



NVE
NORWEGIAN
WATER RESOURCES AND
ENERGY ADMINISTRATION

ANNUAL REPORT

The cooperation between NORAD and NVE in 1995

1. GENERAL

The cooperation between NORAD and NVE is formalized through an agreement dated 2 November 1994. This Cooperation Agreement concerns work carried out by NVE directly for NORAD, as well as work for institutions in developing countries. In the first case, each assignment is formalized through a letter from NORAD specifying the services to be rendered. In the latter case the work is specified in an agreement with the concerned institution. The present agreement with NORAD guarantees NVE payment for a minimum of 5 man years.

The work under the Cooperation Agreement is led and coordinated by NVE's Office of International Cooperation (IK). The head of the office is responsible for the coordination of the work under the agreement. IK handles all of NVE's projects related to international activities (unless there is a specific reason for deviation). IK is presently staffed by three professionals within energy/water and one administration officer.

The services of NVE under the agreement covers a wide range of work fields and specialties, and IK draws on the full staff of NVE to carry out the assignments. Thus, during 1995 a total of 34 persons participated on assignments under the agreement. In addition, a total of 10 experts/consultants have been subcontracted to supplement in certain speciality areas.

2. OVERVIEW OF MAIN ACTIVITIES

A total of 40 assignments have been worked on during 1995, see Appendix A. Like earlier years, it will be seen that the main categories of work have been to:

- Evaluate plans for hydropower projects
- Prepare Terms of Reference for studies, appraisals etc
- Invite and evaluate proposals
- Assist in negotiations and preparation of contracts
- Conduct preparatory work for institutional cooperation
- Assist in follow-up of ongoing projects
- Conduct appraisals, evaluate and comment on reports
- Host delegation visits, conduct seminars

The largest assignments during the year have been

- Palestinian Water Authority. Institutional cooperation. Preparatory work and project work before institutional agreement takes effect (1429 hours)
- Kihansi Hydropower project. Evaluation of plans. (824 hours)
- Rao Quan Hydropower project. Preparation of Terms of Reference, evaluation of proposals (454 hours)
- Small hydropower, RSA. Report on the feasibility of 5 small hydropower projects in South Africa (411 hours) To be completed in 1996.

Other significant assignments directly for NORAD include:

- Energy sector cooperation Ethiopia. Preparatory work (318 hours)
- Jhimruk hydropower scheme, Nepal. Completion report (205 hours)
- Pangani hydropower project, Tanzania. Assistance in NORAD's follow-up (169 hours)
- Small hydropower project, Pakistan. Assistance in NORAD's follow-up (192 hours)

Within "Institutional cooperation" agreements in effect during 1995 are:

- Angola, Follow-up on energy policy and preparation of regulations to the General Law on Electricity passed by the Parliament. Short term visits by NVE personnel. (459 hours)
- Angola, Water resources legislation. Very little activity in 1995. The project will be formally terminated in 1996 (92,5 hours)
- Namibia, Electricity legislation. A draft law is ready for final discussions before enactment (92 hours)
- Zambia. Support regarding development of management information and billing system (164 hours)
- Laos, Electricity legislation ready for enactment. Water resources law drafted (208,5 hours)
- Palestinian Territory. Development of Palestinian Water Authority. In cooperation with SFT and NIVA (1429 hours)

Institutional cooperation expected to be formalized through agreements in 1996:

- Nepal, Electricity and water resources legislation. Continuation of earlier work
- Republic of South Africa. Assistance to the National Electricity Regulator in establishing a new regulatory framework in RSA.
- Uganda, Assistance to Ministry of Natural Resources in establishing a new regulatory and legal framework in the electricity sector.
- Ethiopia, Energy, Department in the Ministry of Mines and Energy.
- Ethiopia, Hydrology Studies, Department of the Ministry of Water Resources

3. TIME CONSUMPTION AND COSTS

Time consumption and costs for each activity are shown in Appendix A, Table A-1 to A-4. With one man-year being 1535 hrs of work as defined in the Cooperation Agreement, the total work comes to 5.5 man-years of which 4.75 (86%) are related to NORAD's Consultancy Allocation and 0.75 (14%) is related to direct Institutional Cooperation.

Of the hours related to NORAD's Consultancy Allocation, 50% is related to requests from NORAD's Energy and Maritime Division, 29% to the Industrial and Commercial Department and 20% to Health Division (mainly preparatory work for the Palestinian Agreement).

4. OTHER NVE ENGAGEMENTS IN DEVELOPING COUNTRIES

NVE has carried out or participated on the following projects/assignments

- | | | |
|---|---|-------------------------|
| - | Zacplan/Zacpro 6. Hydrological Data Base | Client:
Norconsult |
| - | Course on Dam Safety, Kafue Gorge Training Center | Norconsult |
| - | Mafeteng dam, Lesotho.
Advisory Services on Reconstruction after Dam Break | Min. of Foreign Affairs |

5. COMMENTS ON ACHIEVEMENTS, PROBLEMS ETC

The completion of individual tasks and assignments to everybody's satisfaction creates considerable burden on the most experienced personnel of NVE. Personnel on middle and high management level are involved, particularly in our programmes on institution building and development of new legislation. While it is felt that the defined targets and objectives in general have been fulfilled up to now, new and increased activities foreseen in 1996 and coming years necessitate a dedicated effort to develop a broader personnel base for our activities in developing countries. In addition to allowing relatively inexperienced personnel to participate as trainees (including participation on travels), it will be necessary to provide specific training in the various professional fields (regular courses, seminars etc) for adaptation to conditions in developing countries.

Participation at NORAD's "Bistandsskole" is welcomed as a more general type training of such personnel. NVE has established an in-house training programme in English, from which we now see tangible results.

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6. PLAN AND BUDGET FOR 1996

The planning of activities in 1996 was discussed with NORAD in a meeting 24 January 1996. The agreed activities and budgetted use of personnel is shown in Appendix B. It shows a total input of 6.9 man-years from NVE, i.e. 1.9 man years more than the 5 man years NVE is committed to make available according to the Cooperation Agreement.

A very marked new development is that the part related to direct Institutional Cooperation has increased from 14% in 1995 to an estimated 54% in 1996.

A tentative cost budget for 1996 will be as follows:

CLIENT	Cost (NOK)
A. <u>NORAD, Technical Dept.</u>	
Fees, 4,900 x 400 NOK/h	1,960,000
Own reimbursables	900,000
Engaged consultants	<u>400,000</u>
SUM	3,260,000
B. Cooperating Institutions	
Fees, 5650 x 400 NOK/h	2,260,000
Own reimbursables	950,000
Engaged consultants	<u>450,000</u>
SUM	<u>7,710,000</u>
TOTAL A + B	<u>10,970 000</u>

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Table A-1

MAN-HOURS AND COSTS RELATED TO ACTIVITIES. YEAR: 1995
 COST ACCOUNT: *NORAD'S CONSULTANCY ALLOCATION*

ACTIVITY	NVE Hours	Fee (charged at NOK 400.- per hour)	Own reimbursables	Engaged assistance	TOTAL
Energy and Maritime Division:					
Admi-01 General assistance. Accounts, general secr. assistance. Delegation visits etc.	1262	504 800,00	46 723,00	3 540,00	555.063,00
Admi-01/1 Gaza. Organization Structure within the energy sector.	43	17 200,00	38 063,71	46 898,00	102.161,71
Admi-01/2 Delegation visit from Uganda	234	93 600,00	52 295,85		145.895,85
Admi-01/3 Delegation visit from South Africa	66	26.400,00			26.400,00
Admi-01/4 Visit from Namibia, Mr. Hangala	63	25 200,00			25.200,00
Admi-01/5 Demineralisation of sea water	132	52.800,00			52.800,00
Admi-01/8 Visit by representatives from ZESA	10	4.000,00			4.000,00
Admi-01/9 Visit by representatives from Icold	28	11.200,00			11.200,00
Admi-01/10 Visit by TAU-delegation	32	12.800,00			12.800,00
Admi-01/11 SADC-Conference	75	30.000,00	17 634,00		47.634,00
Admi-02 Comptence building activities	53	21.200,00			21.200,00
Ceam-01 CEAC	23,5	9.400,00			9.400,00
Ango-06 Belas Substation	3	1.200,00			1.200,00
Ethi-02 Assistance re. the energy sector in Ethiopia	318	127.200,00	138 736,82	54 935,00	320.871,82
Ethi-04 Hydrological Institutional Cooperation	34	13.600,00			13.600,00
Ethi-05 Hydropower Studies	38	15.200,00			15.200,00
Moza-01 Energy Sector Agreement, Norway-Mozambique	36	14.400,00			14.400,00
Nami-03 Epupa Feasibility Study, Evaluation	29,5	11.800,00			11.800,00
Nepa-01 Jhimruk Hydropower Scheme, Nepal	205	82.000,00	87 068,26		169.068,26
Paki-01 Small Hydropower Scheme, Pakistan	192	76.800,00	95 434,80		172.234,80
S.Afr-02 Small hydropower, RSA	411	164.400,00	58 579,58	24 345,90	247.325,48

ACTIVITY	NVE Hours	Fee (charged at NOK 400.- per hour)	Own reimbursables	Engaged assistance	TOTAL
S.Afr-03 Institutional Cooperation, RSA	108	43.200,00	88 587,00		131.787,00
Tanz-04 Pangani Review	169	67.600,00	74 321,00		141.921,00
Tanz-07 Zanzibar Rural Electrification	16	6.400,00	1 483,00	163 000,00	170.883,00
Ugan-05 Strengthening of the institutional and regulatory framework	113	45.200,00	76 024,45	54 997,00	176.221,45
TOTAL	3.694,00	1.477.600,00	774.951,47	347.715,90	2.600.267,37

ACTIVITY	NVE Hours	Fee (charged at NOK 400.- per hour)	Own reimbursables	Engaged assistance	TOTAL
Industrial and Commercial Department::					
Admi-01/7 Neelum Jhelum, Pakistan	66,5	26 600,00			26 600,00
Admi-10 General assistance, I & N	250	100 000,00			100 000,00
Ethi-03 Finchaa Hydropower Plant	95	38 000,00	35 191,89		73.191,89
Guat-02 Palin II	84,5	33 800,00			33 800,00
Laos-02 Theun-Hinboun Impact Studies	73,5	29 400,00			29 400,00
Leso-07 Utbygging av overføringsnettet	39	15 600,00			15.600,00
Nepa-03 Khimti Khola	31	12 400,00		10 000,00	22.400,00
Ugan-04 Urban Power Rehabilitation Project	26	10 400,00			10.400,00
Tanz-05 Kihansi Water Power Project	824	329 600,00	132 962,11	52 000,00	514.562,11
Viet-01 Rao Quan Multipurpose Project	454	181 600,00	113 493,85		295.093,85
Zamb-03 Zesco . Zesco Billing System	22	8 800,00		60 532,00	69.332,00
Zamb-04 Power Rehabilitation Project	136	54 400,00			54 400,00
Zimb-03 Zimbabwe Electricity II, Review of Contract	24	9 600,00			9 600,00
TOTAL	2.125,50	850.200,00	281.647,85	122.532,00	1.254.379,85

ACTIVITY	NVE Hours	Fee (charged at NOK 400.- per hour)	Own reimbursables	Engaged assistance	TOTAL
Health Division:					
Admi-01/6 NVE seminar for representatives from Water Authority, Zimbabwe	24	9 600,00			9 600,00
Gaza-01 Work before main agreement	1 429	571 600,00	351 721,46	717 592,50	1.640.913,96
TOTAL	1.453,00	581.200,00	351.721,46	717.592,50	1.650.513,96

Table A-2

**SUMMARY OF MANHOURS AND COSTS RELATED TO ACTIVITIES. YEAR: 1995
NORAD'S CONSULTANCY ALLOCATION**

	NVE Hours	Fee (charged at NOK 400.- per hour)	Own reimbursables	Engaged assistance	TOTAL
Energy and Maritime Division	3 694,0	1 477 600,00	774 951,47	347 715,90	2 600 267,37
Industrial and Commercial Department	2 125,5	850 200,00	281 647,85	122 532,00	1 254 379,85
Health Division	1 453,0	581 200,00	351 721,46	717 592,20	1 650 513,96
TOTAL	7.272,50	2.909.000,00	1.408.320,78	1.187.840,10	5.505.161,18

Table A-3

**MANHOURS AND COSTS RELATED TO INSTITUTIONAL COOPERATION.
YEAR: 1995**

	NVE Hours	Fee (according to contract)	Own reimburs- ables	Engaged assistance	TOTAL
ANGO-05 Legal Framework, Water Resources, Angola	92,5	27 750,00	3 988,32	125 168,74	156.907,06
ANGO-06 NESMA-follow up	459	183 600,00	225 059,39	0,00	408.659,39
LAOS-03 Legal Framework	208,5	62 550,00	114 191,10	460 522,67	637.263,77
NAMI-04 Legal Framework	92	27 600,00	63 036,00	225 426,00	316.062,00
NEPA-02 Legal Framework	140	56 000,00	18 455,00	243 641,00	318.096,00
ZAMB Zesco Custom Information and Billing System	164	65 600,00	22 724,95	8 335,00	96.659,95
SUM	1.156,00	423.100,00	447.454,76	1.063.093,41	1.933.648,17

Table A-4

**SUMMARY OF TOTAL MANHOURS AND COSTS RELATED TO NORAD'S
CONSULTANCY ALLOCATION AND INSTITUTIONAL COOPERATION.
YEAR: 1995**

	NVE Hours	Fee	Own reimburs- ables	Engaged assistance	TOTAL
NORAD's Consultancy Allocation	7272,5	2 909000,00	1 408 320,78	1 187 840,10	5.505.160,88
Institutional Cooperation	1 156	423 100,0	447 454,76	1 063 093,41	1.933.648,17
TOTAL	8.428,50	3.332.100,00	1.855.775,54	2.250.933,51	7.438.809,05

Table B-1

APPENDIX B

COOPERATION AGREEMENT NORAD/NVE. PLANNED ACTIVITIES 1996

Tentative time consumption in hours

Project Code		PROJECT/ACTIVITY	CLIENT	
NVE	NORAD		NORAD Techn. Dep.	Cooperating Institution
ADMI-01		General assistance. Accounts, gen. secr. ass., prep. of visits etc.	1450	
ANGO-06	AGO-001	Energy Cooperation		800
ANGO-07	AGO-006	Belas Substation (AGO 006)	80	
CEAM-01	CAM-20	CEAC	40	
ETHI-02	ETHI-019	Institutional Cooperation, energy	100	400
ETHI-03	ETHI-020	Finchaa Rehabilitation	40	
ETHI-04	ETHI-018	Institutional Cooperation, hydrology	80	700
ETHI-05	ETH-017	Addis Ababa Distr. Plan	40	
ERI-01		Delivery of transf. and transm. lines. Consideration of environmental aspects	200	
LAOS-02		Nam Theun. Environmental Studies	50	
LAOS-03		Water and energy, legal framework		200
MOZA-07		Moz-Swaz. Interconnector	200	
MOZA-08		Energy general	80	
NAMI-04		Energy Legislation		150
NAMI-05	NAM-002	Energy general (Epupa incl.)	80	
NEPA-01		Jhimruk Hydropower Scheme		50
NEPA-02		Legal Framework, Energy		200
NEPA-03		Hydropower, Khimti Khola	40	
NEPA-04		Energy general	40	
PALE-01		Institutional Cooperation re. "Palestinian Water Authority"		2300
PALE-02	PALE-003	Electricity management	120	
PAKI-01	PAK-003	Small Hydropower Scheme (PAK 003)	150	
S.AFR.-02		Small Hydropower	130	
S.AFR.-03		National Electricity Regulator	30	250
S.AFR.-04	BSA-005	Capacity building, Parliamentarians	80	
TANZ-01	TAN-075	Pangani hydropower	40	
TANZ-05	TAN-101	Kihansi Hydropower Project	80	
TANZ-07	TAN-061	Zanzibar Rural Electrification	40	
UGAN-05		Institutional Cooperation, Energy	100	400
VIET-02		Hydropower Sector	450	
ZAMB-03		Institutional Cooperation, ZESCO		200
ZAMB-04		Power Rehabilitation Project	160	
		Activities identified during 1996 - Energy	800	
		Activities identified during 1996 - Water Resources (Zacplan, Zimbabwe, Mozambique, Zambia...)	200*	
TOTAL			4900	5650
Equivalent person-years (at 1535 hrs/yr)			3,2	3,7

*) Preliminary figure, pending further information from NORAD.

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