

From : Dr.A.M.M.Shawkat Ali,
Secretary,
Ministry of Posts & Telecommunications
Dhaka.

To : Jb. M.N. Huda,
Chairman, POE
FPCO
7, Green Road,
Dhaka.

Sub : Summary on Interim Report No. 1 on Institutional
Development Programme.

At your request I am sending the aforesaid
summary.

Shawkat Ali,
(Dr.A.M.M.Shawkat Ali)
28/5/94

FAP-26

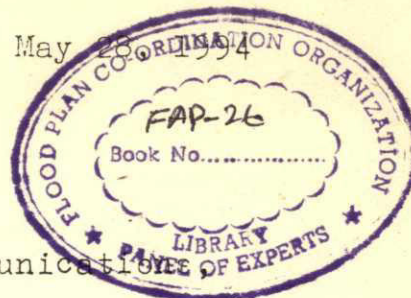
B.N-824

Acc-982

S.N-8

Cml - 982
FAP-26

May 20 1994



From : Dr.A.M.M.Shawkat Ali,
Secretary,
Ministry of Posts & Telecommunications
Dhaka.

To : Jb. M.N. Huda,
Chairman, POE
FPCO
7, Green Road,
Dhaka.

Sub : Summary on Interim Report No. 1 on Institutional
Development Programme.

At your request I am sending the aforesaid
summary.

Shawkat Ali,
(Dr.A.M.M.Shawkat Ali)

28/5/94

BN-824
A-982

Summary

Of the twenty eight FAP studies (main studies thirteen and supporting fifteen), eighteen final reports upto December, 1993, have been submitted leaving a balance of ten. About eight FAP studies are a continuation of previous one. As things stand now, ninety six percent of the FAP studies are expected to be complete by December 1994.

2. Four issues are of critical importance to the institutional framework for FAP. **First**, the project portfolio to be generated by FAP studies. **Second**, the timeframe for implementation of projects identified by the studies. **Third**, the key institutions within and outside the government which will take up the implementation responsibilities. **Fourth**, the size of investment required.
3. The project portfolio generated by the main FAP studies (FAP 1-11) indicates that there are about one hundred and thirty nine projects with an investment size of US\$ 7.12 billion and estimated implementation period of three to twenty years.
4. It is relevant to compare the above estimate with the initial estimate made in the Flood Policy Study (1989). The Flood Policy Study provided two scenario. Under scenario I covering an implementation period of twenty years, the estimate stood at US\$ 1.77 billion without O&M cost. Under Scenario II, covering an implementation period of fifteen years, the estimate was US\$ 2.5 billion. All these raise substantive questions of not only the capability of BWDB as implementing agency but also the availability of financial resources for investment. Further probe into all these aspects are necessary.
5. While it is too early to identify the key institutions within and outside the government to which the FAP generated projects might be allocated, the Second FAP conference did assert that "the FPCO, the BWDB possibly through specially established units and the LGED will have important roles to play".
6. However, about BWDB, concerns have been expressed on grounds of its low implementation performance, lagging operations and maintenance efforts and serious

8

problems of quality of service. There is an urgent need for reform of BWDB. The concerns expressed need serious examination.

7. The approach to institutional framework needs also to be supported by prioritization of the identified projects, categorization of projects and the financing mechanism.
8. Closely related to the approach to institutional framework is the question of people's participation. FPCO has already taken a set of initiatives for designing institutional arrangements for people's participation in planning, implementation, operation, maintenance, monitoring and evaluation of projects. These initiatives include the following:
 - Guidelines for Participatory Planning (GPP)
 - People's Participation: Jamalpur Priority Project Studies.
9. MIWDFC has also completed a draft Guidelines for People's Participation in Water Development Projects. This is based on GPP but includes some additional elements. The objective is to associate local people at all stages of the project cycle.
10. Both GPP and the one prepared by MIWDFC are broad guidelines providing illustrative stages for people's participation. It should be distinctly understood that there cannot be any fixity or unalterable rigidity in the framework for people's participation. The framework has to be flexible to accommodate special features/requirements of projects and the local institutions both formal and informal.
11. The impediments to people's participation are mainly five. **First**, there is lack of people within government departments that have experience in participation. **Second**, if people really get involved in determining their own development, every organisation and individual in the existing aid system will have to adjust and even give up some power. On top of it all, the development partners will have to accept the fact that in projects with a major people's participation component, disbursement rates may not be a valid criteria. New criteria for measuring project progress will have to be developed. **Third**, if the projects fail to deliver the anticipated benefits to the people, there will not be any participation in post-completion stage thus creating

the problem of sustainability. **Fourth**, the agencies identified with clear responsibility for different components during feasibility stage, will have to continue to provide the needed support to the beneficiaries on a regular basis. This may call for adjustment in the personnel deployment programme currently being followed in government system. **Fifth**, consensus will be difficult where conflicting interests of different groups/individuals are involved. This may delay implementation and in extreme cases even lead to dropping of a project or an essential component because local people, as a whole group, will not be able to reach a consensus.

12. Disaster management is an indispensable element of FAP. The institutional arrangements for disaster management, flood proofing and other non-structural solutions are reflected in strengthening of Flood Forecasting and Warning Centre (FFWC) under BWDB, Bangladesh Metrological Department (BMD), Disaster Coordination and Monitoring Unit (DCMU) under Ministry of Relief.

13. Flood proofing and other non-structural solutions aim at reducing flood damage and disruption without increasing damage to others. From institutional points of view, the findings of the relevant study are:

- Considerable institutional and technical resources are available for rapid implementation. However, enhanced dedication and commitment will be needed to achieve the (a) untried levels of cooperation necessary among government agencies, and with the private sector, for effective implementation, and (b) delegation of authority and responsibility by central government units to allow local representatives to apply initiative and take actions, on-the-spot, to avoid or mitigate damage and disruption.

- Institutionalisation of flood-proofing concepts on a national scale will require supporting efforts for education of stakeholders (investors and beneficiaries), trust-building between government officials and stakeholders, and monitoring of results and refinement of methods to build on experience. Foremost, it will need strong and flexible policy and management leadership, preparation of manuals covering applications for flood proofing measures and training of government officials.

- 7
14. Some pilot projects have been suggested to develop flood proofing techniques for application nationwide. The pilot projects should be located in areas with different flood characteristics to illustrate the range of measures required to mitigate the effects of different types of flood.
 15. At present, no new institutional arrangement may be necessary for flood response and flood proofing. The services of the thana staff of the local LGED who have been involved in making development plans of roads, irrigation facilities, flood control embankment and water and land use can still be utilised. LGED should, however, prepare improved maps for upazilla and union planning.
 16. In fact, the effectiveness of the present institutions could easily be tested for each of the needs outlined in the checklist prepared under FAP-14 (Flood Response Study). For effective flood proofing measures, an evaluation of the NGO activities as well as the community measures should be made.
 17. Co-ordination with Roads and Highways Department (RHD), Local Government Engineering Department (LGED) and Bangladesh Inland Water Transport Authority (BIWTA) is important for two reasons. Firstly, activities of these organisations, such as construction of highway and rural roads, digging of canals, and dredging of channels for navigation have a direct impact on the hydrological regime. For example, narrowing of channels while constructing bridges/culverts reduces the carrying capacity of rivers and streams, an important factor causing floods. Road alignments cutting across the terrain gradient (north to south in case of Bangladesh) also contribute to and aggravate the impact of floods. Unplanned digging of canals and construction of embankments, while alleviating localised problems, can disturb the overall hydrologic balance in a region and eventually cause serious problems for large areas. Any intervention in the hydrological regime should keep the overall situation in view. Secondly, large investments are currently being made in flood control and irrigation (BWDB), highways (RHD), rural roads, embankments and canal-digging (LGED) and channel maintenance and improvement (BIWTA). Co-ordination of activities of these organizations, from planning through implementation stage, will result in (i) better designed projects, and (ii) large economies in investment where structural components can be combined.

9

18. RHD is the major agency responsible for construction and maintenance of all primary and major portion of the secondary road network in the country. Roads under RHD are classified into three categories national highways, regional highways and feeder roads type A. At present, RHD has nearly 15,000 km of roads, of which 8200 km are paved.

19. Though small compared with size of the country, the highway network has made substantial impact on the hydrological regime. Criss-crossed with rivers and canals, inland waterways served as the main transportation artery for centuries. Habitation followed the river course and the river system suffered very little intervention until recent decades. At the time of the partition of India in 1947, there was only about 600km of paved roads in the area now constituting Bangladesh. Construction of the highway network since then has compartmentalised the country to some extent. Road embankments act as huge barriers and have drastically altered the traditional pattern of drainage of water during heavy rain and floods.

20. It is recommended that:

- i) Hydrological investigation is mostly limited to construction of bridges. The emphasis is on providing water passage and navigation. There is a noticeable tendency to keep bridge spans to the minimum out of cost consideration. This narrow focus needs to be changed. Drastic reduction of water flow over the years is noticed in a large number of bridged rivers. Investigation of this observed phenomenon is necessary.
- ii) More importantly, hydrological impact assessment does not receive sufficient attention while road alignments are fixed. Flood-flow patterns and terrain gradient are seldom included as criteria for highway routing. The emphasis is on connecting administrative and business centres by the shortest route utilising existing alignments where possible. Construction of high embankments in this manner drastically changes the drainage situation (according to a recent decision, all major highway embankments are to be raised one metre above the highest flood level). While current RHD criteria are indeed very important, it is recommended that hydrological impact

assessment must be adopted as an essential element while determining road alignment.

- iii) Coordination and consultation with BWDB is minimal except for protection work. RHD officials acknowledged that considerable benefits could be derived by co-ordinating projects of these two organisations, particularly the structural components and opined that the Planning Commission is the appropriate forum for this.

21. LGED is now a major engineering organisation of the Government and received an allocation of Tk 13280.20 million in the 1993/94 ADP. From the project portfolio in appears that LGED is involved in the implementation of a wide range of infrastructure development activity. LGED is intimately involved in the water sector. Thana/Union Drainage and Embankment Plan, Thana/Union Irrigation Plan, Thana/Union Land and Water Use Development Plans are integral components of the Plan Books initiated by LGED. Apart from irrigation/embankment components of Infrastructure Development Projects (IDPs) If LGED, the department is also implementing Small-scale Water Resource Schemes and the Canal-digging Program. BWDB has entrusted some components of Bhlola Irrigation Project and Secondary Town Protection Project to LGED. Thana-level engineers of LGED consult with local BWDB officials in respect of water sector planning and project preparation. It appears, however, that there is very little co-ordination at regional or national levels.

22. Close coordination with LGED is essential. It is recommended that:

- i) FAP Consultants do not appear to have taken advantage of the work underway/done by LGED. All parties stand to gain by drawing on each other's information pool and harmonizing database and analytical software. The Ministry or the Planning Commission could initiate action in the matter.
- ii) FAP 20 should work more closely with local level LGED officials. LGED could contribute significantly in future replication of compartmentalisation projects.

2

iii) BWDB and LGED should periodically exchange project information to integrate structural components and ensure complementarity where possible. There is enormous scope for cost-saving and better-designed projects. Nazirganj-Nagarbari Road in Pabna district, in which LGED utilised the embankment constructed by BWDB, is an example. In this case, LGED took over an existing BWDB embankment along the Padma, compacted the earthwork, upgraded the embankment to a geometric shape and put in the road surface. The result is a durable embankment and a road, with minimal cost to the economy.

23. BIWTA, established in 1958, is responsible for maintenance and development of inland coastal waterways. Its Hydrology Department conducts regular hydrographic surveys of both inland and coastal waterways to facilitate conservancy and channel marking.

24. Changes in navigation channels result from geo-morphological changes in the hydrological regime. BIWTA has continuous channel data for both inland and coastal waterways for nearly three decades. Focused analysis of this data can yield valuable information relating to morphological changes of individual rivers as well as of the river system as a whole. The analysis will also reveal illuminating clues as to the relationship between the state of the river system and silt deposition in the shallow coastal waters. No such study appears to have been undertaken in the past. It is recommended that the FAP project on river morphology study this whole matter. It is further recommended, on a general basis, that FAP consultants establish and maintain regular contacts with BIWTA officials (in particular of (i) Hydrography and (ii) Conservancy and Pilotage Departments) who have a wealth of practical knowledge of the behaviour of Bangladesh rivers.

25. FAP portfolio includes a number of important study/research projects. Though undertaken as components of FAP, these activities are in fact of a continuing nature and the output has wide use for development planning as well as day to day operations. Some activities are new while some were being done earlier by BWDB/other agencies as part of the mandate.

26. The activities include GIS, River Survey, Topographical Mapping, flood modelling and other study/research activities. Two issues are involved here: (i) institutions which will carry out these activities and (ii) technology transfer. To carry out some of these activities there are special units within BWDB. The other organisations involved are : Water Resource Planning Organisation (WARPO), River Research Institute (RRI). Some of these units/organisations such as WARPO will need considerable strengthening.
27. Technology transfer is a specific objective of some of the FAP project, in particular, FAP 24.
28. To what extent is transfer of technology taking place? The situation is uneven. RRI/BWDB personnel working with SWMC and FAP 25 are taking keen interest in the new technology and they have picked-up skills quite nicely. The same cannot, unfortunately, be said of the staff of Hydrology and Design Directorates. Their participation in the work of FAP 21/22 and FAP 24 has been marginal. As a matter of fact one gets the impression that BWDB, as an organisation, has neither contributed its share to preparation and scrutiny of FAP projects nor taken expected interest in the new technology.
29. In contrast, the private sector has responded enthusiastically to the scope created by FAP studies. They have generally recruited and placed young, forward-looking people for the work. Expatriate Consultants have expressed full satisfaction with the ability, skills and level of effort of the personnel employed by their Bangladeshi counterparts. The same is true of Bangladeshi personnel directly recruited by the Expatriate Firms. It has been stated emphatically that these Bangladeshi personnel, given adequate support, can be expected to continue the work satisfactorily.
30. Lack of adequate funding and logistic support for training is hindering transfer of technology in some cases. In this connection, the problems pointed out by FAP 24 Consultants deserve immediate attention. Similar problems, it is assumed, exist for other projects also.

32

Private Sector Involvement:

31. Performance of private consulting firms and the locally-recruited staff of expatriate firms has given rise to a demand for greater private sector involvement in water sector projects. It has been suggested that private sector capability to plan, design and supervise projects, within the parameters of the overall national plan, should be given full scope. It has also been opined that given proper support the private sector could also undertake hydrological and hydrographic surveys, data collection and analysis. It is understood that this is already being done in many countries. While the principle is sound, following limitations must be taken note of:

- i) since private sector will work for profit, there has to be a sufficiently large market for their services;
- ii) there must be sufficient competition to ensure quality and cost-effectiveness;
- iii) Private consulting firms are working (in FAP projects) as sub-contractors/associates of expatriate firms. They have to show a demonstrated ability to manage and execute projects independently in a professionally-sound and timely fashion.

POE proposes to investigate the private sector option in greater detail in the next phase of its work.

32. SWMC has prepared a specific proposal for transforming this organisation into an independent, self-financing "Centre of Excellence". It will however not be privatised, the shares are expected to be held by the Government. The proposal cites Delft Hydraulics in the Netherlands, Hydraulics Research Limited in the UK and the Lanka Hydraulics Institute Limited as examples. POE has examined the proposal and recommends its acceptance in principle. Details of staffing and gradual transformation could be worked out within the next six months or so. A dependable arrangement for continued access to data for updating the models will also need to be established.

33. FAP 25 Consultants have prepared a proposal for transfer of personnel, equipment and software of the project to SWMC. The Second FAP Conference also gave the same

opinion. SWMC is the natural choice for continuation of flood-modelling work. POE recommend that the Government approve this proposal immediately and inform relevant organisations accordingly. FAP 25 is scheduled to come to a close in October 1994 and immediate decision will facilitate smooth transition.

34. GIS is an extremely useful tool for planning as well as for day to day operations. Ten themes are now reported to be complete for FAP 19 database, including information such as administrative boundaries, soils, hydrology, a digital elevation model and a digital satellite image mosaic. New data under development include flood regimes, a more detailed digital elevation model and linkage with 1991 census results. LGED is also developing a GIS of its own incorporating population, road network, waterways, educational institutions, land-use characteristics etc. in its database. POE is of the opinion that the effort should not be duplicated. Bangladesh is a small country and there can be one GIS incorporating the widest possible database. Development of such a GIS will not be very expensive either, considering the progress already made by FAP 19 and LGED. Since opinion of FAP 19 Consultant on this point was awaited at the time of writing this report, further consideration of the matter is deferred.
35. Completion of the topographic mapping project is relevant in this connection. The GIS digital elevation model is based on topographic survey data from early sixties. New contour maps are necessary to improve the accuracy of the GIS. This work was started under the FINIDA project but only a part of the country could be covered by the time the project came to an end. It is strongly recommended that new funds be lined up for photo-contour-mosaicing of remaining areas of the country.
36. POE feels that current allocation of functions between BWDB, RRI and WARPO needs to be reviewed. BWDB was the all-encompassing organisation for the water sector for a long time. In the process, the organisation became too large and too diversified for efficient management. The load on BWDB has decreased with the creation of RRI and WARPO but further re-structuring is considered necessary. It is suggested that responsibilities be clearly defined on basis of broad separation of functions viz. (i) engineering work, (ii) data collection, compilation, study and analysis, (iii) research and modelling. POE proposes to address this issue in its next report.

The Water Resources Information System (WRIS) project funded by UNDES D is a case in point. By definition and content, this should have been a project of WARPO.

37. Strengthening of WARPO and RRI will require placement of professionals who identify their career with the organisation. Long-term commitment will motivate them to put in their best and develop the organisation. In this context, the system of deputation of officers from BWDB should be reconsidered. These organisations should be allowed to recruit their own professionals and start building up a cadre. for the present, top management can come from outside, but selection should be made on basis of option, aptitude and willingness to serve for a long period.
38. Finally, some words on the proposal of RRI for transforming the organisation into Bangladesh Hydraulic Institute. The idea is sound. Viability of the concept hinges on the ability of current management to secure outside work and generate own revenues. They should be encouraged to pass this test in the interim report.

