



NVE
NORGES VASSDRAGS-
OG ENERGIVERK

ANNUAL REPORT

The cooperation between

The Norwegian Agency for Development
Assistance (NORAD) and the Norwegian Water
Resources and Energy Administration (NVE) in

1996

1. General

The cooperation between NORAD and NVE is formalized through a Cooperation Agreement dated 2 November 1994. This agreement is now being revised since the number of NVE man years guaranteed by NORAD in 1996 was increased from 5 to 6. Only minor problems connected to the invoicing procedure remain to be solved.

The Cooperation Agreement covers work for NORAD directly, as well as work for institutions in cooperating countries. In the first case all major assignments are formalized through a letter from NORAD specifying the services to be rendered. In the latter case, the work is formalized in Institutional Agreements between NVE and the concerned institutions.

The work under the Cooperation Agreement is coordinated by the NVE Office of International Cooperation (IK). IK is presently staffed by three professionals within water and energy and one 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 30 NVE professionals have been involved in 1996. In addition, a total of 8 experts/consultants have been subcontracted to supplement in certain speciality areas.

2. Overview of Main Activities

The main activities in 1996 are listed in Appendix A. The main categories of work have been to:

- Assist in the development of energy policy, water and electricity legislation, and related regulations
- Assist in institutional strengthening
- Prepare Terms of Reference for studies, appraisals, etc
- Conduct technical and environmental evaluations of plans for hydropower projects.
- Assist in preparing invitations and evaluations of project proposals and tenders
- Assist in negotiations and preparations of contracts
- Conduct appraisals, evaluate and comment on reports
- Assist in follow-up of ongoing projects
- Host delegation visits, organize seminars

The most time consuming assignments during the year have been:

- Institutional cooperation with the Palestinian Water Authority. 1565,5 hours.
- Institutional cooperation with the State Secretariat of Energy and Water in Angola. 1146 hours.
- Institutional cooperation with Hydrological Studies Department in Ethiopia. 627.5 hrs.
- Institutional cooperation with the Electricity Development Centre in Nepal. 439 hours.
- Institutional cooperation with the Energy Department in Ethiopia. 374 hours.
- Appraisal of Kafue Regional Training Centre in Zambia. 334.5 hours.
- Assistance to the Norwegian Embassy in Dar es Salaam. 224 hours.
- Strengthening of institutional and regulatory framework (energy) in Uganda. Preparation of an Institutional Agreement. 216.5 hours.
- Institutional cooperation with ZESCO in Zambia to prepare a new billing system. 192 hours.
- Contribution to workshop on environmental matters related to power generation in Tanzania. 189 hours.

Institutional Agreements are in effect with the following institutions in 1996:

- * Angola. State Secretariat of Energy and Water.
- * Namibia. Ministry of Mines and energy.
- * Zambia. ZESCO. (expired).
- * Ethiopia. Hydrological Studies Department, Ministry of Water Resources.
- * Ethiopia. Energy Department, Ministry of Mines and Energy.
- * Nepal. Electricity Development Centre.
- * Laos. Hydro Power Office, Ministry of Industry and Handicrafts. (expired).
- * Palestinian Water Authority.

New Institutional Agreements are in preparation or under discussions at the end of the year with:

- * Laos. Hydro Power Office, Ministry of Industry and Handicrafts.
- * South Africa. Department of Minerals and Energy.
- * Uganda. Ministry of Natural Resources.
- * Bhutan. Division of Power, Ministry of Trade and Industry.

3. Time Consumption and Costs

Time consumption and costs for each project/activity are shown in Appendix A, Table A-1 to A-3. With one man-year being 1535 hrs of work as defined in the Cooperation Agreement, the total work comes to 5.9 man-years, of which 2.6 (44%, compared to 86% in 1995) are related to activities directly for NORAD, and 3.3 (56%, compared to 14% in 1995) are related to Institutional Cooperation.

4. Other Engagements by NVE in Developing Countries

NVE's Office for International Cooperation has carried out or participated in the following projects/assignments:

	Client
- Review of the Electricity Sector in Vietnam (Report in Norwegian)	Ministry of Trade and Energy, Norway
- Assistance to Kafue Gorge Regional Training to prepare Tender Documents for the purchase of a Hydropower Simulator	Kafue Gorge Regional Training Centre

In addition, several NVE departments and individual professionals have been involved in activities related to developing countries for various international organizations, not related to the cooperation with NORAD.

5. Comments on Achievements, Problems, etc

The capacity of NVE to meet the increasing requests for assistance in connection with NORAD/NVE Cooperation Agreement is limited and creates a considerable burden on the most experienced personnel. These professionals are also the key personnel in executing NVE's

management and regulatory functions in Norway. Though it is felt that the defined targets and objectives in general have been fulfilled up to now, increased activities may be difficult to handle.

A consequence of the growing number of Institutional Agreements is the requests for long term advisors working in the cooperating institutions. Two such posts were under recruitment at the end of 1996. NVE professionals taking up these posts must be replaced in NVE, often by less experienced personnel, and this will temporarily weaken the NVE-department affected.

In order to develop a broader personnel base for our activities in developing countries, training at the NORAD's "Bistandsskole" is made use of, and also the participation of young relatively personnel on travels to these countries to gain experience.

Another possible measure to increase the NVE capacity will be to strengthen the Office of International Cooperation with one more professional.

6. Plan and Budget for 1997

The planning of activities in 1997 was discussed with NORAD in a meeting 15 January 1997. The tentatively agreed activities and budgeted use of personnel are shown in Appendix B. It shows a total input of 9.2 man-years from NVE, i. e. 3.2 man-years more than the 6 years NVE is committed to make available according to the Cooperation Agreement.

With reference to the limited capacity of NVE as discussed above, such a comprehensive increase of activities may be difficult to achieve. It is foreseen that it may be necessary to make more extensive use of external consultants. However, the estimated 9.2 man-years for 1997 may be on the higher side.

A tentative cost budget for 1997 is given on the following page.

Tentative Cost Budget for 1997:

CLIENT	COST (NOK)
A. NORAD, and others	
Fees, 5370 hrs x NOK 400	2 150 000
Own reimbursables	900 000
Engaged consultants	1 000 000
Subtotal	4 050 000
B. Cooperating Institutions	
Fees, 8822 hrs x NOK 400	3 500 000
Own reimbursables	1 800 000
Engaged consultants	1 000 000
Subcontracts NVA & SFT, PWA-project	4 400 000
Subtotal	10 700 000
TOTAL	14 750 000

Table A-1

MAN-HOURS AND COSTS RELATED TO ACTIVITIES.
COST ACCOUNT: *NORAD'S CONSULTANCY ALLOCATION 1996*

ACTIVITY	NYE Hours	Fee (charged at NOK 400,- per hour)	Own reimburse- ables	Engaged assistance	TOTAL
Admi-01 General assistance. Accounts. gen. secr. assistance. Delegation visits etc.	1 530,5	612 200,00	4 332,36		616 532,36
Admi-01/12 Comments to Zimbabwe Nat. Strategy	21	8 400,00			8 400,00
Admi-01/13 Delegation from NER, South Africa	132	52 800,00	40 411,50	7 000,00	100 211,50
Admi-01/14 South Africa. Cresto Technologies	15	6 000,00			6 000,00
Admi-01/15 Workshop on environmental matters related to power generation in Tanzania	189	75 600,00	64 536,50		140 136,50
Admi-01/16 Participation in the Asian Bank's meeting in Manilla	52	20 800,00	36 633,00		57 433,00
Admi-01/18 Legislation Framework, Tanzania and Laos	53	21 200,00			21 200,00
Admi-01/19 Standard Paper regarding water and energy legislation framework	112	44 800,00			44 800,00
Admi-01/20 SAEPP, Evaluation of report	15	6 000,00			6 000,00
Admi-01/21 Guidelines for environmental sector cooperation between Norway and India	7	2 800,00		43 191,10	45 991,10
Admi-01/22 Workshop on Electricity and Regulations, South Africa				60 416,00	60 416,00
Ango-01/5 Demineralisation of sea water				9 955,00	9 955,00
Ango-07 Belas Substation	101	40 400,00		54 165,00	94 565,00
Bhut-01 Mangde Chuu Feasibility Study	3	1 200,00			1 200,00
Ceam-02 Support to CEAC, Phase II	18,5	7 400,00			7 400,00
Eri-01 Evaluation of environmental aspects	50	20 000,00			20 000,00
Ethi-02 Energy Sector (Eth-019)			40 809,00	91 570,00	132 379,00
Ethi-02 Energy Sector (separate invoiced)	30	12 000,00			12 000,00
Ethi-04 Hydrological Inst. Cooperation	16	6 400,00			6 400,00
Ethi-05 Distribution Transformers				7 600,00	7 600,00
Guat-01 Palin II Hydro power station	5	2 000,00			2 000,00
Laos-03 Theun Hinboun Environmental studies/water management	84,5	33 800,00			33 800,00
Moza-07 Mozambique-Swaziland Interconnector	110	44 000,00	44 186,41	104 841,00	193 027,41
Nam-03 Epupa Feasibility Study	7	2 800,00			2 800,00
Paki-01 Small Hydropower Scheme	93	37 200,00	37 452,87		74 652,87
Paki-08 Satpara Dam Project	57,5	23 000,00			23 000,00
SADC-06 Transmission System Computer Model	22	8 800,00			8 800,00
S.Afr-02 Evaluation of Small Hydro Power Stations	60	24 000,00	25 741,01	35 700,00	85 441,01
S.Afr.-03 Institutional Cooperation	54	21 600,00			21 600,00

ACTIVITY	NVE Hours	Fee (charged at NGK 400.- per hour)	Own reimbursables	Engaged assistance	TOTAL
Tanz-04 Pangani Follow-up	66	26 400,00			26 400,00
Tanz-05 Kihansi Water Power Proj.	122	48 800,00	86 755,00		135 555,00
Tanz-08 Equipment for fault finding, Tanesco	62	24 800,00	1 380,00		26 180,00
Tanz-09 Mandera Hydropower Project	2	800,00			800,00
Tanz-10 Assistance to Embassy in Dar es Salaam, Alf Adeler	224	89 600,00	39 097,00		128 697,00
Ugan-05 Strengthening of the inst. and reg. framework, Uganda	216,5	86 600,00	92 845,20		179 445,20
Ugan-06 Owen Falls	13,5	5 400,00			5 400,00
Ugan-07 Assistance to Embassy in Kampala	106	42 400,00			42 400,00
Viet-01 Rao Quan Multipurpose Proj.	35	14 000,00			14 000,00
Zamb-04 Power Rehab. Project	19	7 600,00			7 600,00
Zamb-05 Kafue Gorge Regional Training Centre	334,5	133 800,00	99 234,30	290 904,79	523 939,09
	4.038,50	1.615.400,00	613.414,15	705.342,89	2.934.157,04

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APPENDIX A

Table A-2

MAN-HOURS AND COSTS RELATED TO INSTITUTIONAL COOPERATION
1996

ACTIVITY	NVE Hours	Fee (charged at NOK 400.- per hour)	Own reimburs- ables	Engaged assistance	TOTAL
ANGOLA - Water Legislation	8	2 400,00	2 448,00	0,00	4 848,00
ANGOLA- Assistance and support in implementing the new general law of electricity, Development of an Energy Policy for the Country, Reorganization and Development of new Routines at SEEA, Institutional Strengthening, and training of personnel	1146	458 400,00	494 046,02	0,00	952 446,02
ANGOLA- Institutional Cooperation on Energy Sector Management, Institutional Strengthening and Training of Personnel in the period 1996-1998	374	149 600,00	82 818,36	0,00	232 418,36
ETHIOPIA- Institutional Cooperation, Legislation and Institutional Strengthening on the Energy Sub- Sector in the period 1996-1998	545	218 000,00	122 857,54	180 627,00	521 484,54
ETHIOPIA- Institutional Cooperation on Hydrology Sector Management, Institutional Strengthening, Enhancing Hydrological Network and Training of Personnel in the period 1996-1999	627,5	251 000,00	156 172,00	0,00	407 172,00
PALESTINA- Assistance in the Establishment of an Operational Palestinian Water Authority (PWA)	1565,5	626 200,00	401 528,04	3 157 972,07	4 185 700,11
LAOS- Legal Framework	40	12 000,00	6 209,00	38 400,00	56 609,00
NAMIBIA Assistance in Establishment of a New Legal Framework and Institutional Macro Structure for the Electricity Sector in Namibia (3.1.1994)	69	20 700,00	42 784,00	144 826,00	208 310,00
NAMIBIA Institutional Cooperation in the Energy Sector Management for the Period 1996-1998	42	16 800,0 0	30 179,65	0,00	46 979,65
NEPAL Advisory Services for Development of Water Related Legislation in Nepal	439	175 600,00	189 799,45	318 861,45	684 260,90
ZAMBIA Zesco Billing System	192	76 800,00	38 171,90	118 014,60	232 986,50
	5.048,00	2.007.500,00	1.567.013,96	3.958.701,12	7.533.215,08

Table A-3

**SUMMARY OF TOTAL MANHOURS AND COSTS RELATED TO NORAD'S
CONSULTANCY ALLOCATION AND INSTITUTIONAL COOPERATION**

1996

	NVE Hours	Fee (charged at NOK 400.- per hour)	Own reimbur- sables	Engaged assistance	TOTAL
NORAD's Consultancy Allocation	4 038,5	1 615 400,00	613 414,15	705 342,89	2 934 157,04
Institutional Cooperation	5 048,0	2 007 500,00	1 567 013,96	3 958 701,12	7 533 215,08
TOTAL	9.086,50	3.622.900,00	2.180.428,11	4.664.044,01	10.467.372,12

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APPENDIX B

COOPERATION AGREEMENT NORAD/NVE. PLANNED ACTIVITIES 1997

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 etc.	1200	
ANGO-06	AGO-013	Energy Cooperation		1800
		To be defined	200	
BANG-01	BGD	To be defined	50	
BHUT-01		Mangdechu - Feasibility Study		160
CEAM-01	CAM-20	CEAC	250	
ETHI-02	ETH-019	Institutional Cooperation, Energy		450
ETHI-04	ETH-018	Institutional Cooperation, Hydrology		2000
ETHI-05	ETH-017	Power Distribution Plan	150	
ETHI-06	ETH-016	Energy Sector Perspective	250	
ETHI-07	ETH-027	Mekanissa Substation	50	
ETH-08	ETH-	Fincha Extension	80	
INDI	IND	To be defined	50	
LAOS-03		Water and energy, legal framework		200
LESO-		Network Development, Phase II	100	
MOZA	MOZ-042	To be defined	160	
NAMI-04		Energy Legislation		
NAMI-05	NAM-002	Energy General (Epuva incl.)		2000
NEPA-02	NPL	Legal Framework, Energy	150	200
NEPA	NPL	Melamchi Water Supply	100	
NEPA	NPL	World Bank Project	50	
PALE-01		Institutional Cooperation re. "Palestinian Water Authority"		1500
PAKI-01	PAK-003	Small Hydropower Scheme (PAK 003)	50	

