



Annual report 1997

The cooperation between the Norwegian Agency
for Development Cooperation, NORAD, and the
Norwegian Water Resources and Energy
Administration, NVE





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Appendix A: Table A-1; Total costs - NORAD's consultancy allocation 1-4 quarter 1997

Table A-2; Total cost account 1-4 quarter 1997 - Institutional cooperation

Appendix B: Cooperation Agreement NORAD/NVE. Planned activities 1998

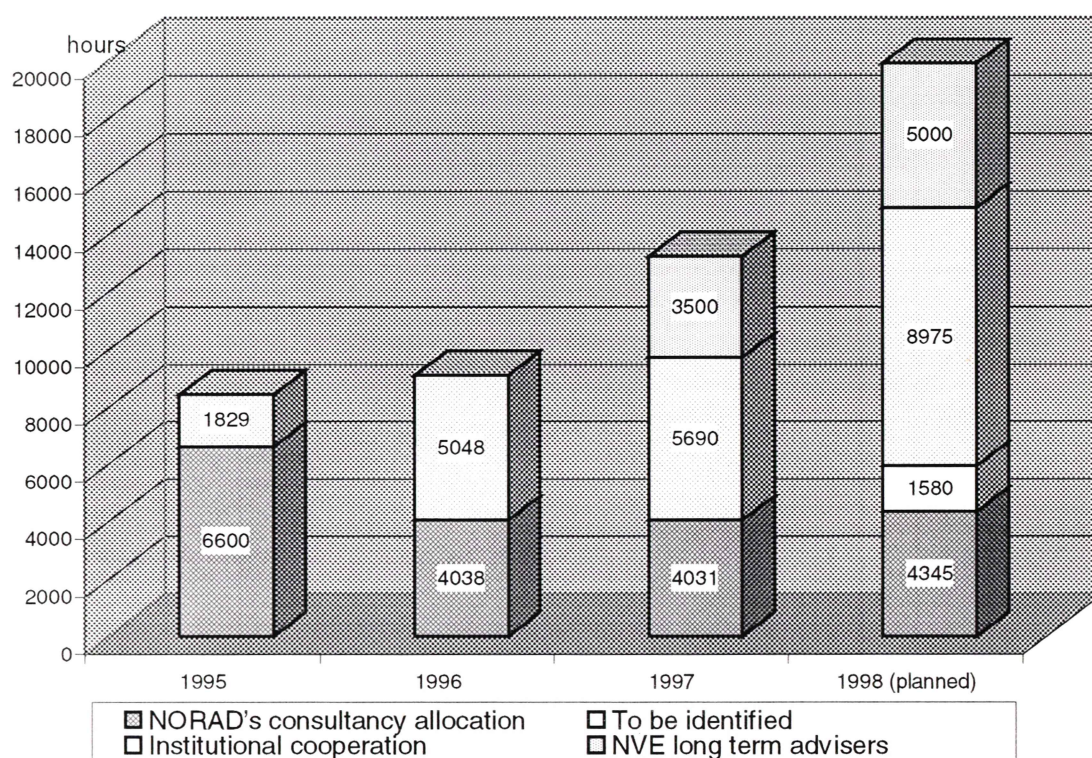
Front cover: View from Trongsa village, Mangde Chhu river valley, Bhutan.

1. INTRODUCTION

The current Cooperation Agreement between NORAD and NVE is dated 2 November 1994. NORAD is presently preparing a proposal for a revised Agreement to be discussed by the two parties in 1998.

The Cooperation Agreement covers assignments for NORAD directly, as well as cooperation with institutions in cooperating countries. In the first case, all major assignments are formalised through a written request from NORAD specifying the services to be rendered within a given budget. In the latter case, the work is formalised in Institutional Agreements between NVE and institutions in the cooperating countries.

The work under the Cooperation Agreement is coordinated by the NVE Office of International Cooperation (IK). Per January 1998, this office is staffed by five full time professionals within water and energy, and one part time administration officer. The services of NVE under the Agreement cover a wide range of work fields and specialities, and IK draws on the full staff of NVE to carry out the assignments. More than 25 professionals from other NVE departments have been involved in 1997, producing about 40% of the man-hours recorded under the Agreement. In addition, several private consultants have been subcontracted to supplement in certain speciality areas, and also to compensate for lack of capacity of NVE in certain periods.



As illustrated by the above figure, a considerable increase of the activities has been experienced from 1996 (5.9 man-years) to 1997 (8.6 man-years), and a further increase is anticipated in 1998 (13 man-years). The planning figures for 1998 are based on existing

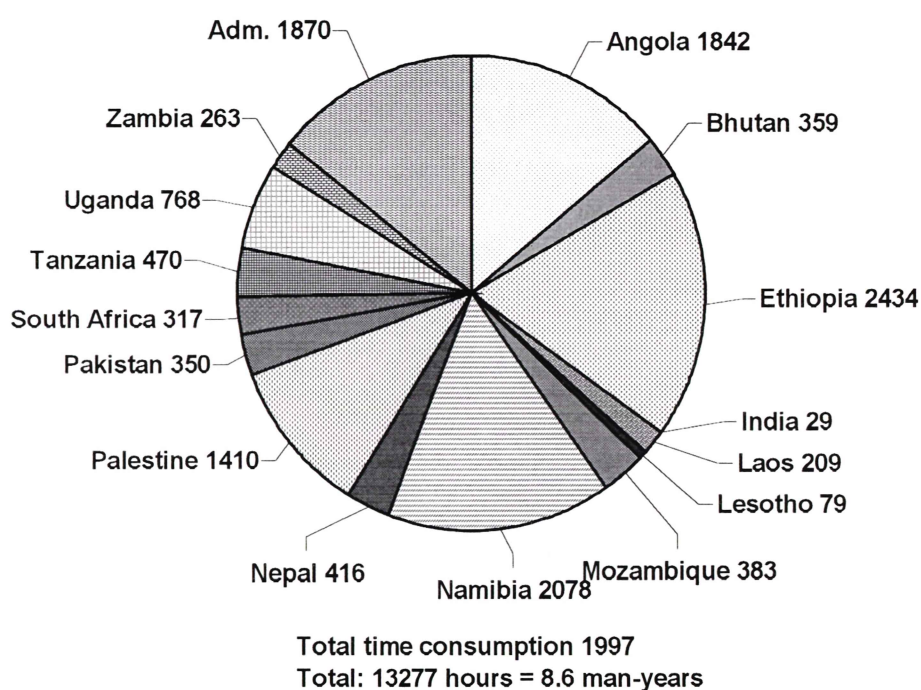
commitments laid down in the running Institutional Agreements, information provided by NORAD in a meeting 8 January 1998, and further information obtained until 20 March 1998.

The figure shows that the resources spent on direct assignments for NORAD have stabilised at the lower edge of 3 man-years a year, while resources spent on institutional cooperation have been rapidly increasing from 1,2 man-year in 1995 to an estimated 9 man-years planned for 1998. Of this increase, 3-5 man-years will be connected to long term advisers assigned to cooperating institutions in our cooperating countries.

The increase of resources spent on institutional cooperation, which certainly is demand-driven, is in full accordance with the introduction of the "Norway Axis", where Norwegian institutions have been given a central role as partners in development assistance. According to policy statements NORAD's responsibility is primarily to fund (on certain terms) and coordinate projects, with the cooperating institutions being responsible for planning, implementation, and reporting. NVE had 11 Institutional Agreements in 9 countries in force by the end of 1997, with another 3-6 under discussions.

As a direct consequence of the increasing emphasise on institutional cooperation, an increasing number of long term advisers will be assigned to the institutions in our cooperating countries, normally on contracts with duration from 1 to 3 years. By the end of 1997, 3 long term NVE advisers were involved, stationed in Ethiopia, Namibia, and Palestine. With the increasing level of activity planned for 1998, this number will most likely increase to 5-6 by the end of this year. If NVE is not able to recruit the advisers from its own staff, external competent experts will be recruited on contract with NVE.

The following figure shows the distribution on countries of NVE's recorded man-hours (including long term advisers) under the Cooperation Agreement in 1997.



2. ENGAGEMENTS FOR NORAD

Time consumption and costs for all engagements for NORAD are given in Appendix A, Table A-1. It shows that a total of NOK 2.8 mill. was invoiced NORAD in 1997.

A considerable number of assignments have been carried out in 1997, either on direct request from NORAD, or on request from institutions via NORAD. Only the more time consuming assignments are reported in the following.

An important task completed in 1997 was the preparation of the report "Water Resources and Energy Legislation" discussing the main principles to be observed in the development of water resources and energy legislation. The report summarises the experience from Norway and also recent developments in some countries in Asia and Africa where NVE has been involved as an adviser. The development of energy and water resources legislation has been - and still is - a major issue in many of the Institutional Agreements entered into by NVE.

Other assignments have been:

INDIA:

Indi-01 Review of a Hydrogen Prefeasibility Study in Himachal Pradesh

A project proposal by Automarine AS on a hydrogen prefeasibility study in Himachal Pradesh was forwarded NVE by NORAD for review. The proposal included the following tasks:

- Preplanning of the set-up of two hydrogen producing units in two separate villages.
- Investigations of sites for installations of domestic hydrogen burners.
- Cost estimates for the required installations.
- Initial partner search for locally based industrial company.

Achievements:

In a Memorandum dated 11 Sept. 1997, NVE concluded that although the project proposal was technically very interesting, the too high degree of technical innovation involved, and the lack of documented demand from the area made the project less suited for NORAD funding. The Memorandum also proposes some possible improvements to the project proposal.

LESOTHO:

Leso-07 Review of a Project Proposal on the Central and Southern Region Network Development Project, Phase II

A project proposal by ABB Kraft on the Central and Southern Region Network Development Project Phase II was forwarded NVE for review. Background information was collected from

various sources, also by visiting Lesotho Electricity Corporation. Norplan A.S. was subcontracted to assist in the review.

Achievements:

The result of the review was presented in a Memorandum dated 24.02.97. The technical solution as proposed by ABB was found appropriate, but critical comments were given to matters concerning the planned operation of the network, and some unit prices were considered too high.

MOZAMBIQUE:

Moza-08 Assistance to Electricidade de Mozambique (EDM)

NVE provided assistance to EDM in evaluation of tenders and contract negotiations between EDM and two Norwegian companies regarding construction of a transmission line between Alto Molócué and Gurué. The two tenders, one dealing with a substation and the other covering the transmission lines, had not been subject to competitive bidding. NVE was asked to make an evaluation related to prices, quality and terms. Oslo Energi Konsult AS assisted NVE in this work.

Achievements:

NVE assisted EDM in contract negotiations in Maputo in November 1997, resulting in substantial improvements and cost-effective modifications to the contracts that were finally agreed. However, the case clearly showed the importance of having competitive bidding to achieve correct prices and best quality and contract terms. This seems to be the only way to avoid the work-intensive and time consuming processes required to check a tender forwarded for direct contract negotiations.

EDM has requested NVE for further assistance in tendering and contracting of an independent Consultant to supervise the construction work.

Moza-09 Preparation of Institutional Cooperation with the National Energy Directorate (DNE)

An institutional cooperation between the newly established National Energy Directorate (DNE) and NVE was initiated in 1997 as part of NORAD's continuation of support to the energy sector in Mozambique. Through institutional cooperation, NVE has been requested to assist DNE in strengthening its administrative routines and effectiveness in regulating the energy sector. Three main areas for support were identified:

- Regulations and guidelines adapted to the new electricity law
- Energy master planning
- Rural electrification strategy planning.

In 1998, a long-term NVE-advisor is planned to be recruited to work as an adviser to the DNE National Director for the whole 3-year project period (1998-2000). The long-term adviser will be assisted by short-term NVE-advisers/consultants, and will also assist DNE in coordinating and supervise other private consultants to be contracted.

Achievements:

In December 1997, NVE visited DNE and its stakeholders. A 3-year contract with scope of work for institutional cooperation between DNE and NVE was drafted. A visit from DNE to Norway was planned in first quarter of 1998 to finalise the contract.

Moza-10 Assistance to the Norwegian Embassy in Maputo

NVE has provided assistance to the Embassy in connection with the continuation of Norwegian support to the energy sector in Mozambique.

Achievements:

In October 1997, NVE assisted the embassy in meetings with the Ministry of Mines and Energy, the Electricidade de Mozambique (EDM), the National Energy Directorate and the Technical Implementation Unit for Hydropower Development (UTIP). NVE also accompanied the Embassy on a field trip to the northern and central part of the country to visit essential project sites.

NEPAL:

Nepa-05 National Hydraulic Research Laboratory

An informal cooperation between the National Hydraulic Research Laboratory in Nepal and the Technical University in Norway, NTNU, has been going on for many years. In 1997, a draft proposal for Appropriation Document and a Bilateral Agreement were worked out. Funds would then be available to develop the laboratory, both by human resources development and by supply of better equipment.

Achievements:

The draft Appropriation Document and Bilateral Agreement are ready. After a proposed reorganisation of the laboratory, these documents are expected to be completed early 1998.

PAKISTAN:

Paki-08 Satpara Dam Multipurpose Project

On request from the Embassy in Islamabad, NVE undertook a field visit to prepare Terms of Reference for a feasibility study on a multipurpose water resources project to irrigate 40 km² of land, to provide water supply to 70,000 persons, and to construct a hydropower plant with installed effect of approximately 10 MW. The assignment was completed in cooperation with the Northern Areas Public Works Department (NAPWD).

Achievements:

The Terms of Reference are ready for formal consideration by the government of Pakistan.

SOUTH AFRICA:

S.Afr-05 Preparation of Institutional Cooperation with the National Electricity Regulator (NER)

NVE visited South Africa in February 1997 to prepare an institutional cooperation with the National Electricity Regulator (NER). The aim is to assist NER in establishing a legal framework for regulating the electricity sector in South Africa, and make NER able to fulfil its commitments as a permanent regulator. The draft agreement has a budget of NOK 4.5 mill. for the period 1997-99.

In March 1997, two representatives from NER visited NVE to discuss a draft proposal for a "Wholesale Pricing and Tariffs in South Africa". The visit was financed by NER.

In July 1997, NER approached the Embassy in Pretoria concerning a precarious need for consultancy support for the two defined projects:

- "Wholesale Pricing and Tariffs in South Africa"

NVE was requested by NORAD to make a study on the wholesale pricing and tariffs for the NER, in South Africa. A team of 2 persons made the study in August/September, and a report was prepared. The main aim of the study was to review Escom's proposal for a Wholesale Electricity Tariff. A concluding seminar is planned held in South Africa.

- "Opening South Africa's Electricity market - investigation of the economic impact"

The project was offered to Norwegian consultants for competitive bidding.

Achievements:

A draft contract for institutional cooperation between NER and NVE has been prepared and is expected to be signed in 1998.

The report from the "Wholesale Pricing and Tariffs in South Africa" study was presented 6 October 1997, according to the Terms of Reference. NER has forwarded the report to the national electricity company Escom for comments.

"Opening South Africa's Electricity market - investigation of the economic impact": NER has received two preliminary project proposals from Norwegian consultants for evaluation.

TANZANIA:**Tanz-04 Pangani Falls Redevelopment Project**

The progress of the project is according to plans, and the operation of the power plant is transferred to Tanzania Electric Supply Company Ltd (Tanesco). The main activity is to complete remaining works in order to terminate the project as planned in 1997.

NVE has assisted in the preparation of the documents for, and attended in, the Semi-Annual Meetings 13-14 March and 26 September 1997. NVE has also assisted in the preparation of follow-up documents after the meetings and attended the site visits. Advisory services were provided during discussions and site visits.

Achievements:

All the necessary documents for the meetings and site visits were ready in due time before the Semi-Annual Meetings, and all documents for the follow-up were prepared. Necessary contacts with the energy sector were maintained. The project was terminated as planned.

Tanz-05 Lower Kihansi Hydropower Project

The progress of the project is slightly delayed according to the original plans. According to new plans, the first turbine will start operating 5 February 2000. The two next turbines will start operating after further 2 and 4 months.

NVE has assisted in the preparation of the documents for, and attended in, the Semi-Annual Meetings 17-18 March and 29-30 September 1997. NVE has also assisted in the preparation of follow-up documents after the meetings and attended the site visits. Advisory service were provided during discussions and site visits.

Achievements:

All the necessary documents for the meetings and site visits were ready in due time before the Semi-Annual Meetings, and all documents for the follow up were prepared. Necessary contacts with the energy sector were maintained.

Tanz-08 Fault Finding Equipment; Tanesco

NORAD provided fault finding equipment to Tanesco in 1994/95. Before responding to a request from Tanesco for additional equipment, NVE was asked to evaluate the benefit of the previous delivery. A team consisting of two senior engineers from NVE and a consultant from Norwegian Power Distribution spent two weeks in Dar es Salaam in January 1997 to collect information on existing equipment and the distribution grid in general.

Achievements:

A Memorandum on the need for additional fault sensors and remotely controlled switches in Dar es Salaam was submitted to NORAD in April 1997. It was concluded that the previously

delivered equipment had not reduced outage durations or increased revenues, and the delivery of additional equipment was not recommended. The memorandum presents a number of conclusions and recommendations on how NORAD best could assist Tanesco.

ZAMBIA:

Zamb-06 Assessment of the Financial Management and Accounting System; Zambia Electricity Supply Corporation (ZESCO)

In March 1997, NVE was requested by NORAD to make a two weeks assessment of the Financial Management and Accounting System for ZESCO (AFMIS system).

The terms of reference for the assignment was in brief:

- a description of the status of the project
- a description of the impacts of the project according to the World Bank TOR
- an assessment of the ZESCO's institutional ability to implement and maintain the system
- an assessment of the relevancy and validity of the TOR made for the AFMIS system.

Achievements:

The mission was accomplished in April 1997. A draft report was released to NORAD 24.04.97. The final report is dated 07.05.97.

Zamb-07 Zambia Power Rehabilitation Project; World Bank Appraisal Mission

In August 1997, NVE was requested by NORAD to participate in a World Bank Appraisal of the Power Rehabilitation Project. The assignment was limited to 4 man-weeks.

Achievements:

A draft report from the assignment is given in Memo of 16.08.97. The final report is dated 09.09.97. The report is focusing on the activities within the project, which are considered to be of interest for NORAD co-financing.

3. INSTITUTIONAL COOPERATION

Time consumption and costs connected to the Institutional Agreements in 1997 are given in Appendix A, Table A-2, showing a total close to NOK 10 mill.

The following institutional agreements have been in force in 1997:

Country	Cooperating institution	Period	Budget NOK
Angola	Ministry of Energy and Water Affairs	1996-1998	13,800,000 ¹
Bhutan	Ministry of Trade and Industry, Division of Power	1997-1999	1,000,000
Ethiopia	Ministry of Mines and Energy, Energy Department	1996-1998	3,780,000
Ethiopia	Ministry of Water Resources	1996-1999	6,300,000
Laos	Ministry of Industry and Handicraft	1997-1999	2,000,000
Namibia	Ministry of Mines and Energy	1996-1998	4,000,000
Nepal	Electricity Development Centre	1996-1997	2,000,000
Palestine	Palestinian Water Authority	1995-1998	14,000,000 ¹
Uganda	Ministry of Natural Resources	1997-1998	5,600,000
Zambia	Zambia Electricity Supply Corporation (CIS)	1995-1997	350,000
Zambia	Zambia Electricity Supply Corporation (AFMIS)	1997	300,000

Furthermore, three new institutional agreements have been under preparation:

Country	Cooperating institution	Period	Budget NOK
Angola	Ministry of Energy and Water Affairs, National Directorate of Water	1998-	
Mozambique	Ministry of Mineral Resources and Energy, National Directorate of Energy	1998-2000	14,300,000 ¹
South Africa	National Electricity Regulator	1998-1999	4,500,000

In addition, preparatory work on future cooperation with institutions in Nepal, Pakistan and Vietnam have started.

ANGOLA:

Ango-06 Institutional Cooperation with the Ministry of Energy and Water Affairs (MINEA)

NVE offers technical support to the electricity sector in Angola with a goal to promote economic development of the country through sustainable and efficient use of the country's energy resources. The purpose is to strengthen the competence and decision making basis at MINEA and Luanda Electricity Utility (EDEL) through transfer of know-how to the staff in technical, economic and administrative fields and to assist in the development of legislation for the sector.

▪ National Energy Sector Management (NESMA)

NVE personnel conducted four short-term missions to Angola, each of duration 3-4 weeks. Activities included assistance in working out a basis for a draft energy policy

¹ Including sub-projects implemented by private consultants selected after competitive bidding in Norway

white paper and in planning and implementing a symposium on energy policy, conducted 14-16 October 1997 in Luanda.

- Institutional strengthening of Luanda Electricity Utility (EDEL)

Norconsult was contracted by EDEL as the successful bidder for the project. NVE assisted MINEA in preparing tender documents, in evaluating bids and in the contract negotiations. Phase 1 (strategy plan) was completed in 1997.

- Management Information System (MIS)

Norconsult was contracted by MINEA as the successful bidder for the project following a tender process assisted by NVE. Phase 1 (strategy plan) was completed in 1997.

- Rural electrification

Again, Norconsult was contracted by MINEA as the successful bidder. The consultant's work (information gathering) started in Luanda in November. The late start-up was due to limited capacity both at MINEA and the consultant.

- New projects

MINEA requested an extension of the Institutional cooperation with NVE to include assistance to six new projects: 1. Institutional strengthening of ENE, 2. National Water Sector Management (NAWASMA), 3. Rehabilitation of Cunene Dam, 4. Assistance to plan and implement a workshop on use of common water resources (Angola and Namibia), 5. Pre-investment planning of projects in the Rehabilitation Program for the Electricity Sector, and 6. Feasibility and engineering connected to the rehabilitation of the Cazenga sub-station in Luanda. NVE has assisted MINEA in project definition and the writing of project documentation.

Achievements:

A draft energy policy white paper has been prepared with NVE assistance. A symposium on energy policy was conducted in Luanda in October, sponsored by four ministries attended by about 100 participants and speakers from 6 countries, jointly supported by NVE and the World Bank.

The final report on EDEL strengthening strategy is completed in English and Portuguese. The conclusions of the study have been formulated following discussions and several workshops on important issues between the top management of EDEL and the consultant. A tentative budget for the implementation strategy plan is estimated at approximately NOK 25 million.

A final report on MIS project, phase 1 (strategy plan) is also completed. The consultant's budget estimate of the implementation of the strategy plan exceeds the funded budget by NOK 1 million. No decision on implementation has yet been taken by MINEA/EDEL.

The final report on the Rural Electrification project is expected in April 1998.

The Minister of Energy of Angola, The National Director of Energy and the National Director of Water visited Norway in early November 1997. The mission was planned and aided by NVE. The minister and his aides had discussions with the Norwegian ministers of Petroleum and Energy, and the Director Generals of NVE and NORAD. Meetings and presentations were also held with Statkraft, Statnett, Norsk Hydro, and with the Norwegian Trade Council.

Draft project documents for the proposed new programme involving the energy and water sectors have been drafted and ongoing discussions with MINEA and ENE counterparts are expected to be concluded early in 1998.

BHUTAN:

Bhut-01 Institutional Cooperation with the Division of Power, Ministry of Trade and Industry

A Contract between Division of Power (DoP), Ministry of Trade & Industry, Bhutan, and NVE was signed 25 August 1997. The ultimate goal of this institutional cooperation is to strengthen the administrative and technical capacity of DoP in its role as client for the feasibility study of the Mangde Chhu hydropower project. The immediate objectives are the establishment of Terms of References, the tendering and contracting of Norwegian consulting companies, the supervision of the consultants, and planning of the follow-up of the study.

Norway has provided a grant of NOK 20 mill. to finance the feasibility study itself, and an additional grant of NOK 1 mill. to finance the institutional cooperation between DoP and NVE. NORAD made it a condition that the Environmental Impact Assessment should be carried out by an independent consultant subcontracted to the main consultant awarded the contract to carry out the technical and economical part of the study. The main consultant shall provide an overall recommendation to DoP.

Achievements:

A NVE team visited DoP in August 1997 to conclude the negotiations on the contract between DoP and NVE, and the preparations of Terms of References for feasibility study itself. After competitive bidding in Norway, Norconsult Int. was awarded the contract as the main consultant in December 1997. The evaluation of the bids and the contract negotiation took place in Oslo under the chairmanship of DoP, assisted by NVE.

It is expected that the feasibility study will start early 1998.

ETHIOPIA:

Ethi-02 Institutional Cooperation with the Energy Department (ED) of Ministry of Mines and Energy (MME)

The Institutional Agreement between ED and NVE was signed in June 1996 with the ultimate objective to strengthen the institutional capability of ED, and to transfer knowledge and experience to the Ethiopian electricity subsector through the preparation of an enabling legislation, appropriate regulations, and licensing procedures.

The Annual meeting was held 15 April 1997.

A committee of five Ethiopian experts has been working on the drafting of new electricity regulations to be reviewed and discussed with NVE appointed experts in 1998.

A workshop and study tour was arranged to Norway 20 May – 4 June, and seven officials from Ethiopia attended. The workshop included session like Policy Making in the Energy Sector, Regulatory Functions, Licenses and Measures in the Energy Policy, Methodology in Energy Pricing and Control, Demand and Supply Management, Rural Electrification, Energy Act etc. Site visits were made to different kind of hydropower plants.

A NVE team assisted ED to prepare a Project Document for a study of Energy Sector Perspective in Ethiopia, i. e. the development of an energy master plan.

Achievements:

In May/June seven officials from the energy sector in Ethiopia participated in a workshop and study tour in Norway.

In July 1997, an Electricity Agency was established by a Proclamation as an autonomous federal agency. In the Proclamation, the requirement and conditions of license, eligibility for license, and the use of land for electricity supply activities are given.

In a Council of Ministers Regulation in July 1997, the Ethiopian Electric Power Corporation, EEPKO, was established as a profit making public utility (replacing the previous EELPA).

The Ethiopian authorities have requested Norway to fund a study of Energy Sector Perspective based on a Project Document prepared with the assistance of NVE. The proposed study has a budget of NOK 18 mill. with a duration of 5 years, and will be organised as an institutional cooperation between ED and NVE.

Ethi-04 Institutional Cooperation with the Ministry of Water Resources (MWR)

The Institutional Agreement between the Ministry of Water Resources of Ethiopia (MWR) and NVE was signed 22 May 1996, with an Addendum of 24 February 1997.

A short-term expert on flood forecasting visited Ethiopia 11.02 -20.03.1997, to develop a system for flood warning of Koka reservoir.

The long-term NVE expert commenced his activities in Addis Ababa in April 1997, with contract to 30 June 1998.

The Annual Meeting was held in Addis Ababa 12.09.1997.

A study tour and a training programme for Ethiopian hydrologists were carried out in Norway in the period 24.09. – 31.10.1997. Four officials from Hydrological Study Department (HSD) in Ethiopia participated. Some training has also been carried out in Ethiopia.

Achievements:

The project has commenced, and the long-term expert is on site, some months delayed. The preliminary report "Flood Warning for Koka Reservoir" was submitted in March 1997. The study tour to Norway was successfully carried out according to plan.

However, serious delays have been experienced in the purchase and delivery of vehicles, computers, and hydrological equipment. The implementation of the project is therefore considerably behind schedule. The poor progress has become a matter of great concern for NVE.

LAOS:

Laos-02 Institutional Cooperation with the Ministry of Industry and Handicraft (MIH)

The present agreement between Norway and Lao PDR on phase II of the legal framework project for the hydropower sector was signed in April 1997.

In July, talks were held with the Minister of Industry and Handicraft, the Minister of Justice and the senior personnel in the two ministries, to establish a programme for phase II and agree on the institutional contract between the Ministry of Industry and Handicraft (MIH) and NVE. It was agreed that phase II should give priority to four important aspects related to the hydropower development in Lao PDR:

- Regulations for a licensing system according to the new laws on water and electricity
- Education and training of personnel to understand the implications of a licensing system
- Training for commercial negotiations.
- Consulting work for the Ministry of Industry and Handicraft on the commercial and legal aspects of new hydropower projects.

In addition, the importance of closer contact to the Foreign Investment Management Committee (FIMC) was underscored.

During a mission to Laos in September and another in December, NVE worked with a special Task Force on drafting and discussing the first draft of Licensing regulations. Workshops were held with the Task Force and senior personnel in FIMC and MIH. A seminar focusing on the licensing system and commercial contracts in hydropower development was held in Vientiane, and another in Thakek aimed at local officials from the southern provinces.

Achievements:

The final results from phase I of the Legal Framework project were demonstrated in November 1996 and May 1997, when the Water Act and the Electricity Act were promulgated by the President after an extensive hearing and discussion period. The Water Act came into force on 3 March 1997 and the Electricity Act on 31 August 1997. The country agreement for

phase II was signed in April 1997 and the institutional agreement between NVE and MIH was signed in October 1997.

The Minister of Industry and Handicraft has established a local Task Force for drafting and implementation of regulations related to the two new laws. They have prepared a first draft of Licensing Regulations that has been discussed in two seminars on regional level and one on national level.

New and good working relations has been established with the Foreign Investment Management Committee, the Ministry of Agriculture and Forests and the Ministry of Foreign Affairs, in addition to the former tight relations to the Ministry of Justice and our institutional counterpart the Ministry of Industry and Handicraft. During workshops and seminars a better understanding of the implications of a licensing system has been developed. In concrete consulting work towards special new projects, better understanding and consciousness have been achieved among senior officials.

NAMIBIA:

Nami-05 Institutional Cooperation with the Ministry of Mines and Energy (MME)

NVE signed a new agreement with MME in March 1996 and extends to the end of 1998. A senior adviser from NVE has been posted to MME since March 1997. The purpose of the assistance is through the adviser, supplemented by backstopping from NVE, Oslo, and consultants, to assist MME in the planning and implementation of studies and projects in the electricity sector. A draft electricity law was ready in 1996, prepared with assistance from NVE.

Major tasks and achievements:

- Regulations for Electricity Act: Drafting under way. Two meetings held with drafting committee.
- White paper on energy policy. Achievements: Comments to report prepared by the consultants.
- Restructuring study. Evaluation of consultancy proposals. Achievements: Consultant selected,
- Contract signed, consultancy work in progress.
- Electricity Master Plan. Achievements: Comments prepared to preliminary reports
- Training. Achievements: Course held in Oslo (jointly for MME, Ethiopia) on electricity regulation and management. Study tour to Norway on environmental and social effects of hydropower development. Case study with visit to Alta.
- Feasibility study for the Epupa hydropower project. Achievements: Comments to report prepared by the consultants

- Strategic plan for the Energy Department. Achievements: Draft Activity Plan

NEPAL:

Nepa-02 Institutional Cooperation with Electricity Development Centre (EDC)

NVE has been engaged in a 5-year institutional cooperation with EDC, providing advisory services for drafting a new legal framework for a future balanced development of water resources in Nepal, with an aim to encourage private investments into the electricity industry.

The establishment of EDC itself in 1992 as a department under the Ministry of Water Resources took place in this period. Under the present legislative framework, EDC is mandated as a regulatory body for licensing and monitoring of electricity generation, transmission, and distribution projects. It also serves as a "One-Window" agency for the developers. One main function is to provide advisory assistance to the Ministry in the updating and refining of legal and institutional documents required for the development of the power sector.

One of the final involvements of the NVE team under the present agreement was in late 1996 to assist EDC in organising a workshop and seminar in Nepal based on experiences from the implementation of the Jimruk hydropower project and licensing and financing of the Khimti scheme. This was seen as a unique opportunity among the parties to compare the experiences gained from planning and implementation of such projects in a Nepalese context. Representatives from all involved parties participated in the seminar; the government, the donor agencies, the lenders, and the developers.

In spring and summertime 1997, preparatory work was done for a workshop and a study tour to Norway. This was arranged 1–11 September, and eight persons from the Nepalese working group participated. The programme was very comprehensive, with topics from licensing procedures, master plans, experiences from other countries related to the development of energy laws, meeting with the Ministry of Petroleum and Energy, visits to the research laboratory for hydraulics, several hydropower plants etc. The Managerial Workshop included topics like preparation of energy policy, strategy and development programme, new and renewable energy systems, regulatory functions, energy project reconnaissance, pre-feasibility and feasibility study methods etc.

Achievements:

The personnel and institutions working within hydropower and transmission in Nepal are upgraded with funds from the project.

The following laws and regulation have been developed:

- Hydro Power Development Policy, 1992
- Water Resources Act, 1992
- Electricity Act, 1992
- Foreign Investment Act, 1992
- The Industrial Enterprises Act, 1992
- Electricity Regulation, 1993

- Water Resources Regulation, 1993

All these laws and regulation have been compiled by EDC in the booklet "Nepalese Provisions on Hydro Power Development" 1996. Also "Proceedings from the Seminar on Legislation on Development of Hydropower. Experiences of the Jimruk and the Khimti Hydroelectric Projects", are printed by funds from the Project. The final report "Legal Framework related to Hydropower Development in Nepal" was completed 2 January 1998.

The project is by the beginning of 1998 considered completed and a final report is being prepared.

PALESTINE:

Pale-01 Institutional Cooperation with the Palestinian Water Authority (PWA)

The cooperation with PWA is NVE's most comprehensive development assistance project. The contract has a total frame of NOK 14 mill and is being carried out with the Norwegian Pollution Control Authority (SFT) and the Norwegian Institute for Water Research (NIVA) as subcontracted partners. In addition, other institutions and consultants/firms assist through subcontracts - the most prominent one being Oslo Water and Sewage Works. The main objective to be reached through the assistance is to establish PWA as an entity with the required trained personnel with administrative and technical tools to effectively manage the Palestinian water resources. A total of 1410 man-hours were spent by NVE personnel on the project in 1997. Total cost invoiced during the year was NOK 3.24 mill (including fees and expenses of the cooperating partners).

The main activities (in addition to local coordination and coordination in Norway) and achievements are:

- Organisational structure and internal regulations (mandate for PWA). Result: Approved by Chairman Arafat (as Law no. 2 in Palestine).
- Staffing plan, functions and tasks, job descriptions. Achievements: Completed, although some improvements are needed. Department directors and others engaged on a temporary basis, pending new announcement of the positions.
- Training. Achievements: Initial survey of needs prepared by PWA. Mission to prepare plans has been proposed.
- Budgeting and accounting system. Achievements: System completed and presently being implemented
- Water legislation. Assistance in preparing Terms of Reference and contract with Consultant. Achievements: First draft under completion by the end of the year (to be commented upon by NVE in Jan. 1998).
- Water licensing system. Achievements: Proposal for licensing of drilling and water extraction from wells proposed. PWA has developed the system further and is currently in practical use (but some modifications may be expected).

- Water tariff study: NVE has assisted with preparation of Terms of Reference and establishing contract with the Consultant. Achievements: A draft tariff model has been presented to PWA and water works administrators.
- Technical standards and guidelines. Achievements: Standard tender and work specification and product standards for water supply and sewerage have been completed and approved. Planning guidelines are in the start-up phase.
- Water master planning and water management strategy. Achievements: Report with overview of master planning activities and critical tasks plus first report with input to a water management strategy. PWA has recently formed a Task Force to continue this work.
- Water Quality Laboratory. Result: Four PWA personnel trained for water quality analysis (6 weeks training course at NIVA).
- Development of West Bank Water Department (WBWD). Result: Report produced in co-operation with Oslo Water Works on how to improve management and general operational efficiency of WBWD.

Early in 1998, PWA has prepared a Project Document with an application for continued Norwegian assistance. The mode of cooperation between PWA and NVE in future is, therefore, not clear at present.

UGANDA:

Ugan-08 Institutional Cooperation with the Ministry of Natural Resources (MNR)

Uganda signed a contract of 4 July 1997 for assistance related to the institutional cooperation and legislative reform in the energy sector.

The project has the following objectives:

- Review existing institutional set up of the sector in Uganda
- Prepare a proposal for a new energy act attractive for private sector participation
- Provide framework for accelerated rural electrification
- Provide framework for efficiency in energy sector and socio-economic development

Achievements:

The project is in line with the agreed workplan. The first milestone was a 3 days seminar in November 1997 where relevant issues were highlighted and stakeholders gave input. The first internal working draft for the new energy bill was ready in December 1997. A new energy act with regulations is planned ready by the end of 1998.

ZAMBIA:**Zamb-03****Institutional Cooperation with Zambia Electricity Supply Corporation (ZESCO): Custom Information and Billing System (CIS)**

A contract between ZESCO and Norconsult International for implementing of a Custom Information and Billing System (CIS) for ZESCO was signed in 1994. The contract budget was NOK 12 mill. and planned date of termination was 30.11.95.

In 1995, ZESCO signed a contract with NVE for assistance during the implementation of the above-mentioned Custom Information and billing system.

During the project the NVE team has:

- been a discussion partner for ZESCO.
- taken initiative to revise/update the CIS project plans.
- participated in revising/updating the workplans and in the discussions between ZESCO and Norconsult where the new plans are agreed upon and commitments made.
- been a mediator between ZESCO and Norconsult.
- given advises to the ZESCO management concerning the project.
- made budget assessment and given advises to NORAD concerning the project.

Achievements:

NVE has made 4 visits to ZESCO under the agreement (November 1995, January 1996, September 1996, April 1997). During each visit:

- a project status is made together with the ZESCO project manager.
- discrepancy between workplans and project progress is analysed and revised.
- work plans are made when necessary.
- emphasis is given to possible critical point for project progress.
- advises are given to the ZESCO management.

The contract was terminated 23.10.97. A status report and a report for the ZESCO management have been made during each visit. The new CIS, billing system is implemented and ZESCO is at present running the new system in parallel with the old one for testing purpose.

**Zamb-08 Institutional Cooperation with Zambia Electricity Supply Corporation
ZESCO: Financial Management and Accounting System (AFMIS)**

NORAD has allocated 11.5 mill NOK for the funding of a Financial Management and Accounting System at ZESCO (AFMIS). NVE was requested to assist ZESCO during the implementing of the AFMIS system and follow up on the CIS system. The assistance will be in line with the assistance given related to the CIS project (ref. ZAMB-03). NVE is according to the contract committed to make a quarterly follow up on the project.

Achievements:

In October 1997, NVE and ZESCO signed the contract for Institutional Cooperation.

The first visit by NVE to ZESCO under the contract is scheduled to January 1998.

4. COMMENTS ON OUR COOPERATION WITH NORAD AND RECIPIENT INSTITUTIONS

In general, the cooperation with NORAD and public institutions in our cooperating countries is running smoothly, although some problems are experienced. The establishment of the Norway Axis giving the main responsibility for the planning, implementation, and reporting to the cooperating institutions is supported by NVE. The reporting to NORAD as the donor in an Annual Meeting is normally considered sufficient if no special problems occur during the year. Some experiences connected to the present and previous Institutional Agreements are:

- The Institutional Agreements should normally be long term, say 5-6 years. Institutional development takes time, setbacks may occur, and a 3-year period will be too short.
- The Institutional Agreements should always contain well defined studies/projects to be implemented as part of the general institutional development.
- The Institutional Agreements should be made sufficiently flexible to include as Addendums relevant new studies/activities given priority during the cooperation period.
- Training programmes should be based on a thorough review of the experience, educational background, and personal preference of the employees to be trained.
- The obligations of both institutions must be clearly defined in the Agreement.
- Mutual visits are important to obtain firsthand knowledge about each other, and to build trust. It is important to involve the top management in both institutions.
- In a comprehensive institutional cooperation, it may be very beneficial to have long term advisers with contracts of duration 1-3 years stationed at the cooperating institution.
- Care should be taken not to implement projects as part of an institutional cooperation, which are considered to be beyond the given statutes of the relevant public institutions, and which may be considered as unfair competition with private companies. However, the

cooperation may provide projects to be implemented on contracts with private companies/consultants. The tendering process and the subsequent supervision of the private companies may be a central issue in the institutional cooperation.

- It has become a routine that NVE advances its own and also other expenses connected both to direct assignments for NORAD and the Institutional Agreements on a quarterly basis. This means that NVE has considerable outstanding claims throughout the year, and this cannot be accepted in the long run. Expenses connected to the increased number of long term advisers and the fact that some of our cooperating institutions are very late in honouring the NVE-invoices are adding to the problem. The problem has been discussed with NORAD and a solution is being sought.

5. COOPERATION WITH OTHER NORWEGIAN INSTITUTIONS

NVE has for a long time had a fruitful cooperation with Norwegian Pollution Control Authority and the Norwegian Institute for Water Research in the institutional cooperation with the Palestinian Water Authority. This cooperation is expected to continue. The combining of competence and capacity of several Norwegian institutions is considered very interesting and plans exist to further try the model in other countries.

The activities of the two networks of Norwegian Institutions established by NORAD have however, been of little benefit to NVE. This is partly due to different understanding of objectives, roles and mode of work in the cooperations with institutions in the cooperating countries.

6. OTHER INTERNATIONAL ENGAGEMENTS IN DEVELOPING COUNTRIES

Apart from a minor assignment (56 man-hours) to assist Kafue Gorge Training Centre to negotiate a contract with ABB Sweden on the delivery of a hydropower simulator, all NVE engagements in developing countries have been related to the cooperation Agreement with NORAD.

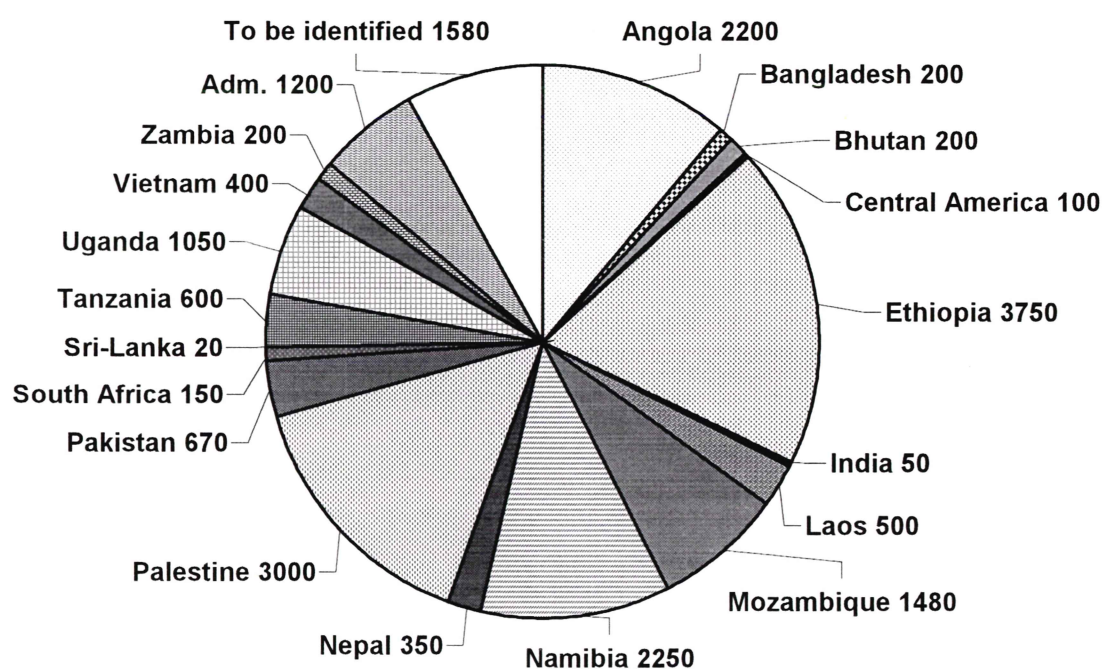
In addition, NVE participates in the International Energy Agency's "Implementing Agreement for Hydropower Technologies and Programmes", and are Operating Agent for the Annex on "Hydropower and the Environment".

7. PLANNED ACTIVITIES 1998

The planning of activities for 1998 was discussed with NORAD in a meeting 8 January 1998. The tentatively agreed activities and budgeted use of personnel are shown in Appendix B. The distribution on countries is illustrated on the below figure, slightly revised according to new information received until 20 March 1998.

A total of 13 man-years are anticipated for 1998, of which about 10 man-years will be on institutional cooperation, including assigned long term advisers stationed in the cooperating institutions.

The following figure shows the distribution on countries of NVE's planned man-hours (including long term advisers) under the Cooperation Agreement for 1998.



Planned time consumption 1998 (per 20.03.1998)
Total: 19950 hours = 13 man-years

APPENDIX A
TABLE A-1

TOTAL COSTS - NORAD'S CONSULTANCY ALLOCATION 1-4 QUARTER 1997

Proj.no	Activity	NVE hours	Fee (charged)	NVE exp.	Consultants	TOTAL
Admi-01	General assistance	1742,5	697 000,00			697 000,00
Admi-01/18	Legislation framework Tanzania and Laos	8	3 200,00			3 200,00
Admi-01/19	Standard paper regarding water and energy legislation	5	2 000,00			2 000,00
Admi-01/21	Guidelines for env. sector cooperation Norway-India				116 400,00	116 400,00
Admi-01/23	Forum for power sector reform and dev. countries	5	2 000,00			2 000,00
Admi-01/24	Southern African power utility competence progr.	20	8 000,00			8 000,00
Admi-01/25	Assistance to Norwegian Embassy in Maputo	89	35 600,00	55 325,00		90 925,00
Bhut-01	Mangde Chhu, feasibility study	241	96 400,00	38 187,00	119 470,00	254 057,00
Indi-01	Hydrogen project in Himachal Pradesh, India	29	11 600,00			11 600,00
Leso-07	Review of ABB Kraft project proposal	78,5	31 400,00	7 000,00	44 146,85	82 546,85
Moza-08	Sector progr. energy, EDM. Alto Molocue	195	78 000,00	3 176,06	75 449,00	156 625,06
Moza-09	Institutional cooperation, DNE	188	75 200,00			75 200,00
Nepa-05	National hydraulic research laboratory	74	29 600,00			29 600,00
Paki-01	Small hydropower scheme	55	22 000,00	8 787,97		30 787,97
Paki-08	Satpara dam project	42	16 800,00			16 800,00
Paki-09	Satpara dam project. Feasibility study	253,5	101 400,00	85 252,72	113 692,78	300 345,50
S.Afr.-05	Preparation for institutional agreement, NER-NVE	317	126 800,00	120 164,50	199 230,60	446 195,10
Tanz-04	Pangani hydropower. Follow-up	173	69 200,00	47 815,05		117 015,05
Tanz-05	Kihansi water power project	158	63 200,00	17 417,17		80 617,17
Tanz-08	Fault finding equipment Tanesco	106	42 400,00	48 216,98	56 350,00	146 966,98
Tanz-10	Assistance to Norwegian Embassy in Dar es Salaam	33	13 200,00	26 680,14		39 880,14
Ugan-05	Strengthening of the inst. and reg. framework	10	4 000,00	707,00		4 707,00
Ugan-07	Forestry sector. Bio-mass	8	3 200,00			3 200,00
Zamb-06	Financial management, Zesco	73	29 200,00	15 678,00		44 878,00
Zamb-07	Power rehabilitation project, appraisal mission	127	50 800,00	28 099,95		78 899,95
	Sub-total	4030,5	1 612 200,00	502 507,54	724 739,23	2 839 446,77
	TOTAL INVOICED (inclusive subtraction of 123,5 hours á NOK 400, ref.: our invoice to NORAD no. 17/97)	4030,5	1 562 800,00	502 507,54	724 739,23	2 790 046,77

APPENDIX A
TABLE A-2

TOTAL COST ACCOUNT 1-4 quarter 1997 - INSTIUTIONAL COOPERATION

Proj.No	Activity	NVE hours	Fee (charged)	NVE exp.	Consultants	TOTAL
Ango-06	Energy cooperation with MINEA	1842,5	737 000,00	438 029,75	107 764,00	1 282 793,75
Bhut-02	Mangde Chhu, institutional cooperation with DOP	118,0	47 200,00	132 057,38		179 257,38
Ethi-07	Hydrological institutional cooperation with MWR	512,0	204 800,00	783 664,95		988 464,95
Ethi-08	Energy institutional cooperation with MME	466,0	186 400,00	436 925,13	221 664,50	844 989,63
Laos-02	Legal framework, phase II	209,0	83 600,00	65 761,88	252 669,00	402 030,88
Nami-04	Energy legislation, institutional cooperation with MME	457,5	183 000,00	963 578,26	402 557,41	1 549 135,67
Nepa-02	Energy legislation, institutional cooperation with EDC	342,0	136 800,00	270 503,42	253 806,00	661 109,42
Pale-01	Institutional cooperation with PWA	930,0	372 000,00	575 847,97	2 058 532,71	3 006 380,68
Ugan-08	Institutional cooperation with MNR	749,5	299 800,00	195 178,56	390 679,52	885 658,08
Zamb-05	Kafue Gorge regional training centre					
Zamb-03	Institutional cooperation with Zesco, billing system	20,0	8 000,00	11 085,33		19 085,33
Zamb-08	Zesco: Financial management and accounting system	43,0	17 200,00			17 200,00
	TOTAL	5689,5	2 275 800,00	3 872 632,63	3 687 673,14	9 836 105,77

COOPERATION AGREEMENT NORAD/NVE. PLANNED ACTIVITIES 1998.

APPENDIX B

Tentative time consumption in hours

Project Code		PROJECT/ACTIVITY	CLIENT	
NVE	NORAD		NORAD and others	Cooperating Institution
ADMI-01		General assistance, Accounts, gen.secr.ass, Prep. of visits and ad hoc-activities	1200*	
ANGO-06	AGO-013	Energy Cooperation To be defined	300	1800
ANGO	AGO	Water Resources		100 (?)
BANG		Rural Electrification	200	
BHUT-01		Mangde Chuu		200
CEAM-01	CAM-20	CEAC	100	
ETHI-02	ETH-019	Institutional Cooperation, Energy		200
ETHI-04	ETH-018	Institutional Cooperation, Hydrology		1500
ETHI-05	ETH-017	Power Distribution Plan	250	
ETHI-06	ETH-016	Energy Sector Perspective	250	250
ETHI-07	ETH-027	Mekonis Substation	50	
INDI	IND	Environment/Water Resources	50	
LAOS-03		Water and energy, legal framework	300	
LAOS		Licensing procedure	200	
MOZA		Institutional cooperation, DNE		250
MOZA		To be defined	80	
NAMI		To be defined		50
NAMI-05	NAM-002	Energy General, incl Epupa		2000
NEPA-02	NPL	Legal Framework, Energy		25
NEPA	NPL	Melamchi Water Supply	100	
NEPA	NPL	Licensing procedure		200
NEPA	NPL	Hydraulic Research Laboratory	25*	
PALE-01		Inst. Coop. "Palestina Water Authority"		3000
PAKI-08		Satpara Dam Project	520	
PAKI	PAK		50	100 (?)
S.AFR		Institutional cooperation, NER		150
SRJ-LANKA		To be defined	20	
TANZ-01	TAN-075	Pangani Falls Redevelopment Project	100*	
TANZ-05	TAN-101	Kihansi Hydropower Project	200*	
TANZ	TAN	Licensing procedure	200	

10/2/98


TANZ	TAN	To be defined	100	
UGAN-05	UGA	Institutional Cooperation, Energy		1000
UGAN	UGA	To be defined	50	
VIET		Hydropower Master Plan (World Bank)		150
ZAMB		Financial Management		200
-----		Conference on Privatization/ Liberalization/ Legal Framework (in Norway)	150	
		Activities to be identified during 1998, Energy	1200	
		Activities to be identified 1998, Water Resources	70	
		New and Renewable Energy	80	
		Rural Electrification, General	80	

TOTAL	5925	11175
Equivalent person-years (a 1535hrs/yr)	3.9	7.3

* Prosjekter der referatet fra møtet mellom NORAD og NVE 08.01.1998 betraktes som bestillingsbrev.

* Projects where minutes from the meeting between NORAD and NVE 08.01.98 are regarded as requests.

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