported by the local enterprises with affordable prices

5.3 Planning and design

5.3.1 Preparation of a Water Supply and Sanitation Development Plan for the Project Area

5.3.1.1 The Environmental Impact Assessment study of water supply and sanitation in the project area carried out

- * EIA study report consist:
 - + *characteristics and trends of existing environment*
 - + *assessment of applicable technology and development alternatives*
 - + *environmental impacts of alternatives*
 - + *monitoring programme*
 - + *recommendations for environmental considerations of the project*

5.3.1.2 Water Resources Assessment

- * Water Resources Report

5.3.1.3 Water Demand and Consumption Estimates

- * Water Demand Report

5.3.1.4 Water Supply Options and Unit Costs

- * Report consists:
 - + *applicable technology taking into consideration of EIA recommendations*
 - + *construction, operation and maintenance costs*

5.3.1.5 Existing Water Supply Situation

- * Report consists:
 - + *rural piped water situation*
 - + *rural point water situation*
 - + *water harvesting*
 - + *water use*

5.3.1.6 The Water Supply Development Plan for the project area completed jointly with DWA

- * Interim Report
 - + *planning approach and recommendations*
- * Development Plan
 - + *development programme*

5.3.2 Preparation of Sanitation Development Plan for the Project Area

5.3.2.1 Sanitation Development Plan

- * Report consisting:
 - + *sanitation Options*
 - + *technology choice*
 - + *development programme*

5.3.3 Preparation of Topography maps covering the whole project area prepared

5.3.3.1 Topography Maps for the whole Project Area Prepared

- * Maps of the whole project area available

5.3.4 Develop and establish necessary and feasible information and monitoring system for constructed water supply and sanitation in the project area as required by the Namibian Authority and approved by the SC

- W 5.3.2.1 Needed information assessed, programmes developed, necessary equipment purchased and operators trained
- * Monitoring system tested
 - * Monitoring system in use

5.3.5 Development of Manuals

- W 5.3.5.1 Shallow well construction manual prepared
- * Manual in use
- W 5.3.5.2 Latrine construction manual prepared
- * Manual in use

5.3.6 Progress Reports and Annual Work Plans

- W 5.3.6.1 Annual Work Plans for the approval of SB in November of previous year prepared
- * Annual work plans ready 31.10
- W 5.3.6.2 Monthly, Quarterly and Annual Progress Reports prepared
- * Reports distributed timely

6. ACTIVITIES

The annual work plan and budget describing the needed activities shall be prepared for every year in November of the previous year and submitted for approval by the SB. The time schedule of main activities during the years 1994-1996 indicating the allocated time, quantities and chronological order is presented on the pages 18 and 19.

Activity	Quantities	1993			1994					1995					1996													
		O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
COMMUNITY DEVELOPMENT (by SCDA and FC)																												
* Identify community representatives (jointly with Regional Councils by JCDA)	20 persons																											
* Train community representatives/Water	20 persons																											
* Identify water point and latrine contractor candidates (jointly with Regional Council)	40 persons																											
* Train water point and latrine contractors (by FC)	40 persons																											
* Upgrading training for the drilling crew (by a selected trainer)	5 persons																											
* Planning of the Omaso - Eenhana rural piped scheme (main lines/DWA, comm. take - offs by project)	56 taps																											
* Mobilize the Omaso - Eenhana Communities for construction and form required committees (project)	56 comitt.																											
* Construction of rural piped scheme with the community (materials by DWA, supervision by project)	123 km																											
* Construct sanitation facilities for schools (by project's CS jointly with MEC)	600 units																											
* Construct sanitation facilities for clinics (by CS jointly with MHSS)	32 units																											
* Construct private latrines according to the demand (by project's CS)																												
* Organize health and hygiene education at all schools having sanitation facilities (with MHSS and MEC)	100 sch.																											
* Protect communal shallow water holes and install windlass water lifting system in 1994 (by CS)	15 pcs																											
* Protect shallow community water holes and install windlass water lifting system in 95 - 96 (by CS)	150 pcs																											
* Protect shallow community wells and install handpump water lifting system (by CS)	35 pcs																											
* Drill shallow community boreholes (40 - 60 m) and equip them with a handpump water lifting system	30 pcs																											
* Train at least one caretaker for each water point (by CS)	230																											
* Train members of WPCs for operation, maint. and management of water points (by JCDA and CRW)	230 WPCs																											
* Prepare the training material needed for health and hygiene education (by JCDA)	Report																											
* Prepare training materials needed for water point committee and community training (by JCDA)	Report																											
* Prepare the training material (manuals) for community representative training (by SCDA)	Report																											
* Evaluate the well and latrine construction (by PDA)	Report																											
* Evaluate the success of health and hygiene education (by SCDA)	Report																											
* Evaluate the performance of water point committees (by SCDA)	Report																											
* Coordinate the people's participation and hygiene training with MHSS and MEC (by SCDA)																												
* Evaluate the use of compost latrines (by PDA)	Report																											
* Construct ferro cement water tanks and latrines jointly with UNICEF																												

Activity	Quantities	1993			1994												1995					1996						
		O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
CONSTRUCTION CAPACITY BUILDING (by BDA)																												
* Assessment of available services and need of materials	Report																											
* Selection of potential suppliers																												
* Plan the models for procedures and make agreements with the selected shops	Guidelines																											
* Train the project personnel to use the agreed procedures	Report																											
* Control the established material supply system and evaluate its success	Report																											
* Identify and evaluate available local transportation services for project material transportation	Report																											
* Plan the models and procedures required and make agreements with selected transportation enterprises	Guidelines																											
* Train the project personnel to use the agreed procedures	Report																											
* Control the use of established transportation system and evaluate its success	Report																											
* Prepare required business training material for the training of contractors	Material																											
* Train contractors for business management in contracting	Report																											
* Train the Namibian counterpart accountant to take over the duties	1 person																											
* Accounting, banking, book-keeping, vehicle control, financial reports, store control	Reports																											
PLANNING AND DESIGN (by PDA)																												
* Prepare terms of reference for the Environmental Impact Assessment and approve by SC	TOR																											
* Carry out the EIA study as approved (by Environmentalist)																												
* Prepare the EIA report and modify the project approach accordingly if seem to be necessary	Report																											
* Form and establish the Water Supply and Sanitation Development Plan Management Committees	TOR																											
* Finalize the interim WSSDP report by PDA	Report																											
* Finalizing the mapping of the project area	3880 km2																											
* Plan and design the project's monitoring and information system as required by the Ministry																												
* Prepare instructions on how to use the system	Report																											
* Train the required personnel to use the established system	Report																											
* Update and finalize shallow well and latrine construction manuals	2 Manuals																											
* Assist in WASP matters as approved by the SC																												
* Annual Work Plans	3 pcs																											
* Annual Reports	3 pcs																											
* Monthly Reports	36 pcs																											
* Steering Committee and Supervisory Board Meetings	12 pcs																											

7. INPUTS

7.1 Inputs of the Government of Namibia

The general description of the Namibian inputs in the project is given in the Agreement of Development Cooperation between the Governments of Finland and Namibia.

The Government of Namibia will provide professional personnel and local skilled staff from various ministries (e.g. MAWRD, MHSS, MRLGH) to the project on a secondment or attachment basis, as appropriate and as approved by the SC and endorsed by the relevant Ministry.

The Government of Namibia shall meet 15 % of the total costs of the project, after exclusion of the costs of the technical advisory services as defined in the project budget; see Chapter 8 of this project document. Any custom and import duties or other taxes subjected to the project shall not be taken as a part of the input of the Namibian Government.

The financial inputs of the Government of Namibia will mainly consist certain materials needed in the project. Total material costs of Omafo-Eenhana pipeline will be about 9.4 million N\$. DWA will purchase or pay to the project needed construction materials such as cement, steel, drilling materials, pipes, handpumps etc. as specified by the project during implementation.

The salaries of Government officers working in the project are not counted in the contribution of Namibian Government.

7.2 Inputs of the Government of Finland

The general description of the Finnish inputs in the project is given in the Agreement of Development Cooperation between the Governments of Finland and Namibia.

The Government of Finland shall provide the personnel required for the technical advisory services and meet the respective costs as defined in the project budget; see Chapter 8 of this project document. Additionally the Government of Finland shall meet 85 % of all the other costs, only excluding custom and import duties or other taxes of the project.

The number of expatriate staff is high during the year 1994 but is gradually reduced in 1995-1996. The use of Namibian consultants has not been included in the project's staffing schedule. The use and need of the local consultants for special tasks will be planned separately and approved by the SC. The reservation for these has been done in the budget under the item: "Planning and Design". It is also assumed that the need for expatriate short term consultancy might arise during the project phase. Therefore a reservation in the project budget has been made under the item: "Reservation for short term consultancy".

The staffing schedule of the project, including the long term technical assistance personnel as well as proposed Ministry personnel, is presented in Annex 5.

7.3 Inputs from the Users

The users shall meet (not limited to) the following implementation costs:

- * provide required land for construction
- * provide all labour needed in construction (digging, trenching, installation, brick making, concrete casting, backfilling, fencing etc...)
- * provide water and sand needed in construction
- * provide shelter and security for materials, equipment and contractors
- * clearing/construction of roads for drilling equipment or material transport
- * materials for fencing the water points
- * payment of required connection fees
- * operation, maintenance and management costs of the facilities

8. PROJECT BUDGET (FIM 1000) (1 R - 1,7 FIM)

Description	1992..1993	1994	1995	1996	Total
Consultant's staff Project Coordinator Field Coordinator Business Devel. Advisor Water Supply Advisor Senior CDA 2 Junior CDA Environmentalist	6 100	3 053	1 720	1 500	14 403
Reserv. short-term experts		100	200	200	
Project coordin.in Finland		330	330	330	
Reimbursable TA costs		200	170	170	
Community Development Training materials Training courses People's participation Construction materials Construct. consumables Contractors Operat. & maintenance	4 620	2 830	4 220	3 790	15 460
Constr. Capacity Building (Training materials, Training courses, Investment, Studies)		150			150
Planning and design Design materials EIA-information Local consultancy reservation Completion of mapping	850	460	510	60	1 880
Others Local salaries Office costs Investment (vehicles, equip.) Miscellaneous	4 277	930	1 200	650	7 057
Total	15 847	8 053	8 350	6 700	38 950
Government of Namibia	1 107	1 370	1 043	800	4 320
Government of Finland	14 740	6 683	7 307	5 900	34 630
Community					3 000

9. RISKS, ASSUMPTIONS AND EXTERNAL FACTORS

The Namibian Government shall promote in all possible ways the development of proper livestock management as well as extensive reforestation. All improvements of water supply and sanitation, livestock watering and irrigation included, must be guided strictly by the tolerance of the environment. Neglecting the environmental protection would write a most unfortunate scenario of the development of the area.

The financial sustainability of the improved services should be the pre-condition for all physical improvement activities of the project. Providing water free of charge should be avoided. The users shall own, manage and operate their improved systems (user ownership). If users are provided water free of charge the motivation for participation in construction and operation and maintenance is impossible and therefore functioning and reliable community water supplies can not be achieved.

The coordination of the activities of the collaborating projects calls for an active role of the Namibian administration. This coordination missing, would endanger the community mobilization activities and the institutional sustainability of the project.

In order to achieve the planned transfer of the implementation responsibility to the Government of Namibia, the manning of the new Directorate of Rural Water Supply with proposed project personnel is important and essential and should be done as proposed in the staffing schedule, Annex 5.

The establishment of the integrated "grassroots" development capacity through various multi-sectoral development committees is crucial for the successful, economical and timely implementation of facilities. The construction capacity is strictly limited to successful establishment of development committees and thereafter community motivation and participation. Therefore great emphasis is to be given to the identification and training of CRWs and the project's community development staff during the first quarter of 1994 and in the beginning of 1995. The training of CRWs will be planned and carried out by the project's Senior Community Development Adviser and by the trainer identified later. Full construction can not start before proper participation of development committees and CRWs is secured.

10. PROJECT ORGANIZATION

10.1 Organization

The Directorate of Rural Water Supply supported by the Regional Council will be the key institutions executing the project. The implementation of the project components will be carried out by a consultant, Finnconsult. It is anticipated that the DRWS will gradually take over the implementation by employment of the project staff as indicated in the staffing schedule, Annex 5.

The Rural Water Supply Directorate in the Cuvelai Sub-Division will be the main coordinating and supervisory body for the project. The resource personnel required will have to be from this organization. The planned project organization and project budget will depend on the manning schedule of the Directorate of Rural Water Supply.

The proposed project organogram is shown in Annex 6.

*SO project is started off
by Finn Consult.
→ not the advisors !!*

The Supervisory Board (SB) has the overall responsibility of the project supervision.

The Steering Committee (SC) shall control the financial and substantial progress of the project and submit the annual work plans and budgets for approval by the SB. The SC shall be an management body with competence for decision making within the approved annual budgets and work plans.

The Chief of Rural Engineering Services Division of the DRWS (= Project Director) operating from Windhoek represents the Ministry and has as main duty in the promotion of all administrative processes and decision making necessary for the successful implementation of the project as well as facilitating contacts with involved ministries and organizations. The Chief of Rural Engineering Services Division together with the Project Coordinator a meeting of the SC at least four times a year or when needs arise.

The Project Coordinator (PC) and the Chief Engineering Technician (CET) of DRWS/Cuvelai Sub-Division shall share the responsibility for the project management. They shall report on the financial and technical progress of the project. The expatriate PC shall be in charge of the use of the Finnish input and shall approve all purchase orders, payments, liabilities and financial reports of the project. The CET shall be in charge of the use of the Namibian input for the project.

10.2 The Supervisory Board

The main responsibility of the SB is the overall supervision of the project at policy level. Other responsibilities of the SB are to:

- review progress of the project
- approve the annual operative plans of the project
- approve the annual budget of the project
- revise the substance and financial framework of the project document
- ensure the timely allocation of funds of the involved parties required for producing the planned outputs of the project
- act as a decision making body in issues beyond the competence of the SC

The Board will meet at least once a year. The composition of the SB is:

- Permanent Secretary, MAWRD, Chairperson
- Three representatives from MAWRD
- At least one representative from FINNIDA
- At least one representative from Embassy of Finland

The NPC is invited to attend the meeting of the Board as an observer. The Board will base its decisions on consensus.

10.4 Steering Committee

The responsibilities of the SC are:

- to have overall responsibility to the MAWRD and FINNIDA for the management of the project and achievement of its objectives
- to coordinate the project activities into the Regional and DRWS systems in general
- to oversee the management and the reported progress of the project and, if required, approve actions to be taken
- to submit proposals for annual operative plans and budgets for approval by the SB
- to discuss policy matters and make proposals to the SB

The members of the Steering Committee shall be as follows:

1. Chief, Rural Engineering Services, DRWS, Windhoek (Chairperson)
2. Chief, Rural Water Supply North, DRWS, Windhoek (Deputy Chairperson)
3. Regional Representative of Directorate of Engineering and Extension Services
4. Chief Engineering Technician, DRWS/Cuvelai Sub-Division
5. Regional Representative of MHSS
6. Regional Representative of MEC
7. Regional Representative of DCD
8. Representative of the Ohangwena Regional Council
9. Representative of the Embassy of Finland
10. Project Coordinator of EAIHP
11. Representative of Chamber of Commerce, North
12. Representative of the Central Water Committee, Cuvelai

The PC is representing the project in the meeting and act as the secretary in the meeting. The subject discussed in the meeting will be presented by the PC.

The Steering Committee meets at least every three months. The decisions in SC should be based on consensus.

11. REPORTING, MONITORING AND EVALUATION

The Annual Work Plan should be prepared by the project by the end of November of the previous year.

The project reporting will follow the FINNIDA's Guidelines for Project Reporting (January 1993). To facilitate monitoring of the implementation of the planned activities the following reports are to be issued:

- Monthly Progress Reports
- Quarterly Financial Reports
- Annual Progress Reports

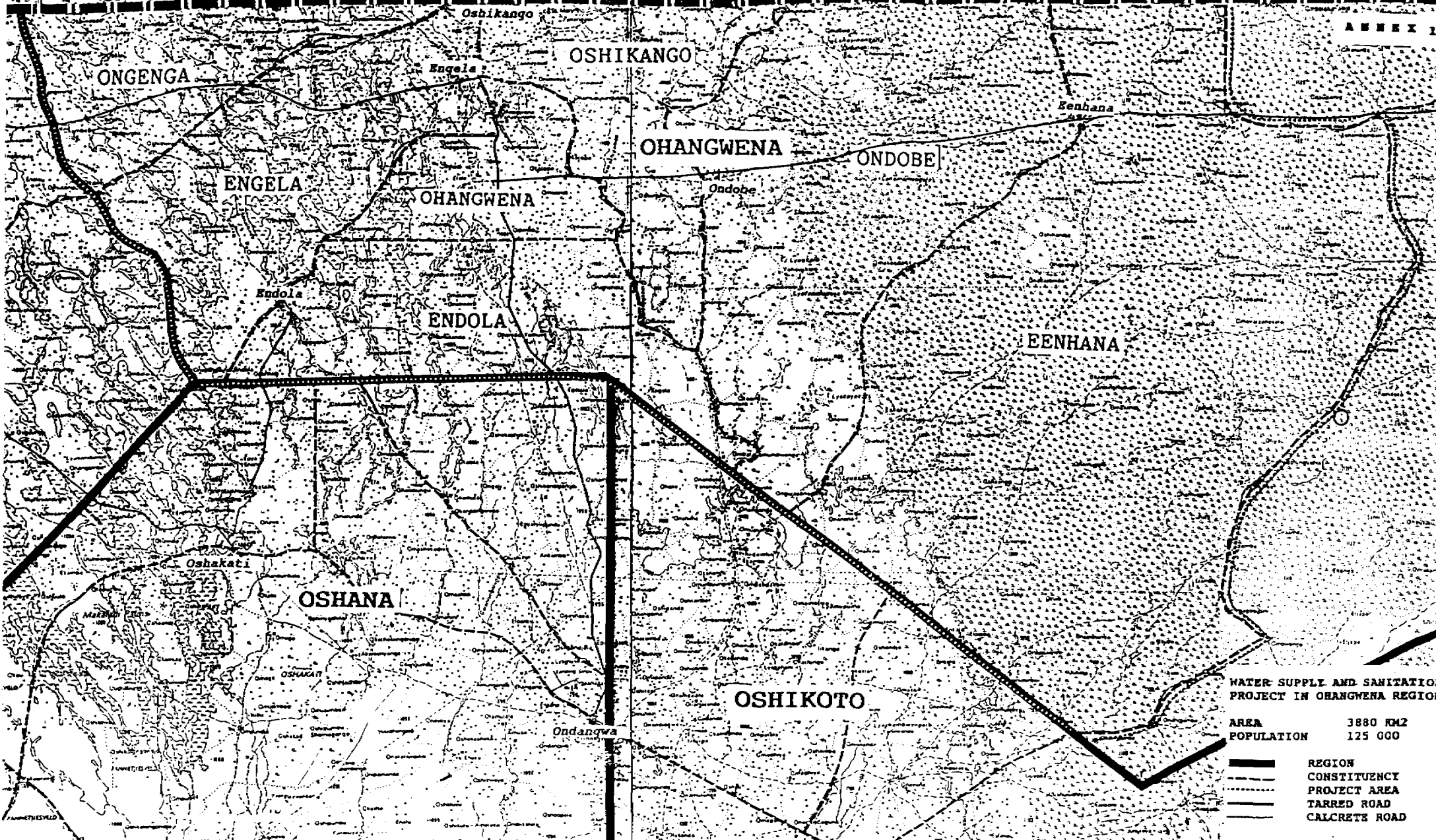
All reports and work plans will be delivered for approval to Namibian authorities, FINNIDA, as well as for information of other organizations concerned.

The Chairperson of the Steering Committee will act as liaison officer between the project, Finnida and MAWRD. In addition to regular field visits the Chairperson will encourage dissemination of the experiences gained in WSSPOR through appropriate representation in national and international seminars, through the organization of workshops for MAWRD Headquarters staff and through dissemination of relevant published WSSPOR information to other programmes and agencies in water supply and sanitation in Namibia.

The project shall be subject to periodic reviews and evaluations as agreed upon by MAWRD and FINNIDA during the project phase.






ANGOLA

ANNEX 1

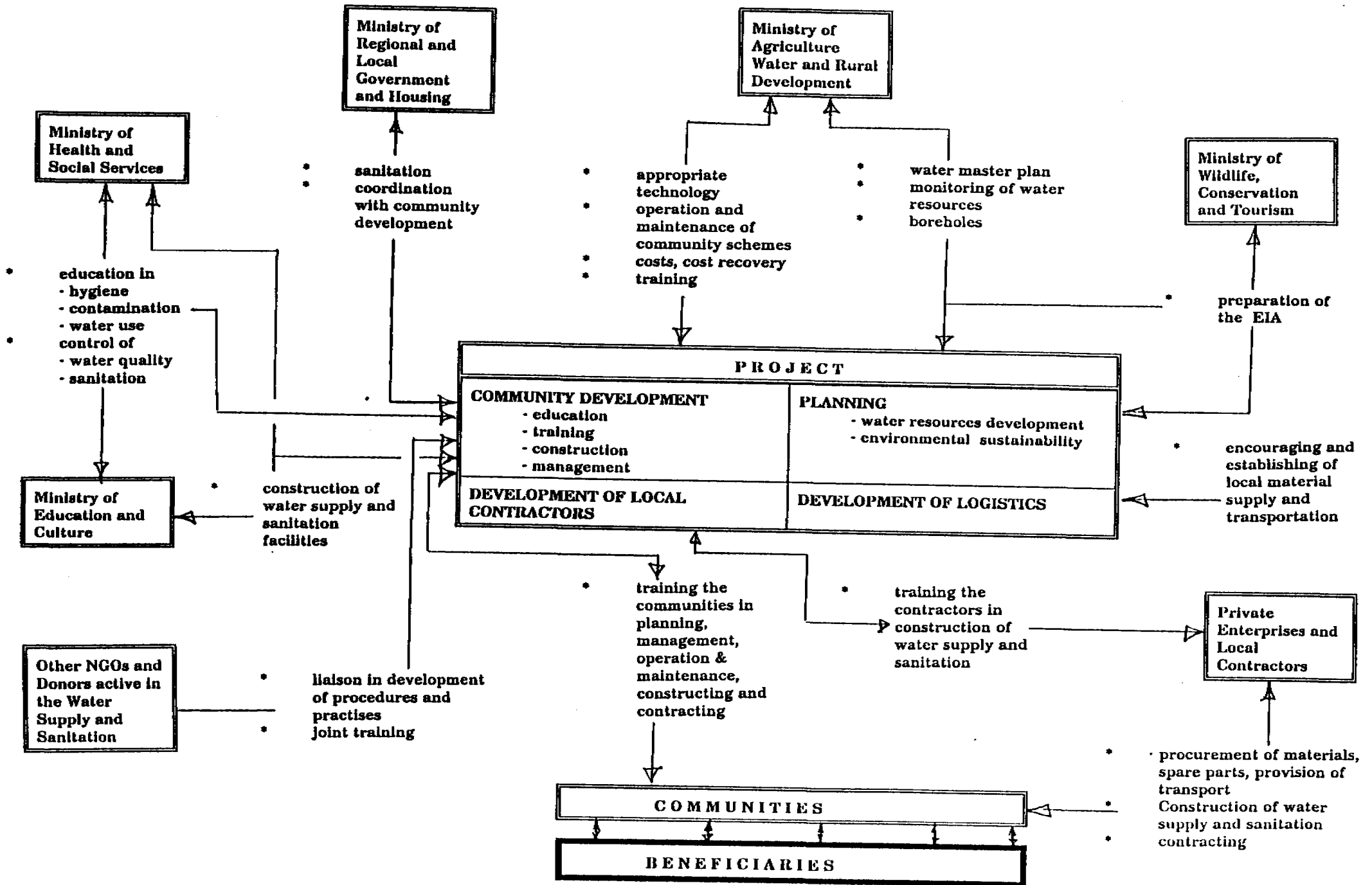


**WATER SUPPLY AND SANITATION
PROJECT IN ORANGWENA REGION**

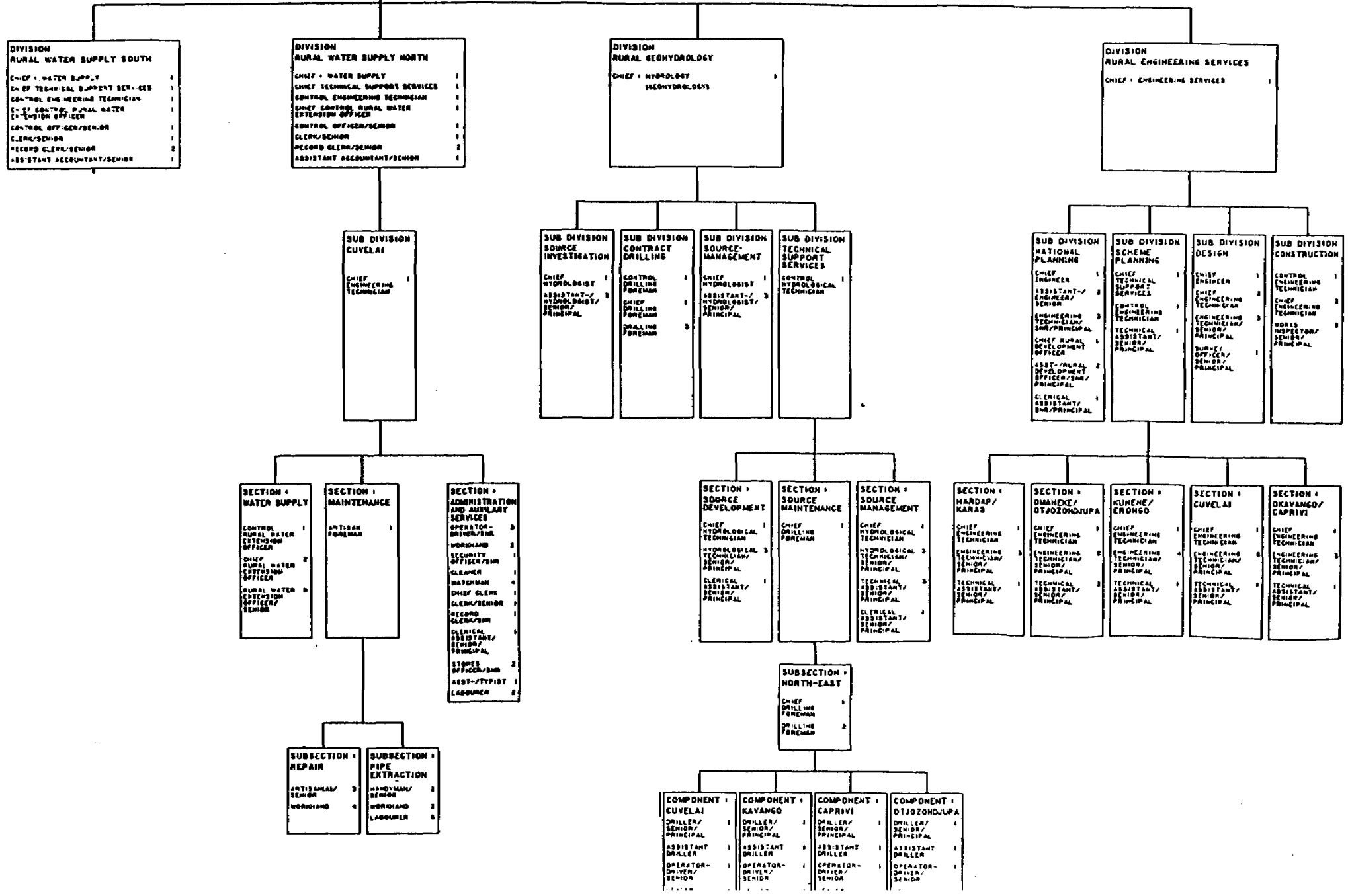
AREA 3880 KM²
POPULATION 125 000

-  REGION
-  CONSTITUENCY
-  PROJECT AREA
-  TARRED ROAD
-  CALCRETE ROAD

ANNEX 2: THE FRAMEWORK OF THE PROJECT ENVIRONMENT



DIRECTORATE : RURAL WATER SUPPLY
 DIRECTOR : RURAL WATER SUPPLY 1



ANNEX 4: JOB DESCRIPTIONS FOR KEY PERSONNEL¹

This section only provides the set of tasks to be executed within the project. It should be read together with Annex 5: Staffing Schedule and Annex 7: Project Organization Chart.

Tasks proposed to be covered by consultant staff have been preceded by an "***".

1. * Project Coordinator**

The Project Coordinator is working in close cooperation with MAWRD/DRWS and its local representative, Chief Engineering Technician on issues related to development of an enabling environment in the Ohangwena Region for the project and at later stage on issues related to the consolidation of the project activities within MAWRD and the private sector.

He/She is the on site representative of the Consultant for Development Assistance Services for the project and is responsible for the Finnish inputs of the project and for the technical and administrative management of the project including liaison with FINNIDA, MEC, MHSS, MRLGH, Regional Councils and other relevant agencies.

He/She is also responsible for development of project policies and strategies as well as for the monitoring and reporting of project outputs. Senior Community Development Adviser, Field Coordinator, Business Development Adviser and Planning and Design Adviser report to the Project Coordinator.

The Project Manager has to be experienced in the planning, implementation and administration of rural water supply systems, rural development, participatory rural development and general project administration.

2. * Senior Community Development Adviser**

Senior Community Development Adviser works in close cooperation with Rural Extension Officers of different Ministries and non-governmental agencies on issues related to community participation and training.

He/She is responsible for planning, design, development, monitoring and reporting of activities regarding community development. He/She advises in the establishment and the training of Water Point Committees and Community Representatives(Water). He/She also advises on the identification and establishment of income generating activities. SCDA is responsible for the in-service training of the Junior Community Development Advisers. JCDA shall take over the duties of SCDA in 1995 and thereafter SCDA will provide supportive services for the project when need arises. He/She reports to the Project Coordinator on Community Development.

The Senior Community Development Adviser has to be experienced in participatory community development methods.

¹ b: jobdes.fin

3. *** **Field Coordinator**

The Field Coordinator works in close cooperation with DRWS officers, the Regional Council and traditional leaders in the Ohangwena Region on issues relating to the physical implementation of project activities.

The Field Coordinator is responsible for the field activities within the project components of community participation, construction, maintenance and drilling. He/She is also in charge of store-keeping, material distribution and general administration in the Ohangwena office. He/She also reports to the Project Coordinator on construction.

He/She is responsible for technical training of contractors and the in-service training of the Assistant Field Coordinator.

The Field Coordinator has to be experienced in rural water supply construction and supervision.

4. *** **Business Development Adviser**

The Business Development Adviser works in close cooperation with the local business community and the Chamber of Commerce to identify and develop project related business ventures for the people in Ohangwena Region.

Accordingly He/She is responsible for the development of a sustainable material and spare part supply, a transportation system and local construction capacity. He/She also provides business management training to local business entrepreneurs. He/She is in charge of project accounting and the in-service training of an Assistant Accountant and reports to the Project Coordinator on local business development and project finances.

The Business Development Adviser has to be experienced in accounting and business management.

5. *** **Planning and Design Adviser**

The Planning and Design Adviser works in close cooperation with the DRWS Rural Engineering Services Division, the National Planning Sub-Division and the Chief Engineering Technician in the Cuvelai Section.

He/She is responsible for the finalization of the water supply and sanitation development plan, the preparation of manuals and overall implementation plans. He/She incorporates the results of the Environmental Impact Assessment Study into the Water Supply and Sanitation Development Plan. PDA gives also in-service training to the project's Design Technician. He/She reports to the Project Coordinator on planning and design.

The Planning and Design Adviser has to be experienced in the planning, preparation and implementation of rural water supply development plans.

6. Assistant Accountant

The Assistant Accountant works in close cooperation with project's Business Development Adviser. In the beginning he/she will be responsible for accounting and petty cash of field operations. Finally he/she will take over the responsibility of project's accounting, book-keeping and financial reporting.

The Assistant Accountant is responsible for accounting and book-keeping, cost control, material supply control, data registers. He/She reports to the Business Development Adviser.

He/She is trained by the Business Development Adviser to carry out all necessary duties.

7. Design Technician

The Design Technician works in close cooperation with the Planning and Design Adviser.

He/She assists in the preparation of Water Supply and Sanitation Development Plans, the preparation of designs and investigations as well as data collection. He/She is responsible for all the design and investigation equipment of the project. He/She reports to the Planning and Design Adviser.

8. "" Junior Community Development Advisers

Junior Community Development Advisers works in close cooperation with Field Coordinator and Senior Community Development Adviser.

They are responsible for Socio-Cultural inspections, establishment of water point committees, community mobilization and training as well as coordination of hygiene education. They will work in close collaboration with all other extension officers and community development officers in the Region. They report to the Field Coordinator.

Junior Community Development Advisers have to be experienced in community development and in participatory methods.

9. "" Environmentalist

The Environmentalist works in close cooperation with the Planning and Design Adviser and with the Department of Water Affairs on issues related to the preparation of Environmental Impact Assessment Study.

The Environmentalist is responsible for carrying out the Environmental Impact Assessment Study and he/she gives advises how to incorporate the results into the WSSDP and construction manuals.

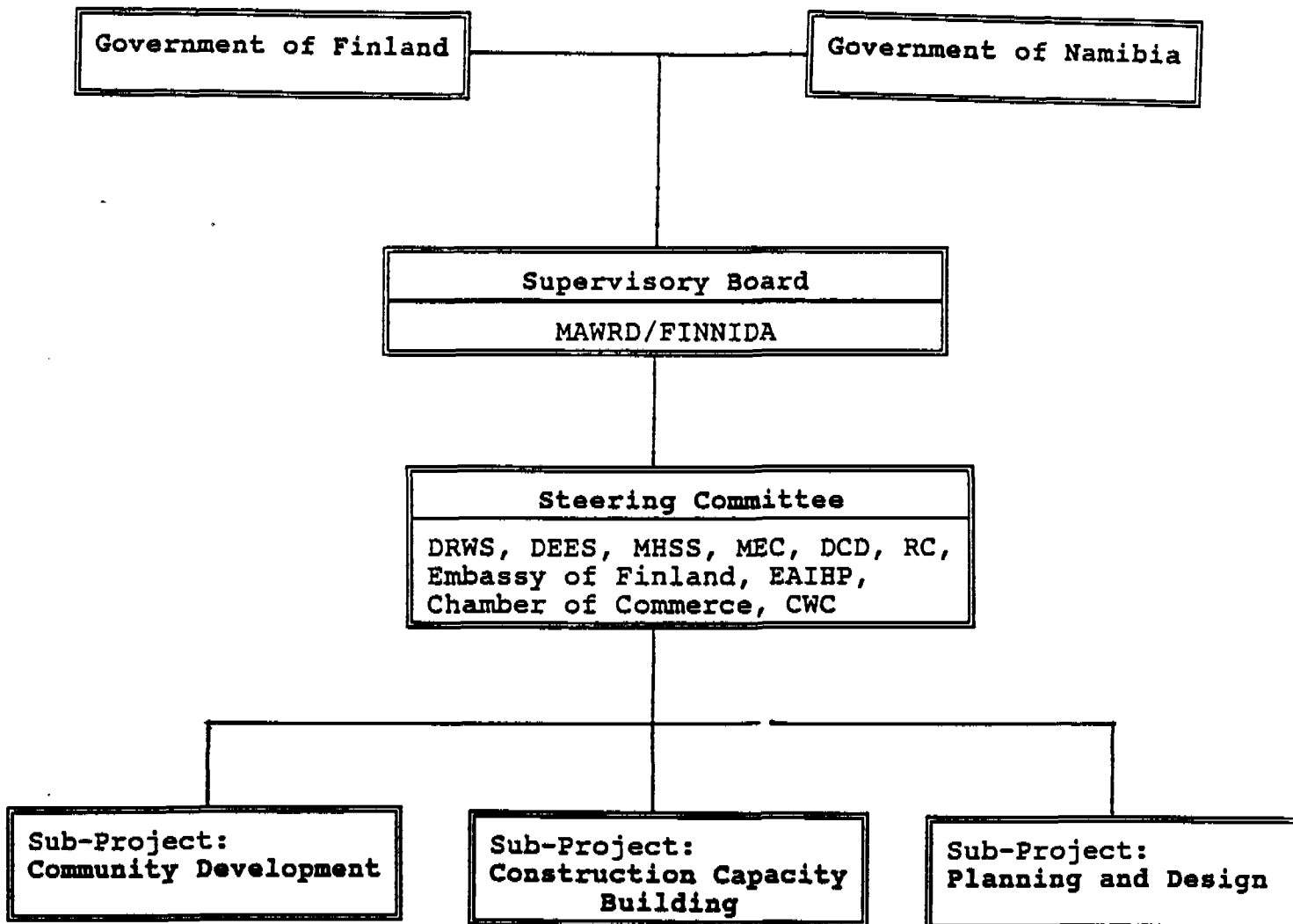
The Environmentalist has to be experienced in environmental investigations, planning and design.

10. ** **Home Office Coordinator**

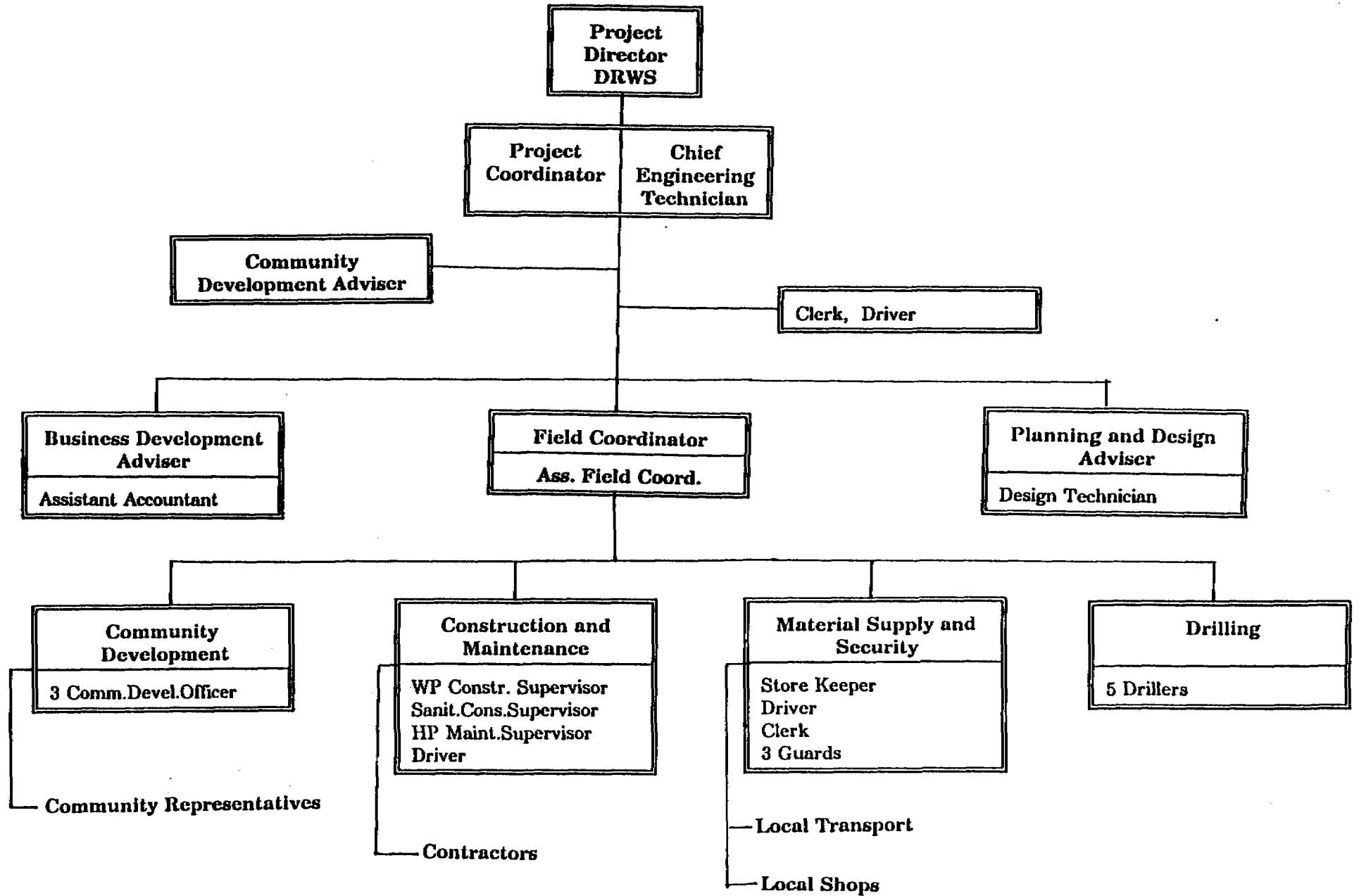
Home Office Coordinator works in close cooperation with FINNIDA-Finland. He/She is responsible for the liaison of project activities in Finland, project accounting and book-keeping in Finland, recruitment of Advisers, overall financial reporting and overseas procurement.

The Home Office Coordinator has to be experienced in the administration of Finnida funded development projects.

ANNEX 6: PROJECT ORGANOGRAM



ANNEX 7: PROJECT ORGANIZATION CHART



ANNEX 8: QUANTITY ESTIMATES¹

A. WELL DESIGN AND CONSTRUCTION CRITERIAS

Hand dug well with a windlass

* average yield		600 l/day
* average depth		15 m
* average number of people in egumbo		13
* average number of egumbos using one well		5
* number of people served		70
* use of water		15 l/day/person
* construction time, including digging		9 weeks
* construction time, excluding digging		5 weeks
* number of contractors needed for one well		1
* average cost of the well		R 9 000.-
- project	R 7 000.-	
+ materials	4 000	
+ contractor	2 500	
+ transport	500	
- community	R 3 000.-	
+ labour(54d x 2p x 30.-)		
+ sand and water		

Hand dug well with a handpump

* average yield		3 000 l/day
* average depth		20 m
* average number of egumbos using one well		7
* number of people served		90
* use of water		15 l/day/person
* construction time, including digging		10 weeks
* construction time, excluding digging		5 weeks
* number of contractors needed for one well		1
* average cost of the well		R 12 000.-
- project	R 8 500.-	
+ materials	5 000	
+ contractor	2 800	
+ transport	700	
- community	R 3 500.-	
+ labour(60d x 2p x 30.-)		
+ sand, water		

¹b:quantitye.d93

Shallow borehole with a handpump

* average yield		6 000 l/day
* average depth		60 m
* average number of egumbos using one well		15
* number of people served		200
* use of water		15 l/day/person
* construction time		5 weeks
* construction carried out by the project's drilling team		5 drillers
* average cost of the well		R 29 000
- project		R 27 000.-
+ materials	19 000	
DWA	15 000	
Finnida	4 000	
+ transport	2 000	
+ labour	5 000	
+ supervision	1 000	
- community		R 2 000.-
+ labour(30d x 2p x 30.-)		
+ sand and water		

B. SANITATION DESIGN AND CONSTRUCTION CRITERIASSchools

* number of schools without sanitation facilities in the beginning of 1994		120
* number of students		50 000
* number of teachers		1 000
* demand of units, students		one unit/100 students
* demand of units, teachers		two units/school
* total number of units needed		600 pcs
* construction time excluding digging/one contractor		one week/one unit
* number of contractors needed for one school		1
* cost of one unit		R 2 150.-
- project		R 1 250.-
+ materials	850	
+ contractor	300	
+ transport	100	
- community		R 800.-
+ labour, 2 persons, 13 days		
+ sand, and water		

Clinics and health care centres

* number of clinics without sanitation facilities in the beginning of 1994		8
* average number of patients visiting the clinics/year		5000
* every clinic should have one toilet for women and one for men and one for staff		
* toilet units needed		32
* cost of one unit		R 2 150.-
- project	R 1 250	
+ materials	850	
+ contractor	300	
+ transport	100	
- community	R 800	
+ labour, 2 persons, 13 days		
+ sand, water and security		

Private sanitation

- * will be constructed according to the requests with full cost recovery

C. RURAL PIPED SCHEME DESIGN AND CONSTRUCTION CRITERIASOmafo - Eenhana Rural Piped Scheme

* construction time 4/94 - 1/95	10 months
* all materials supplied by DWA	
* supervision and community mobilization by the project	
* construction (labour, sand, water contribution) by the community	
* number of inhabitants served	42 000
* number of schools served	32
* number of clinics served	6
* number of scholars and teachers served	11 000
* water requirements	1 500 m ³ /day
* length of the pipelines	123 km
* number of watering points	56
* number of water towers (30 m ³ , 20 m ³ , 10 m ³)	19
* number of ground water reservoirs (10 m ³)	11

D. IMPLEMENTATION CAPACITY AND TARGETS DURING 1994 - 1996Hand dug well with a windlass

* number of contractors	15
* average construction speed	
+ 1994	15 wells
+ 1995	70 wells
+ 1996	80 wells
* number of wells constructed at the end of 1996	165 wells
* population served	12 000 people
* total costs	R 1,7 mill
+ project	R 1,2 mill
+ community	R 0,5 mill
* unit investment cost for the project	R 100.-/person

Hand dug well with a handpump

* number of contractors	5
* average construction speed	
+ 1994	5 wells
+ 1995	10 wells
+ 1996	20 wells
* number of wells constructed at the end of 1996	35 wells
* population served	3 300 people
* total costs	R 420 000.-
+ project	R 300 000.-
+ community	R 120 000.-
* unit investment cost for the project	R 90.-/person

Shallow boreholes with a handpump

* number of drilling rigs	1
* average construction speed	10 boreholes/year
* number of wells constructed at the end of 1996	30 wells
* population served	6 000 people
* total costs	R 930 000.-
+ Finnida	R 570 000.-
+ DWA	R 300 000.-
+ community	R 60 000.-
* unit investment cost for the project	R 145.-/person

Latrines for the schools

* number of contractors	20
* average construction speed	
+ 1994	100 units
+ 1995	200 units
+ 1996	300 units
* number of units constructed at the end of 1996	600 units
* number of people served	51 000 people
* total costs	R 1 230 000.-
+ project	R 750 000.-
+ community	R 480 000.-
* unit investment cost for the project	R 15.-/person

Latrines for the clinics

* latrine units to be constructed	32 units
* number of people served	
* total costs	R 65 600.-
+ project	R 40 000.-
+ communities	R 25 600.-
* unit investment cost for the project	R 1/patient/year