

Review Report

**Joint Review of the
International Training Network Centre
for Water Supply and Waste Management (ITN)**

**Bangladesh University
of Engineering and Technology (BUET)**

Bangladesh

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Ref. no. 104.Bang.175



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4. Debriefing Note of 28 April 1999
5. Letter from ITN on TAPP
6. Specific Comments on Part One of the Students' Textbook by the Review Team
7. Comments to the Draft Joint Review Report of the International Training Network Centre for Water Supply and Waste Management (ITN), by:
 - S.6 / TSA, Danida Headquarters
 - The Royal Danish Embassy, dated 14 July 1999
 - The Water and Sanitation Program, dated 27 June 1999
 - The ITN Centre, dated 10 June 1999.

LIST OF ABBREVIATIONS

BIT	Bangladesh Institute of Technology
BL	Budget Line
BRAC	Bangladesh Rural Advancement Committee
BUET	Bangladesh University of Engineering and Technology, Dhaka
CDS	Curriculum Development Specialist
Danida	Danish International Development Assistance
DK	Denmark
DKK	Denmark Kroner
DPHE	Department of Public Health Engineering
DRA	Demand Responsive Approaches
DSA	Daily Subsistence Allowance
EED	Environmental Engineering Division
GOB	Government of Bangladesh
HE	Health/Hygiene Education
HQ	Headquarters
HRD	Human Resource Development
IRC	International Reference Centre, The Hague, The Netherlands
ITN	International Training Network
LGD	Local Government Division
LGED	Local Government Engineering Department
MOE	Ministry of Education
MOU	Memorandum of Understanding
NGO	Non-Governmental Organisation
O&M	Operation & Maintenance
PC	Project Co-ordinator
PD	Project Director
QA	Quality Assurance
R&D	Research and Development
RDE	Royal Danish Embassy
RT	Review Team
SPS	Sector Programme Support
SUST	Shahjalal University of Science and Technology, Sylhet
TAPP	Technical Assistance Project Pro-forma
TNA	Training Needs Assessment
TOR	Terms of Reference
TOT	Training of Trainers
TSA	Tjeneste for Sektorfaglige Anliggender (Technical Advisory Service)
TTTC	Technical Teachers Training College
UNICEF	United Nations Children Fund
UNDP	United Nations Development Programme
USD	United States Dollar
WASA	Water and Sanitation Authority
WB	World Bank
WHO	World Health Organisation
WSP/SA/BD	Water and Sanitation Programme, South Asia, Bangladesh (previously RWSG)
WSS	Water Supply and Sanitation

1. INTRODUCTION

Danida has since 1996 been supporting the "International Training Network (ITN) Centre for Water Supply and Waste Management" established at the Bangladesh University of Engineering and Technology (BUET). The Project is executed through the Water and Sanitation Programme, South Asia (WSP-SA) of the UNDP/World Bank Water and Sanitation Programme (WSP). The Technical Assistance Project Proforma (TAPP) was approved in November 1994 and Danida Board approval was attained in November 1995. The Project was officially launched in December 1996.

The immediate objectives of the project are to:

- re-orient the engineering education;
- update skills of staff and decision-makers within the sector; and
- establish applied research capability.

The Project is implemented by the Bangladesh University of Engineering and Technology (BUET), where the ITN Centre is based. Activities are implemented through a network of six co-operating sub-centres: the Shahjalal University of Science and Technology (SUST), four Bangladesh Institutes of Technology (BITs) and the Polytechnic Institute in Dhaka. The primary beneficiaries are faculty members and students at BUET, BITs and Polytechnic Institutes as well as practising professionals in the field (mainly staff of the Department of Public Health Engineering).

Over a five years period, the Government of Denmark will provide USD 1,259,400 including a 10% service charge to UNDP/World Bank. Outside the above mentioned grant, the Government of Denmark has provided and financed technical assistance of approximately 12 person months to support the planning, start-up and implementation of the ITN Centre. The five-year project period was originally divided into an Establishment Phase of 2.5 years and a Consolidation Phase of equally 2.5 years.

According to the Project Document, joint Danida/World Bank reviews are to be carried out after one, two and five years. The first review was conducted in 1997. The main recommendations of the 1997 Review centred around the need for the ITN Centre to demonstrate that it could make a substantial contribution towards sector development and deliver products and services of value to sector stakeholders. The 1997 Review's recommendations were based on a strategic choice of using one more year for developing and producing high quality outputs to ensure that the ITN Centre would have something to 'show' or to sell. After 12 to 16 months the ITN Centre would then be in a much better position to assert itself on the consultancy market and to put serious thoughts into developing the future business strategy of the ITN Centre. The present review is the second review of the ITN Centre, which has had a strong focus on sustainability aspects.

Detailed Terms of Reference (TOR) for the Mission are enclosed in Annex 1. The objectives of the Review were to:

1. Assess the project implementation in key areas considered to be crucial for the current phase;

2. Assess the overall performance and output of the project so far and make recommendations on whether Danish support to the ITN Centre should continue for the Consolidation Phase of 2½ years;
3. Assess whether the intended objectives of the project are likely to be achieved;
4. Assess the extent to which gender issues and socio-economic considerations have been emphasised in the project activities;
5. Assess the function of the project organisation and its management;
6. Assess the long-term institutional and financial sustainability of the ITN Centre; and
7. Assess the collaboration between the ITN Centre, BUET and WSP-SA and the fulfilment of their respective obligations according to agreements entered into with the Danish Government.

It should be noted that item 2 was modified by the Royal Danish Embassy during the initial briefing, since this issue has been overtaken by events in terms of the approval of the Sector Programme Support, of which the ITN Centre forms part as one of six components. Still the Review Team (RT) has brought forward some recommendations conditional to a continuation of the project of the present scope and within the existing institutional set-up.

The Review Team (RT) had extensive discussions with key stakeholders and implementers of the Project and paid visits to selected sub-centres, i.e. the Bangladesh Institute of Technology (BIT) in Khulna and in Dhaka, and the Polytechnic Institute in Dhaka. A selective list of persons met is given in Annex 2 and the programme of the Review Mission is enclosed in Annex 3. The Review Mission was carried out in Bangladesh in the period 17-29 April 1999.

A Debriefing Note encompassing a summary of key findings and recommendations of the RT was presented to representatives of BUET/ITN, WSP-BD and the Royal Danish Embassy on 28 April 1999. The Debriefing Note is enclosed as Annex 4.

The Review Team (RT) comprised:

- Ms. Lisbet Fich, institutional/educational specialist, team leader, external consultant to Danida.
- Mr. Abu Shahjalal Azad, Senior Public Health Engineer, External Consultant to the Royal Danish Embassy.
- Mr. Bruce Gross, Deputy Manager, UNDP-World Bank Water and Sanitation Programme, Washington.

The RT would like to express its sincere thanks to the Bangladesh University of Engineering and Technology (BUET), the Royal Danish Embassy (RDE) and the WSP-Bangladesh as well as other organisations and individuals, who provided valuable information, which highly facilitated the work of the RT.

A Draft Review Report containing the views of the RT was presented to Danida Copenhagen and subsequently distributed to the ITN Centre and the Water and Sanitation Program by the Danish Embassy. Comments received from the ITN Centre, the Water and Sanitation Program, the Royal Danish Embassy and S.6 / TSA of Danida Headquarters have, where found relevant, been incorporated into this final version of the Review Report. All proposals are subject to approval by the Government of Bangladesh (GoB) and the Government of Denmark.

2. EXECUTIVE SUMMARY

2.1 Findings and Conclusions

2.1.1 Context

A national policy for safe water supply and sanitation was adopted in 1998 by the Government of the People's Republic of Bangladesh (GoB). An integrated element of the policy principles is sector capacity building to improve and broaden the services provided. Danida's Sector Programme Support for the Water Supply and Sanitation Sector (SPS) has as one of the six components the ITN Centre.

The ITN Centre was established to carry out a re-orientation of curricula for engineering education at all levels within the water supply and sanitation sector; to update the skills of staff and decision makers; and to establish applied research capability. The mandate of the ITN Centre is in consonance with the new sector policy of GoB and continued support is assessed as highly relevant.

The Project works through a national network of co-operating institutions with the ITN Centre at BUET as the focal point. The Project is executed through the Water and Sanitation Programme, South Asia (WSP-SA) of the UNDP/World Bank Water and Sanitation Programme. The present project phase will end in February 2001. The subsequent Component Phase under the SPS will then start in March 2001 and run until the end of the SPS five-year cycle in June 2004. Preparations towards the Component Phase should start before year 2000. The GoB Technical Assistance Project Pro-forma (TAPP) needs to be extended for a period of two years to allow for completion of planned activities.

2.1.2 General and Cross-cutting Analysis

Overall, the Project has made immense progress in strategic areas since the last review. A large number of important and strategic outputs have been produced and many activities are ongoing. Project management set-up and daily administration have improved. However, the pace of implementation has been slow and implementation of most activities is gradually sliding compared to plans. The problem needs to be seriously addressed, since it will have important bearings on the future sustainability of the ITN Centre.

Overall – and despite the delays – the ITN Centre has made commendable progress in all the three areas covered by the objectives of the Project. Curricula for the engineering education have been revised with the integration of subjects on, i.a., rural and low-cost urban technologies, socio-economic aspects, community mobilisation and management, gender and hygiene education. Prospects for obtaining a lasting effect are very positive. What could threaten the future sustainability of these initial efforts is mainly the lack of qualified teaching staff to cover the new subject areas, particularly the software aspects.

The area of training of staff and decision makers within the sector has also witnessed good progress in elaborating training concepts and design and documenting it in manuals and training materials / notes. This area is important, since it constitutes the link between the academic world and the practising professionals in the field.

The interest in research opportunities has proven to be great, but it also appears that establishment of research capability within applied research is a somewhat bigger task, particularly in ensuring a balanced representation of pluridisciplinary and socio-economic aspects as well as an adequate field orientation and practical relevance.

2.1.3 General Software Approach

The ITN Centre has placed a high priority on developing an adequate professional understanding of community participation and management and gender issues. This is reflected in the educational curricula for BITs and the Polytechnics, the draft textbook, the Training of Trainers (TOT) courses, and the training and re-orientation courses. The software sections vary in content and in quality, and the ITN Centre should select the best material, adapting it as necessary for the use and the target audience, and use it uniformly in courses and materials. The ITN Centre would also need to develop its own capacity within the area of relevant software aspects and teaching of these subjects.

2.1.4 Re-oriented Educational Curricula and Syllabi

The progress made with regard to approval of the re-oriented curricula by the respective academic councils of the ITN Sub-centres has been satisfactory. The revision of the course curriculum for the Polytechnic Institutes is still pending approval by the Technical Education Board. The Technical Teachers Training College (TTTC) has initiated similar efforts on curriculum revision, but aiming at integrating environmental aspects into the common curriculum for Polytechnic Institutes. It would clearly be beneficial and cost-effective to work more closely with the TTTC on this issue.

The re-orientation of teaching staff included in the TOT may not be sufficient to enable the engineering teaching staff to conduct sufficiently qualified training on software aspects. The ITN Centre should undertake another assessment of teachers' needs for additional training after all the educational institutions have taught the new course material for at least one semester and begin to develop a cadre of local software specialists that can be called upon as needed.

2.1.5 Educational Materials

The technical focus of the student textbook under preparation has been defined as being "a student text book on low-cost technology, community participation, gender awareness and hygiene education in Bangladesh". This focus should be maintained. The textbook should have been given top priority, but still activities took off only in April 1998 with a delay of seven months. The IRC was engaged by Danida HQ with the aim of supporting the ITN Centre in preparing the textbook and strengthening the software aspects in general. The student textbook is still not ready for publication and sufficient time should be allowed to ensure that the quality of the product will fulfil the expectations. There is a pressing need for appropriate text material for the students, when the re-oriented curriculum will be introduced as from May 1999, which should be addressed immediately.

The IRC took the responsibility for Part 1 of the textbook on software aspects, but the quality delivered is not satisfactory. Part 1 of the textbook is far from finalisation. The

present version is neither up to a quality standard required for academic educational textbooks – nor for publication under Danida funding.

On the technical side (Parts 2 & 3), the outline and the topics of these parts of the textbook include a number of essential public health engineering matters as well as relevant issues and technologies used in Bangladesh. However, to offer a clearer understanding to the students, some additions should be considered.

2.1.6 Training

The ITN Centre has revised the overall training strategy and the strategy is now well conceptualised and describes in a comprehensive way the various activity areas of the Project. To fill the gap until the curriculum could be designed, approved and introduced, an orientation course for graduating students covering low-cost technologies and social aspects was prepared. A similar course was developed to re-orient sector professionals who had been in practice for some time. Satisfaction with the courses, as evidenced by the ITN Centre's detailed evaluation reports on each course, was generally high, with no particular areas standing out as especially strong or weak.

Due to delay in approving and implementing the re-oriented curricula at the sub-centres, the next batch of graduating students will not have undertaken studies in the new subjects included in the re-oriented curricula. Hence, one more batch of courses should be conducted.

2.1.7 Applied Research and Development Projects

A Research Committee is responsible for the R&D activities and has prepared a format for submission of research proposals and evaluation criteria for the proposals. In 1998, 17 research proposals were received of which three were finally selected for implementation. In 1999, 32 proposals have been received, of which the Research Committee is considering nine. Final selection is on-going. There is a clear need for more emphasis on inclusion of field-work and field-testing in the research projects and regular monitoring of field activities *in the field* by supervisory researchers appointed for the same purpose.

2.1.8 ITN as Focal Point for National Network

The network of ITN sub-centres presently consists of six attached educational institutions. Memoranda of Understanding (MoU) have been signed with five sub-centres specifying their expected roles and activities as well as defining the support to be provided by the ITN Centre. All sub-centres have appointed an ITN Sub-centre Co-ordinator as the focal point for ITN related activities. The respective Directors, Principal and Dean are members of the ITN Board. Two new sub-centres are proposed: the Technical Teachers' Training College (TTTC), which trains the teachers of the 20 Polytechnic Institutes in Bangladesh, and the Mohila Polytechnic Institute in Dhaka, which is the only all-women polytechnic institute in Bangladesh for young women of 15-19 years.

A needs assessment of the six sub-centres has been carried out. It is comprehensive and presents a thorough picture of the present state of affairs. An operational strategy was developed based on the needs assessment. The general picture portrayed of the sub-centres is rather discouraging with shortage of faculty members in environmental

engineering; heavy teaching obligations; no field experience; limited training/teaching/facilitation skills; and lack of awareness and knowledge of software issues in relation to rural WSS. With the current staffing level and profile of the ITN sub-centres, it is not realistic to expect that the sub-centres will have the capacity to organise more than 1-2 courses for sector professionals per year.

Much more emphasis should be placed on developing the ownership of the sub-centres with regard to ITN related activities. More decentralisation and delegation of responsibilities and tasks is clearly required to foster a spirit of responsibility and drive.

The identification of training needs has been conducted in very broad terms and gives little room for prioritisation of the needs. The present report on needs assessment of the ITN sub-centres cannot be used as basis for design of training programmes for the sub-centres. The re-orientation of teaching staff included in the TOT may not be sufficient to enable the engineering teaching staff to conduct training on software aspects. The faculty members of the Environmental Engineering Division will also need substantive training in areas such as training design and techniques, communication, community mobilisation and management, gender, hygiene education, etc.

A general familiarisation of the ITN concept and experiences from other ITN Centres could enhance the comprehension and commitment to the network in Bangladesh for ITN Centre staff as well as for ITN sub-centre co-ordinators. A study trip to visit other – successful – ITN Centres, such as the TREND in Ghana and/or the IWSD in Zimbabwe is proposed. The trip should be combined with a tailor-made training course organised by the host organisation.

2.1.9 Organisation and Management

The ITN Centre is headed by a Board, which has been extended with members from all the sub-centres. The Vice Chancellor of BUET chairs the Board. In February 1998, an Executive Committee was established. With the present frequency of meetings and lack of substantive discussions and decisions, the Executive Committee has not satisfactorily executed its role.

The present management staffing of the ITN Centre is clearly inadequate and this has had a negative effect on the overall performance of the ITN Centre. A number of activities are delayed. In order to optimise the organisation and to build up a more commercially oriented and sustainable ITN Centre, a full-time Manager should be appointed. The RT proposes this as a condition to maintaining the present scope and set-up of the Project.

The staffing of the ITN Centre comprises a part-time Project Director, a part-time Curriculum Development Specialist, three Consultants, three part-time BUET Specialist and six support staff. The three consultants were envisaged to be replaced by three BUET specialists after three years, but the three BUET staff have only participated to a very limited extent in ITN activities and considering their teaching obligations these staff members will not be able to work full-time for the ITN Centre. To insist on a replacement of the three consultants with BUET specialists would lead to a collapse of the ITN Centre. It should therefore be accepted that professional BUET staff is working only part-time at the ITN Centre on the condition that the Environmental Engineering Division makes available a sufficient number of professionals on part-time and measured in terms of

person months. The support staff is funded by the Project and to ensure continuity and to retain well performing staff a continuation is proposed.

WSP-BD has provided support to the ITN Centre. In the areas of facilitation of the extension of the Board and establishment of the Executive Committee the assistance is appreciated. However, in general the WSP-BD has been playing a reactive role and the support has been less pro-active than what has been required. Particularly in the areas of management assistance, professional advice and performance monitoring, a pro-active WSP-BD assistance would have resulted in greater achievements by the Project.

Under the SPS Danida and the ITN Centre should establish a more direct funding channel that will also relieve the WSP of executing agency duties. Until this happens, the WSP needs an interim role that fits its strategy, uses its comparative advantage, and supports the ITN's objective of eventual sustainability. WSP-BD should hand over its responsibility for management and administration of the ITN Centre to BUET for the remaining project period. This should be done by WSP negotiating a contract with BUET to operate the ITN Centre.

As from 2001 the Danida support to the ITN Centre would fall under the overall SPS for the water and sanitation sector, and the SPS Co-ordination Group should take over the monitoring role of the project from WSP-BD/SA.

External technical assistance will be required to facilitate the process of preparing a business development plan for the ITN Centre, and also to act as a catalyst of change in connection with many of the institutional and strategic changes that have been recommended. The technical assistance should include management representatives of other ITN Centres in order to ensure that the successful experience of other ITN Centres in achieving organisational and financial sustainability will be fully utilised in developing a vision and a business development plan for the ITN Centre in Bangladesh.

There is no serious overlapping of activities in the various components under the SPS and the ITN Centre could clearly complement other components (e.g. in training and research). The ITN Centre could also draw on the expertise of other components in its capacity building programmes (e.g. resource persons, field exposure).

2.1.10 Financial Aspects

The existing procedures for preparation and approval of budgets and accounts appear to be working smoothly and the ITN Centre has expressed satisfaction with the present system. A Government audit is on-going and the audit report will be prepared in due time.

From Danida's point of view, financial transfers are done according to the agreement between UNDP and the Danish Ministry of Foreign Affairs. At the project end, the disbursement rate has been very low: 23% at a point of time, where 45% of the implementation period has passed.

Based on the recommendations presented in the previous chapters, the RT proposes a thorough revision of the budget for the remainder of the present phase. If the activities recommended by the RT are fully adopted, the budget allocation under the present project will be exhausted by the end of February 2001. Hence, the Component Phase will start as

of 1 March 2001. The proposed changes of the budget involve reallocation of contingency funds only; hence, renewed approval by the Board of Danida is not required.

If the agreed schedule for financial transfers is maintained, funds will keep accumulating with the UNDP until the end of 1999 (peaking in June 1999) with a gradual decline towards the end of the project. If Danida finds it more feasible, the payment schedule could be revised to better reflect the actual disbursement rate at project level.

2.2 Recommendations

This section contains a summary of the RT's recommendations. For each recommendation, the relevant section number is noted for further reference. The extreme right column indicates the organisation or body that will be responsible for implementation of the recommendation.

The recommendations fall into two categories:

1. Recommendations which are conditional to maintaining the present scope and set-up of the Project.
2. Recommendations of importance to the fulfilment of the project objectives.

2.2.1 Recommendations Conditional to Maintaining the Present Scope and Set-up of the Project

No.	Activity	Responsible organisation
1	A full-time ITN Centre Manager with a business management profile should be appointed soonest. The Executive Committee should determine the modalities. WSP-SA should prepare the Terms of Reference for the position and present the TOR to the Board for approval. A Recruitment Committee should be responsible for selecting the ITN Centre Manager. The committee should comprise one representative of the WSP, one representative of the Royal Danish Embassy / Danida, and one representative of BUET. (Section 11.1)	WSP-SA ITN
2	When the contracts of the three Consultants presently employed by WSP-BD expire at the end of 1999, funding of the three positions should be continued under contract with the ITN Centre/BUET. Conditions of employment should follow the standards, which are recommended to be established elsewhere. ¹ Until such standards have been adopted, employment conditions of the DPHE-Danida Urban Water and Sanitation Project should apply. (Section 11.3)	WSP ITN
3	The Environmental Engineering Division should make available professional input to the ITN Centre equivalent to at least 24 person months per year. A mechanism for remunerating the input delivered should be developed by the ITN Centre management and approved by the Executive Committee. Remuneration should be linked to actual input delivered. (Section 11.3)	BUET ITN

¹ Under recommendation 23.

2.2.2 Recommendations of Importance to the Fulfilment of the Project Objectives

No.	Activity	Responsible organisation
4	The present support to the ITN Centre should continue as scheduled until the budgetary allocations have been fully exhausted by February 2001. Before August 2000 the ITN Centre should prepare a draft Component Description for the Component Phase. The third review (technical assessment) of the ITN Centre should, apart from reviewing the progress of the project, also carry out an appraisal of the Component Phase. The review-cum-appraisal mission should be fielded in September 2000. (Section 4.6)	ITN RDE
5	With the funds assured for the remaining part of the present project period, the Royal Danish Embassy should immediately issue a letter of consent on the extension of the project. The ITN Centre should immediately initiate the approval of an adequate extension of the Technical Assistance Project Pro-forma. (Section 4.7)	RDE ITN
6	The ITN Centre should improve its training materials on software in line with the suggestions made by the RT in the 1999 Review Report. External specialists should be engaged to assist as necessary, but in particular to help prepare the materials on DRA and review other revised sections. Local specialists in participation and gender should be recruited on a task-by-task basis to add the Bangladeshi experience and strengthen the operational field perspective (documenting best practice examples). A training programme on gender, such as the one offered by the NGO Forum, should be identified and provided for ITN Centre staff and sub-centre co-ordinators. (Section 5.2)	WSP ITN
7	The next revision of the re-oriented curricula should take into account the comments made by the Review Team in the Review Report. (Section 6.1)	ITN
8	The ITN Centre should initiate a close co-operation with the TTTC on further revisions of the curriculum for polytechnic institutes and possibly outsource further interventions to the TTTC. (Section 6.2)	ITN
9	The focus of the student textbook should be kept strictly to rural and low-cost urban water supply and sanitation technologies, community participation and management, operation & maintenance, gender awareness and hygiene education in Bangladesh. The title of the book should reflect this focus. (Section 7.2)	ITN

10	Until the student textbook is ready, the ITN Centre should provide all students being taught under the revised curricula with a complete set of training materials previously developed for the graduating students' courses. The textbook should be issued in a test version, which can be used during the first year of teaching the re-oriented curricula. A thorough review and revision should be undertaken as the final step before publishing the textbook in larger numbers. During the test period, the ITN Centre should prepare a concise plan for publishing, pricing and dissemination of the textbook. The Executive Committee should approve the plan. (Section 7.2)	ITN
11	Being contractually responsible for the quality of Part 1 of the textbook, the IRC should take immediate action to carry out a rewrite of this part, taking into account the comments made by the RT in the Review Report and other reviewers. The WSP-BD should provide necessary technical assistance to the finalisation of the software aspects of the textbook, possibly by involving capable resource persons from the WSP-SA office in New Delhi or the WSP Headquarters in Washington. (Section 7.2)	IRC WSP
12	The ITN editors of Part 2 and Part 3 of the textbook should revise the two parts taking into account the suggestions and comments made by the RT in the 1999 Review Report and other reviewers. (Section 7.2)	ITN
13	Each sub-centre should be provided with funds to procure and install one air-conditioner on the condition that a specific room has been allocated for the ITN Sub-centre activities. (Section 7.3)	ITN
14	The ITN Centre should fully sponsor one annual course for graduating students at each of the sub-centres, until the revised curriculum has been fully integrated and applied. The courses should be organised by the sub-centres utilising their own ITN trained teaching staff, local resource persons and back-up support from the ITN Centre. (Section 8.2)	ITN
15	The ITN Centre should immediately take action to sign the outstanding Memorandum of Understanding with Dhaka Polytechnic Institute. (Section 10.1)	ITN
16	The ITN Centre should soonest initiate negotiations with the Technical Teachers' Training College on inclusion of the college as a sub-centre. A re-orientation and familiarisation course for TTTC teaching staff and a course for graduating students should be organised as soon as possible. (Section 10.1)	ITN
17	The ITN Centre should soonest initiate negotiations with the Mohila Polytechnic Institute in Dhaka with the aim of including the institute in the ITN network as a sub-centre. A re-orientation course for teaching staff of the Department of Architecture should be organised in June 1999. A re-orientation course for graduating students should be organised before the end of 1999. (Section 10.1)	ITN

18	<p>The RT supports:</p> <ul style="list-style-type: none"> • ITN activities should be institutionally anchored within the sub-centres through the respective Heads of Department, who should be responsible for overall supervision and management of ITN Sub-centre activities. • Quarterly meetings for ITN Sub-centre co-ordinators should be held on a rotational basis at each sub-centre. • Costs of local networking and co-ordination should be paid. The budget should be approved by the Executive Committee. • A monthly co-ordination allowance should be given to sub-centre co-ordinators. Modalities and rates should be determined by the Executive Committee. <p>In addition, the RT recommends the following:</p> <ul style="list-style-type: none"> • Individual development plans should be prepared by each sub-centre with assistance from the ITN Centre. • The ITN Centre should intensify assistance to the sub-centres in preparation of semi-annual work-plans and operational budgets. Regular visits to each sub-centre should be carried out by the three full-time ITN Centre consultants to provide assistance in planning, networking, etc. • Financial management should be decentralised and all disbursements (procurement, courses, networking, production of educational models, etc.) should be handled by the respective sub-centre. Specific activity budgets should be forwarded to the ITN Centre for approval followed by transfer of advances. Specific financial management and control procedures should be prepared by the ITN Centre management and approved by the Executive Committee. • Each sub-centre should open a bank account for ITN Sub-centre activities. Signatories should be the Head of Department and the ITN co-ordinator. <p>(Section 10.1)</p>	ITN
19	<p>The ITN Sub-centres should be assisted in building up a local network of resource persons for sub-centre courses and teaching. The ITN Centre should organise TOT courses at sub-centre level for potential co-operation partners and resource persons. (Section 10.1)</p>	ITN
20	<p>A tailor-made training-cum-study-visit to a sister ITN Centre in Africa (e.g. TREND in Ghana and/or IWSD in Zimbabwe) should be organised for the ITN Sub-centre Co-ordinators and ITN Centre staff. The training programme should emphasise software and training competencies. The study visit should focus on experiences in sector networking, capacity building of sub-centres / educational institutions and measures to achieve sustainability. (Section 10.1)</p>	WSP ITN

21	An overall review and revision of the institutional set-up and management structure of the ITN Centre should be conducted in connection with preparation of a long-term business development plan. The Executive Committee should continue to be chaired by the head of the Environmental Engineering Division/Department of Civil Engineering and include representation from WSP-BD and the Royal Danish Embassy (the Sector Advisor upon recruitment). Concise Terms of Reference or job descriptions for all positions and bodies as well as rules of procedure for the Board & the Executive Committee should be prepared by the ITN Centre with external assistance and adopted by the Board & the Executive Committee. (Section 11.1)	ITN
22	Management of the project related part of the ITN Centre, i.e. the Danida funded activities, should be integrated into the overall management structure of the Danida SPS. The ITN Centre should be represented at the SPS Co-ordination Group right from its establishment by the ITN Centre Manager. (Section 11.2)	RDE
23	The Royal Danish Embassy should establish an overall personnel policy for all component staff, determining standard salary scales and allowances, where equal qualifications and responsibilities attract equal remuneration and benefits across all the components of the SPS. (Section 11.2)	RDE
24	The six positions as Project Secretary, Library Assistant, Accounts Assistant, two drivers and an office attendant should continue to be funded by the Project in the present phase and reassessed thereafter. (Section 11.3)	ITN
25	Human Resource Development within the ITN Centre should encompass all professional staff of the Environmental Engineering Division. With a large group of staff targeted, priority should be given to in-house, local and regional training courses. Possibilities for reverse programmes with fellowship training being organised locally should be investigated. (Section 11.3)	ITN RDE
26	The role of WSP-BD should be redefined to emphasise the areas in which they can add value: helping to create a niche and enabling environment for the ITN Centre through their strong linkages to sector actors; advocacy for national accreditation of the ITN Centre; and ensuring access to information and to workshops and other events dealing with current sector issues, dissemination of best practices, and learning opportunities. In preparation of the Component Phase, the management and administrative roles of WSP-BD vis-à-vis the ITN Centre should be phased out. WSP-BD should hand over the full administration of the ITN Centre to BUET. WSP-SA should draft and negotiate a contract with BUET specifying, i.a., conditions of employment for all project staff; financial management procedures that accord with BUET rules and regulations and ensure accountability and transparency; and requirements for decentralised and flexible operations. (Section 11.5)	WSP BUET

27	The relations between the ITN Centre and other SPS components should be based on commercial contracts guiding implementation of activities. The ITN Centre should initiate quarterly meetings with other Components under the Danida SPS in order to explore opportunities for co-operation and agree on common or complementary activities. (Section 11.6)	ITN
28	Possible Danida support to establishment and operation of a sector wide resource centre should be channelled through the NGO Forum. The minor support to establishing library facilities within the ITN Centre and its sub-centres should be continued to ensure easy access to key technical literature and documentation for teachers and students. (Section 11.6)	RDE
29	An international consultant with experience in establishment and management of self-financing training institutions, preferably also with the ITN Network, should be contracted for approx. 3-4 person months over a period of 12-15 calendar months to carry out regular advisory and monitoring visits to the ITN Centre and to facilitate the change process resulting from the 1999 Review recommendations. Short term assistance should also be provided in preparing a business development plan for the ITN Centre. The plan should constitute the main elements for the Component Description for the Component Phase. The team should comprise the Directors, who established the IWSD in Zimbabwe and TREND in Ghana, and a local business management consultant (two-three person months each). With the assistance of the WSP-BD and in consultation with the Danish Embassy, the ITN Centre should prepare Terms of Reference for the assignment and submit these to Danida Headquarters before 15 October 1999. (Section 11.7)	ITN WSP
30	The revised budget presented by the RT in the Review Report should be approved by the ITN Centre and the Royal Danish Embassy. The present project period should terminate, when the funds have been exhausted at the end of February 2001 and the subsequent Component Phase should start 1 March 2001. (Section 12.3)	ITN RDE

3. CONTEXT

3.1 Major Stakeholders in the Water & Sanitation Sector

The major stakeholders of the ITN Centre include a number of educational institutions as well as national implementing organisations.

3.1.1 Educational Institutions

The engineering educational system in Bangladesh encompasses three tiers:

1. Universities:
 - Bangladesh University of Engineering and Technology (BUET) in Dhaka
 - Shahjalal University of Science and Technology (SUST) in Sylhet
2. Bangladesh Institutes of Technology (BIT) in:
 - Chittagong
 - Dhaka
 - Khulna
 - Rajshahi
3. Polytechnic Institutes (in total around 20).

The educational sector of Bangladesh is a growth sector with large investments planned for the coming years. The number of institutions will expand immensely, particularly with regard to the Polytechnic Institutes.

3.1.2 Implementing Organisations

The national agency for rural water supply and sanitation is the Department of Public Health Engineering (DPHE) under the Ministry of Local Government, Rural Development and Co-operatives. DPHE is an engineering oriented organisation, and aspects such as training, community mobilisation, poverty orientation, gender focus and promotion of hygiene are not consistently given the necessary attention.

Independent water and sewerage authorities (WASA) in Dhaka and Chittagong are in charge of water supply and sanitation. In the pourashavas (municipalities), DPHE carries out investments and works, whereas the pourashavas are responsible for operation and maintenance. In addition, the Local Government Engineering Department (LGED) operates within the sector, though on a minor scale.

Many NGOs complement the implementation of water and sanitation projects with the necessary software and non-engineering activities. The NGO Forum has been established as an apex organisation for most small and medium sized NGOs within the sector and offers various types of support (e.g. training) to member organisations. Larger NGOs such as BRAC and Proshika are equipped with extensive and professional training facilities and implement full-fledged water supply, sanitation and hygiene promotion projects.

3.2 The Water Supply and Sanitation Sector

3.2.1 Policy of the Government of Bangladesh

The objectives of the Fifth Five Year Plan 1997-2002 of the Government of Bangladesh (GoB) include some aspects that are of relevance to the water and sanitation sector:

- Strengthening the capacity of sector institutions towards sustainable development of rural water supply and overall sanitation;
- Strengthening of local bodies through extensive training programmes in order to ensure operation and maintenance of installed facilities.

A national policy for safe water supply and sanitation was adopted in 1998 by the Government of the People's Republic of Bangladesh (GoB). The policy was prepared by the Local Government Division (LGD) under the Ministry of Local Government, Rural Development and Co-operatives. It outlines the national objectives and the strategy for improving the standard of public health and improved environment. An integrated element of the policy principles is sector capacity building to improve and broaden the services provided. Specific interventions mentioned are human resource development, appropriate institutional arrangements, training and new roles to be played by local government bodies, NGOs and private organisations. BUET is explicitly mentioned in connection with applied research and development programmes and training within the urban sub-sector of water and sanitation, but not in the rural.

3.2.2 Danida Sector Programme Support

Danida's Sector Programme Support for the Water Supply and Sanitation Sector (SPS) was finally approved in March/April 1999. The SPS is planned to start in July 1999 and will run for initially five years until June 2004. One of the six components of the SPS is the ITN Centre. The present support to the ITN Centre was planned to end in December 2001 (cf. Chapter 12) after which the support to the ITN Centre is envisaged to continue for another 2.5 years in a Component Phase, which will follow the SPS cycle and timing. With Danida's sector programming approach to development assistance, an extension of the support to the ITN Centre into the next SPS Phase from 2004 to 2009 could be expected. The total budget allocation for the ITN Centre under the SPS programme amounts to DKK 5 million for the period July 1999 to June 2004. The amount includes financial provisions under the present phase of the project, which is anticipated to end in February 2001, if all of the recommendations of the RT are adopted.

Successful implementation of all the components of the SPS would to some extent depend on:

- Qualified engineers with relevant knowledge about low cost technologies and pluridisciplinary approaches, and
- Implementation methodologies improved through applied research and development.

As these issues are integral parts of the ITN Centre component, it is assumed that a functional and professional ITN Centre greatly will contribute to the smooth implementation of the other SPS components.

3.3 The ITN Centre

3.3.1 Objectives

The development objectives of the ITN Centre are:

1. Improved human resource base for promotion and wider application of appropriate i.e. socially acceptable, affordable and sustainable low-cost water supply and sanitation for low income groups;
2. Strengthened local capacity for training, information dissemination as well as applied research and development activities.

The immediate objectives of the ITN Centre are:

1. Re-oriented curricula and syllabi for engineering education at all levels within the water supply and sanitation sector;
2. Updated skills of staff and decision makers within the low cost water supply and sanitation sector;
3. Established applied research and development capability.

3.3.2 Strategy

The main elements of the adopted strategy are:

- The Project works through a national network of co-operating institutions with the ITN Centre at BUET as the focal point. Sub-centres will be established at educational institutions, in particular BITs, throughout Bangladesh.
- Emphasis will be given to making the engineering education more relevant in a national context.
- Emphasis will be given to gender issues.
- The links between basic engineering education and refresher training of staff and decision-makers will be strengthened.
- The gaps between implementing sector organisations and educational institutions will be narrowed.
- The applied research and development (R&D) capacity of educational institutions will be strengthened. Attempt will be made to make the R&D activities demand driven in accordance with the needs of the sector.

- Organisational and financial sustainability of the ITN Centre will be promoted.

3.3.3 Organisation

The ITN Centre at BUET is managed by a Board with membership drawn from educational institutions, implementing organisations and donors within the sector.

The ITN Centre is headed by a part time Project Director (PD) from BUET and has the following staff:

- A part-time Curriculum Development Specialist from BUET;
- A Low Cost Technology Consultant, a Community Development Consultant and a Training Consultant on contract employment. One of the consultants has the added responsibility of Project Co-ordinator (PC);
- A Low Cost Technology Specialist, a Community Development Specialist and a Training Specialist from BUET have joined the Project in July 1998;
- Support staff financed by the Project.

3.3.4 Inputs

The Project is executed through the Water and Sanitation Programme, South Asia (WSP-SA) of the UNDP/World Bank Water and Sanitation Programme. The Project is fully funded by Danida and over a five years period, the Government of Denmark provides USD 1,259,400 including a 10% service charge to UNDP/World Bank. The funding of the last 2.5 years was originally made conditional on the outcome of the first 2.5 years and provision of agreed inputs by BUET. In addition, Danida provided a full-time adviser during the first year of implementation.

The main inputs to be provided by BUET to the ITN Centre are:

- Office space and furniture
- Staff
- General administrative support and
- Payment of import duties etc. (CSVAT).

Through the WSP-SA, the UNDP/World Bank is expected to provide:

- Management assistance
- Professional advice
- Budget approval
- Performance monitoring and
- Import of equipment.

4. GENERAL ASPECTS

4.1 General Progress

Overall, the Project has made immense progress in strategic areas when compared to the last review period. A large number of outputs have been produced during the period under review and many activities are on-going. Project management set-up and daily administration have improved. Most of the recommendations of the 1997 Review have been implemented. The few exceptions are caused by general delays in implementation of activities.

However, as illustrated below, the pace of implementation has been slow, with some activities being initiated with delays of more than half a year. Procurement of some items, which were proposed to the 1997 Review, has not been handled at all and a number of activities are behind schedule.

The reasons for the delays will be treated in detail below; however, the major cause being constraints on human resources, both on the management and the technical side of ITN Centre operations (cf. Chapter 11).

4.2 Achievements

A number of important and strategic outputs have been produced:

- The Board has been extended and the Executive Committee instituted
- The training strategy has been revised
- The TOT programme and manuals have been thoroughly revised
- A needs assessment of the sub-centres has been conducted
- An operational strategy for the sub-centres has been developed
- The sub-centres have received extended support
- Regular meetings with the sub-centre co-ordinators have been held
- The educational curricula have been revised and adopted by the BITs
- The student textbook is nearing completion
- Many training manuals and materials have been revised.

No specialised courses have been organised despite the importance previously attached to these courses by the ITN Centre Management.

On the other hand, it must be noted that delays occur in many cases. For each planning period of six months, it appears that activities are delayed within the plan period and others are re-scheduled. It is however very difficult to assess the accumulated delays, since every semi-annual work-plan takes into account delays occurred in the past plan period.

There is an apparent tendency of accepting that the implementation of most activities is gradually sliding compared to plans without any action taken or caution made. The general attitude of acceptance of repeated delays causes reason for concern with regard to prospects for achieving the outputs and activities as stated in the Project Document within the present project period ending in December 2001. A similar concern about a slow rate

of implementation and non-commitment to deadlines has been expressed by the project staff of the DPHE/Danida Water Supply and Sanitation Project, which is one of the potential future clients and 'sister' projects under the Danida SPS.

The problem needs to be seriously addressed, both for the present project phase as well as for the next phase under Danida's Sector Programme Support (SPS), since it will have important bearings on the future sustainability of the ITN Centre as a self-financing consultancy unit. The slow implementation pace is reflected in a very low disbursement rate (26 %).

4.3 Prospects for Obtaining and Sustaining Objectives

Overall – and despite the delays – the ITN Centre has made commendable progress in all the three areas covered by the objectives of the Project:

4.3.1 Re-oriented Curricula

Curricula for the engineering education have been revised and re-oriented with the integration of subjects on, i.a., rural and low-cost urban technologies, socio-economic aspects, community mobilisation and management, gender and hygiene education. With the approval of the re-oriented curricula within BUET and the four Bangladesh Institutes of Technology (BIT), the first institutional barrier has been broken and therefore, prospects for obtaining a lasting effect are very positive. What could threaten the future sustainability of these initial efforts is mainly the lack of qualified teaching staff to cover the new subject areas, particularly the software aspects. On the positive side, it should also be noted that this is an area where ITN Centres in other parts of the world – despite being successful in order activities – have faced serious difficulties in breaking through and some have not succeeded at all. It is acknowledged that such a major re-orientation of well-established academic institutions is an extended process that requires substantial lobbying and persistence. The timing and the efforts involved have probably been underestimated in the original Project Document (cf. Chapter 6).

4.3.2 Updated Skills of Staff and Decision Makers

The area of training of staff and decision makers within the sector has also witnessed good progress in elaborating training concepts and design and documenting it in manuals and training materials / notes. This area is important, since it constitutes the link between the academic world and the practising professionals in the field. It is an addition to the mainstream activities of a university (BUET, BITs) and is as such not integrated in the normal resource allocation of the educational institutions. Long-term sustainability will therefore depend on the extent to which the ITN Centre can sell its services and products on commercial terms and thereby generate sufficient funds for non-engineering core staff and continued development of training concepts and materials. ITN Centres in Africa such as the IWSD in Zimbabwe and TREND in Ghana have succeeded in becoming self-financing in the course of 4-5 years from the time, where they set out to do it in a determined way.

4.3.3 Applied Research and Development

The interest in research opportunities has proven to be great judging from the response to the ITN Centre's announcements of available funding. A number of other projects in the sector has also included provisions for applied research or action research, where the ITN Centre could offer its services and conduct or co-ordinate specific research assignments. However, it also appears that establishment of research capability within applied research is a somewhat bigger task, particularly in ensuring a balanced representation of pluridisciplinary and socio-economic aspects as well as an adequate field orientation and practical relevance. Intensive monitoring and supervision is required and at this stage it is probably too early to predict to which extent the objective can be achieved (cf. Chapter 9).

4.4 Status of Inputs Delivered

Overall, inputs have been provided as follows:

- UNDP has in the period under review ensured timely transfer of funds to the WSP-HQ.
- Transfer of funds from WSP-BD to the ITN Centre has been delayed in a few cases. This has not affected project implementation in any negative way, since pace of implementation has been behind schedule. Management, technical and professional support from WSP-BD to the ITN Centre has been below expectations, though it has been noted that frequent informal interactions have occurred on technical matters (cf. Chapter 11.5).
- As required in the project document, BUET has appointed three professional staff members to the ITN Centre as of July 1998. The staff is however not working full-time with the ITN Centre as originally required (cf. Chapter 11.3).
- Danida has transferred funds to UNDP according to the agreement. Further, the outstanding balance of four person months of technical assistance has been provided as recommended by the 1997 Review (cf. Chapter 12).

4.5 Relevance of Continued Support

As described in section 3.2.1, a national policy for safe water supply and sanitation was adopted in 1998 by the GoB. BUET is explicitly listed as an actor in the urban sub-sector (but not in the rural) in the field of applied research and development programmes and training. The ITN Centre is not specifically mentioned in the national policy. However, the two lead agencies in the sector, LGD and DPHE, have both expressed interest and commitment to utilise the services of the ITN Centre, whether or not it is located within the BUET. The mission and mandate of the ITN Centre is assessed as being in consonance with the new sector policy of GoB. The ITN Centre has a great potential to support the policy's thrust of moving towards user-centred development. If this potential is to be realised, measures must be instituted that give the ITN Centre greater organisational independence, the flexibility to respond to a changing market as the sector evolves, and the capacity to deliver high quality services. These measures will create a vision for the ITN Centre and start it down the road towards organisational and financial

sustainability. Continued support to the ITN Centre is therefore assessed as highly relevant.

4.6 Component Phase of the Support to the ITN Centre

The ITN Centre is one of six components under Danida's SPS to the water and sanitation sector in Bangladesh. The present project period was originally planned to end in December 2001, after which the support to the ITN Centre is envisaged to continue for another 2.5 years under a total budget allocation of DKK 5 million for the period July 1999 to June 2004. This amount includes financial provisions under the present phase of the project.

When reviewing the present status and considering future development scenarios of the ITN Centre, the RT has taken into account this new long-term perspective of the support to the Centre. Measures to proceed towards an increased organisational and financial sustainability of the ITN Centre have been considered and steps towards planning for sustainability are recommended already within the present project phase. Some of these steps would also constitute important inputs to the preparatory process of the Component Phase, which follows the present project phase (cf. Chapter 11.7).²

There appears to be some inconsistency as to when the Project took off and hence, when it will terminate. The Project Document was signed in April 1996 and the ITN Centre was established in November /December 1996. The Danida Educational Advisor was fielded in October 1996. However, the ITN Centre was hardly operational until the end of April 1997 due to extensive delays in transfer of funds from UNDP via the WSP Headquarters to the WSP Dhaka office. Consequently, the 1997 Review assumed a project period starting from January 1997 to December 2001. Based on financial projections, an estimated termination date of February 2001 for the present project phase has been calculated by the RT in Chapter 12. The subsequent Component Phase will then start in March 2001 and run until the end of the SPS five-year cycle in June 2004.

Recommendation: The present support to the ITN Centre should continue as scheduled until the budgetary allocations have been fully exhausted by February 2001. Before August 2000 the ITN Centre should prepare a draft Component Description for the Component Phase. The third review (technical assessment) of the ITN Centre should, apart from reviewing the progress of the project, also carry out an appraisal of the Component Phase. The review-cum- appraisal mission should be fielded in September 2000.

4.7 Legal Agreements and Commitments

The agreement between UNDP and the Danish Ministry of Foreign Affairs was signed in June/July 1996 and remains in force for five years until mid 2001. The agreement can be terminated with thirty days notice given by either party. In that case, the management tasks presently carried out by the UNDP / WSP would have to be executed by directly by Danida.

² The Project /the ITN Centre has been incorporated in the SPS as it stands with the original Project Document of 1995. No changes or adjustments have as yet been undertaken in order to adapt the Project to the new status of an SPS Component. This was one of the tasks that the RT was requested to look into by the Royal Danish Embassy.

The Agreement between the Government of Denmark and the Government of Bangladesh regarding the ITN Centre was signed in April 1996 and remains in force until 31 March 2001.

The GoB Technical Assistance Project Pro-forma (TAPP) for the ITN Centre was approved in 1994 and indicates the project period as running from July 1994 to June 1999. Hence, the Project took off around two years later than what was anticipated in the TAPP. Therefore, the present TAPP needs to be extended for an equivalent period of two years to allow for completion of planned activities (cf. Annex 5). A new TAPP is needed, when the support to the ITN Centre under the next phase will be a component under the SPS.

Recommendation: With the funds assured for the remaining part of the present project period, the Royal Danish Embassy should immediately issue a letter of consent on the extension of the project. The ITN Centre should immediately initiate the approval of an adequate extension of the Technical Assistance Project Pro-forma.

5. GENERAL SOFTWARE APPROACH

5.1 Relevance to Sector Policy

The *National Policy for Safe Water Supply and Sanitation 1998* calls for “transition from traditional service delivery arrangements” to a “service delivery process whose focal point will be the user communities” (p. 3). Twelve principles (pp. 6-8) underlie the policy; among them:

- Value of water, with the eventual objective of pricing that will recover the full costs of service provision, but with a safety net for poor communities during the transition;
- Participation of users at various stages from planning to operations and maintenance, again placing users at the “centre of all development activities”;
- Role of women, in recognition of their crucial role in water management and hygiene education; and
- Capacity building of the sector, including, inter alia, “active involvement of user groups, and new roles for government, local government bodies, NGOs, and private organisations.

Implementation of a user-centred strategy will require approaches that respond to user demands for service, with demand defined operationally as what services users want and are willing to pay for (in cash, labour, or in kind). Demand responsive approaches require careful attention to gender and user participation if they are to succeed.

5.2 Software in Training Materials and Curricula

The 1997 Review recommended that the ITN Centre place “high priority on developing an adequate professional understanding of community participation and management and gender issues...with appropriate attention in all training programmes as well as materials.” The ITN Centre has responded positively to this. It is reflected in the educational curricula for BITs and the Polytechnics, the draft textbook, the TOT courses, and the training and re-orientation courses, which all contain sections intended to remedy the deficits and to help sector professionals cope with software aspects of development programmes and projects. The software sections vary in content and in quality, but they have been evolving in positive directions. In order to continue the positive developments and further improve the training materials, the ITN Centre should select the best material, adapting it as necessary for the use and the target audience, and use it uniformly in courses and materials.

Some information on demand-responsive approaches (DRA) appears in the gender sections of TOT Module III and in the textbook. This material should be expanded with current thinking and best practice examples (from Bangladesh if available). DRA puts users at the centre of the development process, and it will provide the “so what” that is now missing from the treatment of community participation and the gender sections (except for TOT Module III, though it could be formulated even more sharply). It will help sharpen the reasons why participatory, gender-sensitive approaches will lead to better results, i.e., to services that are more likely to be valued by users and so more likely to be sustained. The RT suggests that new material be prepared with DRA serving as the framework for community participation and gender, thereby adding the “so what” that is now not enough in evidence. Further, the sections to be prepared on DRA, gender and

health should illustrate the gender differentiation with regard to implications for water supply and sanitation. For example, men and women view the need for improved sanitation differently (a box in the textbook lists reasons why each may want a latrine), have different requirements for the type of service provided, and so also attach a different value to the service. Likewise, men and women probably will see different benefits from an improved water source, and so have different requirements for how the service will be delivered. Practical examples valid in Bangladesh should be used.

All the software sections, and in particular the materials to be used by the BIT and polytechnic students, should have more practical case examples drawing on lessons from experience in Bangladesh. External local consultants should be engaged to begin the process of identifying and documenting best practice examples from the field for training purposes.

The ITN Centre would also need to develop its own capacity within the area of relevant software aspects and teaching of these subjects. This would most likely require the assistance of external /international specialists in particular to help prepare the materials on DRA and review other revised sections. The need for in-house training for ITN Centre staff and sub-centre co-ordinators should also be assessed in view of the observations and recommendations prepared by the RT.

Recommendation: The ITN Centre should improve its training materials on software in line with the suggestions made by the RT in the 1999 Review Report. External specialists should be engaged to assist as necessary, but in particular to help prepare the materials on DRA and review other revised sections. Local specialists in participation and gender should be recruited on a task-by-task basis to add the Bangladeshi experience and strengthen the operational field perspective (documenting best practice examples). A training programme on gender, such as the one offered by the NGO Forum, should be identified and provided for ITN Centre staff and sub-centre co-ordinators.

5.3 Specific Comments on Software Sections of Training Materials

This section presents a number of specific comments on the various software sections in:

- TOT Module II (Sanitation)
- TOT Module III (Water Supply)
- Participants' Notes to the Students' Training Course, and
- Training Course for Sector Professionals

5.3.1 TOT on Low-Cost Sanitation (Module II)

- Socio-economic Aspects in WSS (Section 4.1)

The section is generally OK with a good socio-economic background, good description of women and water, but some confusion about demand. There is no mention that demands of both men and women have to be assessed. The section might cite the new national policy and user-centred development in section 6.1 or this section might be better as section 3 because it provides the framework for why the rest of the topics are important

- Community Participation in WSS Projects (Section 7.1)

This section is generally OK, but it has lots of theory and no examples of any kind. The box “Characteristics of a Demand-based Approach” reflects current thinking. It should be used in a new section on making projects respond to demand, which should precede the discussions of community participation and gender. This would help to explain why participation and gender are important.

- Gender Issues in WSS (Section 8.1)

The section is weak and should be replaced with the material in TOT Module III.

- Health Education and Hygiene Promotion (Section 9.1)

This section seems to be OK, though no examples are used.

- Communication in Social Mobilisation (Section 10.1)

This section seems complete and it even explains the “why”, but again it has no examples. It could be questioned whether knowledge about social mobilisation is necessary.

5.3.2 TOT on Low Cost Water Supply (Module III)

- Community Participation in Water Supply (Section 10.1)

This section is muddled and theoretical, and should be replaced with material from TOT Module II.

- Gender Issues in Water Supply (Section 11.1)

This is generally good material and should be used in place of the section in TOT Module II. The first four paragraphs have nothing to do with gender, but do help set the stage and remind people of the socio-economic background that appeared in TOT Module II (and does not reappear in Module III – should it?). Section 11.3 on gender and demand should probably precede Section 11.2 (gender analysis), because it provides the framework for why we do gender analysis.

Examples could help clarify how gender aspects of water supply and sanitation differ.

5.3.3 Participants’ Notes to Course for Students and Sector Professionals

Participants’ Notes 2 (Socio-economic Aspects of WSS) and 16 (Health Education and Hygiene Promotion) are essentially identical to sections in TOT II. Comments will not be repeated here.

The table on the following page presents a summary comparison of the software sections in TOT Modules II and III and in the Participants’ Notes to the Students’ Training Course and the Training Course for Sector Professionals (identical sections in each).



Topic	TOT II on Sanitation	TOT III on Water Supply	Participants Notes
Socio-economic aspects	Complete section, including material on women and water, contents of social assessments, and development strategy in Bangladesh	No separate section, some data appears in introduction to section on gender issues	Same material as in TOT II
Community participation	Generally good section, applicable to both water supply and sanitation; no examples. Good box on demand-based approach.	Theoretical section that provides no guidance as to good practice; not specific to water supply	Improvement and expansion of material from TOT II: includes box explaining reasons for participation; text explaining forms of participation; and seven methods to obtain participation
Gender issues	Theoretical, not at all related to gender issues in sanitation (or water supply, for that matter).	Generally good section, introduces concept of gender and demand, provides practical guidance, not specific to water supply.	Begins with TOT II section. Adds new and useful material: Q&A on gender issues, gender policy, gender issues in projects, etc. Does not cover gender and demand (covered in community participation)
Health education and hygiene promotion	Tightly written section with introduction specific to sanitation, good flow, right amount of information on all key topics, summary of main points at end.		Essentially similar to TOT II
Hygiene practices, education programme, and hygiene education issues		More detail than in Module II, covering both water supply and sanitation, may exceed what target audience needs. Not as logically presented as Module II.	
Communication in social mobilisation	Good section, clear messages that blend theory and practice, probably about right amount of detail for audience.		Not covered

6. RE-ORIENTED EDUCATIONAL CURRICULA AND SYLLABI

6.1 BUET, BITs and SUST

The progress made with regard to approval of the re-oriented curricula by the respective academic councils of the ITN Sub-centres has been satisfactory. In case of the BITs and SUST, a revision of the curricula can be approved by the individual institutions, and as of now all the four BITs and SUST have approved the curricula. In BUET courses, most of the subjects in the re-oriented curriculum have been included and are taught in Level 3 and 4 courses. It is anticipated that during an up-coming review of the overall course system in BUET, the WSS courses will be updated.

The BITs in Dhaka, Chittagong and Khulna will adopt the re-oriented curricula from the academic sessions beginning this year. The entire curricula will be covered for the final year students during the 7th and 8th semesters. BIT Khulna will begin its session from 9 May, but is yet to identify and prepare resource person(s) to take the classes on socio-economic subjects. It is very likely that such resource persons would be available locally from other sector agencies, educational institutes or NGOs. SUST has partly implemented the re-oriented curricula.

The re-oriented curricula for under-graduate courses have incorporated most of the low-cost water and sanitation technologies applied in Bangladesh. There is however, a need to expand the curricula with additional subjects. The re-oriented curricula for under-graduate courses should incorporate the following subjects:

On Water Supply:

- The situation in Bangladesh in respect of source, water quality and quantity with regional and seasonal variations in rural and low-income urban areas.
- Considerations for source and technology selection in rural and low-income urban areas of Bangladesh.
- Gravity-fed systems, infiltration gallery, ring-well and standpipe technologies.

On Sanitation:

- The relationship between sanitation and health; the faecal-oral route, the disease transmission cycle and essential interventions.
- The basic criteria and minimum requirements of a sanitary latrine.
- The potential economic value of digested human excreta and means of realisation through different sanitation options.
- San-plat technology
- Considerations for technology selection in rural and low-income urban areas of Bangladesh.

Recommendation: The next revision of the re-oriented curricula should take into account the comments made by the Review Team in the Review Report.

6.2 Polytechnic Institutes

In the case of the Polytechnic Institutes, all 20 institutes teach according to a common curriculum, which is centrally approved by the Technical Education Board. The ITN Centre has undertaken a revision of the course curriculum for the Polytechnic Institutes

and forwarded it to the Chairman of the Technical Education Board, the Technical Teachers Training College (TTTC) and the Principal of Dhaka Polytechnic Institute, which is the only Polytechnic Institute adopted as an ITN sub-centre. The response is pending.

In the next revision of the reoriented course curriculum for the polytechnic institutes, the RT suggests that the following subjects should be included:

- A situation analysis of water and sanitation in Bangladesh
- Sanitation technologies such as:
 - Infiltration gallery
 - Gravity-fed systems
 - Home-made pit latrines and
 - San-Plats.

During the visit of the RT to the TTTC, it appeared that in a different context TTTC has initiated similar efforts on curriculum revision, but aiming at integrating environmental aspects into the common curriculum for Polytechnic Institutes. A two-week workshop was on-going with external technical assistance for facilitation and with participation from a number of Polytechnic Institutes. Since the TTTC is the key institute for capacity building of Polytechnic Institutes, it would clearly be beneficial and cost-effective to work closely with the TTTC on all aspects related to re-orientation of the polytechnic courses: curriculum revision, educational materials and capacity building of teaching staff.

Recommendation: The ITN Centre should initiate a close co-operation with the TTTC on further revisions of the curriculum for polytechnic institutes and possibly outsource further interventions to the TTTC.

6.3 Capabilities of Teaching Staff

At present, the exposure of the faculty members to the re-oriented curriculum consists, at most, of Training of Trainers (TOT) and subsequent participation in a re-orientation course for graduating students. The re-orientation of teaching staff included in the TOT may not be sufficient to enable the engineering teaching staff to conduct sufficiently qualified training on software aspects such as community management, hygiene education (behaviour, practices), gender, etc. – particularly not on the higher level required in the revised curriculum.

The RT interviewed faculty members from the Bangladesh Institutes of Technology (BITS) and Dhaka Polytechnic Institute and they all expressed discomfort with their readiness to teach the software aspects (in particular) of the re-oriented curriculum. They will need additional training, or specialist teachers will have to be brought in from outside, or both. In addition, all the sub-centres badly need the students' textbook along with a teaching guide and teaching aids in order to effectively run the courses.

It is suggested that the ITN Centre undertakes another assessment of teachers' needs for additional training after all the educational institutions have taught the new course material for at least one semester and begin to develop a cadre of local software specialists that can be called upon as needed. The whole programme on revision of

curricula should be evaluated with the aim of identifying gaps, need for development of additional educational materials, training needs of teaching staff, etc. The ITN Centre should develop a strategy on how to support and monitor a full institutionalisation of the curricula in all the sub-centres. These issues are further discussed in Chapter 7 and 9.

7. EDUCATIONAL MATERIALS

7.1 Review of Educational Materials

Large quantities of educational materials have been collected from various sources. The materials cover the following categories:

- Water & Sanitation: Planning, reviews and strategies
- Socio-economic and development issues
- Gender and WID issues
- Environmental issues (general)
- Education, training and teaching
- Community participation in WSS
- ITN publications
- Training Manuals and Materials
- Water supply, sanitation and waste management
- Health issues
- Journals and newsletters.

The materials were reviewed in connection with the development of the student textbook, which is an activity that has been on the agenda since the launch of the ITN Centre. Relevant matters were extracted for inclusion in the textbook. A particular review report on the materials was not prepared.

7.2 Development of a Student Textbook

7.2.1 Technical Focus of the Student Textbook

The preparation of a student textbook has been on the agenda since the launch of the ITN Centre. The right and ownership of textbook will belong to the ITN Centre. The focus of the textbook has been defined as being “a student text book on low-cost technology, community participation, gender awareness and hygiene education in Bangladesh”.

It is the opinion of the RT that this focus should be maintained, as general textbooks on technical aspects of water supply and sanitation are readily available on the market and since it would be the Bangladeshi focus that would make the book interesting and relevant to the target groups of the Project. This would also be in compliance with the ‘Option 1’ as proposed by the Project Director in the work-plan of 21 September 1997 for preparation of the textbook and with the decision made during the second visit of the IRC Consultant in June 1998 (to produce one textbook only).

Recommendation: The focus of the student textbook should be kept strictly to rural and low-cost urban water supply and sanitation technologies, community participation and management, operation & maintenance, gender awareness and hygiene education in Bangladesh. The title of the book should reflect this focus.

7.2.2 Status of Development of Student Textbook

The 1997 Review noted that the textbook had been given very low priority and that the ITN Centre should give top priority to producing this output. In the work-plan of 21

September 1997, activities were anticipated to take off in October 1997 and the final product to be ready for distribution by October 1998. In April 1998 – in accordance with the work-plan – the IRC was engaged by Danida HQ with the aim of supporting the ITN Centre in preparing the textbook and strengthening the software aspects in general. Apparently only then activities were initiated – with a delay of seven months.

Activities carried out:

1. First visit of IRC consultant to the ITN Centre, May 1998
2. Tailor-made briefing programme in the Netherlands for two ITN Centre staff 1-5 June 1998
3. Second visit of IRC consultant to the ITN Centre 29 June to 16 July 1998
4. Workshop for ITN Sub-centre Co-ordinators to discuss the textbook
5. Invitation of local consultants to write parts of the textbook
6. Three weeks visit by two ITN Centre staff to IRC for writing of textbook October 1998
7. Third visit of IRC consultant to ITN 20-29 November 1998
8. Workshop for stakeholders to discuss the textbook
9. Revision of draft textbook based on workshop suggestions; ITN & IRC; Dec 1998 - Jan 1999

On-going or planned activities:

10. Preparation of slides and sample overhead sheets; ITN & IRC; (planned for Jan-Feb 1999)
11. External review of textbook; IHE, IRC & selected resource persons in Bangladesh; (planned for Jan-Feb 1999, on-going in April/May)
12. Revision of draft textbook; ITN & IRC (planned for Feb-Mar 1999)
13. Development of teachers' guide; ITN Consultants; (planned for Feb-Mar 1999)
14. Editing; IRC; (planned for Mar 1999)
15. One week visit by one ITN Centre staff to IRC (planned for March, now May 1999)

It appears that not much progress has happened since the November 1998 workshop (activity 8). Only in April 1999, external reviewers in Bangladesh were contacted; also in April 1999 the IRC carried out a review of Part 1. IHE has apparently not been involved in the review as yet. Neither has the work on the teachers' guide, slides and sample overheads started. Overall, the delay when compared to the original work-plan is around nine to ten months.

For a number of reasons, it was anticipated to involve local consultants in the drafting of the textbook. One of the reasons was that ITN Centre staff does not have much field experience; hence it would be crucial to involve local consultants with field experience. Some contributions to the textbook were prepared by two DPHE engineers and the national officer of WHO. However, the materials produced by the local consultants could not be used directly. Instead, existing documentation was gathered and used to picture experiences from Bangladesh.

It has become clear that there is still some way to go, before the student textbook will be ready for publication. The RT is convinced that the production of the textbook should be

given sufficient time to ensure that the product can fulfil the expectations. At the same time, there is a pressing need for appropriate text material for the students, when the re-oriented curriculum will be introduced as from May 1999, and this need should be addressed immediately.

Recommendation: Until the students textbook is ready, the ITN Centre should provide all students being taught under the revised curricula with a complete set of training materials previously developed for the graduating students courses. The textbook should be issued in a test version, which can be used during the first year of teaching the re-oriented curricula. A thorough review and revision should be undertaken as the final step before publishing the textbook in larger numbers. During the test period, the ITN Centre should prepare a concise plan for publishing, pricing and dissemination of the textbook. The Executive Committee should approve the plan.

7.2.3 Part 1: Software Aspects of Water Supply and Sanitation

The Engineering students, the primary target audience for the textbook, need a minimum of theory on software, but they do need to understand why these aspects are critical to sustainability and what works and what does not work, and why. Unfortunately, while the theory of participation and gender is well established, the understanding of their application in the water supply and sanitation context – precisely what the engineering students need to know – is still evolving. The sector is just now learning how to implement the Dublin/Rio principles dealing with demand, management of services at the lowest appropriate level, and stakeholder involvement (in particular women stakeholders). Until a consensus regarding best practices evolves, teaching and training about them is more safely done using materials developed from experience (case studies, field notes, best practice notes) that have a short shelf life and less authority than a textbook.

The number of comments on the first ten sections of Part 1 underscores the difficulty of preparing this material. There are many significant differences of opinion about concepts and approaches that should be used, and often few (if any) good examples can be found to illustrate good practice. The development community needs to learn much more before it can offer definitive guidance.

The textbook is supposed to be a piece of educational material that should serve as a guide to learning, but as the text presents itself in the present version, it does not guide the reader to a genuine comprehension of the linkages and relations between the various topics. The presentation of background information, theory, practical experiences are written in a much too implicit style, which presumes that the reader already has substantial knowledge or at least is familiar with general trends and policies of the sector. The rewrite of Part 1 should be undertaken with the target group in mind. The RT's suggestions for features that could be included are presented below:

- Summary points
- Emphasis on learning points and conclusions
- Elaboration of conclusions for each section or chapter
- Case studies as learning cases for students (and not only as pure descriptive cases)
- Focus on problem identification and problem solving e.g. through case studies

- Design of practical / discussion / case exercises for students, which would get the students to generate solutions and to apply the general theory in practical exercises
- Evaluation questions at the end of each section for reflection.

More detailed comments on Part 1 of the textbook are offered in Annex 6.

Apparently, the role of the IRC Consultant has been widened from what was required in the TOR. During the second visit of the IRC Consultant it was agreed that she would be responsible for the first part of the textbook as well as particular sections on socio-economic aspects in the other two technical parts. Hence, the IRC took upon their shoulders the responsibility for Part 1 of the textbook on software aspects. It is the opinion of the RT that the quality delivered by the IRC should be expected to be at a somewhat higher level than what has been produced until now. It is at present far from satisfactory. The overall conclusion is that Part 1 of the textbook is far from finalisation and that the present version, which has been circulated for external review, is not up to a quality standard required for academic educational textbooks – nor for publication under Danida funding.

Recommendation: Being contractually responsible for the quality of Part 1 of the textbook, the IRC should take immediate action to carry out a rewrite of this part, taking into account the comments made by the RT in the Review Report and other reviewers. The WSP-BD should provide necessary technical assistance to the finalisation of the software aspects of the textbook, possibly by involving capable resource persons from the WSP-SA office in New Delhi or the WSP Headquarters in Washington.

7.2.4 Part 2: Environmental Sanitation & Part 3: Water Supply

On the technical side (Parts 2 & 3), concerns have been voiced by the IRC that the technical parts of the textbook are not sufficiently focused on the Bangladeshi context and that certain types of technologies are included, which are not relevant to a rural or low-cost urban setting in Bangladesh. It is the opinion of the RT that the outline and the topics of these parts of the textbook at present include a number of essential public health engineering matters as well as relevant issues and technologies used in Bangladesh. However, to offer a clearer understanding to the students, some additions should be considered.

Suggested additions to Part 2:

- The magnitude of sanitation problems in Bangladesh, the quantity of human excreta produced and quantity going to public domains every day, reasons for slow progress in sanitation provision, background of the need for more than one single technology, specific problem areas like the coastal belt, flood-prone areas, haors, urban slums, etc.
- Basic criteria of sanitary latrines and minimum requirements. Status of various latrines used in Bangladesh measured against the criteria. Advantages and disadvantages in operation and maintenance of different types of latrines used in Bangladesh. Considerations to be made in technology selection.
- Operation and maintenance procedures for different types of latrines. Proper installation methods of pit latrines. Hygienic disposal of the filled up pits. The potential economic value of digested human excreta and how to realise it.
- San-Plat, communal septic tanks and duckweed production technologies.

Suggested additions to Part 3:

- The situation in Bangladesh regarding source and water quality with seasonal and regional variations. Considerations for source and technology selection.
- Gravity-fed systems.

Recommendation: The ITN editors of Part 2 and Part 3 of the textbook should revise the two parts taking into account the suggestions and comments made by the RT in the 1999 Review Report and other reviewers.

7.3 Other Educational Materials

Reference books and reports on different topics, which have been collected from various sources, have been provided to all the sub-centres. At present, all materials are kept in offices allocated for ITN activities or in the office of the ITN sub-centre co-ordinator. The risk is that either the documentation may not be accessible to other faculty members or students – or they may not be aware about the availability of materials. The RT therefore, suggests that all books and major published documentation materials provided to the ITN sub-centres should be integrated into the general or departmental library of the respective sub-centre in order to make the materials available and accessible to the largest possible number of teachers and students.

Support to the sub-centres also includes training equipment such as overhead and slide projectors and computer equipment. As recommended by the 1997 Review, a fax machine and a photocopier are being procured. However, in order to protect the equipment and to ensure proper and reliable operation and maintenance, air-conditioning is required to regulate humidity and temperature.

Recommendation: Each sub-centre should be provided with funds to procure and install one air-conditioner on the condition that a specific room has been allocated for the ITN Sub-centre activities.

It was further intended to provide each ITN Sub-centre with portable demonstration models of various types of water supply and sanitation technologies. Construction of these models has not yet been undertaken. Other sector organisations (e.g. the NGO Forum) have prepared similar demonstration models for their own training programmes and such an organisation or its staff could be contracted to produce similar models for the ITN Centre. The RT suggests that the ITN Centre soonest contract a relevant organisation or capable individuals to construct one set of demonstration models (rural and urban low-cost water and sanitation technologies) for each sub-centre as well as for the ITN Centre itself.

8. TRAINING

8.1 Training Strategy

The 1997 Review recommended that neither the ITN Centre nor its sub-centres be directly involved in training of staff and decision makers at the grass-root, i.e., the sub-organisational, level, and that the ITN Centre revise the target groups in its training strategy to reflect this recommendation. Both recommendations have been followed. There has been no further training conducted at the sub-organisational level, and the training strategy excludes this level from the target groups.

The ITN Centre has revised the overall training strategy and the strategy is now well conceptualised and describes in a comprehensive way the various activity areas of the Project. The training plan, which is included in the Training Strategy, sets targets for the number of courses, participants and trainee days to be achieved in the course of the project period.

The subsidy strategy as outlined in the training strategy should be reviewed and approved by the Executive Committee. However, being a non-income generating activity, the courses for graduating students should be fully sponsored by the ITN Centre until the revised curricula have been fully adopted and institutionalised by the respective sub-centres.

8.2 Orientation Courses for Graduating Students

To fill the gap until the curriculum could be designed, approved and introduced, an orientation course for graduating students covering low-cost technologies and social aspects was prepared. A similar course was developed to re-orient sector professionals who had been in practice for some time. The course objectives are, generally, to introduce participants to recent developments in low-cost technologies and their application, to acquaint them with the associated software issues and how they can be addressed, and to motivate them to blend hardware and software in order to achieve sustainable solutions.

At the time of the first review, orientation courses for graduating students had been conducted at BIT Khulna and ITN BUET. Since then, this course has been conducted at four of the five remaining sub-centres; no course has been necessary at SUST because there is as yet no class of graduating students.

Orientation Courses for Graduating and Polytechnic Students

Location	Participants	Date	Number of Days	Total Participants	Total Women
BIT, Khulna	Graduating students	May 1997	5	49	2
ITN, BUET	Graduating students	July 1997	4	41	6
ITN, BUET	Graduating students	July 1997	4	39	12
BIT, Rajshahi	Graduating students	Sept. 1997	5	65	1
BIT, Chittagong	Graduating students	July 1998	5	71	2
BIT, Dhaka	Graduating students	Aug. 1998	5	55	2
DPI	Polytechnic students	Feb. 1999	5	98	2
Total			34	418	27

The courses were five days in length, except at BUET, where time permitted a course of only four days' length. The format provided for a mix of theory and practice, including some fieldwork. The course contents included the following topics:³

I	Introductory	Water, Waste and Health Socio-economic Aspects of WSS Appropriate Technologies in WSS
II	Water Supply	Water Supply Options Clarification and Dis-infection Iron Removal Arsenic Removal Salinity Avoidance
III	Sanitation and Waste Management	Sanitation Practices Sanitation Options Waste Composting Biogas Technology Agri/Aquaculture
IV	Social and Management Aspects	Hygiene Promotion Gender Aspects in WSS Project Cycle Management Community Participation in WSS Projects Operation, Maintenance and Sustainability of WSS

Although the topics changed little during the 18-month period from the BIT-Rajshahi (September 1997) to the Dhaka Polytechnic one (February 1999), ITN Centre staff said adjustments were made as they gained experience. Software issues were clarified and given greater time, field visits were better planned and organised and greater use was made of visual aids (slides and videos). These improvements were reflected in the participants notes, which have now been assembled into the *Students' Training Course on Water Supply and Waste Management*, a publication which covers 17 topics. This document was first used in August 1998 at BIT, Dhaka.

Satisfaction with the courses, as evidenced by the ITN Centre's detailed evaluation reports on each course, was generally high, with no particular areas standing out as especially strong or weak. Most students observed that the course should have been longer, in particular to provide more time for field and laboratory work.

In order to obtain direct feedback from students who attended the orientation course, the RT talked with eight graduating students (one female) who had participated: two from Khulna BIT, five from Chittagong BIT, and one from Dhaka BIT. Half the students are enrolled in a master's program; three are employed in the private sector; the other is lecturing. None of the students is engaged in any activity directly related to the water sector. The students were positive about the course and impressed with the methodology of the training, for a variety of reasons:

- The opportunity for the practical experience afforded by the fieldwork in groups, which also included interaction with people, since the curriculum used

³ Training and Evaluation Report on Students' Training Course at BIT-Rajshahi, p. 4.

by the BITs emphasises theory, relies on lectures, and makes no provision for practical experience. One student noted that even though he was not continuing with water and sanitation, the techniques he had learned about how to talk to people would be useful in other fields, as well.

- The inclusion of material on socio-economic aspects, community participation, and health and hygiene, topics which they had not previously been exposed to. Subjects and technologies directly related to Bangladesh were also mentioned as particularly interesting.
- The variety of teaching methods and use of audio-visual aids, in contrast to their regular instruction, which consists only of lectures, made learning more interesting. Some of them suggested that similar methodologies should be applied in normal teaching practice to make the learning more effective.
- Exposure to technical material about water supply and sanitation in rural areas, from which many had come. Arsenic was mentioned as a new topic by several students and a number appreciated learning about sanitary latrines.

Due to delay in approving and implementing the re-oriented curricula at the sub-centres, the next batch of graduating students will not have undertaken studies in the new subjects included in the re-oriented curricula.

Recommendation: The ITN Centre should fully sponsor one annual course for graduating students at each of the sub-centres, until the revised curriculum has been fully integrated and applied. The courses should be organised by the sub-centres utilising their own ITN trained teaching staff, local resource persons and back-up support from the ITN Centre.

8.3 Courses for Sector Professionals

Three re-orientation courses for sector professionals have been conducted. All three were considered to be “test-run” courses; they gave both the ITN Centre staff and the sub-centre faculty (who served as resource people) the opportunity to gain experience with the subject matter and training methods.

Location	Date	Number of Days	Total Participants	Total Women
SUST, Sylhet	December 1997	3	28	1
BIT, Khulna	August 1998	3	26	2
BIT, Dhaka	March 1999	3	18	7
Total		9	72	10

All three courses had similar content that covers five broad areas:⁴

I	Introductory	Water, Sanitation and Health Socio-economic Aspects of WSS
II	Water Supply	Water Supply Options in Rural Areas in Bangladesh Alternative Water Supply Options Water Quality Problems
III	Sanitation and Waste Management	Sanitation Options in Rural and Low-income Areas in Bangladesh (I and II) Solid Waste Management
IV	Social Aspects	Health Education and Hygiene Promotion Gender Aspects in WSS
V	Project Management	Operation, Maintenance and Sustainability of WSS Community Participation in WSS Projects

As with the orientation courses for graduating students, ITN Centre staff learned from one course and made adjustments in the next. The first course at SUST apparently lacked organisation and collaboration between the ITN Centre staff and SUST was less than optimal. Eight months later, in Khulna, the BIT faculty was more involved in course design and delivery, and the content was adapted to reflect the area-specific water supply and sanitation situation (salinity and a high water table). When the third course was offered at BIT, Dhaka, it had been recast as a *Training Course for Sector Professionals on Water Supply and Waste Management*. About 40% of the participants came from NGOs and private companies, and each received a comprehensive, bound set of participants' notes.

Judging from the course evaluation, all three test-run courses were well received: on average about 2/3 of the participants found the various topics good or very good, and almost none rated them poor or very poor. ITN Centre staff cautioned, however, that culture may prevent participants from responding candidly when feedback is sought formally, as it was through the questionnaire. As with the students, however, many participants noted their wish for a longer course, with more opportunity for fieldwork.

8.4 Participants' Notes

In relation to both the Orientation Courses for Graduating Students and the Courses for Sector Professionals, a comprehensive set of participants' notes has been prepared by the ITN Centre. The participants' notes have the format of a handbook, where some topics are dealt with more adequately than others. It is suggested that the notes for the Orientation Courses for Graduating Students should include in Note 05 aquaculture (duckweed) as practised in Bangladesh. Likewise, Note 08 should include water technologies such as rain-water harvesting, infiltration gallery and gravity-fed systems. It would further be of help to the students or course participants to clearly state the objectives and expected outputs for the courses as well as for the individual sessions in order to keep both trainers and trainees focussed.

⁴ Training and Evaluation Report on Training Course on Water Supply and Waste Management for Sector Professionals at BIT Dhaka, p. 3.

9. APPLIED RESEARCH AND DEVELOPMENT PROJECTS

A Research Committee within the ITN Centre is responsible for the R&D activities of the Project. The Committee has developed TOR for itself, the principal researcher and the research supervisor. A format for submission of research proposals and evaluation criteria for the proposals were also prepared by the Research Committee. It has identified the broad areas of research in the light of what have been indicated in the TAPP. The Committee has decided to broaden the scope and undertake research in additional areas, if assessed relevant. The Research Committee meets as and when required and has met seven times since September 1997. The minutes reflect that substantive issues are discussed and decided upon during the proceedings of the meetings.

Proposals for research projects have been invited from interested researchers through public advertisement. The approach is innovative and effective – not only in widening the research base, but also in building research capacity within the sector. In 1998, 17 research proposals were received of which three were finally selected for implementation. In 1999, 32 proposals have been received, of which the Research Committee is considering nine. Proposals of extremely high costs were discarded. Final selection is on-going.

The three research projects currently on-going are all undertaken by external researchers. The ITN sub-centres are yet to take up research assignments. The very high research potential of the Environmental Engineering Division and the Institute of Appropriate Technology at BUET is yet to be exploited.

9.1 Comments on Three On-going Research Projects

9.1.1 Sanitation Strategies & Technologies for Flood-prone and High Water Areas

The topic *per se* is of relevance to Bangladesh and the research included a desk study, fieldwork and discussions at community level. The conclusions of the research were presented by the principal researcher at a seminar on 26 April 1999, where various physical options for different situations were proposed. Unfortunately no field-testing of the proposed options had been carried out and so the basic concept of applied research had been defeated. None of the proposed options can be applied without adequate field-testing in order to establish technological viability, user acceptance of technologies (male, female and children), affordability and implications for operation & maintenance.

9.1.2 Developing Handy Kit for Detection of Arsenic in Groundwater

As for the above, this topic is also relevant to Bangladesh. However, the final draft report submitted by the principal researcher was not accepted by the Research Committee. The major lesson learnt here is that the competence of principal researchers should be scrutinised and thoroughly evaluated before an research contract is awarded.

9.1.3 Situation Analysis on Water Supply and Sanitation Sector Research

As the title implies, this is not a project, which could be characterised as applied research. However, it is likely to produce very useful reference material for the Research Committee as well as for other prospective researchers.

9.2 Short-list of Nine Research Proposals for 1999

The nine short-listed research proposals comprise:

1. Development of a cluster-based family size surface water treatment technology for rural Bangladesh
2. Participatory appraisal on women's role in water and sanitation practices
3. Community participation in Bangladesh in the water supply and sanitation sector
4. Assessment of impact of communication materials and media
5. Assessment of different approaches currently adopted for community participation in order develop a common/uniform guidelines for effective community participation
6. Assessing impact of WATSAN communication materials on target audiences of rural Bangladesh
7. Developing a communication framework: a strategy for empowerment in the WSS sector in Bangladesh
8. Pond water filtration (improvement)
9. Improving sanitation in low income communities of Sylhet pourashava

Out of the nine new proposals under consideration, two have been submitted by ITN sub-centres: BIT Khulna and SUST in Sylhet. The BIT in Khulna will work in the coastal areas while SUST will work in the Sylhet pourashava area. The area of intervention in some of the new proposals will be rural areas. The on-going research project on Latrine Technologies for Flood-prone Areas will directly benefit current and future projects in the coastal areas. Thus the outreach of the research projects is quite relevant.

Planning of research activities is based on the acceptance of research projects, which are then subsequently included in the overall work-plan. The monitoring of research projects and activities include at present reviews of reports at various stages: inception, mid-term and final draft reports. The Research Committee has not conducted or designed any other monitoring activity apart from these reviews of reports. There is a clear need for more emphasis on firstly, inclusion of field-work and field-testing in the research projects and secondly, regular monitoring of field activities *in the field* by supervisory researchers appointed for the same purpose. The Research Committee should reinforce its monitoring role and undertake regular and extended field visits during the field-work of the researchers.

10. ITN AS FOCAL POINT FOR NATIONAL NETWORK

10.1 Sub-centre Strategy and Co-operation

10.1.1 Sub-Centre Members

The network of sub-centres presently consists of six attached educational institutions:

- Shahjalal University of Science and Technology, Sylhet
- 4 Bangladesh Institutes of Technology: Chittagong, Dhaka, Khulna, Rajshahi.
- 1 Polytechnic Institute: Dhaka.

Memoranda of Understanding (MoU) have been signed with five sub-centres specifying their expected roles and activities as well as defining the support to be provided by the ITN Centre in terms of equipment, training, etc. In the case of Dhaka Polytechnic Institute a MoU has not yet been signed. All sub-centres have appointed an ITN Sub-centre Co-ordinator as the focal point for ITN related activities. The respective Directors, Principal and Dean are members of the ITN Board.

Recommendation: The ITN Centre should immediately take action to sign the outstanding Memorandum of Understanding with Dhaka Polytechnic Institute.

A proposal of considering the Technical Teachers' Training College (TTTC) in Dhaka as a potential new sub-centre was presented to the RT. The TTTC essentially trains the teachers of the 20 Polytechnic Institutes in Bangladesh, and in a cascading approach the TTTC could therefore reach out to a much larger group of technical teaching staff than what could be achieved directly through the ITN Centre. The RT visited the TTTC and had discussions on this issue with the management of the College, who expressed an interest in exploring the possibilities for a future co-operation. It should be considered to include the College in the ITN network as a sub-centre with the full support package offered to the first six sub-centres.

Recommendation: The ITN Centre should soonest initiate negotiations with the Technical Teachers' Training College on inclusion of the college as a sub-centre. A re-orientation and familiarisation course for TTTC teaching staff and a course for graduating students should be organised as soon as possible.

The RT paid a visit to Mohila Polytechnic Institute in Dhaka, which is the only all-women polytechnic institute in Bangladesh for young women of 15-19 years. The institute offers three year diploma courses and has three departments. Under the Department of Architecture, environmental engineering (water supply and sanitation) is taught as an obligatory subject in the fifth semester with three lessons per week. The present curriculum is dominated by conventional technologies and software aspects are not included at all. The Department of Architecture has seven teachers (of who three are women). Three faculty staff members teach the subject of environmental engineering (2 civil engineers, 1 architect). The Institute is highly interested in being included in the ITN network, initially through re-orientation courses for teaching staff and graduating students. At a later stage, it should be considered to include the institute in the ITN network as a sub-centre with the full support package offered to the first six sub-centres.

Recommendation: The ITN Centre should soonest initiate negotiations with the Mohila Polytechnic Institute in Dhaka with the aim of including the institute in the ITN network as a sub-centre. A re-orientation course for teaching staff of the Department of Architecture should be organised in June 1999. A re-orientation course for graduating students should be organised before the end of 1999.

10.1.2 Needs Assessment of Sub-Centres

In the review period a private consulting company has carried out a needs assessment of the six sub-centres. The needs assessment is comprehensive and detailed and presents a thorough picture of the present state of affairs at the sub-centres with regard to available resources (human as well as material). An operational strategy was developed based on the recommendations of the needs assessment. A number of the recommendations are well known and some were already supported by the 1997 Review. The present RT is concerned about the apparent lack of action taken by the ITN Centre management in expediting already agreed measures and also about the lack of performance monitoring and follow-up by the WSP-BD office.

The general picture portrayed of the sub-centres is rather discouraging:

- Shortage of faculty members in environmental engineering;
- Heavy teaching obligations;
- No field experience;
- Limited training/teaching/facilitation skills;
- Lack of awareness and knowledge of software issues in relation to rural WSS;
- Lack of training/educational materials & books;
- Limited equipment;
- Weak research capacity.

A number of concrete and operational recommendations on support and capacity building interventions were brought forward in the needs assessment report, and an operational strategy was developed based on these recommendations. The report and the Operational Strategy and Roles of ITN Sub-Centres (March 1999) have been discussed and agreed with the ITN Sub-centre Co-ordinators. It should however be noted that some of the recommendations are well-known and some were already supported by the 1997 Review (e.g. payment of allowance to sub-centre co-ordinators, provision of fax and photocopier, provision of books & training materials, demonstration models). The present RT is concerned about the apparent lack of action taken by the ITN Centre management in expediting already agreed measures and also about the lack of performance monitoring and follow-up by the WSP office (such as outlining modalities for payment of co-ordinator allowance).

10.1.3 Modalities for Co-operation and Support

In general, it is the view of the RT that much more emphasis should be placed on developing the ownership of the sub-centres with regard to ITN related activities. More decentralisation and delegation of responsibilities and tasks is clearly required to foster a spirit of responsibility and drive. As a matter of principle, sub-centres should accept to incur costs for operation and maintenance of the equipment. The ITN Centre should facilitate this process by assisting the sub-centres in preparation of work-plans, budgets,

etc. Initially, this may require more frequent and extended visits to the sub-centres by ITN Centre staff.

It is suggested that the ITN Centre facilitate a process where the ITN sub-centre co-ordinators together with their respective head of department develop concise terms of reference for the role of an ITN sub-centre *per se* and an ITN sub-centre co-ordinator. The TOR should outline internal as well as external co-ordination functions, e.g., with the Head of the institution/sub-centre, the Head of Department, other faculty members; relations to local potential resource persons/trainers, networking for building up a local network of co-operating institutions and organisations; 'client hunting' within the given catchment area; responsibilities of the ITN sub-centre co-ordinator in preparation and implementation of semi-annual work-plans and budgets for the sub-centre as well as reporting.

With regard to the administrative aspects of the network operations, the RT supports a number of the proposals presented by the ITN Centre as well as recommends some new additions and revisions to the operational procedures.

Recommendation: The RT supports:

- ITN activities should be institutionally anchored within the sub-centres through the respective Heads of Department, who should be responsible for overall supervision and management of ITN Sub-centre activities.
- Quarterly meetings for ITN Sub-centre co-ordinators should be held on a rotational basis at each sub-centre.
- Costs of local networking and co-ordination should be paid. The budget should be approved by the Executive Committee.
- A monthly co-ordination allowance should be given to sub-centre co-ordinators. Modalities and rates should be determined by the Executive Committee.

In addition, the RT recommends the following:

- Individual development plans should be prepared by each sub-centre with assistance from the ITN Centre.
- The ITN Centre should intensify assistance to the sub-centres in preparation of semi-annual work-plans and operational budgets. Regular visits to each sub-centre should be carried out by the three full-time ITN Centre consultants to provide assistance in planning, networking, etc.
- Financial management should be decentralised and all disbursements (procurement, courses, networking, production of educational models, etc.) should be handled by the respective sub-centre. Specific activity budgets should be forwarded to the ITN Centre for approval followed by transfer of advances. Specific financial management and control procedures should be prepared by the ITN Centre management and approved by the Executive Committee.
- Each sub-centre should open a bank account for ITN Sub-centre activities. Signatories should be the Head of Department and the ITN co-ordinator.

The following proposals are not supported by the RT:

- Provision of e-mail link to sub-centres (some already have it and the ITN Sub-centre does not need a connection separate from the e-mail link of the institution as such).
- Provision of television and VCP to each sub-centre.

10.1.4 Capacity Building of Sub-centres

An assessment of the needs of the ITN sub-centres has been carried out by a private company. The assessment also touched on identification of training needs. A part of the questionnaire distributed to selected faculty members of the ITN sub-centres concerned the individual's own assessment of personal training needs within a long range of possible subject areas (hardware, software, etc.). However, the choices for responses were limited to yes/no, important/not important, which gives very little room for prioritisation and operationalisation of the indicated needs. Consequently, the conclusion of the report is more or less that training is required in all relevant areas, but whether the skills requirements are in-depth knowledge, practical application or just familiarisation is not possible to determine based on the information provided by the Training Needs Assessment. In addition, prior training and experience of faculty members have not been taken into account, e.g. participation in the ITN organised TOT courses and experiences gained in conducting courses for graduating students and sector professionals. The report did neither explore reactions or possible effects of these interventions. Hence, the present report on needs assessment of the ITN sub-centres cannot be used as basis for design of training or human resource development programmes for the sub-centres. The following suggestions are therefore based on discussions and consultations with ITN sub-centre coordinators of selected institutions.

The performance of the ITN Sub-centres is clearly hampered by lack of teaching staff. Most sub-centres only have few faculty members (0-3) specialised in environmental engineering, and these are fully occupied with teaching obligations. At present, these staff members already face a major challenge in implementing the re-oriented curriculum with inclusion of subject areas, which clearly are beyond the educational profile of the concerned faculty members. At the same time, the ITN sub-centres have been expected to be able to organise and conduct re-orientation courses for sector professionals. This is however, only possible in the inter-semester periods of a few weeks duration. With the current staffing level and profile of the ITN sub-centres, it is not realistic to expect that the sub-centres will have the capacity to organise more than 1-2 courses for sector professionals per year. In addition, it will be essential for the performance of the sub-centres to be able to draw on external resource persons with more extensive specialisation and experience in socio-economic aspects related to water supply and sanitation. For these reasons, it should be a conscious strategy of the ITN Centre to assist the sub-centres in local networking and in building up a local resource base, which the sub-centres can rely on for various inputs in teaching and training.

Recommendation: The ITN Sub-centres should be assisted in building up a local network of resource persons for sub-centre courses and teaching. The ITN Centre should organise TOT courses at sub-centre level for potential co-operation partners and resource persons.

The re-orientation of teaching staff included in the TOT may not be sufficient to enable the engineering teaching staff to conduct sufficiently qualified training on software

aspects such as community management, hygiene education (behaviour, practices), gender, etc. – particularly not at the higher level required in the revised curriculum. In order to perform proficiently they will still need more training, particularly in training and participatory methods and techniques and the various software aspects.

Further, a general familiarisation of the ITN concept and experiences from other ITN Centres could enhance the comprehension and commitment to the network in Bangladesh for ITN Centre staff as well as for ITN sub-centre co-ordinators (cf. section 10.2). This could be done in the form of a study trip for the ITN Sub-centre Co-ordinators and selected ITN Centre staff to visit other – successful – ITN Centres, such as the TREND in Ghana and/or the IWSD in Zimbabwe. The study trip should be combined with a tailor-made training course organised by hosting organisation.

The programme should emphasise learning from the unique experiences of other ITN Centres as evolving development (non-profit) organisations in a competitive environment. Definitely, any ITN Centre such as the one in Bangladesh with a vision towards financial and organisational sustainability could learn from the experiences already made by the African centres. The content of the training programme should stress the sharing of experience and lessons learned rather than straight technical issues. A broad outline for a study-trip and tailor made training course is provided below. Approximately 2-3 weeks would be required for the programme.

- Community management & entry, gender aspects
- Participatory methods
- TOT – facilitation aspects, participatory training methods, role plays etc.
- Content of a Participatory Tool Kit and how to use tool kits in the field
- Institution building (e.g. visit to 'sub-centres', educational institutions)
- Contract /consultancy management (TOR, bidding, contracts, etc.)
- Lessons learnt on transformation of ITN Centres to independent and self-sustaining organisations.
- Planning and monitoring systems
- Management structure
- Meetings with Board members & other important stakeholders
- Extensive field trips focussing on community management and hygiene education.

Recommendation: A tailor-made training-cum-study-visit to a sister ITN Centre in Africa (e.g. TREND in Ghana and/or IWSD in Zimbabwe) should be organised for the ITN Sub-centre Co-ordinators and ITN Centre staff. The training programme should emphasise software and training competencies. The study visit should focus on experiences in sector networking, capacity building of sub-centres / educational institutions and measures to achieve sustainability.

10.2 Collaboration with Other ITN Centres

The global International Training Network at present consists of six functioning centres. Four are located in Africa: TREND (Ghana), CREPA (serving 15 franco-phone countries in West Africa), IWSD (Zimbabwe), and NETWAS (primarily serving Kenya). In Asia, in addition to the ITN Centre in Bangladesh, there is a centre in the Philippines. The ITN

Centres established in India (Calcutta) and Indonesia (Bandung) are now mainly mailing addresses.

Three African centres are incorporated as NGOs. Two of these three (TREND and IWSD) have achieved financial self-sufficiency through sale of services. The third – NETWAS – is on a path leading to financial independence. The fourth African Centre, CREPA, is set up as a non-profit organisation. It is seeking simultaneously to establish national centres in all 15 member countries and likely will require significant external support for a number of years to come. The centre in the Philippines is also moving towards financial independence, as Dutch support declines. The Africa centres have active training and applied research programmes, and, since 1995, have jointly planned and carried out annual workshops dealing with major issues in rural water supply and sanitation in Africa.

The ITN Centre in Bangladesh set out to establish linkages to these other centres in 1997. In December the Project Director travelled to South Africa for the Global ITN conference, which was followed by the all-Africa ITN workshop. Also in 1997 the Director of the Calcutta ITN and another professor visited Dhaka and participated in the arsenic training course. Since then, however, there have been no further contacts. Attempts were made to arrange for a sub-centre co-ordinators' visit to the Calcutta ITN, but it was dropped when it was learned that the centre was no longer functioning.

The ITN Centre in Bangladesh routinely sends its newsletter to all the other centres (including India and Indonesia). However, it receives no material routinely from the others, such as their newsletters or announcements of training courses, either directly or through the WSP-Bangladesh. ITN staff consequently has little knowledge of the other centres' operations and training and applied research programmes.

Communications with other centres have also been non-existent. ITN staff was aware of e-mail exchanges only with international centres such as WEDC, IRC, ENSIC, and the Asia Arsenic Network (AAN) based in Japan.

Only the Africa ITN centres show any signs of functioning as a network, and the Africa network is still in its infancy. It is not realistic to expect the ITN Centre in Bangladesh to try to network actively with any other centres at this time. However, they could benefit from knowing more about what the other ITNs are up to.

The ITN Centre in Bangladesh knows how to get in touch with the other centres and should take the initiative in 1) asking to be added to mailing lists for newsletters, course announcements, etc.; and 2) seeking out information and material that might be useful to them.

10.3 Collaboration with Sector Organisations

Judging from consultations and discussions with a wide range of sector stakeholders during the review mission, it appears that the ITN Centre has been rather modest in its communication and liaison with stakeholders and potential clients. Even though the more formal structures with representation of sector stakeholders on the ITN Board offer opportunities for interactions, the frequency of interactions should be intensified and the scope and focus expanded.

As part of preparing for future financial sustainability, a more aggressive marketing of the ITN Centre should be launched by the management to explore and exploit the market potential for services and products of the ITN Centre. However, the ITN Centre management should still be careful in adjusting marketing efforts to actual training capacity in order not to create a demand, which can not be met.

With the inclusion of the ITN Centre under the umbrella of the Danida SPS programme, this would set the frame for a closer collaboration and exchange of information between the 'sister' components of the SPS. Apart from the formal meetings of the SPS Co-ordination Committee, it is further suggested that the ITN Centre take the initiative to hold quarterly co-ordination and planning meetings at technical/operational level with other SPS components in order to intensify interactions and develop the co-operation in areas of common relevance.

In the framework of sector networking, an annual forum with a thematic focus could be organised for a broad range of sector stakeholders or more restricted and technical fora (e.g. technology forum, training forum, forum for community mobilisation & hygiene education) could be held for selected groups of relevant stakeholders. Similar activities at sub-centre level could give a much needed impetus to the networking activities of the sub-centres.

11. ORGANISATION AND MANAGEMENT

From the establishment of the ITN Centre as a fully sponsored Danida project until now, management of the Project and management of the ITN Centre has altogether been the same issue, since all activities carried out were project funded activities. However, the ITN Centre is now at an important turning point, where it will gradually move from project status towards an independent life of its own. Therefore, it will be important to start distinguishing between the permanent structure of the ITN Centre and the temporary project sponsored structure and activities.

11.1 ITN Centre Management

11.1.1 ITN Board

As recommended by the 1997 Review, the Board has been extended with members from all sub-centres and with high level representation from BUET in the form of the Vice-Chancellor of BUET, who has chaired the Board since September 1998. The Project Director of the ITN Centre assumes the role of Vice-Chairman. The Board is intended to meet on semi-annual basis and has met four times since the 1997 Review (Nov 1997, Feb 1998, Sept 1998, Mar 1999). The RT appreciates the progress made and regards this a major step forward in establishing a permanent management structure of the ITN Centre.

Brief Terms of Reference for the Board have been adopted, outlining the role of the Board as advisory, though still responsible for sound development of the ITN Centre. The Board assumes responsibility for the overall direction and accountability of the ITN Centre. The RT appreciates the progress made and regards this a major step forward in establishing a permanent management structure of the ITN Centre emphasising its central role in the WSS sector. However, in view of the challenges to be met by the ITN Centre in the coming years when moving towards complete sustainability of the ITN Centre, it will be important to refine the roles and responsibilities of the Board.

The definition of the obligations and authority of the Board does not appear to be consistent: An advisory Board cannot be responsible for overall direction and accountability. Further, the details of the Board responsibilities as indicated in the TOR restrict the Board "to discuss and review". Hence, no authority nor requirements for Board adoption or approval have been included. The RT suggests that the role, authority and responsibilities of the Board should be reviewed in connection with an overall review and revision of the institutional set-up and management structure of the ITN Centre.

11.1.2 Executive Committee

In February 1998, the Executive Committee was established by Board decision and in accordance with the 1997 Review recommendations. The composition of the Executive committee constitutes as chairman the present Project Director, as members representatives of WSP-BD and Danida, and as secretary the present Project Co-ordinator. The Executive Committee was expected to meet on quarterly basis; however, since the establishment the committee has met on a rather irregular basis: April and July 1998 and then only in March 1999 after nine months break. Hence, two meetings in October and January were skipped. The RT notes with concern that with the present frequency of meetings and a lack of substantive discussions and decisions, the Executive

Committee has not to any satisfactory extent executed its role as the management committee of the ITN Centre. All members of the Executive Committee should take up the co-responsibility for an adequate functioning of the committee. With the proposed institutional changes and re-directions of the ITN Centre aiming at establishing a permanent sustainable and commercially oriented organisation, it will be imperative that the Executive Committee takes upon itself the executive responsibilities, which are required and which have been agreed upon.

The TOR for the Executive Committee state that the committee has decision-making power, i.e., with regard to work-plans, budgets and budgetary re-allocations. However, approval of accounts and financial reporting is not included – which it should be. Had the Executive Committee functioned according to its TOR, some of the bottlenecks and constraints identified by the RT could have been solved at a much earlier stage (such as payment of co-ordinators' allowance).

As for the Board, the RT suggests that the role, authority and responsibilities of the Executive Committee similarly should be reviewed in connection with an overall review and revision of the institutional set-up and management structure of the ITN Centre. However, the RT strongly suggests that the Executive Committee should continue to be chaired by the head of the Environmental Engineering Division / Department of Civil Engineering (which is housing the ITN Centre) and as a temporary measure include members from WSP-BD as well as from the Royal Danish Embassy. Initially, the Royal Danish Embassy should be represented by the Counsellor and later by the Sector Advisor.

Recommendation: An overall review and revision of the institutional set-up and management structure of the ITN Centre should be conducted in connection with preparation of a long term business development plan. The Executive Committee should continue to be chaired by a representative of the Environmental Engineering Division/Department of Civil Engineering and include representation from WSP-BD and the Royal Danish Embassy (the Sector Advisor upon recruitment). Concise Terms of Reference or job descriptions for all positions and bodies as well as rules of procedure for the Board & the Executive Committee should be prepared by the ITN Centre with external assistance and adopted by the Board & the Executive Committee.

11.1.3 Daily Management

The present management and administrative staff of the ITN Centre comprises:

- A part-time Project Director (BUET staff allocated on min. 25% basis to the ITN Centre)
- A part-time Project Co-ordinator (one of three Consultants on WSP-BD contract)
- A part-time Office Assistant (accounts)
- A Project Secretary.

The present management staffing of the ITN Centre is clearly inadequate and this has had a negative effect on the overall performance of the ITN Centre. In periods where management staff has been heavily involved in technical assignments, management functions have come to a halt (e.g. Executive Committee meetings). A number of activities are delayed, and the general pace of implementation needs to be speeded up. General management and administration procedures have not been documented as

proposed by the 1997 Review. Management decisions have been deferred to the Review Mission to an extent, where the review mission becomes a 'sleeping pillow' and excuse for lack of independent and pro-active decisions by management (incl. the Executive Committee and Board). In the coming years, sub-centre capacity building, general networking and liaison within the sector as well as acquisition for income generating jobs will need more emphasis and concentrated inputs by the ITN Centre management.

It is the sincere opinion of the RT that – in order to optimise the organisation and to build up a more commercially oriented and sustainable ITN Centre – it is necessary to employ a high-level full-time Manager with a business management profile, an entrepreneurial personality and preferably relevant experience from private sector operations. This ITN Centre Manager would, i.a., take up the management functions presently carried out by the Project Director and the Project Co-ordinator, so that the present Project Director and Project Co-ordinator could focus fully on their technical duties within the areas of textbook preparation, training, curricula, etc.

The RT however, accepts that the proposed change – in particular the time horizon of establishing this new position – may be unrealistic, when considering that it would be a major deviation from the approved TAPP, which would require a substantial revision. A more substantial change of the management set-up and structure would then form part of the business plan and the Component Document for the next phase to be prepared in course of the coming year.

The ITN Centre has proposed two alternative options, which both accommodate the need for a full-time staffing of the position as ITN Centre Manager.

Option 1 suggests that a full-time project manager/ co-ordinator with the responsibility of co-ordination and business promotion be appointed under the present project administration until the end of the present project period.

Option 2 proposes appointment of a BUET professional on leave from BUET on service conditions comparable to other Danida projects. The period would again be the remainder of the present project period.

The RT suggests that the Executive Committee make the final decision on the modalities for appointing a full-time ITN Centre Manager, taking into appropriate consideration the possibilities for attracting the best qualified candidates, while respecting that the position is an addition to the present staffing level of professional staff.

Recommendation: A full-time ITN Centre Manager with a business management profile should be appointed soonest. The Executive Committee should determine the modalities. WSP-SA should prepare the Terms of Reference for the position and present the TOR to the Board for approval. A Recruitment Committee should be responsible for selecting the ITN Centre Manager. The committee should comprise one representative of WSP, one representative of the Royal Danish Embassy / Danida, and one representative of BUET.

11.2 Project Management

Project management aspects are for the past period mainly covered by the above sections, whereas in the future a distinction should be made between project management and ITN

Centre management. Hence, the relevant management structures would also differ. As from 2001 the Danida support to the ITN Centre would fall under the overall SPS for the water and sanitation sector. It is the opinion of the RT that an integration of the project management of the support to the ITN Centre should be initiated already for the present project phase. Essentially it would imply that the SPS Co-ordination Group would take over the monitoring role of the project from WSP-BD/SA and that the ITN Centre would be represented at the Group from the time it has been established.

Recommendation: Management of the project related part of the ITN Centre, i.e. the Danida funded activities, should be integrated into the overall management structure of the Danida SPS. The ITN Centre should be represented by the ITN Centre Manager at the SPS Co-ordination Group right from its establishment.

At present, each component under the SPS has established its own personnel policies and administrative regulations for directly employed component staff. This concerns employment conditions, salary scales, rates for DSA and travel, etc. This may in future only cause frustration, conflicts and dissatisfaction for component staff, when conditions vary despite the employer being the same. A full integration of the ITN Centre – along with the other SPS components – in the overall SPS would require that an overall personnel policy be established by the Royal Danish Embassy, determining standard salary scales and allowances for equal qualifications and responsibilities across all the components of the SPS. The feasibility and implications of introducing uniform Service Rules for Danida employed staff in Bangladesh is presently being assessed by the Embassy.

Recommendation: The Royal Danish Embassy should establish an overall personnel policy for all component staff, determining standard salary scales and allowances, where equal qualifications and responsibilities attract equal remuneration and benefits across all the components of the SPS.

11.3 Staffing of the ITN Centre

11.3.1 Staffing Levels and Capacity

The present staffing of the ITN Centre comprises:

- A Project Director (BUET staff allocated on min. 25% basis to the ITN Centre)
- A Curriculum Development Specialist (BUET staff allocated on min. 25% basis to the ITN Centre)
- Three Consultants (full-time, at present under WSP-BD employment; one is the part-time Project Co-ordinator)
- Three BUET Specialist (supposedly full-time at the ITN Centre)
- Support staff (six positions, to be taken over by BUET).

The three consultants were envisaged to be replaced by three BUET specialists after three years – with a certain period of overlap. The ITN Centre is an integrated part of the Environmental Engineering Division. As required in the Project Document, the Division has appointed three professional staff members to be attached to the ITN Centre as per July 1998. These staff members have been involved in training courses as resource persons, but did not attend the TOT modules conducted by the ITN Centre in late 1998.

One has attended a Training of Trainers course at IRC. In the period from July 1998 to March 1999, the three professional BUET staff members have only participated to a very limited extent in ITN activities, and only in isolated events. Apart from ITN activities, all three have teaching obligations of around 14 –16 weekly classes (not including preparation), supervision of students, and general duties for the Department /Division. Clearly, these staff members will not be able to – and neither do they expect to – work full-time for the ITN Centre, considering their teaching obligations within the Division and general academic career prospects.

Other professional staff of the Division has been engaged as resource persons on an ad-hoc basis in various courses. In total, the Division has 9 professional staff. Among these are the ITN Project Director, the Curriculum Development Specialist and the three newly appointed ITN professionals. Of the four remaining, one is under-going further studies abroad and is expected to be attached to the ITN Centre upon her return.

To insist on a replacement of the three consultants with BUET specialists would lead to a collapse of the ITN Centre. The part-time BUET staff – management as well as professional staff – would neither have the time nor the capacity to maintain the present level of activity, not to speak of expanding the scope of work of the ITN Centre.

Recommendation: When the contracts of the three Consultants presently employed by WSP-BD expire at the end of 1999, funding of the three positions should be continued under contract with the ITN Centre/BUET. Conditions of employment should follow the standards, which are recommended to be established elsewhere.⁵ Until such standards have been adopted, employment conditions of the DPHE-Danida Urban Water and Sanitation Project should apply.

The Project has to accept realities of a changing world: The close links of the professional BUET staff with the Environmental Engineering Division, the academic obligations of teaching students, and the academic career development of BUET staff. For these reasons, it should be accepted that professional BUET staff is working only part-time at the ITN Centre on the condition that the Environmental Engineering Division makes available a sufficient number of professionals on part-time and measured in terms of person months/days/hours. This would broaden the resource base for the ITN Centre and facilitate that the right person with adequate qualifications and experience is chosen for a particular assignment. It would probably also enhance the mobility of staff and increase the motivation to work periodically for the ITN Centre.

Recommendation: The Environmental Engineering Division should make available professional input to the ITN Centre equivalent to at least 24 person months per year. A mechanism for remunerating the input delivered should be developed by the ITN Centre management and approved by the Executive Committee. Remuneration should be linked to actual input delivered.

Support staff to the ITN Centre comprises six positions. All positions have been funded by the Project – according to the Project Document for a max. period of 1.5 years. In principle, BUET has approved the establishment of comparable permanent positions to be attached to the ITN Centre. However, recruitment procedures may take some time, since

⁵ Section 11.2.

the positions will have to be openly advertised inviting external applicants. The Ministry of Education will be in charge of the recruitment procedure. The ITN Centre management has requested an extension of the project funding of the positions until the end of the present phase in order to ensure continuity and to retain well performing staff.

Recommendation: The six positions as Project Secretary, Library Assistant, Accounts Assistant, two drivers and an office attendant should continue to be funded by the Project in the present phase and reassessed thereafter.

11.3.2 Capacity Building of ITN Centre Staff

The faculty members of the Environmental Engineering Division will need substantive re-orientation and training in areas such as training design and techniques, communication, community mobilisation and management, gender, hygiene education, etc. Training abroad on project or fellowship funding has been proposed for some staff. Danida policy on this is to offer courses primarily in Denmark. One faculty member has already attended a short course on training, but at the IRC in Holland instead of Denmark, where excellent training courses are offered. Relevant courses in community management, gender, etc. are not offered in Denmark.

Recommendation: Human Resource Development within the ITN Centre should encompass all professional staff of the Environmental Engineering Division. With a large group of staff targeted, priority should be given to in-house, local and regional training courses. Possibilities for reverse programmes with fellowship training being organised locally should be investigated.

11.4 Planning & Reporting

The annual plans of operation, semi-annual work-plans and semi-annual progress reports have improved immensely since the 1997 Review and is now largely following the required Danida standard. However, there is room for improvement in the following areas:

- Progress reports do not focus clearly on problems and constraints faced in the period and do not offer sufficient justifications and suggestions for action to be taken. A more analytical approach and processing of information would be appreciated.
- The semi-annual budgets are not clearly linked to the planned activities and do as such not allow for a critical assessment of the projections.
- Financial reporting enclosed in the progress reports does not offer a comparison to the initial periodical budget: hence, deviations from original planned activities and budget do not clearly appear and are not explained.

As from July 1999, planning and reporting should be fully in compliance with Danida's "Guidelines for Sector Programme Support" of May 1998.

11.5 Role of BUET and WSP

WSP-BD has provided some support to the ITN Centre in the period under review. In the areas of facilitation of the extension of the Board and establishment of the Executive Committee the assistance is appreciated. However, in general it has been found that the WSP-BD has been playing a reactive role and the support has been less pro-active than what has been required and was agreed during the 1997 Review. Particularly in the areas of management assistance, professional advice and performance monitoring, a pro-active WSP-SA assistance would have resulted in greater achievements by the Project.

The ITN Centre in Bangladesh was conceived in the late 1980s. At that time, the objective of a global ITN programme comprising 15-20 centres was still alive, though the prospects of it being achieved were already dim. By the time the Bangladesh ITN project was approved in 1996, as a UNDP project executed by the World Bank through the Water and Sanitation Programme:

- the concept of a global ITN had disappeared as an international development community objective, though various donors continued to strongly support individual centres;
- two ITN centres in Africa – IWSD in Zimbabwe and TREND in Ghana, both started as projects executed by the WSP – had turned themselves into NGOs, and were demonstrating strong signs that they could survive as financially independent entities; and
- the WSP was contemplating handing the ITN “franchise” over to the ITN centres, an action completed at the global ITN meeting held in South Africa in December 1997.

Because of the funding arrangements, the WSP is responsible for the ITN Centre in Bangladesh in the capacity of a UNDP executing agency. This is the last such WSP responsibility towards an ITN centre, and it will continue until the existing funds are exhausted. Thereafter, Danida and the ITN Centre should establish a more direct funding channel that will also relieve the WSP of executing agency duties. Until this happens, the WSP needs an interim role that fits its strategy, uses its comparative advantage, and supports the ITN’s objective of eventual sustainability. WSP as well as the Danish Embassy have indicated agreement to these issues.

Some aspects of the interim role are already clear.

First, WSP-BD needs to hand over its responsibility for management and administration of the ITN Centre to BUET. This should be done by negotiating a contract with BUET to operate the ITN Centre for the remainder of the present project period. The contract should include terms of reference that cover the services to be provided (i.e., objectives, work plan, timetable, etc.), staff to be recruited to provide the services, the budget and procedures for managing the funds, progress and financial reporting responsibilities, etc. The procedures must be consistent with BUET rules as well as those of the World Bank, and must ensure transparency and accountability while allowing flexibility for the ITN Centre to develop and operate in a decentralized manner. World Bank model contracts for consultants’ services provide a solid starting point, but the clauses will have to be tailored to the special circumstances of operating an ITN Centre.

Second, the WSP's 1999 strategy *Water and Sanitation Services for the Poor: Innovating through Field Experience* suggests other aspects of a suitable role. Part of the WSP's mission is to work "with partners in the field to seek innovate solutions to the obstacles faced by poor communities" and to "achieve widespread adoption of these solutions." The WSP's niche is in "generating and sharing knowledge at country, regional, and global levels," and networking with partners is a major WSP product line. Thus, WSP-BD could be expected to help advocate for the ITN Centre and to create a niche, given its strong partnerships with various sector actors. It should also ensure that the ITN Centre has access to information and knowledge – through publications, workshops, other events - about cutting-edge issues, best practices, case studies, etc.

The WSP's role can be further sharpened during the ITN Centre's business planning process. In addition to involving the WSP as the business plan is prepared, the ITN Centre should consider the experiences documented in the comparative case study of TREND and IWSD, the first two Africa ITN Centres to become independent⁶. The case study highlights seven success factors and five risk factors evident in these two ITN centres' transitions from project to independent status. Some of these factors, such as the importance of strong and flexible funding support, have implications not just for the role of the WSP but of other actors, as well as for the nature of the contract that needs to be negotiated with BUET.

Over the longer term, the relationship between the WSP and the Bangladesh ITN should evolve along the lines of the relationships in Africa: more as partners in development, with the ITN Centre providing high quality training and action research services that the WSP (and others) can purchase.

Recommendation: The role of WSP-BD should be redefined to emphasise the areas in which they can add value: helping to create a niche and enabling environment for the ITN Centre through their strong linkages to sector actors; advocacy for national accreditation of the ITN Centre; and ensuring access to information and to workshops and other events dealing with current sector issues, dissemination of best practices, and learning opportunities. In preparation of the Component Phase, the management and administrative roles of WSP-BD vis-à-vis the ITN Centre should be phased out. WSP-BD should hand over the full administration of the ITN Centre to BUET. WSP-SA should draft and negotiate a contract with BUET specifying, i.a., conditions of employment for all project staff; financial management procedures that accord with BUET rules and regulations and ensure accountability and transparency; and requirements for decentralised and flexible operations.

11.6 SPS Co-ordination

Apparently, there is no serious overlapping of activities in the various components under the SPS, but in a number of areas the ITN Centre could clearly complement or assist other components (e.g. in training and research). The ITN Centre could also draw on the expertise of other components in its capacity building programmes (e.g. resource persons,

⁶ *Capacity Building in the Water and Sanitation Sector: A Case Study of TREND and IWSD*, distributed by WSP-ESA, undated.

field exposure). The contacts and liaison between the ITN Centre and other Components under the Danida SPS are irregular and in some cases less than co-operative.

Recommendation: The relations between the ITN Centre and other SPS components should be based on commercial contracts guiding implementation of activities. The ITN Centre should initiate quarterly meetings with other Components under the Danida SPS in order to explore opportunities for co-operation and agree on common or complementary activities.

Under the Danida SPS, support to the establishment and operation of a sector wide resource centre has been considered. NGO Forum has received assistance in this regard, and is in the process of setting up a resource centre in the NGO Forum. The ITN concept also anticipates the establishment of sector resource centres.

Recommendation: Possible Danida support to establishment and operation of a sector wide resource centre should be channelled through the NGO Forum. The minor support to establishing library facilities within the ITN Centre and its sub-centres should be continued to ensure easy access to key technical literature and documentation for teachers and students.

11.7 Consultancy Inputs

The 1997 Review recommended that Danida should provide and finance a social scientist for a total of four person months distributed over a period of 12 to 15 calendar months. The input should be financed from sources outside the project budget, i.e. it was assumed that the operational project budget (including the budget line for short-term consultancy input) would not be utilised for this purpose. The reason for suggesting additional funding was based on the fact that the long-term Danida advisor previously posted to the ITN Centre only provided around eight months of professional input due to the late start of the project.

The recommendation was implemented by contracting the IRC to assist the ITN Centre in developing the student textbook. However, Danida was not able to raise additional funding for the consultancy contract. An agreement was reached between Danida Headquarters and UNDP on drawing on the operational project budget for this purpose. Hence, the IRC input has to be provided for under the existing budget. Unfortunately, this arrangement was neither communicated to WSP, to the ITN Centre, nor to the Danish Embassy. Further, the RT was only informed about this during the debriefing meeting at Danida Headquarters. This has had significant bearings on the recommendations of the RT, in particular with regard to the volume of future input.

The next year will see the start of an important process for the ITN Centre as it prepares to develop into a more commercially oriented organisation. At the same time, a number of institutional, strategic and technical changes have been recommended. In the past, management structures have been unclear, which has resulted in lack of monitoring and passivity in making decisions and taking action. In order to intensify the pace of implementation and to keep the momentum created with various stakeholders, external technical assistance will be required to facilitate the process of preparing a business development plan for the ITN Centre, and also to act as a catalyst of change in connection with many of the institutional and strategic changes that have been recommended. The

technical assistance should include management representatives of other ITN Centres in order to ensure that the successful experience of other ITN Centres in achieving organisational and financial sustainability will be fully utilised in developing a vision and a business development plan for the ITN Centre in Bangladesh.

Recommendation: An international consultant with experience in establishment and management of self-financing training institutions, preferable also with the ITN Network, should be contracted for approx. 3-4 person months over a period of 12-15 calendar months to carry out regular advisory and monitoring visits to the ITN Centre and to facilitate the change process resulting from the 1999 Review recommendations. Short term assistance should also be provided in preparing a business development plan for the ITN Centre. The plan should constitute the main elements for the Component Description for the Component Phase. The team should comprise the Directors, who established the IWSD in Zimbabwe and TREND in Ghana, and a local business management consultant (two-three person months each). With the assistance of the WSP-BD and in consultation with the Danish Embassy, the ITN Centre should prepare Terms of Reference for the assignment and submit these to Danida Headquarters before 15 October 1999.

12. FINANCIAL ASPECTS

12.1 Financial Management Procedures

The 1997 Review recommended that the procedures actually applied at that point of time for preparation and approval of budgets and accounts should continue. This meant that slight changes were made to the financial management arrangements laid down in the project document.

The main role of WSP-BD is to maintain an overview of financial flows to ensure that sufficient funds remain for a balanced activity level throughout the project period. Hence, the WSP-BD exercises **overall** financial control by approving the semi-annual budgets and accounts. WSP-BD should then only handle international expenses, whereas all domestic expenses should be managed by the ITN Centre on the project's account with BUET. The system appears to be working smoothly and the ITN Centre has expressed satisfaction with the present system.

It is a requirement that Project accounts should be audited and certified by Government auditors as is normal practice for BUET-implemented projects. At present, an annual audit is on-going and the audit report will be prepared in due time.

The budgeting process involves the following steps:

- Preparation of budget by the ITN Centre Management
- Approval by the WSP-BD
- Approval by the Executive Committee
- Adoption by the Board

The actual sequence and requirements for the eventual release of funds have not been clearly defined and documented and it is for example not very clear whether Board approval is or should be a pre-requisite to release of funds by the WSP-BD. At the time of the Review, the accounts statement for July-December 1998 had not yet been approved by the WSP-BD, but funds had been advanced for January-June 1999 according to the budget. The same budget for January-June 1999 was only presented to and approved by the Executive Committee and the Board mid-term, i.e. at the end of March 1999. The consequence is that the approval procedure becomes a formality and not a real tool for management. The ITN Centre management should in future ensure that budgets and accounts are prepared well ahead of time. The Executive Committee and the Board should accept the stated responsibility for financial management, improve their efforts in these areas and ensure timely approval and expedition.

The budget format presented to the Executive Committee and the Board for approval applies broad budget lines, which makes it difficult to assess the links to the activities included in the work-plan and therefore, almost impossible to assess whether the proposed budget is realistic. The link to the planned activities should be more obvious and transparent to enable the management bodies of the ITN Centre to make informed decisions on financial matters.

The 1997 Review recommended that the ITN Centre management with the assistance of the WSP-BD should document existing administrative and financial procedures applied in

managing the ITN Centre. Further, it was suggested that modalities for more flexible financial management arrangements should be worked out and agreed upon by the ITN Centre management and the WSP-SA. This would enable the ITN Centre to make minor adjustments of the individual budget lines without necessarily seeking prior approval by the WSP-SA. None of this has been done. Instead a number of financial issues have been deferred to the 1999 Review to decide.

The overall cash flow situation has been satisfactory with the help of a very low disbursement rate. Advanced funds have never been exhausted within the given budget period, so delays in transfer of new advances did not cause disturbances in implementation. The petty cash float has been increased from BDT 5,000 to BDT 10,000 and is administered by the administrative officer under supervision of the PC.

The project accounts are kept in the form of a general ledger, which is maintained by the administrative officer under supervision of the PC. At the time of the Review in April, data were entered until the end of 1998, whereas data for 1999 had not yet been entered. The RT has taken note of this and is concerned that data entries are not regularly updated. It is a must that the general ledger and all supporting documentation is regularly maintained and that financial reports are produced at monthly basis to enable the ITN Centre management to monitor the situation.

In addition, the following issues need to be addressed and rectified:

- Certain regular payments such as payment of staff allowances to BUET staff, which are budgeted as a monthly amount, have been accumulating for years, before disbursement has been expedited by the WSP-BD. The RT stresses that such amounts should be paid strictly on a monthly basis and should be disbursed from the project account at the ITN Centre and not by the WSP-BD office.
- The budget line for contingencies has been utilised for miscellaneous expenses. This is not satisfactory and the RT has requested that the entries be reversed to other budget lines. Rules for approval of use of contingency funds should be established by the Executive Committee.
- At present, different rates are applied for payment of allowances for subsistence, travel, training etc. The Executive Committee should ensure that uniform rates are applied for all personnel categories and should review the rates on a regular basis.
- When the ITN Centre starts generating its own income, a separate account and separate accounting procedures should be established for the ITN Centre in order to keep project funds and ITN Centre funds separate. This issue should be looked at as part of the proposed contract negotiations between WSP-BD/SA and BUET.
- As a matter of principle, all financial procedures should follow BUET procedures. There is however a need to clarify the implications of this on operational aspects, such as to which extent ITN Centre income and ITN Centre staff income should be channelled through the University with payment of the 20% university 'tax' (overhead). The issue should form part of the contract negotiations between BUET and WSP-BD/SA and should further be looked at as part of the preparation of the

business development plan for the ITN Centre with the aim of negotiate an exemption or reduction of the 20% tax, (e.g. to exclude tax on reimbursables, etc.).

As described in section 11.7, the 1997 Review recommended that Danida should provide and finance a social scientist for a total of four person months. The input was assumed to be financed from sources outside the project budget. This was not possible. Instead, the IRC was contracted directly by Danida Headquarters and it was agreed with UNDP to draw funds from the operational project budget for this purpose. Apparently, UNDP agreed to accept a deduction of the IRC contract amount from the scheduled financial transfers from Danida to UNDP. The arrangement and the modalities were never communicated to the executing agency, the WSP or to the management of the ITN Centre by UNDP. The RT was informed about this arrangement after submission of the draft Review Report. The implications have subsequently been incorporated in the Final Report. A related outstanding issue is whether the UNDP/WSP would still be entitled to the 10% service charge of the IRC contract sum (equivalent to USD 8,500). The RT assumes that this is not the case.

From a management perspective, the arrangement complicates the already rather complicated management set-up on the Project, both with regard to activity monitoring and to financial reporting.

12.2 Financial Status on Disbursements

From Danida's point of view, financial transfers are done according to the agreement between UNDP and the Danish Ministry of Foreign Affairs, which was signed in June/July 1996 and remains in force in five years until mid-2001.

The schedule for transfers as indicated in the agreement is as follows:

Financial transfers Danida – UNDP

UNDP	USD	%	Accumulated %
Upon signing	378.700	30%	30%
June 1, 1997	265.900	21%	51%
June 1, 1998	268.800	21%	73%
June 1, 1999	185.900	15%	87%
June 1, 2000	160.100	13%	100%
Total	1.259.400	100%	

The IRC has been engaged directly by Danida Headquarters on a contract of USD 85,000. The RT assumes that the contract amount has been deducted from the above stated June 1998 transfer to UNDP.

At project level, the disbursement rate has been very low – 23% by April 1999 – and it appears that funds are accumulating at the Project or with the UNDP, since 73% of the

project funds had supposedly been transferred by June 1998 and less than 23% had been utilised. The gap between transfers and disbursements will be even larger in June 1999, when the next transfer to UNDP is due. It should be noted that the payment schedule may be amended to be consistent with the progress of project delivery.

The financial status of disbursements as of end March 1999 is illustrated in the table below. The major point of concern is the disbursement rate of 23% at a point of time, where 45% of the implementation period has passed. In course of project implementation, new budget lines have been added, which were not included in the original budget.

Disbursed and committed funds January 1997 – June 1999

	USD '000 Budget line	A. Original Project Budget 1997-2001	B. Expendi- tures Jan 1997 – Mar 1999	C. Amounts committed to June 1999	D. Total estimated expenses to June 1999 (B+C)	E. Disburse- ments of March 1999 in % of budget (B/A)	F. Balance (A-D)
1	BUET staff	208,2	98,6	11,1	109,7	47%	98,5
2	Project professional staff						
3	Support staff						
4	ITN Centre Manager						
5	Administration	52,1	6,3	2,4	8,7	12%	43,4
6	Training of Trainers	112,8	5,4	3,1	8,5	5%	104,3
7	Training and Orientation	57,7	18,8		18,8	33%	38,9
8	Other staff travel	48,5	8,8		8,8	18%	39,7
9	National consultants	48,5	3,8		3,8	8%	44,7
10	Co-ordination of sub-centres						
11	Equipment and consumables	108,4	46,1	50,8	96,9	43%	11,5
12	Research and development	115,0	15,1	3,1	18,2	13%	96,9
13	Transport/vehicle	68,2	30,0	2,5	32,5	44%	35,7
14	Training Modules & Materials	95,0	6,5		6,5	7%	88,5
15	Educational materials	16,0	9,9	5,0	14,9	62%	1,1
16	Short term consultants, expats (incl IRC)	120,0	0,0	85,0	85,0	0%	35,0
17	Training of ITN Staff	40,0	3,2		3,2	8%	36,8
18	Specialised courses		3,2		3,2		-3,2
19	Publications		1,9	0,5	2,4		-2,4
20	Meetings & Networking		3,3	0,5	3,8		-3,8
21	Contingency	54,5	0,0		0,0	0%	54,5
22	Sub-total	1.144,9	260,9	164,0	424,9	23%	720,0
23	UNDP/WB 10% Service charge	114,5	26,1	7,9	34,0	23%	72,0
24	TOTAL	1.259,4	287,0	171,9	458,9	23%	792,0

12.3 Revised Budget

Based on the recommendations presented in the previous chapters, the RT proposes a thorough revision of the budget for the remainder of the present phase. The revised budget includes financial allocations for the following activities supported or recommended by the RT:

1. Project allowances to BUET staff (BL 1)
2. Continuous employment of 3 professional staff (consultants) (BL 2)
3. Continuous employment of 6 support staff (BL 3)
4. Appointment of full-time Senior ITN Centre Manager (BL 4)
5. Re-orientation courses for staff at 2 new sub-centres (BL 6)
6. TOTs at sub-centre level (BL 6)
7. Courses for graduating students (8) (BL 7)
8. Re-orientation courses for sector professionals (8 per year) (BL 7)
9. Study visit to African ITN Centres (BL 8 – travel expenses)
10. Participation in international conferences, etc. (BL 8)
11. Local consultant, software / gender for provision of assistance in further development of software issues (BL 9)
12. Co-ordination expenses of 8 sub-centres (BL 10)
13. Equipment for 2 new sub-centres (BL 11)
14. Air-conditioners for 8 sub-centres (BL 11)
15. Demonstration models for sub-centres (BL 14)
16. Documentation and literature for 2 new sub-centres plus general up-dating (BL 14)
17. Reproduction of temporary educational materials to students (BL 15)
18. Reproduction of test version of student textbook (BL 15)
19. International expert for preparation of long term business plan and monitoring visits (4 person months, 6 visits) (BL 16)
20. Contract with 2 Directors of ITN Centres in Africa for preparation of long term business plan (2.5 person months each, 2 visits) (BL 16)
21. Local consultant, business management (BL 9)
22. Gender training for ITN Centre staff and sub-centre co-ordinators (BL 17)
23. Other in-house training for ITN Centre staff and sub-centre co-ordinators (BL 17)
24. Tailor-made training programme with African ITN Centres (max. 3 weeks in Ghana /Zimbabwe for 15 persons) (BL 17)
25. Specialised courses (1 per year) (BL 18)
26. Quarterly meetings for sub-centres, technical fora (BL 20).

Proposed Revised Budget April 1999 – February 2001

	USD '000 Budget line	D. Total estimated expenses to Jun 1999	G. 1999 Review: Major invest- ments	H. O&M Budget Jul-Dec 1999 6 months	I. O&M Budget Jan-Jun 2000 6 months	J. O&M Budget Jul-Dec 2000 6 months	K. O&M Budget Jan-Feb 2001 2 months	L. Total revised budget
1	BUET staff	109,7		10,5	10,5	10,5	3,5	144,7
2	Project professional staff			26,8	26,8	26,8	8,9	89,4
3	Support staff			5,1	5,1	5,1	1,7	17,0
4	ITN Centre Manager			9,0	9,0	9,0	3,0	30,0
5	Administration	8,7		6,5	6,5	6,5	2,2	30,4
6	Training of Trainers	8,5		12,0	12,0	12,0	4,0	48,5
7	Training and Orientation	18,8		22,0	22,0	22,0	7,3	92,2
8	Other staff travel	8,8	65,0	1,2	1,2	1,2	0,4	77,8
9	National consultants	3,8	10,0		0,0	0,0	0,0	13,8
10	Co-ordination of sub-centres			5,1	5,1	5,1	1,7	17,0
11	Equipment and consumables	96,9	20,0	5,0	5,0	5,0	1,7	133,6
12	Research and development	18,2		16,0	16,0	16,0	5,3	71,5
13	Transport/vehicle	32,5		3,0	3,0	3,0	1,0	42,5
14	Training Modules & Materials	6,5	15,0	5,0	5,0	2,0	0,7	34,2
15	Educational materials	14,9		1,9	1,9	1,9	0,6	21,2
16	Short term consultants, expats (incl IRC)	85,0	145,0		0,0	0,0	0,0	230,0
17	Training of ITN Staff	3,2	13,1	1,3	1,3	1,3	0,4	20,6
18	Specialised courses	3,2			2,0	2,0	0,7	7,9
19	Publications	2,4		1,2	1,2	1,2	0,4	6,4
20	Meetings & Networking	3,8		1,2	1,2	1,2	0,4	7,8
21	Contingency	0,0	8,5	0,0	0,0	0,0	0,0	8,5
22	Sub-total	424,9	276,6	132,8	134,8	131,8	43,9	1.144,9
23	UNDP/WB 10% Service charge	34,0	27,7	13,3	13,5	13,2	4,4	106,0
24	TOTAL	458,9	304,3	146,1	148,3	145,0	48,3	1.250,9

It is assumed that UNDP/WSP will not be entitled to a 10% service charge on the IRC contract. The equivalent amount of USD 8,500 has been reserved as a contingency allowance (line 21).

The budget presented above is optimistic in the way that it assumes a substantially higher disbursement rate than what has been experienced in the previous period.

If the activities recommended by the RT are fully adopted, it appears that the budget allocation under the present project will be exhausted by the end of February 2001. The RT therefore suggests that the present project period will terminate, when the funds have been exhausted and that the Component Phase will start as of 1 March 2001.

Recommendation: The revised budget presented by the RT in the Review Report should be approved by the ITN Centre and the Royal Danish Embassy. The present project period should terminate, when the funds have been exhausted at the end of February 2001 and the subsequent Component Phase should start 1 March 2001.

Revised Budget in Danida Board Format

The below table illustrates the distribution of the revised budget lines as proposed by the RT on the original budget lines that were approved by the Board of Danida. Line 27 indicates the proposed utilisation of contingencies on the various budget lines to cater for the additional expenses of the revised budget as proposed by the RT. The proposed changes of the budget involve reallocation of contingency funds only; hence, renewed approval by the Board of Danida is not required.

It should be noted that there is a slight discrepancy in the calculation method of the UNDP/WB administrative fee: The project document calculates the 10% administrative fee on the total budget, including a contingency allocation of 5%. The budget approved by the Danida Board calculates the 10% fee on the operational budget (less contingency), and adds a 10% contingency afterwards. The difference amounts to DKK 17,100 in the below revised budget (column d, line 25 and 26, including recovery of the 10% service charge on the IRC contract (USD 8,500)). Due to this difference in calculation method, the estimated balance (remaining contingency) at the end of the project appears to be DKK 50,800.

	USD '000 Budget line	Total revised budget	a. Core project	b. Project operations	c. Technical assistance	d. UNDP/WB admin. fee	f. Contingency
1	BUET staff	144,7	144,7				
2	Project professional staff	89,4	89,4				
3	Support staff	17,0	17,0				
4	ITN Centre Manager	30,0	30,0				
5	Administration	30,4		30,4			
6	Training of Trainers	48,5	48,5				
7	Training and Orientation	92,2	92,2				
8	Other staff travel	77,8		77,8			
9	National consultants	13,8			13,8		
10	Co-ordination of sub-centres	17,0		17,0			
11	Equipment and consumables	133,6	133,6				
12	Research and development	71,5	71,5				
13	Transport/vehicle	42,5	42,5				
14	Training Modules & Materials	34,2	34,2				
15	Educational materials	21,2	21,2				
16	Short term consultants, expats (incl IRC)	230,0			230,0		
17	Training of ITN Staff	20,6	20,6				
18	Specialised courses	7,9	7,9				
19	Publications	6,4		6,4			
20	Meetings & Networking	7,8		7,8			
21	Contingency	8,5					8,5
22	Sub-total	1.144,9					
23	UNDP/WB 10% Service charge	106,0				106,0	
24	TOTAL USD	1.250,9	753,3	139,4	243,8	106,0	8,5
25	Total DKK '000 (rate 5.97)		4.497,8	832,1	1.455,7	632,9	50,8
26	Original budget presented to the Board of Danida		4.341,0	662,0	1.183,0	650,0	684,0
27	Allocation of contingencies to original budget lines (total DKK 639,7)		-156,8	-170,1	-272,7	17,1	633,2
28	Remaining contingency						50,8

12.4 Projected Cash Flow until February 2001

With the present schedule for transfer of funds from Danida to UNDP, the projected cash flow based on the above revised project budget is illustrated in the below table.

Present Schedule for Financial Transfers

USD '000	At sign. of agreement.	June 1997	June 1998	June 1999	June 2000	Dec 2000	Feb 2001
Opening balance	0,0	378,7	590,8	707,7	640,4	201,8	56,8
Transfers to UNDP	378,7	265,9	268,8	100,9	160,1	0,0	0,0
Disbursements at project level, projected	0,0	53,8	151,9	168,2	598,7	145,0	25,0
Balance	378,7	590,8	707,7	640,4	201,8	56,8	31,8

If maintaining the agreed schedule for financial transfers, it appears that accumulated funds will gradually decline until the end of the project. It is assumed that the contract sum of USD 85,000 for the IRC contract was deducted from the transfer schedule at the latest by June 1999.

13. SUSTAINABILITY

The present chapter attempts at assessing to which extent the objectives of the support to the ITN Centre can be achieved and sustained in the long term.

What is important to look at is the technical, organisational and financial viability of the organisation and its outputs and activities. The below assessment will accordingly concentrate on these three aspects. In addition, lessons learnt from the development of other ITN Centres will be applied, when relevant.

13.1 Technical Sustainability

13.1.1 Pluridisciplinary Approach and Competence Level

Promotion of gender sensitivity in HRD activities and materials is a key concern for the sector as a whole – and a common problem as well. In this field of expertise, the ITN Centre – despite all good intentions – has not yet been able to develop a significant profile. It is probably also in future an area that will have difficulties in becoming sustainable within the present set-up. A number of issues can be identified as potential causes:

- BUET as such is not in a position where expertise in software issues is readily available and can be attached to the ITN Centre. The expertise needs to be externally recruited.
- The field of expertise has been assigned to one staff member only (a consultant on short-term contract), who in addition to this responsibility is heavily involved in training, development of training materials, production of the ITN Newsletter, and other administrative duties.
- The area has not been given sufficient priority in terms of management mandate, staff time allocation and monitoring.
- Systematic training of all staff in gender analysis has not taken place yet.
- Technical assistance in this area has concentrated on software issues in relation to the student textbook and has not given priority to in-house capacity building (for a number of good reasons).

The ITN Centre will to a large extent have to rely on external resource persons when it comes to inclusion of software issues in training programmes, training materials, capacity building, etc. It is an area where a lot more interventions would be required to move towards a genuine pluridisciplinary approach and profile of the ITN Centre.

13.1.2 Re-oriented Curricula

As described in section 4.3.1, the re-oriented curricula within BUET and the four Bangladesh Institutes of Technology (BIT) have been formally approved, whereby the first institutional barrier to this change has been overcome. This area mainly requires a sufficiently high technical competence level to become sustainable. When first the curricula have been accepted and are being taught, sustainability depends less on institutional and financial aspects. Therefore, prospects for obtaining a lasting effect are very positive. The major risk at present is the lack of qualified teaching staff to cover the

new subject areas, particularly the software aspects. For the next few years, heavy investments still have to be done in capacity building in order to ensure the future technical sustainability of the implementation of the re-oriented curricula.

As also mentioned previously, this is an area where ITN Centres in other parts of the world have faced serious difficulties in breaking through and some have not succeeded at all. It should be acknowledged that such a major re-orientation of well-established academic institutions is an extended process that requires substantial lobbying and persistence.

13.1.3 Applied Research

There is a lot of focus on the areas of applied research within the sector – a several major projects have allocated funds for undertaking applied research in the field. The response to the ITN Centre’s announcements of available funding for applied research projects has also been very positive. Ideally, the ITN Centre should be able to fully utilise its position within BUET to draw on research expertise within the Environmental Engineering Division (EED) and from BUET as a whole. With the proposed opening up for involvement of all faculty members of the EED, the research resource base would be broader.

However, the backside of the coin is that BUET faculty staff is less available for conducting field research or for undertaking monitoring of field activities and field testing due to their teaching obligations at BUET. It will probably mean that the ITN Centre to a large extent also here have to rely on external researchers and even on external research supervisors in order to maintain a proper field focus.

Another area of difficulty is to ensure a balanced representation of pluridisciplinary and socio-economic aspects in the research projects and for this purpose the ITN Centre does not have an adequate staffing profile, neither for undertaking research nor for supervising such research.

Applied research is probably the area, where it will be most difficult to achieve sustainability for the ITN Centre, both technically, institutionally and financially.

13.1.4 Training

Training is an area where the biggest potential for sustainability exists in the way that there is a huge market and demand for training services. Judging from the response from various stakeholders during the Review, many national sector organisations and donor funded projects see themselves as potential clients of the ITN Centre. At the same time, it is also a field, where competition is strong and where many competitors since long have established themselves as suppliers of quality services. The ITN Centre has made good progress in developing its services and products in terms of the Training of Trainers programme and training programmes for sector professionals. However, whether the technical quality and competence is sufficiently high in a competitive situation still has to be verified.

In section 4.3.2 it was mentioned that training is an apex to the mainstream activities of a university (BUET, BITs) and it is therefore not part of the regular resource allocation.

Long-term sustainability will therefore depend on the extent to which the ITN Centre can sell its services and products on commercial terms and thereby generate sufficient funds for non-engineering core staff and continued development of training concepts and materials.

The experience from other ITN Centres shows that this is where the means for survival are found. Both the IWSD in Zimbabwe and TREND in Ghana have succeeded in becoming self-financing based on supply of services in the area of training.

13.2 Organisational Sustainability

13.2.1 National Recognition

With the establishment of the ITN Centre followed an international recognition of being a member of the ITN family. However, what appeared to be a critical factor for the breakthrough of other ITN Centres, namely a formal government recognition of the ITN centre as playing an important role as *the national resource centre in the W&S sector*, has not been the case for the ITN Centre in Bangladesh. The recognition that the ITN Centre as enjoying at present seems as much to be derived from the attachment to BUET and from the technical reputation of its management, e.g. the present Project Director. An institutional recognition has as yet not been achieved, and with the lack of inclusion of the ITN Centre in the national policy on water and sanitation, the ITN Centre is just one out of many possible organisations and NGOs that could take up the role as a sector resource and training centre.

For many stakeholders in the sector the ITN Centre will therefore, also just be one of several potential suppliers of training and HRD services. For other ITN Centres, during the critical period of building up a new organisation and business, it was critical to their initial survival to be granted a ready market for their products through the national recognition of its role to play in the sector. In the case of the ITN Centre, the lack of preferential treatment or recognition means that the organisation has to face the hard conditions of a competitive market right from the beginning. At the same time, it is also struggling to build up its technical competencies – i.e. developing quality services and products, which can compete with the quality of already existing training deliverers, NGOs, etc. in a lucrative market mushrooming with individual consultants and private consultancy companies.

13.2.2 Institutional Location

The present location of the ITN Centre within BUET is of great value and should be protected. Without BUET as a hosting organisation providing office facilities, management and technical expertise within the engineering field, the ITN Centre would be a purely donor driven venture in the current stage.

A cornerstone of the ITN Centre's survival as an organisation moving from a government bureaucracy to a more dynamic and private oriented consulting group or service supplier is the personal commitment and readiness to change of the core staff.

The organisation is staffed by two categories of personnel: One group comprises BUET faculty members, the other group consists of project employed personnel (consultants on short-term contracts).

The group of BUET staff definitely sees the ITN Centre as a permanent feature of the Environmental Engineering Division of the Department of Engineering. This group has no vision of changing the organisational set-up or status of the ITN Centre and finds it both feasible and preferable that the ITN Centre should have its permanent location within the Division. Being the founders of the organisation, the group has a strong feeling of ownership to the ITN Centre.

Generally speaking, the other category of professional staff performs to the full satisfaction as project employees, but shows no particular ownership or commitment to the organisation as such – which is understandable, considering the nature of their contracts (short-term) and history of employment (to be replaced by BUET staff).

The ITN Centre is a popular activity centre within the Environmental Engineering Division, where staff is readily involved in training programmes as resource persons and has expressed profound interest in developing the area of applied research. With the proposed acceptance of involving all divisional faculty members on a case-to-case basis instead of limiting the number of staff to the (unrealistic) three full-time positions, the ITN Centre will probably be better integrated into the Division and hence, establish a deeper anchorage within the institution.

During the last period, the ITN Centre has managed to expand the recognition of ownership to the highest level of BUET administration with the Vice Chancellor chairing the ITN Board. This is definitely an important positive step towards broadening the ownership of the centre from individuals to the institution.

The discussion of institutional anchorage and location should also be related to the outputs and activities within the mandate of the ITN Centre as well as the technical competence areas required of the organisation. As long as two of the three major activity areas are so closely linked to BUET and the academic world, the greatest impact should be expected to come from working within the target organisations, i.e. BUET and the BITs. Re-orientation of curricula and faculty members within a well-established and recognised academic world can hardly be expected to be successful, if coming from external agents. Research to some extent also has to be linked to the academic world in order to achieve accreditation, though the field perspectives and testing are just as important when it comes to applied research that should be of relevance at field and project level.

In summary, there is no obvious alternative to the present institutional location of the ITN Centre within BUET. One should also keep in mind that at present there is neither an obvious need to change the set-up. An important lesson learned from the other ITN Centres is that the institutional set-up only changed, when there was a genuine need for it generated by expanding operations and a related demand for operational flexibility, which could not be accommodated within the university administration. Whether the institutional set-up of the ITN Centre should be changed or not, is a decision that should be made only, when a clear operational or strategic need has been identified for such a change. Even in that case, there would still be a number of options within BUET that

should be considered – ranging from the present integration in the Division, to a more independent status as a Centre or even as a separate Institute.

13.2.3 Institutional Development of Sub-centres

When discussing sustainability, the strategy of building up a network of sub-centres is the weakest element in the present set-up. As previously described the sub-centres are generally poorly resourced, both in terms of teaching staff with expertise in relevant areas and in financial terms.

The goals and visions for the role to be played by the sub-centres have not been adequately elaborated, neither in the context of the Project, nor in collaboration with the sub-centres themselves. Considering the state of affairs at the sub-centres, it is rather difficult to envisage, which activities would have the potential to become sustainable in the long term – and particularly how to achieve this sustainability. The first step will be to start recognising the present situation at the sub-centres and then revise the strategy and plans based on realistic assumptions. The needs assessment of the sub-centres is a good starting point for this process, but only a starting point. A lot more thought has to be put into further elaborating the development strategy of the sub-centres.

Institutional development is a difficult technical field, where the ITN Centre does not have the requisite in-house capacity or experience. The ITN Centre has not yet reached a stage, where its own existence has been consolidated and as such they do not have much experience to share from. It could be necessary to involve external assistance to assist in this area, and definitely it is an issue that should be looked closely at in the process of preparing the overall development strategy of the ITN Centre. It will probably also be necessary to prepare individual development plans for all the sub-centres, which was also part of the RT's recommendations.

13.3 Financial Sustainability

When discussing the prospects for financial sustainability of the ITN Centre, there are at present three main issues that have to be addressed:

1. The training subsidy strategy of the ITN Centre
2. The BUET policy on income generation
3. Level of sustainability

13.3.1 The Training Subsidy Strategy of the ITN Centre

The general culture in Bangladesh with regard to training and capacity building is characterised by people expecting to be paid to receive training. It appears that it is a long practised habit of paying participants a certain training allowance for attending courses and training programmes. The training allowance is regarded as a cash incentive. In addition, free boarding and lodging is provided as well as reimbursement of transport costs.

Initially the ITN Centre was designed as a fully donor funded project, where all training programmes were anticipated to be fully sponsored by the project. The implications for a

future financial sustainability were not taken into account in the design phase – ten years ago this was not a very prominent issue in development assistance.

The present training subsidy strategy of the ITN Centre excludes in general payment of training allowances, though subsistence and travel allowances are paid for participants coming from out of town. It is a stated principle that gradually the subsidy of any training programme should be phased out, but as yet the ITN Centre has not been able to progress much.

On the other hand, there are private suppliers of training in Bangladesh who charge commercial fees for training courses (TK 3,000 for 2-3 days for tuition and materials only) and who manage to survive from it.

There should be a potential for a gradual increase of the charges for training interventions over a period, particularly when considering that within the WSS sector most HRD programmes are somehow externally funded. However, the ITN Centre has to be careful in continuously adjusting the training subsidy to the actual circumstances in order not to undermine a future market potential and at the same time to strike a realistic level in the current situation. This will be particularly important to the sub-centres.

13.3.2 BUET Policies

BUET has a standard policy on how income from consultancy earnings is dealt with, irrespective of whether it is generated by an individual faculty member or an organisational unit (department, centre, institute). All income should be channelled through the BUET administration, where between 15-19% are deducted from the gross income as an overhead charge for the costs of the university. Gross income is defined as both fees and direct costs incurred (reimbursables). The exact rate and conditions are negotiable (according to the Vice Chancellor). As long as the ITN Centre is hosted by BUET and as long as BUET contributes office facilities, staffing, etc. in principle such a charge is fully justified, though it will need to be detailed out and made operational in order to establish a fair overview of the financial implications. For example, a general charge on direct costs could be counter-effective to long term financial sustainability, whereas a restriction of the overhead charge to the pure income, i.e. fees and honorarium, seems more feasible.

BUET rules and regulations allow for some flexibility in staffing profiles and employment conditions, when it comes to short-term contracts. Hence, the ITN Centre would be in a position to recruit non-engineering staff on attractive conditions on contract basis. It is also acceptable to BUET to reward permanent staff (faculty members) for involvement in e.g. ITN Centre activities by paying incentive allowances. However, present practice requires this incentive allowance to be declared to the university as consultancy income and thereby the BUET overhead charge of 20% has been paid. It would be necessary to distinguish between income generated by the institution (the ITN Centre) and internal allowances payable to staff.

An issue that can be important in the longer term when the turn-over of the ITN Centre increases is the degree to which BUET can create a flexible framework for more commercially oriented operations. In the case of TREND in Ghana, this was a determining factor in deciding to relocate the training centre outside the university

setting. If bureaucratic control systems of the host organisation such as the university start to create serious cash flow constraints in the daily operations, it may become a bottleneck for a demand responsive and efficient implementation of training programmes and consultancy services. Again it should be stressed that the institutional and administrative set-up should only be changed, when there is a genuine need for it.

In conclusion, the issue of technical, institutional and financial sustainability of the ITN Centre will be crucial to closely look at and monitor in the next few years. It should be the focus for the process of preparing a business development strategy for the ITN Centre, where the outcome should be a more systematic and comprehensive approach and strategy for moving towards self-sustainability over the period of the next five years.

ANNEX 1

FINAL
TERMS OF REFERENCE
FOR
Joint Review of International Training Network Centre for
Water Supply and Waste Management (ITN)
Bangladesh University of Engineering and Technology (BUET)
18 – 29 April 1999

1. BACKGROUND

Danida has since 1996 been supporting the "International Training Network (ITN) Centre for Water Supply and Waste Management" established at the Bangladesh University of Engineering and Technology (BUET). The Project is executed through the Regional Water and Sanitation Group, South Asia (RWSG-SA) of the UNDP/World Bank Water and Sanitation Programme. The official launching of the ITN Centre was held on 19 December 1996.

The immediate objectives of the project are to:

- re-orient the engineering education;
- update skills of staff and decision-makers within the sector; and
- establish applied research capability.

The Project is implemented through a network of co-operating sub-centres viz. the Shahjalal University of Science and Technology (SUST), Bangladesh Institutes of Technology (BITs) and the Polytechnic Institute in Dhaka. The primary beneficiaries are faculty members and students at BUET, BITs and Polytechnic Institutes as well as practising professionals in the field (mainly staff of the Department of Public Health Engineering).

Over a five year period, the Government of Denmark will provide USD 1,259,400 including a 10% service charge to UNDP/World Bank. Outside the above mentioned grant, the Government of Denmark has during October 1996-September 1997 provided and financed one expatriate Water Supply and Sanitation Education Adviser to support the planning, start-up and implementation of the ITN Centre.

According to the Project Document, joint Danida/World Bank reviews are to be carried out after one, two and five years. The first review was held during 1-15 September 1997. The present review is the second review of the project achievements. The Danish financing of the activities during the Consolidation Phase is conditional of the outcome of the first two reviews.

2. OBJECTIVES

The objectives of the review are to:

- assess the project implementation in key areas considered to be crucial for the current phase;
- assess the overall performance and output of the project so far and make recommendations on whether Danish support to the ITN Centre should continue for the Consolidation Phase of 2½ years;
- assess whether the intended objectives of the project are likely to be achieved;
- assess the extent to which gender issues and socio-economic considerations have been emphasised in the project activities;
- assess the function of the project organisation and its management;
- assess the long-term institutional and financial sustainability of the ITN Centre; and
- assess the collaboration between the ITN Centre, BUET and RWSG-SA and the fulfilment of their respective obligations according to agreements entered into with the Danish Government.

3. OUTPUT

The expected output of the Review shall be a report reflecting among others the following:

- a quantitative listing of achievements since the 1997 Review Mission and a qualitative assessment of these results, including the assessment of the follow-up activities to the recommendations made by the Review Mission;
- an assessment of the Operational Plan, work plans, semi-annual progress reports;
- an assessment of the role and functioning of the Executive Committee and the extended ITN Board;
- an assessment of the extent to which capacity building of the sub-centres of the network has been achieved;
- an assessment of the collaboration between the various stakeholders in the project, i.e. BUFT, BITs, Polytechnic Institutes, DPHE, LGED, NGOs, the private sector (inclusive of consultancy firms), other ITN Centres, RWSG-SA etc.;
- an assessment of the project cost including the financial management procedure; and
- an assessment of the output of the Establishment Phase and recommendations to Danida on whether Danish support to the ITN Centre should continue for the Consolidation phase of 2½ years.

4. ACTIVITIES

The recommendations of the Review Mission must be based on a study of relevant project documentation combined with consultations with the Danish Embassy in Dhaka, RWSG-SA, BUET, ITN Centre, sub-centres, sector agency etc. The Review shall comprise, but not necessarily be limited to the activities and tasks as outlined below:

4.1 General Aspects:

- assess the government's policy relating to capacity building and human resource development in the sector and the project's ability to contribute to sector development;
- identify and assess possible linkages and co-ordination between the project and the ongoing Danida assisted Sector Programme Support components, and suggest if necessary, adjustments of the project strategy/organisations set-up to fit within the overall framework of the second draft Sector Programme Support Document prepared by Danida;
- identify general areas and important implementation strategies where further attention is required and if necessary, recommend appropriate action to be taken;
- assess whether any review of the project should be undertaken before the stipulated review at the end of the fifth year; and
- any other subject that might appear relevant.

4.2 Project Management Aspects

- assess the role and functioning of the Executive Committee and the ITN Board;
- review the present co-ordination between ITN Centre and sub-centres including the extent to which the obligations in the MOU between the ITN Centre and the sub-centres are being fulfilled by the parties;
- assess the role of RWSG-SA and the professional and managerial back-up function required and provided by RWSG Bangladesh Country office and RWSG-SA New Delhi office and recommend, if found relevant, any improvements to be made;
- assess to what extent the obligations in the agreement between UNDP and the Danish Ministry of Foreign Affairs are being fulfilled by the parties;
- review the administrative procedures between RWSG-SA and ITN Centre;
- review the role of BUET, and if found relevant advice about need for changes;
- assess to what extent the obligations in the agreement between GOB and Danida are being fulfilled by ITN/BUET inclusive of employment of BUET professionals to the ITN Centre;
- assess the ITN Centre's capability for planning, including an assessment of the Operational Plan, Semi-annual plans and if necessary, recommend any relevant improvements of these plans;

- assess the performance monitoring system, i.e. the bimonthly review between ITN centre and RWSG-SA, biannual progress reports, individual performance plan of the professional staff etc.; and
- any other subject that might appear relevant.

4.3 ITN Centre at BUET as focal point for a national network of cooperating institutions

- assess the present institutional set-up of the ITN Centre and a possible future transformation of the ITN Centre into an independent entity with professional links with BUET;
- assess the transfer of skills and overlapping between RWSG-SA employed consultants and ITN employed professionals and recommend a phasing out plan for the RWSG-SA employed consultants;
- review and comment on the operational strategy for involvement of the sub-centres including the extent to which provision of training equipment and materials to the sub-centres have been made;
- assess and comment on the role of the ITN Coordinators at the sub-centres;
- review the Operational Plan, work plans etc, and if necessary, make suggestions for improvements;
- assess the monitoring system and indicators for project progress and effect monitoring and comment on the appropriate timing for effect monitoring of the project;
- review the collaboration with other ITN centres, particularly in Asia;
- review the collaboration with the sector organisations and particularly with NGOs, research and training institutes etc.; and
- any other subject that might appear relevant.

4.4 Educational curricula and syllabi

- assess the progress with introduction of revised curricula and syllabi in BUET, SUST, BITs etc;
- assess to what extent gender aspects and hygiene promotion are included as an integral part of the curricula, and if necessary make recommendations on how these can be strengthened;
- assess the initiatives taken so far to institutionalise the use of reoriented curricula and syllabi in BUET, SUST, BITs and the Bangladesh Technical Education Board; and
- any other subject that might appear relevant.

4.5 Educational materials and equipment

- assess and comment on the review of existing local and international educational materials meant to serve as an input to the preparation of the educational materials;

- review the outline and topics selected for the proposed student text book particularly those relating to hygiene promotion, social and gender aspects have been integrated;
- assess the progress in preparation of the proposed student text book including assessment of inputs from ITN, BUET, RWSG-SA, local and expatriate consultants;
- assess the status of supplying BUET, BITs and Polytechnic Institutes with educational materials, equipment and demonstration models, etc.; and
- any other aspects that might appear relevant.

4.6 Training of in-service staff and orientation of decision makers.

- assess the survey of existing training and orientation efforts within the low-cost water supply and sanitation sector undertaken by ITN;
- assess the progress of review of training materials from various sector organisations;
- assess the training needs assessment report and the extent to which it reveals the training needs of the teaching staff at BITs, SUST and the Polytechnic Institute and of the sector agencies;
- assess the development of training materials for re-orientation courses for sector professionals; and
- any other subject that might appear relevant

4.7 Training of trainers

- review the revised ITN strategy for training of trainers;
- assess the progress with development of module and materials for training of trainers and to what extent these focus on the rural context/low cost technologies, low income urban fringe communities etc.; and
- any other subject that might appear relevant.

4.8 Training and orientation courses

- assess the training courses carried out by ITN so far including to what extent these are designed on the needs within the low-cost water and sanitation sector;
- assess the outline of the modular training programme for the water and sanitation sector developed by ITN;
- assess in general the ability of the ITN Centre to deliver demand responsive courses and those for continued course development;
- assess to what extent the ITN Centre, through their training programmes is capable of promoting a more gender-balanced development in the water and sanitation sector;

- assess the effect of re-orientation courses for graduating students and the extent to which replication of these courses have taken place by the sub-centres;
- review and comment on the subsidy strategy for training adopted by ITN; and
- any other subject that might appear relevant.

4.9 Applied research and development projects

- review ITN's strategy for applied research and development including assessment of proposals as well as monitoring of planning and implementation of the projects;
- assess to what extent R&D activities are linked with appropriate rural low-cost technologies and social and gender aspects;
- assess the extent to which R&D include activities in the sub-centres as well as existing projects in the sector and field activities; and
- any other subject that might appear relevant.

4.10 Financial aspects

- provide an update of the overall financial position of the project, including expenditures compared to progress of work and time schedule;
- assess whether revision of certain budget-lines within the overall budget allocation will be required;
- assess the flow of funds and accounting procedures;
- assess the appropriateness of procedures for control of funds and assets, and
- any other subject that might appear relevant.

4.11 Consultancy Inputs

- assess the quality, utilisation and need of short term advisory input (local and expatriate) for incorporating software and gender aspects in upgrading the engineering education;
- assess the need for and ITN's plans for utilisation of expatriate consultancy assistance for developing its institutional and managerial set-up; and
- any other subject that might appear relevant.

4.12 Sustainability

- assess the quality of the output and services offered by ITN such as training programme and comment on the marketing strategy for the ITN Centre services;
- based on the above, make a general assessment of how the ITN Centre may become financially sustainable after the termination of Danida support; and
- any other subject that might appear relevant.

5. Composition of the Review Team

The composition of the Joint Review Team is as follows:

- Ms. Lisbeth Fich, Team Leader, Education Specialist, External Consultant to Danish Ministry of Foreign Affairs.
- Mr. Abu Shahjalal Azad, Senior Public Health Engineer, External Consultant to Royal Danish Embassy.
- Mr. Bruce Gross, Deputy Manager, UNDP-World Bank Water and Sanitation Program, Washington.

6. Timing and Reporting

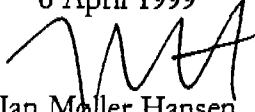
The Review Team will visit Bangladesh in the period 18 – 29 April 1999. At the beginning of its stay the Review Team will have consultations with the Danish Embassy, the ITN Centre, RWSG-SA Bangladesh Country Office in Dhaka after which the Team will undertake field visits to the sub-centres.

The Review Team will present and discuss its preliminary findings and recommendations with BUET, ITN, RWSG-SA as well as the Royal Danish Embassy in Dhaka before their departure from Bangladesh.

A Draft Review Report shall be submitted to Danida not later than 17 May 1999. The Draft Review Report will subsequently be forwarded by Danida to relevant GOB authorities, BUET and RWSG-SA for comments.

The Royal Danish Embassy shall produce a draft follow-up memorandum, stating the recommendations and actions to be taken - by whom/when - in accordance with the Danida Guidelines. Thereafter, the Final report will be edited taking into account the comments received, where considered relevant. The report language is English.

Danida Copenhagen, S.6
6 April 1999


Jan Møller Hansen

Documents available for the Joint Review of the ITN Centre, Bangladesh, April 1999.

1. UNDP/World Bank and Danida: Project Document on International Training Network Centre for Water Supply and Waste Management. Dated September 1995 and signed on 3rd April 1996.
2. International Training Network Centre for Water Supply and Waste Management, UNDP/World Bank & Danida: Appraisal Report by a Joint UNDP/World Bank-Danida Mission visiting Bangladesh from 16/11 to 30/11/1990. Updated by a Danida Mission visiting Bangladesh from 6/4 to 11/4 1995. June 1995.
3. Ministry of Education. Government of the People's Republic of Bangladesh: Technical Assistance Project Proforma (TAPP) (Revised as per recommendations of SPEC meeting, January 23, 1994 & November 03, 1994). International Training Network (ITN) Centre for Water Supply and Waste Management at BUET.
4. Agreement between the Government of the Kingdom of Denmark and the Government of the People's Republic of Bangladesh regarding International Training Network (ITN) for Water Supply and Waste Management at BUET. Signed on 3rd April 1996.
5. Agreement between the United Nations Development Programme and the Danish Ministry of Foreign Affairs on International Training Network Centre for Water Supply and Waste Management in Bangladesh. Signed on 28th June and 23 July 1996 respectively.
6. Danida: Sector Programme Support Document: Water Supply and Sanitation Sector, Bangladesh. March 1999.
7. ITN: Revised Operational Plan for International Training Network (ITN) Centre for Water Supply and Waste Management at BUET. July 1998.
8. ITN: Proceedings of the Second Curricula Development Workshop on Water Supply and Waste Management. October 1997
9. ITN: TOT Module I: Training Concepts and Methodology. March 1998
10. ITN: TOT Module II: Low Cost Sanitation. May 1998
11. ITN: Final Draft of Re-oriented Curricula. March 1998
12. ITN: Needs Assessment Report for Sub-centres' Capacity Building.
13. ITN: Semi-Annual Progress Report, July-December 1997.
14. ITN: Semi-Annual Progress Report: January-June 1998.
15. ITN: Semi-Annual Progress Report: July-December 1998.
16. Terms of Reference for the ITN Board, March 1998.
17. Terms of Reference for the Executive Committee, March 1998.
18. Minutes of the First Executive Committee Meeting held on 1 April 1998.

19. Minutes of the Second Executive Committee Meeting held on 5 July 1998.
20. Minutes of the Third Executive Committee Meeting.
21. Minutes of the Fourth ITN Board Meeting held on 24 November 1997.
22. Minutes of the Fifth ITN Board Meeting held on 23 February 1998.
23. Minutes of the Sixth ITN Board Meeting held.
24. Minutes of the First Research Sub-committee.
25. Minutes of the Second Research Sub-committee Meeting held on 18 November 1997
26. Terms of Reference for the Research Sub-committee
27. General Terms of Reference for the Researchers and Supervisors
28. Minutes of the third Research Sub-committee held on 15 March 1998.
29. Minutes of the fourth Research Sub-committee held on 5 April 1998.
30. Inception Reports of ongoing research projects
31. Minutes of the First Curricula Development Core Group Meeting held on 22 November 1997
32. ITN: ITN Newsletter Issue No. 3, October 1997
33. ITN: ITN Newsletter Issue No. 4, January 1998
34. ITN: Training of Trainers Course on Low-Cost WSS (TOT Module I), March 1998
35. ITN: Training of Trainers Course on Low-Cost Sanitation (Module II), July 1998.
36. ITN: Re-oriented Course Curricula on Water Supply and Waste Management, March 1998.
37. ITN: Training Strategy of ITN Bangladesh, July 1998.
38. Operational Strategy and Future Role of Sub-Centres
39. Final Needs Assessment Report for Sub-Centres' Capacity Building
40. Training Report: TOT Module II
41. Training Report: Orientation Course on WSS at Sylhet
42. Proceedings of the Training Course on Arsenic Problems and De-arsination of water in Bangladesh.

ANNEX 2

List of Persons Met

Royal Danish Embassy

Mr. Finn Thilsted, Ambassador
Mr. Preben Gondolf, Counsellor
Ms. Mohsena Islam, Programme Officer (Water and Sanitation)

Regional Water and Sanitation Group-South Asia

Mr. Babar N. Kabir, Country Team Leader, RWSG-SA
Mr. Iftekher Haider, Programme Officer
A. Jafar Shamsuddin

Bangladesh University of Engineering and Technology

Prof. Nooruddin Ahmed, Vice-Chancellor, BUET, Chairman of ITN Board
Professor Md. Hossain Ali, Head of Civil Engineering Department, BUET
Dr. A.M.M. Safiullah, Director & Professor & Dean, Faculty of Civil Engineering,
Directorate of Continuing Education
Prof. M. Nurul Islam, Director, Institute of Appropriate Technology

International Training Network Centre

Prof. Feroze Ahmed, Project Director
Prof. Mujibur Rahman, Curriculum Development Specialist
Mr. Md. Akhtaruzzaman, Project Coordinator & Training Specialist
Mr. Mohammad Mohsin, Community Development Specialist
Ms. Hasin Jahan, Technology Specialist
Mr. Md. Mafizur Rahman, Assistant Professor, Department of Civil Engineering, ITN
Training Specialist
Mr. M. Habibur Rahman, Professor, ITN Technology Specialist
Dr. M. Ashraf Ali, ITN Community Development Specialist

Bangladesh Institute of Technology, Dhaka

Professor M.A. Hannon, Director
Dr. Eng. Md. Showkat Osman, Associate Professor (Civil Engineering) and ITN Sub-
centre Coordinator

Bangladesh Institute of Technology, Khulna

Dr. Md. Keramat Ali Molla, Head of Civil Engineering Department
Dr. Mohammed Alamgir, Associate Professor, ITN Sub-centre Co-ordinator

Polytechnic Institute, Dhaka

Prof. A.K.M Shahjahan, Principal
Mr. Md. Abdur Rashid, Vice Principal
Mr. Shams-uddin Ahmed, Instructor (Civil Engineering) and ITN Sub-centre
Coordinator
Mr. Md. Abdur Razzaque, Chief Instructor and Head of Department (Civil
Engineering)
Mr. M.M. Ali Suza, Instructor (Civil Engineering)

Mohila Polytechnic Institute, Dhaka

Mr. Md. Mohiuddin Ahmed, Principal
Mr. Md. Seyajuddin Amed, Vice Principal
Mr. Md. Mohidur Rahman, Head of Department
Mr. Benjir Ahmed, Jr. Instructor, Civil Engineer
Mrs. Rabita Hossain, Jr. Instructor, Architect
Miss Ruda Kanaig, Jr. Instructor, Architect
Mrs. Satera Beguin, Jr. Instructor, Architect
Mr. Md. Sahabuddin, Jr. Instructor, Architect
Mr. Afsar Ali, Jr. Instructor, Civil Engineer

Technical Teachers Training College

Mr. Md. Abul Bashar, Professor, Principal (in-charge)

Local Government Division

Mr. Syed Anwarul Islam, Joint Secretary

Department of Public Health Engineering

Mr. Alhaj Md. Quadir-uz-Zaman, Chief Engineer
Mr. Md. Mustafizur Rahman, Executive Engineer, Training Division
Mr. Abdur Rahim, Training Specialist, Community Water Supply and Sanitation Project, DPHE/WHO

DPHE-Danida Urban Water and Sanitation Project

Mr. Azahar Ali, Socio-Economic Advisor, Danida Advisory Group
Ms. Mia Haglund Heelas, Socio-Economic Advisor, Danida Advisory Group
Mr. Jens Thøgersen, Technical Advisor, Danida Advisory Group
Et al.

NGO Forum

Mr. S.M.A. Rashid, Director, NGO Forum, ITN Board member

Unicef

Mr. Deepak Bajracharya, Chief, Water & Environmental Sanitation
Mr. Aung Chein, Project Officer, Water & Environmental Sanitation,

WHO

Mr. Abdur Rahim, Training Specialist

Dhaka Water and Sanitation Authority

Mr. Kazi Md. Shish, Chief Engineer
Engr. Shaikh Hasan Bakhsh, Chief Training Officer

Centre for Management Development

Mr. Syed Masud Hasan, Managing Director
Mr. A.M.M. Khairul Bashar, Management Specialist
Mr. Jahangir Alan Khan, Director

Participants in Khulna BIT Graduating Students' Course

Mr. Md. Shajahan Ali

Ms. Rabya Rouf

***Participants in Chittagong BIT Graduating Students' Course
(interviewed at BUET)***

Mr. Ahsan Uddin Ahmed

Mr. Kazi Md. Badoruzzaman

Mr. Rajiv Bhowmik

Mr. Md. Arzurul Hoq

Mr. Goutom Chandra Mridha

Participant in Dhaka BIT Graduating Students' Course

Mr. Md. Mamunur Rahman

ANNEX 3

PROGRAMME OF THE REVIEW TEAM

<i>Day</i>	<i>Organisation</i>	<i>Attendance</i>
Sat 17 April	Internal team meeting	LF, BG, ASA
Sun 18 April	Internal team meeting	LF, BG, ASA
Mon 19 April 09.00	Royal Danish Embassy	LF, BG, ASA
11.30	RWSG-BD	LF, BG, ASA
13.30	UNICEF, WES Section	LF, BG, ASA
15.00	ITN Centre	LF, BG, ASA
Tue 20 April 09.00	ITN Centre	LF, BG, ASA
10.00	BUET, Vice-Chancellor	LF, BG, ASA
11.30	DWASA, Chief Engineer and Chief Training Officer	BG, ASA
11.00	Centre for Continued Education, BUET	LF
Afternoon	ITN Centre	LF, BG, ASA
Wed 21 April 09.00	ITN Centre	LF, BG
09.30	Head of Department, Civil Engineering Department	LF
10.00	ITN Centre, staff interviews	LF, BG
13.00	WHO Training Consultant and DPHE Executive Engineer, Training	LF, BG
14.00	Urban Water and Sanitation Project	LF
15.00	DPHE, Chief Engineer	LF
Thur 22 April 10.00	Departure for Khulna BIT Khulna Focus group of graduating students	LF, BG, ASA
18.55	Departure for Dhaka	
Fri 23 April	Internal team work	LF, BG, ASA
Sat 24 April 09.30	Centre for Management Development	LF, BG, ASA
11.30	Mohila Polytechnic Institute (female students)	LF, BG
14.00	Internal team meeting	LF, BG, ASA
16.00	Focus group of graduating students	BG, ASA
Sun 25 April 10.00	BIT Dhaka	BG, ASA
10.30	Institute of Appropriate Technologies, BUET	LF
12.00	RWSG Bangladesh Office	LF
15.00	Polytechnic Institute, Dhaka	LF, BG, ASA
15.30	Technical Teachers Training College	LF
Mon 26 April 08.00	RWSG Bangladesh Office	BG
08.30	Royal Danish Embassy	LF
10.30	Research seminar, ITN Centre	LF, ASA
15.00	Local Government Division, Joint Secretary	LF, ASA
Tue 27 April 10.00	NGO Forum	LF, BG
Wed 28 April 13.00	Debriefing, Royal Danish Embassy	LF; BG; ASA
15.00	Debriefing, ITN Centre	LF; BG; ASA
Thu 29 April	Departure	LF; BG; ASA

ANNEX 4

Debriefing Note

Joint Review of International Training Network Centre for Water Supply and Waste Management (ITN), Bangladesh University of Engineering and Technology (BUET)

1. BACKGROUND

Danida has since 1996 been supporting the "International Training Network (ITN) Centre for Water Supply and Waste Management" established at the Bangladesh University of Engineering and Technology (BUET). The Project is executed through the Water and Sanitation Programme, South Asia (WSP-SA) of the UNDP/World Bank Water and Sanitation Programme (WSP). The Technical Assistance Project Proforma (TAPP) was approved in November 1994 and Danida Board approval was attained in November 1995. Activities are implemented through a network of six co-operating sub-centres. Over a five year period, the Government of Denmark will provide USD 1,259,400 including a 10% service charge to UNDP/World Bank.

The present review is the second review, which was carried out in Bangladesh in the period 17-29 April 1999 by a Review Team (RT) comprising:

- Ms. Lisbet Fich, institutional/educational specialist, team leader, external consultant to Danida.
- Mr. Abu Shahjalal Azad, Senior Public Health Engineer, External Consultant to the Royal Danish Embassy.
- Mr. Bruce Gross, Deputy Manager, UNDP-World Bank Water and Sanitation Programme, Washington.

The RT would like to express its sincere thanks to BUET, the Royal Danish Embassy (RDE) and the WSP-BD as well as other organisations and individuals, who provided valuable information, which highly facilitated the work of the RT.

2. GENERAL ASPECTS

2.1 Finding: The overall progress of the Project is assessed to be highly satisfactory when compared to the last review period. A large number of outputs have been produced during the period under review and many activities are on-going. Project management set-up and daily administration have improved. Most of the recommendations of the 1997 Review have been implemented. However, the pace of implementation has been slow, with some activities being initiated with delays of more than half a year. There is an apparent tendency of accepting that the implementation of most activities is gradually sliding compared to plans without any

action taken. The problem needs to be seriously addressed, both for the present project phase as well as for the next phase under Danida's Sector Programme Support (SPS), since it will have important bearings on the future sustainability of the ITN Centre as a self-financing consultancy unit. The slow implementation pace is reflected in a very low disbursement rate (26 %).

2.2 Finding: Inputs have been provided as follows:

- UNDP has ensured timely transfer of funds to the WSP-HQ.
- Management, technical and professional support from WSP-BD to the ITN Centre has been below expectations.
- BUET has appointed three professional staff members to the ITN Centre as of July 1998.
- Danida has transferred funds to UNDP and provided the outstanding balance of four person months of technical assistance.

2.3 Finding: The ITN Centre is in consonance with GOB's new sector policy. It is assessed as having great potential to support the policy's thrust of moving towards user-centered development. If this potential is to be realized, measures must be instituted that give the ITN Centre greater organizational integrity, the flexibility to respond to a changing market as the sector evolves, and the capacity to deliver high quality services. These measures will create a vision for the ITN Centre and start it down the road towards organizational and financial sustainability.

Recommendation: The present support to the ITN Centre should continue as scheduled until the budgetary allocations have been fully exhausted. Before August 2000 the ITN Centre should prepare a draft Component Description for the Component Phase. The third review (technical assessment) of the ITN Centre should, apart from reviewing the progress of the project, also carry out a pre-appraisal of the Component Phase. The review-cum-pre-appraisal mission should be fielded in September 2000.

2.4 Finding: The Government of Bangladesh (GOB) TAPP for the ITN Centre was approved in 1994 and has an indicated project period from July 1994 to June 1999. The present TAPP needs to be extended for the remainder of the Project period.

Recommendation: With the funds assured for the remaining part of the present project period, the Royal Danish Embassy should immediately issue a letter of consent on the extension of the project. The ITN Centre should immediately initiate the approval of an adequate extension of the Technical Assistance Project Pro-forma.

3. ORGANISATION AND MANAGEMENT ASPECTS

3.1 Finding: The Board has been extended with members from all sub-centres and with high level representation from BUET in the form of the Vice-Chancellor of BUET, who has chaired the Board since September 1998. The RT appreciates the progress made and regards this a major step forward in establishing a permanent management structure of the ITN Centre. However, the definition of the obligations and authority of the Board does not appear to be consistent: An advisory Board cannot be responsible for overall direction and accountability. Further, the details of the

Board responsibilities as indicated in the TOR restrict the Board "to discuss and review". Hence, no authority nor requirements for Board adoption or approval have been included.

3.2 Finding: In February 1998, the Executive Committee was established by Board decision and in accordance with the 1997 Review recommendations. The Executive Committee was expected to meet on quarterly basis; however, the RT notes with concern that with the present frequency of meetings and a lack of substantive discussions and decisions, the Executive Committee has not to any satisfactory extent executed its role as the management committee of the ITN Centre.

Recommendation: An overall review and revision of the institutional set-up and management structure of the ITN Centre should be conducted in connection with preparation of a long term business development plan. The Executive Committee should continue to be chaired by a representative of the Environmental Engineering Division/Department of Civil Engineering and include representation from WSP-BD and the Royal Danish Embassy (in time by the Sector Advisor). Concise Terms of Reference or job descriptions for all positions and bodies as well as rules of procedure for the Board & the Executive Committee should be prepared and adopted by the Board & the Executive Committee.

3.3 Finding: The present management staff of the ITN Centre comprises a part-time Project Director and a part-time Project Co-ordinator. This is clearly inadequate and has had a negative effect on the overall performance of the ITN Centre. In periods where management staff has been heavily involved in technical assignments, management functions have come to a halt. Management decisions have been deferred to an unacceptable extent, in the opinion of the RT.

Recommendation: A full-time ITN Centre Manager with a business management /entrepreneurial profile should be employed on project funding. WSP-SA should prepare the Terms of Reference for the position and present the TOR to the Board for approval. A Recruitment Committee should be responsible for selecting and recruiting the ITN Centre Manager. The committee should comprise one representative of the WSP-SA New Delhi or WSP Washington, one representative of the Royal Danish Embassy / Danida, and one representative of BUET. WSP-BD should soonest initiate recruitment procedures with open advertisement placed before 1 June 1999. The ITN Centre Manager should, i.a., take up the management functions presently carried out by the Project Director and the Project Co-ordinator.

3.4 Finding: As from 2001 the Danida support to the ITN Centre would fall under the overall SPS for the water and sanitation sector.

Recommendation: Management of the project related part of the ITN Centre, i.e. the Danida funded activities, should be integrated into the overall management structure of the Danida SPS. The ITN Centre should be represented at the SPS Co-ordination Group right from its establishment by the ITN Centre Manager.

3.5 Finding: At present, each project under the SPS has established its own personnel policies and administrative regulations with regard to employment conditions, salary scales, rates for DSA and travel, etc.

Recommendation: The Royal Danish Embassy should establish an overall personnel policy for all component staff, determining standard salary scales and allowances, where equal qualifications and responsibilities attract equal remuneration and benefits across all the components of the SPS.

3.6 Finding: The present professional staffing of the ITN Centre comprises a part-time Curriculum Development Specialist, three full-time Consultants on WSP-BD contract and three BUET Specialists (supposedly full-time at the ITN Centre). The three professional BUET staff have full-time teaching duties and so have only participated to a very limited extent in ITN activities. To insist on a replacement of the three consultants with BUET specialists would lead to a collapse of the ITN Centre, since the part-time BUET staff would have neither the time nor the capacity to maintain the present level of activity, not to speak of expanding the scope of work of the ITN Centre.

Recommendation: When the contracts of the three Consultants presently employed by WSP-BD expire at the end of 1999, funding of the three positions should be continued under contract with the ITN Centre/BUET. Conditions of employment should follow Danida SPS standards. Until such standards have been adopted, employment conditions of the DPHE-Danida Urban Water and Sanitation Project should apply.

3.7 Finding: It should be accepted that professional BUET staff is working only part-time at the ITN Centre on the condition that the Environmental Engineering Division makes available a sufficient number of professionals on part-time and measured in terms of person months/days/hours.

Recommendation: The Environmental Engineering Division should make available professional input to the ITN Centre equivalent to at least 24 person months per year. A mechanism for remunerating the input delivered should be developed by the ITN Centre management and approved by the Executive Committee. Remuneration should be linked to actual input delivered.

3.8 Finding: Support staff to the ITN Centre comprises six positions. In principle, BUET has approved the establishment of comparable permanent positions to be attached to the ITN Centre. However, recruitment procedures may take some time. In order to ensure continuity and to retain well performing staff, continued project funding of the six positions has been proposed to the RT.

Recommendation: The six positions as Project Secretary, Library Assistant, Accounts Assistant, two drivers and an office attendant should continue to be funded by the Project in the present phase and reassessed thereafter.

3.9 Finding: The faculty members of the Environmental Engineering Division will need substantive re-orientation and training in areas such as training design and

techniques, communication, community mobilisation and management, gender, hygiene education, etc. Training abroad on project or fellowship funding has been proposed for some staff. Danida policy on this is to offer courses primarily in Denmark. One faculty member has already attended a short course on training, but at the IRC in Holland instead of Denmark, where excellent training courses are offered. Relevant courses in community management, gender, etc. are not offered in Denmark.

Recommendation: Human Resource Development within the ITN Centre should encompass all professional staff of the Environmental Engineering Division. With a large group of staff targeted, priority should be given to in-house, local and regional training courses. Possibilities for reverse programmes with fellowship training being organised locally should be investigated.

3.10 Finding: WSP-BD has provided some support to the ITN Centre in the period under review. In the areas of facilitation of the extension of the Board and establishment of the Executive Committee the assistance is appreciated. However, in general it has been found that the WSP-BD has been playing a reactive role and the support has been less pro-active than what has been required and was agreed during the 1997 Review.

Recommendation: The role of WSP-BD should be redefined to emphasise the areas in which they can add value: helping to create a niche and enabling environment for the ITN Centre through their strong linkages to sector actors; advocacy for national accreditation of the ITN Centre; and ensuring access to information and to workshops and other events dealing with current sector issues, dissemination of best practices, and learning opportunities. In preparation of the Component Phase, the management and administrative roles of WSP-BD vis-à-vis the ITN Centre should be phased out. WSP-BD should hand over the full administration of the ITN Centre to BUET. WSP-SA should draft and negotiate a contract with BUET specifying, i.a., conditions of employment for all project staff; financial management procedures that accord with BUET rules and regulations and ensure accountability and transparency; and requirements for decentralised and flexible operations.

3.11 Finding: Apparently, there is no serious overlapping of activities in the various components under the SPS, but in a number of areas the ITN Centre could clearly complement or assist other components (e.g. in training and research). The ITN Centre could also draw on the expertise of other components in its capacity building programmes (e.g. resource persons, field exposure). The contacts and liaison between the ITN Centre and other Components under the Danida SPS are irregular and in some cases less than co-operative.

Recommendation: The relations between the ITN Centre and other SPS components should be based on commercial contracts guiding implementation of activities. The ITN Centre should initiate quarterly meetings with other Components under the Danida SPS in order to explore opportunities for co-operation and agree on common or complementary activities.

3.12 Finding: Under the Danida SPS, support to the establishment and operation of a sector wide resource centre has been considered. NGO Forum has so far received

assistance in this regard, and a functional resource centre is located with the NGO Forum. The ITN concept also anticipates the establishment of sector resource centres.

Recommendation: Danida support to establishment and operation of a sector wide resource centre should be channelled through the NGO Forum. The minor support to establishing library facilities within the ITN Centre and its sub-centres should be continued to ensure easy access to key technical literature and documentation for teachers and students.

4. TOWARDS SUSTAINABILITY

4.1 Finding: The next year will see the start of an important process for the ITN Centre as it prepares to develop into a more commercially oriented organisation. At the same time, a number of institutional, strategic and technical changes have been recommended. In the past, management structures have been unclear, which has resulted in lack of monitoring and passivity in making decisions and taking action. In order to intensify the pace of implementation and to keep the momentum created with various stakeholders, external technical assistance will be required to facilitate the process of preparing a business development plan for the ITN Centre, and also to act as a catalyst of change in connection with many of the institutional and strategic changes that have been recommended. The technical assistance should include management representatives of other ITN Centres in order to ensure that the successful experience of other ITN Centres in achieving organisational and financial sustainability will be fully utilised in developing a vision and a business development plan for the ITN Centre in Bangladesh.

Recommendation: An international consultant with experience in establishment and management of self-financing training institutions, preferable also with the ITN Network, should be contracted for approx. 3-4 person months over a period of 12-15 calendar months to carry out regular advisory and monitoring visits to the ITN Centre and to facilitate the change process resulting from the 1999 Review recommendations. Short term assistance should also be provided in preparing a business development plan for the ITN Centre. The plan should constitute the main elements for the Component Description for the Component Phase. The team should comprise the Directors, who established the IWSD in Zimbabwe and TREND in Ghana, and a local business management consultant (two-three person months each).

5. ITN AS FOCAL POINT FOR NATIONAL NETWORK

5.1 Finding: The network of sub-centres presently consists of six attached educational institutions. Memoranda of Understanding (MoU) have been signed with five sub-centres. All sub-centres have appointed an ITN Sub-centre Co-ordinator as the focal point. The Technical Teachers' Training College (TTTC) in Dhaka has been proposed as a potential new sub-centre. The TTTC trains the teachers of the 20 Polytechnic Institutes in Bangladesh, and in a cascading approach the TTTC could therefore reach out to a large group of technical teaching staff. The Mohila Polytechnic Institute in Dhaka is the only all-women polytechnic institute in Bangladesh for young women of 15-19 years. Under the Department of Architecture,

environmental engineering (water supply and sanitation) is taught as an obligatory subject in the fifth semester with three lessons per week.

Recommendation: The ITN Centre should immediately take action to sign the outstanding Memorandum of Understanding with Dhaka Polytechnic Institute. The ITN Centre should soonest initiate negotiations with the Technical Teachers' Training College on inclusion of the college as a sub-centre. A re-orientation and familiarisation course for TTTC teaching staff and a course for graduating students should be organised as soon as possible. The ITN Centre should soonest initiate negotiations with the Mohila Polytechnic Institute in Dhaka with the aim of including the institute in the ITN network as a sub-centre. A re-orientation course for teaching staff of the Department of Architecture should be organised in June 1999. A re-orientation course for graduating students should be organised before the end of 1999.

5.2 Finding: A private consulting company has carried out a needs assessment of the six sub-centres. The needs assessment is comprehensive and detailed and presents a thorough picture of the present state of affairs at the sub-centres with regard to available resources (human as well as material). An operational strategy was developed based on the recommendations of the needs assessment. A number of the recommendations are well-known and some were already supported by the 1997 Review. The present RT is concerned about the apparent lack of action taken by the ITN Centre management in expediting already agreed measures and also about the lack of performance monitoring and follow-up by the WSP-BD office.

Recommendation: The RT supports:

- ITN activities should be institutionally anchored within the sub-centres through the respective Heads of Department, who should be responsible for overall supervision and management of ITN Sub-centre activities.
- Quarterly meetings for ITN Sub-centre co-ordinators should be held on a rotational basis at each sub-centre.
- Costs of local networking and co-ordination should be paid. The budget should be approved by the Executive Committee.
- A monthly co-ordination allowance should be given to sub-centre co-ordinators. The rate should be determined by the Executive Committee.

In addition, the RT recommends the following:

- Individual development plans should be prepared by each sub-centre with assistance from the ITN Centre.
- The ITN Centre should intensify assistance to the sub-centres in preparation of semi-annual work-plans and operational budgets. Regular visits to each sub-centre should be carried out by the three full-time ITN Centre consultants to provide assistance in planning, networking, etc.
- Financial management should be decentralised and all disbursements (procurement, courses, networking, production of educational models, etc.) should be handled by the respective sub-centre. Specific activity budgets should be forwarded to the ITN Centre for approval followed by transfer of advances. Specific financial management and control procedures should be prepared by the ITN Centre management and approved by the Executive Committee.

- Each sub-centre should open a bank account for ITN Sub-centre activities. Signatories should be the Head of Department and the ITN co-ordinator.
- Each sub-centre should be provided with funds to procure and install one air-conditioner on the condition that a specific room has been allocated to the ITN.

5.3 Finding: The performance of the ITN Sub-centres is clearly hampered by lack of teaching staff, educational materials, etc. Motivation has been low due to lack of incentives. It is not realistic to expect that the sub-centres at present will have the capacity to organise more than 1-2 courses for sector professionals per year.

Recommendation: The ITN Sub-centres should be assisted in building up a local network of resource persons for sub-centre courses and teaching. The ITN Centre should organise TOT courses at sub-centre level for potential co-operation partners and resource persons.

5.4 Finding: The re-orientation of teaching staff included in the TOT may not be sufficient to enable the engineering teaching staff to conduct sufficiently qualified training on software aspects such as community management, hygiene education (behaviour, practices), gender, etc. – particularly not at the higher level required in the revised curriculum. In order to perform proficiently they will still need more training, particularly in training and participatory methods and techniques and the various software aspects. Further, a general familiarisation of the ITN concept and experiences from other ITN Centres could enhance their comprehension and commitment to the network in Bangladesh.

Recommendation: A tailor-made training-cum-study-visit to a sister ITN Centre in Africa (e.g. TREND in Ghana) should be organised for the ITN Sub-centre Co-ordinators and ITN Centre staff. The training programme should emphasise software and training competencies. The study visit should focus on experiences in sector networking, capacity building of sub-centres / educational institutions and measures to achieve sustainability.

6. GENERAL SOFTWARE APPROACH

6.1 Finding: The 1997 Review recommended that the ITN Centre place “high priority on developing an adequate professional understanding of community participation and management and gender issues... with appropriate attention in all training programmes as well as materials.” The ITN Centre has responded. The educational curricula for BITs and the Polytechnics, the draft textbook, the TOT courses, and the training and re-orientation courses contain sections intended to remedy the deficits and to help sector professionals cope with software aspects of development programmes and projects. The software sections vary in content and in quality, but they have been evolving in positive directions.

Recommendation: The ITN Centre must continue to improve its training materials on software and its own capacity to use them, and begin to develop a cadre of local software specialists that can be called upon as needed. The best sections should be selected from the current materials, adapted as necessary (using, inter alia, comments from the RT) for the purpose and the target audience, and used uniformly. New

material should be prepared on demand-responsive approaches (DRA), and DRA should serve as the framework for community participation and gender, thereby adding the “so what” that is now not enough in evidence. External (most likely international) specialists should be engaged to assist as necessary, but in particular to help prepare the materials on DRA and review other revised sections. Local specialists in participation and gender should be recruited on a task-by-task basis to add the Bangladeshi experience and strengthen the operational field perspective. They should be assigned the task of beginning the process of identifying and documenting best practice examples from the field for training purposes. A training programme on gender, such as the one offered by the NGO Forum, should be identified and provided for ITN Centre staff and sub-centre co-ordinators.

7. EDUCATIONAL CURRICULA AND SYLLABI

7.1 Finding: The progress made with regard to approval of the re-oriented curricula by the respective academic councils of the ITN Sub-centres has been satisfactory. All four BITS and SUST have approved the curricula. In BUET courses, most of the subjects in the re-oriented curriculum have been included.

Recommendation: The next revision of the re-oriented curricula should take into account the comments made by the RT in the Review Report.

7.2 Finding: The re-oriented course curriculum for polytechnic institutes has been reviewed by the ITN Centre and forwarded to the Principal of Dhaka Polytechnic Institute, the TTTC and the Chairman of the Technical Education Board. Approval is pending processing by the Technical Education Board. At the same time, efforts are on-going at TTTC with respect to integration of environmental aspects into the curriculum for Polytechnic Institutes.

Recommendation: The ITN Centre should initiate a close co-operation with the TTTC on further revisions of the curriculum for polytechnic institutes and possibly outsource further interventions to the TTTC.

8. EDUCATIONAL MATERIALS AND EQUIPMENT

8.1 Finding: The preparation of a student textbook has been on the agenda since the launch of the ITN Centre. The focus of the textbook has been defined as being “a student text book on low-cost technology, community participation, gender awareness and hygiene education in Bangladesh”.

Recommendation: The focus of the student textbook should be kept strictly to rural and low-cost urban water supply and sanitation technologies, community participation and management, operation & maintenance, gender awareness and hygiene education in Bangladesh. The title of the book should reflect this focus.

8.2 Finding: The IRC took upon their shoulders the responsibility for Part 1 of the textbook on software aspects. The quality delivered by the IRC is, however, far from satisfactory. The overall conclusion is that the textbook is far from finalisation and that the present version, which has been circulated for external review, is not up to a

quality standard required for academic educational textbooks – nor for publication under Danida funding. The outline and the topics of the textbook include at present a number of essential public health engineering matters as well as relevant issues and technologies used in Bangladesh. However, to offer a clearer understanding to the students, some additions should be considered.

Recommendation: Being contractually responsible for the quality of Part 1 of the textbook, IRC should take immediate action to carry out a rewrite of this part, taking into account the comments made by the RT and other reviewers. WSP-BD should provide necessary technical assistance to the finalisation of the software aspects of the textbook, possibly by involving capable resource persons from the New Delhi office or WSP Headquarters in Washington. The two editors of Part 2 and Part 3 of the textbook should revise the two parts taking into account the suggestions and comments made by the RT.

8.3 Finding: Engineering students, the primary target audience for the textbook, need a minimum of theory on software, but they do need to understand why these aspects are critical to sustainability and what works and what does not work, and why. Unfortunately, while the theory of participation and gender is well established, our understanding of their application in the water supply and sanitation context—precisely what the engineering students need to know—is still evolving. The sector is just now learning how to implement the Dublin/Rio principles dealing with demand, management of services at the lowest appropriate level, and stakeholder involvement (in particular women stakeholders). Until a consensus regarding best practices evolves, teaching and training about them is more safely done using materials developed from experience (case studies, field notes, best practice notes) that have a short shelf life and less authority than a textbook. There is a pressing need for appropriate text material for the students, when the re-oriented curriculum will be introduced as from May 1999.

Recommendation: The textbook should be issued in a test version, which can be used during the first year of teaching the re-oriented curricula at the BITs. Subsequently, a thorough review and revision should be undertaken as the final step before publishing the textbook in larger numbers. During the test period, the ITN Centre should prepare a concise plan for publishing, pricing and dissemination of the textbook. The plan should be approved by the Executive Committee. Until the students textbook has been issued or published, the ITN Centre should provide all students being taught under the revised curricula with a complete set of the training materials developed for the graduating students courses.

9. TRAINING

9.1 Finding: As recommended by the 1997 Review, the ITN Centre has revised the overall training strategy. The strategy well conceptualised and describes in a comprehensive way the various activity areas of the project.

9.2 Finding: To fill the gap until the curriculum could be designed, approved and introduced, an orientation course for graduating students covering low-cost technologies and social aspects was prepared. Due to delay in approving and

implementing the re-oriented curricula at the sub-centres, the next batch of graduating students will not have undertaken studies in the new subjects included in the re-oriented curricula.

Recommendation: The ITN Centre should fully sponsor one annual course for graduating students at each of the sub-centres, until the revised curriculum has been fully integrated and applied. The courses should be organised by the sub-centres utilising their own ITN trained teaching staff, local resource persons and back-up support from the ITN Centre.

10. APPLIED RESEARCH AND DEVELOPMENT PROJECTS

10.1 Finding: Proposals for research projects have been invited from interested researchers through public advertisement. The approach is innovative and effective – not only in widening the research base, but also in building research capacity within the sector. In 1998, seven research proposals were received of which three were finally selected for implementation. In 1999, 32 proposals have been received of which nine were found to be acceptable. Final selection is on-going.

11. FINANCIAL ASPECTS

11.1 Finding: The disbursement rate of the Project has been very low, and funds are accumulating at the Project. The present project period will terminate, when funds have been exhausted.

Recommendation: The Royal Danish Embassy and the ITN Centre should prepare a Memorandum of Agreement on the recommendations of the present Review Mission, indicating commitments to implementation of the respective recommendations. The ITN Centre should submit cost estimates on the various agreed recommendations to the RT at the latest by 7 May 1999. A revised budget for the remainder of the present project period will be prepared by the RT and included in the Draft Review Report. Based on the revised budget, the end date of the present project period will be estimated.

ANNEX 5



ITN
Bangladesh

International Training Network Centre
for Water Supply & Waste Management
Civil Engineering Building, 3rd floor
Dhaka-1000, Bangladesh

AMBASSADEN		BILAG
06 APR. 1999		
100	Bang	175
FINN (RELISTED)		

Date: March 4, 1999

To
Mr. Preven Gondolf
Counsellor
DANIDA
Dhaka.

Subject: **Consent letter for extension of ITN-Project**

Dear Sir,

You are aware that the TAPP for the ITN project was prepared and agreed by the Government of Bangladesh for a period of 5 years from 1st July 1994 to 30th June 1999. In reality the Project started functioning from 1st January 1997 and the 5-year project would actually expire on 31st December 2001. Since according to the TAPP the project will expire on 30th June 1999 we need the approval of the Government for the extended period.

We would request the Government to approve the project for the period from 1st July 1999 to 31st December 2001. For that purpose we need a consent letter from the donor indicating that DANIDA would have no objection for the extension of the project and the fund would be available as per project document for the extended period.

Thanking you.

Yours faithfully,

Professor M. Feroze Ahmed
Project Director.

c.c

To Dr. Babar N. Kabir
Country Sector Leader, RWSG-SA, Dhaka

ANNEX 6

Specific Comments on Sections 1-10 of the textbook

One overall suggestion, depending on the final length/complexity of each section, would be to add a box either at the beginning or the end of the section that summarises the key concepts introduced and the implications for practice.

2. Global Perspective

The RT knows of no generally-accepted historical account of the years since the 1977 Mar del Plata conference, which conceived the International Drinking Water Supply and Sanitation Decade. The Water and Sanitation Program (WSP), itself an offspring of the Water Decade, describes the timeline, evolution of concepts and themes, and significant events differently. These differences are important, because they lead to a different conclusion and a clear "so what," now lacking in this section. Some examples:

- The 1980s were the time of emerging understanding that technology, by itself, was necessary but insufficient. Community participation and then community management (of operations and maintenance) and human resource and institutional development (the ITN was launched in 1985) came to the forefront. Environmental concerns (generally rather than just for water) gained prominence in the second half the 1980s.
- The 1990 Delhi conference marking the end of the Water Decade confirmed, *inter alia*, that central governments should be facilitators rather than providers of service. It also espoused the "some for all rather than more for some" principle, and reaffirmed the importance of involving communities and women in all phases of service delivery.
- The most significant of the conferences was the 1992 conference in Dublin, in the run up to the Earth Summit in Rio de Janeiro. There the international community adopted a set of four principles that are now generally accepted as the guides to development in the water sector (in its broadest sense). Termed the Dublin/Rio principles because they were later endorsed (and expanded) in Rio, they stipulate that water must be dealt with holistically; water services should be managed at the lowest appropriate level, with stakeholder involvement; women have a major role to play; and water is an economic as well as a social good.

The most important of these principles for water supply and sanitation are management of services at the lowest appropriate level, stakeholder (in particular women) involvement, and water as an economic good. The "so what" comes when these principles are translated into policies and strategies and applied to service delivery:

- Project beneficiaries turn into consumers or users of water and sanitation services. They must have information about the nature of the services (service level, costs, technology, providers, implications for O&M) so they can make informed choices about what services they want and are willing to pay for.
- To make informed choices, users must have information. One way they can obtain information, particularly in rural areas and in urban slums where services decisions can be made at the household or community level, is through participatory methods.

- “Users” encompasses women as well as men, but women are often still excluded from receiving information and making choices, even though they are the users who generally have responsibility for household services such as water and so should (ideally) be making the decisions about those services.
- Central government’s role is to provide the enabling environment (policies, strategies, possibly access to financing) whereby users (individuals, households, communities, municipalities) and supply agencies can reach agreement about the services to be provided.
- Supply agencies should be close to the level at which the services are delivered. They may include private sector providers, NGOs, local governments, utilities, etc.
- As an economic good, water has value in all its uses. Services have costs, as well, and someone has to pay. Users benefit from the services, so they should pay part of all of the capital costs (in cash, labour, or in kind). Users should also be responsible for the full costs of operating and maintaining their services effectively.

These concepts derived from the Dublin/Rio principles stand many ideas about delivering water supply and sanitation services on their heads. These concepts also must be tailored to local conditions, which ultimately is the challenge everyone involved in water supply and sanitation development faces.

Thus, although it might be early to characterise the 1990s, it appears as if the 1990s are going to be remembered as the decade of demand-responsive approaches (DRA) and the shift in emphasis from the process of supplying services to the objective of making them sustainable. And sustainability in its simplest form means “continued functioning and effective use” (developed by PROWWESS?).

3. Socio-economic Aspects

No particular comments other than those in the text margins.

4. Water Supply and Sanitation in Bangladesh

This section has a strong rural bias. What is the government’s policy for poor urban areas? What projects have been done there? What was the outcome? Why list all the rural projects unless accompanied by an analysis of what has been learned?

5. Health and Hygiene

On the one hand, this section seems too detailed for the target audience—too much on public health campaigns, setting up hygiene education programmes, etc. On the other hand, it’s not detailed enough, and does not have enough examples, for an audience that wants to plan and implement these kinds of activities.

The section on community-managed programmes (pp. 49-51) has some useful material and a good box, but is out of place in the middle of the health and hygiene section. It should be moved somewhere into 6, below.

6. Community participation and management

In general, this section is still too rough and incomplete to review. Despite this:

- Why discuss the four concepts of community participation, unless there is an analysis and a conclusion—what does the current state-of-the art suggest we do with this theory? What have we learned, what guidance do we suggest?
- How does participation relate to and support demand-responsive approaches?
- Community management is a concept at least important in rural as in poor urban areas. Indeed, rural areas provide most of the sector's experience to date, as evidenced by the selection of examples on page 74.
- The participatory methods, methodologies, and tools discussion again will probably be too detailed for the target audience, once all the boxes are included.
- More important, these methods, methodologies, and tools are primarily useful in smaller communities where households and groups of households need information and can take decisions about their services. They are not as useful (or cost-effective) in urban slums, where decisions about services will involve aggregation of demand from thousands of residents or households. There are few good examples (Orangi, PROSANEAR, others?) to guide practice, and this is an area where the development community needs to know much more before it can suggest approaches with confidence.
- A weakness of this section (and most of the materials in this review) is the lack of good examples from Bangladesh. Efforts must be made to document, analyse, and disseminate lessons from experience.

7. Gender and development

This section strikes a good balance between theory, examples, and practical guidance. What is needed to convince the target audience that gender is important is a framework that places gender aspects at the heart of a demand-responsive approach that will produce better results.

Section 7.2 would be strengthened with some specifics from the Bangladeshi context. The examples generally that illustrate female-male preferences should deal with how these preferences require different responses from supply agencies.

8. Institutional Aspects of Water Supply and Sanitation

It's inconceivable to talk about "key stakeholders" without at least mentioning the users--communities, households, individuals (women and men)—even if they are not discussed in this section.

9. Financing of Water Supply and Sanitation

If one objective of education/training in the sector to achieve a better balance between what users want and what suppliers can provide, this section must include a discussion of financing from the user's perspective, i.e., access to credit. Indeed Bangladesh has the developing world's premier example in the form of the Grameen Bank—it deserves at least a mention!

Another concept that should be developed here stems from water as an economic good. Water has value, services bring benefits but have costs, how are these costs to be shared.

10. Project cycle

Making projects demand-responsive should be the organising concept for this section. Text is needed.

The Edwards box does not reflect the most current understanding of DRA. It also misses a key point: communities must be fully informed of the O&M implications (costs, management complexity, etc) of the options up front—at the time they make the decision. Their capacity to deal with O&M also may need to be built (not just building capacity to stimulate demand). The box on a demand-responsive approach from the Sri Lanka case study (TOT Module II, p. 68) should be substituted, or a new box created combining the most relevant of the points from both.

This section should have a separate section on participatory monitoring and evaluation, particularly in light of Bangladesh's new emphasis on user-centred development.

ANNEX 7

Nordic Consulting Group
Kirkevej 8
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Bilag	Journalnummer	Kontor	
-	104.Bang.172	S.6	20. august 1999

Comments to draft review report for NGO Forum, Bangladesh.

Dear Ms. Lisbeth Fich,

Reference is made to the draft review report from the joint review of ITN Centre, Bangladesh, dated May 1999.

The document is well written with a logical structure and a clear content with a number of important findings and constructive recommendations.

S.6/TSA has the following brief comments to the review report:

Overall comments:

Organisation and Management: S.6/TSA is concerned about the difficulties in replacing the three consultants with permanent staff from BUET. The BUET staff assigned to ITN Centre has so far only participated to a very limited extent, and the pre-condition that BUET should replace the consultants with full-time staff members from BUET has not been fulfilled. However, the replacement of the present three consultants would lead to a collapse of ITN, and Danida and BUET must therefore reach a compromise with staff assigned by BUET and few staff financed by Danida. The solution is not optimal and should therefore be charged during the forthcoming planning for a possible continued support to the ITN Centre.

It is also with concern noted that the ITN Centre cannot accept the recommendation to assign a project manager with the argument that preparing a revised TAPP will be a time consuming affair.

The staffing problems and difficulties of BUET to fulfil obligations, as stated in the project document, the limited institutional anchorage and limited financial and institutional sustainability of the ITN Centre are

examples illustrating the need for a new strategic and long-term thinking and reorientation of the ITN Centre in order to determine a future role and position of ITN Centre within the water and sanitation sector.

Danida supports the recommendation by the review team that ITN Centre should make use of consultancy assistance from sister ITN Centres in Africa. This must have high priority in the follow-up on the review. A high priority must also be given to developing a business development plan for ITN Centre with external assistance.

The present project document is valid until March 2001 or until the present funding is exhausted. The future mode of co-operation with BUET should be based on a new strategy for the ITN Centre reflected in a new institutional arrangement and port-folio. This will also involve a new contractual arrangement between BUET, ITN Centre and Danida.

Institutional and financial sustainability to a certain degree must be developed through professional and comparatively advantaged service delivery to institutions and organisations operating in the water and sanitation sector or through public finance allocation/BUET budgets to support activities under the ITN Centre. The dialogue between BUET, ITN Centre and Danida should be intensified working towards a new vision and strategy for the ITN Centre.

Specific comments:

Recommendation 2.2.2: A new phase with Danida funding will require new long-term thinking and a reorientation of the present project.

S.6/TSA is of the opinion that the ITN centre assisted by external consultants should work in close consultation with Danida in formulating a new vision, strategy, institutional set-up and port-folio. This proposal should be formulated within the framework of the Danish sector programme support and reflect a new role of the ITN Centre. The work should be lead by BUET and ITN Centre in consultation with the new Danida Sector Adviser and the Embassy. The visioning and formulation process should be facilitated by consultants. Danida can assist in this process if the proper concept paper and process action plan is prepared by BUET and ITN Centre. The proposal prepared by BUET and ITN Centre in consultation with the Danida Sector Adviser and the Danish Embassy should be subject for a review-cum-appraisal scheduled for during 2000.

Text book: Developing a text book with assistance from IRC, The Netherlands, has been delayed and proven more difficult than envisaged. Danida has been informed by IRC that a test version of the text book

has been made and send to the editor. RWSG-Dhaka are involved in the quality assurance process, and is envisaged to play an important role by providing external assistance in the process of preparing the text book. Danida would appreciate to receive a copy of the printed test version of the book.

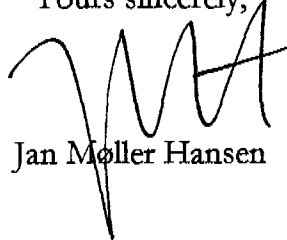
Budget: The proposed revised budget has been prepared without considering that the consultancy work undertaken by IRC is financed via the project budget. The proposed budget should therefore be corrected taking this into consideration. The funding of IRC from the approved project budget was agreed between Danida and UNDP.

Danida agree with the recommendations to finance external consultants to assist ITN Centre, which is also reflected in the revised budget.

The Embassy should approve the use of the proposed activities to be funded by contingencies.

A Memorandum of Understanding should be agreed upon as follow-up on the review. Danida is looking forward to receiving a copy of the MoU and a revised and approved budget for ITN Centre in order to plan for future programming of the ITN Centre.

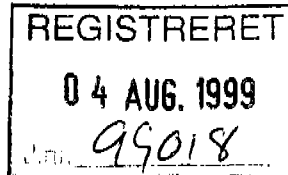
Yours sincerely,

A handwritten signature in black ink, appearing to be 'JM Hansen', written in a cursive style.

Jan Møller Hansen

ORIGINAL

Nordic Consulting Group
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Bilag
misc.

Journalnummer
104.Bang.175

Kontor
S.6

2. august 1999

**Kommentarer til draft review rapport for ITN Centre,
Bangladesh.**

Kære Lisbeth,

Til orientering er vedlagt kopi af kommentarer fra ambassaden i Dhaka, RWSG-Dhaka og ITN Centre til draft review rapport.

Undertegnede vil gennemlæse rapporten en gang til og fremsende skriftlige kommentarer til NCG, hvorefter du venligst bedes færdiggøre rapporten.

Jeg vender tilbage til sagen snarest muligt.

Med venlig hilsen

Jan Møller Hansen

ROYAL DANISH EMBASSY

Dhaka

UDENRIGSMINISTERIET
S.6
Att: Bolette Nyrop

S6. - 3 Bil.	
16. JUL. 1999	
104.	BANGL. 175

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Date 15 july 1999

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Journal nr.
104. Bang. 175

B → Jan Møller Hansen, Se

Nr. 300

Comments to the Draft
Joint Review Report of the
International Training
Network Centre for Water
Supply and Waste
Management (ITN).

Attached please find the following:

- 1) Comments to the Draft Joint Review Report from the ITN Centre.
- 2) Comments to the above mentioned Report from the Water and Sanitation Program.
- 3) Comments to the above mentioned Report from the Embassy.

P.A.V.
E.B.

Mohsena Islam

Mohsena Islam

**Comments to Draft Report on the Joint Review of
International Training Network Centre for Water Supply and Waste Management (ITN)**

In general the Draft Review Report is well written, provides a good analysis of the progress of the project and contains some good recommendations. The Embassy has the following comments to the content of the Draft Report:

1. 1. Introduction, page 2: It is suggested that in accordance with the Danida practice the last para is replaced with:

"A Draft Review Report containing the views of the RT was presented to Danida Copenhagen which was subsequently distributed to ITN Centre and the Water and Sanitation Program by the Danish Embassy. Comments received from the ITN Centre, the Water and Sanitation Program and the Royal Danish Embassy have where found relevant, been incorporated into this final version of the Review Report. All proposals in the Report are subject to approval by the two governments"

2. 2.2.2, Recommendations on Importance to the Fulfilment of the Project Objectives, page 9: With reference to the first recommendation under the above category of recommendations, the Embassy does not think that a pre-appraisal is needed for the SPS Component Description. The Embassy is of the opinion that the review-cum-appraisal mission should be fielded in September 2000.

For the sake of clarification, it should be mentioned that the Government Agreement for the ITN Centre is valid until 31 March 2001. Hence a new TAPP is needed when the support to ITN will be a component under the Sector Programme Support for Water Supply from 1 April 2001.

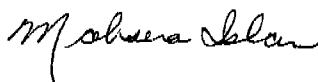
3. 11.1.2, Executive Committee: The recommendation regarding chairing the Executive Committee by 'a representative of the Environmental Engineering Division/Department of Civil Engineering' is rather general and should be made more specific. The role of the present Project Director should also be explained with reference to this proposal. In this regard the Embassy supports ITN's suggestion that the Executive Committee should be headed by the head of the Environmental Engineering Division.

4. 11.1.3, Daily Management, page 57: In principle the Embassy agrees to the recommendation of having a full-time ITN Centre Manager. However, as also expressed during the debriefing at the Embassy, we are not convinced that the ITN management can be reorganised without a revision of the TAPP. The Embassy is also of the opinion that this cannot be a recommendation conditional to the continuation of the project as we have to accept that a revision of the TAPP in the best possible circumstances might take at least the rest of the year.

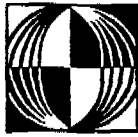
In the same recommendation, the justification for including one representative of the WSP-SA New Delhi or WSP Washington in the recruitment committee when there is a WSP-SA Country Office in Dhaka is not clear.

5. 11.2. Project Management, page 58: It should be noted that the feasibility and implications of introducing uniform Service Rules for Danida employed project staff in Bangladesh is presently being carried out by the Embassy.
6. 11.3.1 Staffing of the ITN Centre, page 58: 'Danida SPS employment standard' does not exist. As indicated above an assessment of the feasibility and implications of introducing uniform Service Rules for Danida employed project staff in Bangladesh is presently being carried out.
7. 11.5 Role of BUET and WSP, page 62: The Embassy is in agreement with the Review Team regarding the role to be played by the Water and Sanitation Program (WSP) and supports the suggestion that management and administrative roles of WSP vis-a-vis the ITN Centre should be phased out during the preparation of the SPS Component phase.
8. 11.6 SPS Coordination, page 62: The Embassy considers the second sentence of the second finding under this section an overstatement. The situation should be more correctly qualified as "NGO Forum has received assistance in this regard and is in the process of setting up a resource centre in NGO Forum"
9. 12.3 Revised Budget, page 69-71: It is our opinion that the budget revision as recommended by the Review Team needs to be reviewed especially with regard to items on 'training' and 'publication'.
10. 13.1.1 Multidisciplinary Approach and Competence Level, page 75: It is perhaps more accurate to use the word 'problem' instead of 'headache' in the sentence "Promotion of gender sensitivity in HRD activities and materials is a key concern for the sector as a whole - and a common headache as well".

14 July 1999



Mohsena Islam
Royal Danish Embassy



ITN
Bangladesh

International Training Network Centre
for Water Supply & Waste Management
Civil Engineering Building, 3rd floor
BUET, Dhaka-1000, Bangladesh

AMBASSADEN DHAKA		
BILAG		
15 JUNI 1999		
104	Bang	175

10 June, 1999

Ms. Mohsena Islam
Program Officer
Royal Danish Embassy, Dhaka

Your Ref: 104.Bang.175 dated & June, 1999

Sub: Comment on the Draft Review Report of ITN-Bangladesh Centre for Water Supply and Waste Management

Dear Ms Islam

We have made a quick review of the above mentioned report. Our comments on the draft report are as follows:

1. The immediate response of ITN-Bangladesh to Recommendation No. 1 which is conditional to continuation of the project was communicated through E-mails. The appointment of a Project Manager to take over the responsibility of Project Director by August 1999 appears to be unrealistic. The proposed change is a major deviation in respect of project administration from the approved TAPP which will require thorough revision, not merely an extension of the project as mentioned in the review report. This revision would involve policy decision in respect of appointing the head of the project from outside the line ministry/organization. BUET can not agree to this change without approval of the government. The extension of the project to compensate the initial delay in implementation of the project may be available within a couple of month, but revision involving policy decision may take a long time. Since the project period will terminate on 30th June 1999 according to the approved TAPP, we will have to apply for an extension without entering into a long process of revision. Under the present circumstances the possible options are given below:

Option 1 : A full time project manager/coordinator with the responsibility of coordination and promotion of business may be appointed under the present project administration. This arrangement may continue till the end of the project and the project may be reoriented in the phase-II under SPS as recommended by the review-cum-pre-appraisal mission to be fielded in September, 2000.



Option 2 : The review team appears to be very serious about having a full time Project Director/Manager. In this case, a BUET professional having relevant experience and influence in the sector can be mobilized on leave with a remuneration proposed by the review team. The project in any way has to be recast to make it consistent with other components of SPS in accordance with the recommendation appraisal mission. It would be easier to make substantial change in the component at that stage.

Option 3 : The implementation of the recommendation may be delayed by about a year with the continuation of present organization and management. This will provide adequate time to revise the TAPP to accommodate the recommendation in consultation with UGC and Ministry and submit it for approval. The Project Manager may then be appointed when government approve the revised TAPP.

2. The revision of the budget is not merely a reallocation of the contingency fund as mentioned in the draft review report. Fund have been diverted from key functional areas such as research, equipment, training materials etc. to finance expatriate short term consultants. We have the following observations on budget revision:
 - (a) The budget for expatriate short term consultants has been increased from \$120,000 to \$205,000 for 10.5 person-month services (@ about \$19,500 per person month) mainly for the development of a business plan for the centre. The expenditure of about 24% of the available fund for the development of business plan may not be justified.
 - (b) The budget for equipment and consumables has been reduced from \$108,400 to \$83,100 (with only \$37,000 available for the remaining project period against our committed expenditure of \$50,820 upto June,1999 for ITN and sub-centres). It is evident that instead of fund reduction, additional funds would be required to equip two additional sub-centres and procurement of air cooler for each sub-centre recommended by the review team. Provision of training equipment is a pre-requisite for functioning of ITN Centre and Sub-centres.
 - (c) The budget for training modules and material has been reduced from \$95,000 to \$ 24,500 of which \$18,000 is available for the remaining project period. It is inadequate to publish the modules developed by ITN-Bangladesh, procurement of new materials and models and additional set of basic library set for the two new sub-centres. The budget under this line (BL14) may be reduced but not to the extent proposed.
 - (d) Research and Development budget has been reduced from \$115,000 to \$71,500. The budget under this item may be slightly reduced.
 - (e) Additional fund would be required under publication to publish booklets for low-cost water supply and sanitation.

We propose that the budget for expatriate consultant may remain equal to original value and the increased amount may be distributed within the above mentioned important items as shown below:

Budget Line		Original Budget, (\$)	Budget Proposed by RT, (\$)	Budget Proposed by ITN, (\$)
11	Equipment and Consumeables	108,400	83,100	143,000
12	Research and Development	115,000	71,500	75,000
14	Training Materials and Modules	95,000	24,500	35,000
16	Expatriate Consultant	120,000	205,000	120,000
19	Publication	---	6,900	18,000
Total		438,400	391,000	391,000

The budget for the other items may remain as proposed by the Review Team.

- 3 In recommendation 21 "the executive committee should continue to be chaired by a representative of the Environmental Engineering Division" may be replaced by the executive committee should continue to be chaired by the in-charge of the Environmental Engineering Division --- ". If agreed, similar change would be required in para 2 and 3 in Page 56.
- 4 ITN-Bangladesh can successfully implement all other recommendations made by the Review Team.
- 5 An Executive Committee meeting may be convened to discuss the issues in details.

Thanking you.

Yours faithfully,



Dr. M. Feroze Ahmed
 Project Director

Cc: Dr. Babar N. Kabir, Country Team Leader, RWSG-SA.



UNDP-WORLD BANK WATER & SANITATION PROGRAM

(Executing Agency: The World Bank)

→ M.I

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Bangladesh Country Program
The World Bank, Bangladesh Dhaka Office
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AMBASSADEN DHAKA		
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June 27, 1999

Ms. Mohsena Islam
Program Officer
Royal Danish Embassy, Dhaka.

FINN THILSTED

Dear Ms. Islam

Comments on the Draft Review Report on ITN-Bangladesh

The Draft Report has been reviewed and our comments are as follows:

A. General:

1. While we are in agreement with the recommendations proposed in the Report we have observed a discrepancy in the section providing recommendations (2.2.1). Inconsistency is apparent in page 2 & 8 of the report. With the approval of Sector Programme Support of which the ITN Centre is one of the six components, the question of continuation/discontinuation of the Project does not arise at this stage.
2. As it goes beyond the scope of the responsibility of the Review Team (RT) we therefore recommend that, **clause 2.2.1 of page 8, be written simply as 'Recommendations'** (instead of 'Recommendations Conditional to a Continuation of the Project').

B. Specific:

Management Aspect:

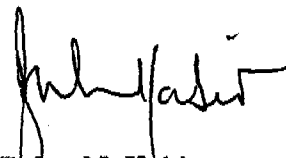
3. It is our understanding that ITN-Bangladesh will be strengthened with a Manager engaged and adequately empowered to run day to day activities of the Centre under the administration of the Project Director. In line with our understanding we do agree with the recommendation 1 of clause 2.2.1 but we are aware that implementation of this recommendation will require a number of important steps in the planning process of the Government which are time consuming. While the TAPP would need to be revised in any case incorporation of this recommendation would mean a more complex revision than a simple time extension.

4. As recommended by the Review Team, WSP-BD is prepared to hand over the full financial and administrative responsibility of the ITN Centre to BUET (item 26 of section 2.2.1), for which a tripartite meeting is required..

5. It is our observation that the budget revision as recommended by the RT will significantly affect the major areas of ITN's operation and fulfillment of its objectives. Training and R&D components have worked well in the past and the reduction may affect its future operations.

6. We do not have any other comments excepting that, minor adjustments will be needed in order to incorporate our above observations.

Yours sincerely,



Babar N. Kabir
Country Sector Leader