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GOVERNMENT OF PAKISTAN
PLANNING COMMISSION
NATIONAL TRANSPORT RESEARCH CENTRE

PC - II
TRAINING WING
IN
NATIONAL TRANSPORT RESEARCH CENTRE
(REVISED)

NO. NTRC-146.

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Deputy Chief

July, 1991

PROJECT DIGEST

1. NAME OF PROJECT: Training Wing -
National Transport Research Centre
2. AUTHORITIES RESPONSIBLE FOR:
 - (a) Sponsoring Ministry of Planning and Development
 - (b) Execution National Transport Research Centre
 - (c) Operation National Transport Research Centre
3. TIME REQUIRED: 3 Years
4. BACKGROUND:

Transport being a derived demand, the rapid economic development over the past four decades has brought about manifold increase in economic mobility which has resulted in tremendous pressure for accelerated expansion, replacement and modernization of the transportation network. Unfortunately, the transportation system in Pakistan has not effectively responded to the challenges. There are many reasons for this deficiency but the principal one unquestionably being the use of ~~out-moded~~ technologies and methods which in turn is directly attributable to the absence of a strong cadre of fully trained professional manpower to properly plan, operate and manage the system.

The National Transport Research Centre (NTRC) recognizing the importance of such training as early as 1976, undertook to organize courses on "Transportation Projects

Planning" in collaboration with E.D.I. of World Bank. The dependence of EDI was reduced to zero by the time Fourth Course was held. The course was later opened to SAARC and OIC countries and five more courses were organized totally on self-help basis. The courses were held every year during the months of November - December. A total of about 300 individuals belonging to various government and semi government agencies, private consultants and foreign participants related to transport were trained. The courses had resulted in a very positive effect on the quality of projects prepared by the various Provincial and Federal Agencies. Unfortunately, these courses could not be continued after 1987 mainly due to space limitations.

It may however be clearly brought out that these efforts had a very limited scope, and by mean could be termed as meeting the full requirement of providing a comprehensive in-service training facility for the transportation personnel of the country. Presently, the government agencies and the private sector organizations, concerned with transportation business, are solely dependent on foreign institutions for the training needs of their staff, which is not only limited in scope but is

also very costly and hence beyond the reach of most individuals and organizations. The deficiency can only be overcome by an effective in-service training program and proper institutional arrangements to do the needful.

In order to develop indigenous capability in the vital field, Planning Commission approached the UNDP for advice. UNDP obliged by sending an eminent expert, Dr. Lester Hoel to Pakistan in July 1989. Salient points of his observations were as following:

- Lack of trained professionals
- No institutional arrangement for transfer of new ideas and information to organizations and agencies through short courses, workshops and seminars.
- Absence of comprehensive libraries facilities and contact with international professional organizations.

Dr. Hoel accordingly concluded that there was a pressing need for an Institute of Transportation in Pakistan at the national level and recommended that UNDP should strongly support setting-up of such an institute in Pakistan. Dr. Hoel

also identified National Transport Research Centre as one of the likely locations for the proposed institute, due to a strong cadre of highly trained manpower, some laboratories and other equipment already available with the Centre.

The report of Dr. Hoel was discussed in the 6th meeting of the Inter-Ministerial Committee (IMC) of NTRC held in September, 1989 in which, on the request Ministry of Communications, it was decided to transfer on the project to them. The position was reviewed in the next IMC meeting held in September, 1990. Since nothing was done by the Ministry in one year, it was decided to re-assign the project to the NTRC.

In the meantime, Ministry of Defence came up with a proposal to set-up an Institute of Research in Transportation and Geotechnology. Since a number of research institutions already existed in the field of transportation but did not operate at their full capacity due to lack of adequately qualified personnel to man them, discussions were held with the Ministry to persuade them to forego setting up another institute of research institute and instead consider establishment of an educational institution aimed at imparting M.Sc and Ph.D Degree in the field of

transportation. Since Army College of Engineering at Risalpur was already awarding Master Degrees in some of the fields of transportation and engineering, it was considered logical to upgrade it to a fullfledged Graduate School in Transportation. The proposal was finally accepted by Ministry of Defence.

Although this has helped meet the requirements of higher education to a limited extent (the intake of civilian for Master Degree Courses in the college would be six at the most), the problem of short refresher courses of specialized nature for in-service officials remain un-resolved. This makes it imperative that alternate arrangements for carrying out such courses must be made on top priority basis.

5. PROJECT JUSTIFICATION:

Transportation technology, encompassing all aspects namely Planning, Design, Execution, Operation and Maintenance have undergone sea-change during last few decades. The process has not slowed down, as a matter of fact the tempo is increasing. With every passing day, new concept, technologies and tools are being developed to make the transport system most efficient in every way.

The benefits from these developments can only be obtained by keeping abreast of the state-of-the-art. This however is only possible if the professionals involved with various facets of transportation have the timely opportunity to acquire the knowledge of the latest break throughs. Unfortunately, in Pakistan there is no institutional arrangements for in-service training to the transport professionals.

The problem is further aggravated by the fact that except for very few agencies such as Planning Commission, the entry into service in case of most of transport related agencies is restricted to the lowest officer level (BPS-17) requiring minimum professional qualification namely B.Sc. (Engineering). Considering the serious deterioration of education in the country since early sixties, there can be no two opinions regarding the fact that such young professionals are not equipped with even the basic know how what to speak of advance knowledge. At the top of it, there are no established programme for in-service training of these officials to help overcome the deficiency. The net result is that the transportation system of the country is being run with very meagre knowledge. As a consequence, the operational in-

efficiency has already gone below the danger mark and new facilities fall apart before they are completed resulting in total wastage of the national resources which a poor country like Pakistan can ill afford.

Existing Facilities:

Although there is not a single institution rendering quality training programme, a brief write up in respect of the few existing institutions which can arguably be considered as the possible venue for the training of transportation personnel, especially in the public sector, is presented below.

Engineering Colleges/Universities:

These are primarily Bachelor Degree awarding institutions. Since such courses can only be run by institutions where higher degrees (M.Sc and Ph.D) are awarded, they are not in a position to help.

Engineering Forums:

Pakistan Engineering Council and Institution of Engineers of Pakistan are two other renowned forums. While the principal function of the former is to carry out registration of the professional engineers in the country, the later has confined itself to granting diplomas to lower levels of engineers mostly in Mechanical and Electrical engineering.

Departmental Institute:

Except for the Railway training school at Lahore, and PIA Training Centre at Karachi, no other transportation agency maintains this type of facility. Whatever training is imparted even by these two organizations, it primarily concerns the new-entrants/probationers and is mostly oriented towards dissemination of departmental working and regulations. They are also not in a position to undertake such assignment.

Professional Academies:

This include institutions like Punjab Engineering Academy. However, the Academy has so far continued itself to selective programmes for the training of highway personnel at

lower level and have no plan to offer short courses of the specialized nature for in-service professionals.

Non Professional Institutions:

Institutions like NIPA and Administrative Staff College impart very specialized in-service training but the courses are designed to improve the managerial skill and are not aimed at advanced training in the field of transportation.

National Transport Research Centre

The Charter of the NTRC among other functions as also include training as per details below:

1. To carry out research studies required for sound transportation planning and Road Engineering.
2. To establish close liaison with other such institutions in the developed as well as developing countries.
3. To coordinate the research efforts taking place in the country.

4. To act as clearing house for all the research being undertaken in the country in the field of Road and Transportation.
5. To help other institutions develop indigenous expertise in the field of Highway Engineering and Transportation Research.
6. To establish research collaboration with similar agencies of international repute.
7. To implement/execute experimental pilot demonstration projects to establish the viability of the research efforts undertaken in the Centre.
8. To organize training courses, seminars and symposia on various aspects of transportation planning, design, operation and maintenance.
9. To provide consulting services in the field of Roads and Transportation.

10. To gradually enlarge the scope of research being undertaken in the Centre to also cover all modes of transportation.
11. To provide additional facilities in terms of manpower, equipment and material to enable the Centre to develop a reliable and effective in-house expertise for research in all modes of transportation and to relieve the dependence of the country on foreign experts.

To discharge the training function, proper facilities in the form of library, seminar rooms, Conference hall and residential hostel are being developed in the new office complex of the Centre located in Sector H-8. The facilities would become available by December, 1992. However in order to draw full benefits from the facilities, NTRC plans to revive the Transport Project planning courses alongwith work-shops seminars and symposia on various topics of research carried out in the Centre. The Centre is also in a position to undertake short courses of special nature on continuing basis provided some extra help in terms of professional experts, equipment and library facilities are provided.

6. OBJECTIVES:

The primary objective of the proposal is to provide institutional arrangements for in-service training of professional manpower working with the various transport related agencies in the country.

The fundamental role of the proposed NTRC training wing would be to offer a wide range of courses which can fulfil the needs of the transport system of the country. This would include all aspects of transport planning, economics, operations, management and associated computer applications. In due course the facilities of the centre can also be extended to those countries of the region which do not have the resource or expertise to develop similar services, and the post-graduate diploma awarded by the centre will be accredited to a recognised academic institution.

The courses to be offered by the proposed training wing will be specifically targeted to fulfill the needs in the transport sector and will range from short duration courses for practising transport expert to a full time one year post graduate diploma course.

International and regional linkages including SAARC, ECO and OIC countries covering various inter-modal aspects such as relationship between railways and other modes including the urban transport and sector/inter-sector management at macro level have been fully incorporated in the training programme.

Short Courses:

The short term vocational courses will be offered on specific topics according to the identified training needs of the transport industry in the country. Entry to the short term vocational courses will not require any previously defined academic qualifications but participants will be selected on the basis of their work experience and whether or not they would gain maximum benefits from the course. Each short course will have an approximate duration of one day to six weeks and will admit a total of 20-25 participants. The short courses will be announced regionally and will cover in rotation one or more of the following areas:

Administration and Management.
Air Transportation Scheduling.
Bridge, Culvert, and Tunnel Design and Performance.
Computer and Information Systems.
Construction Management.
Transportation Economics and Applications.
Socio-economics and Project Viability.
Energy and Environmental Impact.
Facilities and Equipment Design and Performance.
Financing alternative.
Forecasting of traffic demand.
Freight Transportation.
Highway Operations and Maintenance.
Hydrology in Surface Transportation.
Accident Insurance and Liability Laws.
Design of Maintenance Operations.
Materials for construction.
Pavement Management, Design and Performance.
Planning and Appraisal of Projects.
Railway operation.

Soils, Geology, and Foundations.

Public Transportation.

Vehicle Design, Characteristics, and Use.

Water Transportation.

Diploma Courses:

The one year diploma course will be generalized multi-modal transport course aimed at improving the skills of junior engineers and upgrade them to the level of a practising transport specialist in the discipline of their interest. It will offer a graduate program in the following areas:

- Highway Engineering.
- Transportation Planning.
- Transportation Economics.
- Airfield Pavement Design.
- Airport Design and Operations.
- Railway Engineering and Operation.
- Inland Water Transportation.
- Port Design and Operations.
- Shipping Design and Operations.

Entry to this course will be restricted to the applicants with a bachelor's university degree.

Field Trips:

Visits to national/regional projects concerning transportation sector will be arranged so that participants can have an opportunity to observe multi-dimensional organization procedures and problems.

Participants:

The proposed short duration and post graduation courses will attract participants from the following:

1. Federal ministries of Planning Commission, Railways, Civil Aviation, Local Government and Rural Development, Kashmir Affairs and Northern Areas;

2. Federal transport related attached departments suchd as Directorate General of Ports and Shipping, Karachi Port Trust, Port Qasim, Pakistan National Shipping Corporation, Railway Board, National Highway Authority, Civil Aviation Authority, Airport Development Authority, Pakistan Institute of Airline, etc.
3. Provincial and Azad Jammu and Kashmir departments of Planning and development, Transport, Home (Traffic Police), Communications and Works etc.
4. Private sector consulting and contracting firms involved with transportation project planning, design and implementation like NESPAK and PEPAC etc.
5. Academic staff of various engineering colleges and universities as well as other research institutions;

6. Private sector individuals or companies operating various mode of transportation such as urban and inter-city bus companies etc.

In general the course will be aimed at two levels namely top management level and middle management level. Higher level participants will be expected to have several years of experience in order to obtain the maximum benefit from the course.

These courses will be announced at least three months before the expected date of offering. The NTRC will be responsible for the scrutiny of all applications in order to ensure that only those eligible candidates who are likely to benefit most from participating in the program are admitted. On successful completion of a short course, a certificate will be issued to each participant.

An evaluation will be carried out after each course to elicit reactions regarding the quality and appropriateness of the course content, quality of lecturers, administration arrangements, teaching materials hand-outs, etc. Responses received from the earlier courses will be used to improve and modify later courses.

7. Estimated Cost:

(In Million Rupees)

Local	:	Nil
F.E.C.	:	19.902
Total	:	19.902

SUMMARIZED BREAKUP OF THE ESTIMATED COST

(Rupees in Millions)

No.	Description	LOC	FEC	TOTAL
1.	<u>Personnel:</u> Foreign Experts 24 man-month at \$ 16,000 per month	-	8.832	8.832
2.	<u>Transport:</u> (a) Car 1000 cc 2 Nos.	-	1.000	1.000
	(b) Duty travel	-	0.500	0.500
3.	<u>Equipment:</u> (a) Computers up-grade	-	5.000	5.000
	(b) Audio-visual aids	-	1.000	1.000
	(c) Library Books	-	1.000	1.000
4.	<u>Training:</u> Six man-months @ \$ 15,000 per month	-	2,070	2,070
	Sundries	-	0.500	0.500
	Total:-	-	19.902	19.902

Note: Exchange rate \$ = Rs. 23.00.

B. PHASING:

The project will be implemented in a period of 24 months spanned over three financial years as detailed below:

No.	Description	1991-92	1992-93	1993-94	Total
1.	<u>Personnel:</u>				
	Foreign Experts 24 man-month @ \$ 16,000 per month	1.767	5.299	1.766	8.832
2.	<u>Travel:</u>				
	(a) Car 1000cc 2 Nos.	0.500	0.500	-	1.000
	(b) Duty travel	0.168	0.166	0.166	0.500
3.	<u>Equipment:</u>				
	(a) Computers and peripherals	5.000	-	-	5.000
	(b) Xerox machine and peripherals	1.000	-	-	1.000
	(c) Library Books	0.500	0.500	-	1.000
4.	<u>Training:</u>				
	Six man-months @ \$ 15,000 per month.	0.690	0.690	0.690	2.070
	Sundries	0.168	0.166	0.166	0.500
	Total:	-	-	-	19.902

9. MODE OF FINANCING:

The cost of the project would be jointly financed by the UNDP and the NTRC as described below:

UNDP Contribution:

- (a) Foreign experts - 24 man - months.
- (b) Training/equipment, transport vehicle and appropriate computer hardware/software.
- (c) Counterpart training of NTRC staff.
- (d) Other related expenditure concerning international consultants.

NTRC Contribution:

- (a) Office accommodation for consultants and class room facilities for courses.
- (b) Secretarial assistance to the foreign experts.
- (c) Residential facilities to the participants of the course.
- (d) Counterpart staff for technology transfer.
- (e) Local experts as lecturers for various subjects.
- (f) Course commencement dates, selection of candidate and award of certificates/diplomas to participants
- (g) Follow up studies evaluation of the Courses.