Capacity Building in the Water and Sanitation Sector
A Case Study of TREND and IWSD
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This is a summary report of a case study on the two ITN centers. A copy of the full report can be obtained from the RWSG—ESA or the RWSG—WA offices in Nairobi - Kenya and Abidjan - Ivory Coast respectively.

List of Acronyms and Abbreviations

DANIDA  Danish International Development Agency
ESA       Eastern and Southern Africa
IDWSD    International Drinking Water and Sanitation Decade
IRC      International Research Center
ITN      International Training Network for Water and Waste Management
IWSD    Institute of Water and Sanitation Development
NGO(s)  Non-Governmental Organization(s)
R&D      Research and Development
RWSG    Regional Water and Sanitation Group
TCWS    Training Center for Water and Sanitation
TNC     Training Network Center
TREND   Training, Research and Networking for Development
UNDP    United Nations Development Program
UST     University of Science and Technology
WA      West Africa
WSP     UNDP - World Bank Water and Sanitation Program
FOREWORD

This report summarizes the studies that looked into the transformation of two national water and sanitation training and development centers from being donor-funded projects to Non Governmental Organizations (NGOs).

TREND and IWSD are widely considered as successful institutions; and as such provide a unique opportunity to identify factors affecting the transition from projects dependent on external funding to self-sustaining organizations deriving their income from sale of services.

The two centers were established with the advice of the UNDP - World Bank Water and Sanitation Program over the period between 1991 and 1996. During this time, they developed effective partnership with international organizations, IRC in particular, and have established consultancy services in their twin areas of competence, i.e. community-based water supply and sanitation services.

Both TREND and IWSD are now faced with new challenges in responding to client's demands and broadening their customer basis. Lessons learned about determinants of long-term sustainability are described for each of the centers and a comparison of success and risk factors are provided.

This case studies will contribute to a better understanding of factors influencing the development of regional training and knowledge management institutions in sub-Saharan Africa. Its primary audience are policy makers and managers of training institutions as well as institutional development specialists and agency staff.

Jean H. Doyen
Regional Manager
INTRODUCTION

The International Training Network for Water and Waste Management (ITN) was established in 1984 as a joint initiative of UNDP-World Bank Water and Sanitation Program, and a number of bilateral donors.

Objective of ITN

To establish specialized centers in selected countries and regions for training, research, and information dissemination on appropriate water supply and sanitation technologies suitable for low-income population groups in rural and peri-urban areas of developing countries.

As a result, the Training Network Center (TNC) was established in Kumasi, Ghana in 1989 as a project of the University of Science and Technology (UST). Initially funded by UNDP, the Center later received general program support from DANIDA. TNC gradually gained a high reputation in the water and sanitation sector. Its services in human resource development were needed to follow up the new national strategy for the sector that emphasized community planning and management. In 1995, TNC moved out of the University, registered itself as Training, Research and Networking for Development (TREND) and transformed into a national NGO.

The Training Center for Water and Sanitation (TCWS) was also established in 1989 as a project of the University of Zimbabwe with funding from UNDP and the Norwegian Government. The success of this project and the need to develop an independent institutional home for the Center, led to the formation in 1993 of a non-governmental organization called the Institute of Water and Sanitation Development (IWSD). The Institute has maintained close links with the University and has recently moved from the University campus to its own premises.

PAST DEVELOPMENT

From TNC to TREND

The establishment of the TNC took place towards the end of the International Drinking Water and Sanitation Decade (IDWSD). This was when there was increasing awareness about the needs for new approaches in the water and sanitation sector. Though the selection of the University as the host institution was seen to be advantageous and appropriate in the beginning, the arrangement later caused problems leading to the separation between the two in mid-1995.

In the early years of its development, TNC had an opportunity to be involved in the activities of the Kumasi Sanitation Project and later on, the UNDP Volta and Eastern Region Projects. The success of these projects gave TNC a boost and the much-needed reputation in the sector.

TNC also forged links with other training institutions and made inputs to various training programs. With recommendation from RWSG-WCA, TNC played an important role in the formulation of the DANIDA-funded Volta Rural Water and Sanitation Project in 1992. The Center was later identified as the most suitable and competent national institution to carry out training, material development and institutional development for the Volta Project.

On one hand, experience gained from these projects helped transform the young and versatile staff of the Center into an integrated team of professionals: engineers, sociologists, graphic artists, and training experts in community management, gender issues, and participatory training methods. On the other hand, coordination and management support from the UNDP-World Bank Water and Sanitation Program was critical through the inception period.

Achievements and Constraints

The DANIDA Mission of 1994 states that "TNC has not in its five years of operation been able to achieve all the original objectives and thus fulfill the original vision. Nevertheless, it has succeeded in developing...to being nearly a self-sustaining consulting group and is today regarded as a leading resource Center within the water and sanitation sector with a potential for serving as a pivot of research, information dissemination and networking activities."

In the first three years, the scope and type of activities were limited to implementation of specific
assignments, mostly project-related training and technical studies. Training of target groups was designed and conducted by TNC staff. Training material were also developed and produced in relatively small numbers. At the same time, research activities were scarce - a pattern that has remained until now.

**TNC followed market demands and therefore concentrated in training and material production for projects funded by multilateral and bilateral donors.**

In 1993, the Center shifted from direct training to organizational development and capacity building of other training institution. This included program coordination, development of comprehensive tailor-made training programs, training of trainers, mass production of visual training material and manuals, and provision of technical support. The new orientation complemented the traditional project- and technically related training.

As years passed by, TNC became recognized as an important resource center for the water and sanitation sector. However, the challenge still remained for the Center to be acknowledged as a national focal point and a center of excellence in its area of operation. Meanwhile, it continued to contribute to the teaching of third year and final year courses in specialized topics relevant to water and sanitation at the University's Department of Environmental Quality Engineering.

Later on, the first phase evaluation by the UNDP-World Bank Water and Sanitation Program concluded that the Center had firmly been established as a resource center for the sector, but had not realized its full potential. The evaluation report also pinpointed “insufficient collaboration with other sector agencies” and “inadequate exposure of TNC staff to practical low-cost water supply and sanitation situations.”

The need for TNC to operate on a more commercial basis was also identified, and it was recommended to hire a local consultant to review operations and propose a business plan. Around the same time, the end of UNDP-World Bank Water and Sanitation Program support coupled with structural adjustment policies of the government, led to restrictions on recruitment of new staff. This meant that the Center could not be incorporated into the University structure, as was originally envisaged. The only chance for survival was for the Center to generate its own income. It was, therefore, recommended that TNC be established as an independent, semi-autonomous unit of the UST. The rationale was that since prime activities of the Center were long-term human resources and institutional development of educational and training institutions, it should be placed within a recognized educational and research institution with sufficient technical expertise.

By March 1995, the situation at the TNC had deteriorated to the verge of disintegration. It was then proposed that the Center transform into an NGO with broad sector representation on its advisory board to avert the total loss of confidence of clients and prevent its collapse. In May 1995, TNC became TREND and was registered as an NGO, limited by guarantee.

Though its mission is to facilitate human development in the hardware-dominated sector of water and sanitation, the Center is still involved in technical designs and issues related to technology options and construction manuals. Increasingly, TREND has placed the technological dimension in a human and organizational development perspective.

**From TCWS to IWSD**
The University of Zimbabwe approved the Training Center for Water and Sanitation (TCWS) proposal in 1987. A project agreement to establish the Center was signed by the Government of Zimbabwe two years later. The aim of TCWS was to build national capacity in the provision of water supply and sanitation services. This was to be achieved through provision of relevant personnel training in the sector, dissemination of information necessary for effective management, and conducting applied research.

To attain this goal, the Center recruited experienced staff involved in the management of rural water supply and sanitation programs. This made the Center a logical extension of the network of institutions responsible for supporting the sector.

As a way of gaining legitimacy and in response to articulated sectoral needs, the Center concentrated on training activities. Although most participants to the short courses were Zimbabweans, there were several regional participants. The Center became also active in the inter-sectoral management of rural and peri-urban water and sanitation programs in Zimbabwe and a few other countries of the region.
In this period, the Center developed close working relations with the Civil Engineering Department at the University of Zimbabwe. The Center also secured inputs into its teaching program from a number of other University Departments. Thus, the Center became an important actor in the water supply and sanitation programs in Zimbabwe and the Southern African region.

At the same time, it forged working relationships with the University, the donor community, government departments and NGOs; providing some of them with advisory services particularly in the area of project evaluations. So far, it has evaluated several district integrated rural water supply and sanitation projects in Zimbabwe and other countries in the region.

The Center has been involved in collaborative research with local and international institutions. Practitioners in Zimbabwe under a small research grant scheme have used funds from some of these collaborations to support their own operational research.

At the end of the 1993, the Center had a staff of six and tried in its recruitment to balance engineering, social, and management aspects of water and sanitation programs.

The success of the TCWS built its own momentum, as Zimbabwean and regional water supply and sanitation programs came to rely on it for training. TCWS received broad support for exploring future development options from UNDP-World Bank Water and Sanitation Program offices in Nairobi and Washington, as well as from the UNDP Harare office. A number of government departments involved in water supply and sanitation programs were also supportive.

During the first Tripartite Review meeting in 1990, it was recommended that TCWS and the World Bank should "prepare proposals for the long-term viability of the Center in time for the tripartite review the following year." It was later resolved at the review meeting in 1991 that the future institutional framework for the Center should be determined during the extension period. This constituted an endorsement from the Government of Zimbabwe, UNDP, and the World Bank for the Center to embark on a program to become a permanent institution. During the same period, the Center experienced funding difficulties, especially for regional activities, and therefore resorted to rely heavily on national activities.

Following the 1992 tripartite review meeting, the Center submitted a proposal to the Civil Engineering Department seeking support for its transition into either an institute within the University of Zimbabwe, or an independent national NGO.

It was finally decided that the Center transforms into an NGO and changes its name to the Institute of Water and Sanitation Development (IWSD).

**The Justification**
- Independence,
- Credibility,
- Transparency,
- Less bureaucratic red tape,
- Ability to raise funds, and
- Participation of its members in management.

**Achievements and Constraints**

The goal of IWSD was to become "a specialist, non-profit organization providing training, consultancy, information services and research in the field of water and waste management".

In its Mission Statement and the 1996 Business Plan, the IWSD identifies itself with five areas to concentrate its efforts: training, consultancy, research, information, and management. The Institute has organized itself along these five areas of work by identifying competent staff members responsible for each area.

Between 1990 and 1993, the Center held a total of 22 courses, eight of them for regional participants. They covered areas of participatory methodologies, project planning and implementation, monitoring and evaluation, community motivation, health education, and water supply and sanitation technologies. Many of these courses were open to participants from any agency and country in the region. TCWS trained a total of over 250 persons during its first year of operation.
At the end of 1991, the Center shifted away from direct training to the 'strengthening of existing training programs'. The Center therefore adopted a strategy of training trainers rather than competing with other training programs. A few tailor-made courses were mounted in response to needs identified by agencies, covering the areas of Monitoring of Water Quality, Communication Skills for Community Motivation and Health Education. In the same year, TCWS hosted the Third Africa Regional Meeting on the ITN for Water and Waste Management.

In addition, support for capacity building for the sector became an important activity of the Center. This took the form of consultancies, production of handbooks, and execution of operational research.

At the moment, IWSD is experiencing an over-subscription to its courses; charging of fees has not reduced demand. This is a positive indication that demands for training opportunities in Zimbabwe and the region is high and can not be fully met by IWSD alone.

The Institute has also forged links with national and international agencies working on water supply and sanitation. Staff members are encouraged to attend local and international meetings. The Institute continues to facilitate in national and regional policy review and formulation sessions. It also supports post-graduate and program-related research. In the past, TCWS and IWSD have also been commissioned to undertake a number of studies contributing to policy review and improved program management. The Institute has a specialized library on water and sanitation.

In order to maintain a balance between commercial and non-commercial activities, the Institute restricts its involvement to those consultancies directly related to the issues of capacity building and training in the water supply and sanitation sector.

IWSD has remained well informed on developments in the water and sanitation sector by providing training and advisory services, while shying away from program implementation. Although both TCWS and IWSD concentrated over the years on rural water and sanitation issues, the Institute became aware of the need to support the management of urban water and sanitation systems. However, its capacity to respond is still quite limited.

In the coming years, IWSD will concentrate on the development of training material, information support and regional outreach activities, after recovering from the challenge of transforming from a university project to a sustainable non-governmental institution.

TOWARDS SUSTAINABILITY

The TREND Experience
TREND has been operational for two years and the consolidation of the organization is still ongoing. Despite its short life, TREND has made a good beginning. For example, all TNC staff resigned and joined the new group in 1995. They were all enthusiastic and committed to the future of TREND.

Continued cooperation from major clients and stakeholders in the water and sanitation sector was assured and precautions were taken to avoid disruption to the implementation of ongoing contracts. The Center has also over the years earned a reputation as a leading resource institution within the sector, and its new independent status raises great expectations.
TREND intends to maintain its outlook as an independent resource group and its multi-disciplinary staff will promote the new thrust of the national sector strategy.

Ownership of TREND is anchored in the water and sanitation sector in Ghana. Its operations reflect a desire to network with other sector organizations, including NGOs and the private sector. To this end TREND has:

- Continued to focus on supporting activities in the low-cost water and sanitation sector;
- Maintained close contacts with major stakeholders through the establishment of a management and advisory board with representation from the sector;
- Continued to maintain membership and follow the principles of ITN; and
- Sought closer ties with educational and research institutions, including UST and other universities in the country and the region.

Despite its turbulent transformation process, the Center emerged as an independent NGO outside the University structure and gained sufficient autonomy to operate effectively. The organizational transition has largely been successful. However, the Center is going through some fundamental shift from heavy reliance on donor support to generation of income through marketing of its own services and products. The Center has already started generating substantial amounts of income through contracts with both the public and the private sectors. Meanwhile, UNDP-World Bank Water and Sanitation Program and DANIDA continue to provide supplementary financial assistance.

Another positive development is that the Government is favorable towards the NGO sector, and encourages the use and involvement of both private and non-profit groups. As such the decision to establish an independent TREND in 1993 was timely and appropriate.

The fast evolving water and sanitation sector in Ghana continue to provide TREND with ideal opportunities. A new national water and sanitation strategy has been prepared aiming at huge investments in both urban and rural areas. A few key bilateral and multilateral donors are supportive to the Government's efforts and cover major parts of the necessary investments (more than 90%).

The new national policy emphasizes decentralization of services and management leading to a redefinition of roles for government agencies, district authorities and local communities. The new approach and the large investments have created new requirements and needs for reorientation, training, organizational and institutional changes. Therefore, the sector and its partners need a center like TREND.

The training and capacity building needs are likely to change in form and direction in the next five to ten years, but the Center is poised to adapt to them. Another question is to what extent the clients will demand and pay for TREND’s services. At the moment, TREND still depends on the availability of donor funds for most of its contracts. With the long-term donor commitments and the hope that there will not be radical changes in the socio-political scene, there will still be a market for TREND services.

The critical factor for sustaining TREND over the next few years is related to how it is able to position

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**Objectives of TREND**

- To contribute to sector development through human resources development and institutional strengthening;
- To promote and undertake the training of water and sanitation personnel and trainers;
- To develop information support services for providing state-of-the-art information material to the sector;
- To promote and undertake applied research relevant to the sector; and
- To serve as a focal point for training and information management in the sector.

TREND has a total of 21 professional staff in its four units:

- Management Training and Information;
- Materials Development and Video Production;
- Technical and Institutional Management; and
- Finance and Administration.
itself in the sector. Other equally important factors are how the Center relates to clients and the changing needs; and to what extent it is able to deliver high-quality services in an increasingly changing and competitive market.

At the same time, there are contextual factors that explain the success of TREND. First and foremost, in the past, there have been few competitors to TREND in the sector. Today, commercial consulting groups and non-profit NGOs are increasingly realizing market opportunities for providing training and capacity building services, and therefore have brought about some competition to the Center. The comparative advantage for TREND is that it is rooted in the sector. It was first established within an UNDP-World Bank Water and Sanitation Program framework to promote new low-cost and people-oriented approaches. The Center has been seen as a major instrument in the follow-up of the human resource development and capacity building approaches pursued in the new national strategy.

In the emerging area of organizational development, the Center is involved in organizational assessments, human resource development, curriculum development, and work with community management committees on leadership skill development.

At the moment, TREND is not only involved with individual projects or with specific organizations, but with the entire sector. It has taken an active part to facilitate networking by linking groups in the sector through seminars and workshops. Through coordination of joint meetings and discussion sessions; sharing of information, documentation and applied research; and dissemination of international experiences, the Center has kept key stakeholders in the sector informed about experiences and lessons learnt elsewhere.

While regionalisation may imply broadening its current activities to other countries in the region, the Center has tried as much as possible to either invite regional participants to training courses in Ghana; or participate in regional sub-programs. The Center also participates in international networks through meetings, seminars and exchange of information.

TREND has maintained its original idea of promoting low-cost technologies in the water and sanitation sector through community based planning and management. The Center has inserted new components in its work that has gradually expanded its scope and mandate. As an NGO, the Center is still owned by the water and sanitation sector and governed by a Board of Directors representing key stakeholders.

TREND realizes that it will not be financially sustainable as a National Resource Center focusing on long-term development needs, unless such activities are externally funded. In a purely demand driven market, long-term sector needs tend to suffer. Such needs have, however, been expressed in the national strategy, and key donors to the sector are willing to cover their costs.

With a young and dedicated staff of excellent trainers, experts in publication and video productions and engineers with state-of-the-art knowledge in low-cost water and sanitation technologies, TREND has great potential. Few of the staff have experience in applied research or more specialized areas. The Center has more training expertise than competence and background in organizational and institutional analysis and development.

TREND does not depend on general donor support, but generate its revenue from payment of services from the same donors. It however still depends on external resources. It is financially viable as long as major donors continue to provide funds to the sector. TREND is therefore as donor dependent as several consulting groups in western countries.

TNC managed, despite its constraining environment, to establish a high standing in the sector that has been further consolidated during the short TREND period. When it comes to planning and training in low-cost community based and demand-driven approaches in the water and sanitation sector, TREND is considered as a center of excellence in the region. There is no other group with the same level of knowledge and experience, close contacts and contracts with so many donors and support from major stakeholders.

The IWSD Experience

IWSD went through a smooth and gradual transition process, unlike TREND in Ghana. The Institute was established as a relatively autonomous donor-funded center attached to the Department of Civil Engineering with considerable operational flexibility and with staff recruited on World Bank's local
contracts. The challenge for IWSD is not in the past, but in the future when the Institute establishes itself outside the university, and makes important decisions about its future profile and approach for the Institute.

**Objectives of IWSD**

- To build capacity through training and education programs;
- To act as an information center and provide state-of-the-art information;
- To provide technical and advisory support to development institutions; and
- To develop a strong applied research program to support decision making and policy formulation in the sector.

The in-service training continues to represent a major pillar in the work of the Institute. IWSD also design courses that are relevant and appropriate for staff working in the sector and most of the trainers are well conversant with the issues and realities in the field.

In the beginning, there were few competitors in the sector, and therefore the Center had a monopoly. Gradually, other opportunities emerged, like provision of inputs to policy discussions and formulation, documentation, specific evaluations and studies and more tailor-made training, and the Center thrived on them.

Though future opportunities within the sector are not clear, there will certainly be a huge demand for human and institutional capacity building in the decentralized implementation of water and sanitation programs. However, the role of the Institute is yet to be clarified. Meanwhile, there seems to be increasing opportunities in the region. Given the relative strengths of Zimbabwean expertise and experience, the Institute has a lot to offer relevant services to the water and sanitation sector in other countries of the Southern African region.

The Center and later Institute has carried out a number of research projects. Given its reputation and proven capabilities of senior staff, the Institute is increasingly being asked to participate in and carry out various evaluations and studies in the country and the region.

The Institute has five areas of expertise in the sector: training, research, advice, consultancy and information. Training and consultancy have dominated over the others, and a majority of the clientele perceives the Institute as primarily a training center.

**IWSD has a multi-disciplinary team that:**

- focuses on capacity building in a broad sense, and
- has acquired broad experience and knowledge.

The Institute is recognized and respected as a training center. The staff members are highly regarded as evaluation experts and partners in policy discussions. In order to maintain the image of an efficient Institute, provision of quality services is a condition for its future sustainability.

The regional participation in training courses and the increasing number of regional assignments has not changed the program profile. It has, however, contributed to exchange of information and experiences across countries, and broadened the market for the Institute.

At the moment, a more important issue on the agenda for IWSD is whether to increase regional activities at the expense of national ones. The challenge is to find an appropriate balance between a national and regional focus, and assess how the mix might affect future sustainability. Considering available information, a firm national basis for the majority of activities seems the most viable long-term strategy. However, the regional outreach represents an attractive supplement, though more vulnerable and susceptible to changes.

IWSD is a professional and 'neutral' resource center. With its non-profit profile and relatively low rates, it is now trying to pursue commercial interests in order to survive in the competitive market place. The Institute will however continue to be a service institution relevant to and supportive of the sector.
Growing out of a donor-funded initiative, IWSD contributes to the national service oriented image. That background of the Institute has given it a comparative advantage over private consultancy companies, when it comes to being awarded contracts for training and consultancies by donor agencies. The Institute has gained expertise, relevant experience and knowledge to compete favorably with the others in the market.

TCWS was originally established to promote low-cost technologies in the water and sanitation sector, and has placed this objective in a broad human and institutional development context. Initially the Center was supposed to create a demand for its services from poor, low-income groups in rural and peri-urban areas. The Institute now seeks to pursue a demand driven approach to service delivery. Whereas a consulting group may follow a purely demand-driven approach, and provide services only to clients who are able and willing to pay, the Institute has an obligation to maintain a broad sector approach as a national resource center.

The demand driven approach needs to be supplemented with a proactive definition and clarification of the long term purpose and values. A strategic resource center like IWSD should be driven by a sector, while it also drives the sector based on its values, intellectual knowledge, research, international networks and experiences. It is increasingly becoming difficult for IWSD to strike a balance between mission and market.

LESSONS LEARNED

Given the current long-term market opportunities in both Ghana and Zimbabwe, the future of the two centers will, to a large extent, depend on their ability to position themselves, build on and use the available opportunities.

Below are factors that appear critical in the two ITN centers highlighting common success and risk factors. There are several general lessons to be learnt from a critical review of factors.

Success Factors
- The selection of host institutions and transition to flexible structures:
  Universities were initially selected as host institutions for both centers and this caused considerable problems, but seem also to have provided the optimal option for the start up of the centers. It might not have been feasible to establish independent centers from the beginning. As the centers matured and changed, they required more operational autonomy and flexibility that the bureaucratic University structures could not provide. In both cases, it was not feasible to negotiate compromises with the Universities, and the centers decided to establish themselves as independent national NGOs.

  Lessons: The initial selection of credible and well-known host institutions facilitated the establishment process, while it constrained operational flexibility in the long run. The "best" host for an ITN Center would be a like-minded R&D institution where it could have a relatively autonomous operational status. The independent NGO option was not the preferred alternative, but was for TREND and IWSD the option of last resort.

- The importance of demonstrated success and need for flexible funding:
  Both centers acquired a reputation of proven capability to perform and deliver high quality services. The centers received flexible funding and support from donors. Strong and timely support from network institutions (such as the RWSGs) and donors played a critical role in the first phase of the centers and during the transition process. TREND and IWSD would not have been established and survived without support from the UNDP-World Bank Water and Sanitation Program, their Eastern and Southern Africa and West Africa offices, and other key stakeholders.
Lessons: Preferential treatment may be required in setting up a center, but one of the most crucial factors to ensure long-term sustainability is demonstrated performance—proven ability to deliver quality services. The centers have benefited from the decentralized implementation strategy adopted by the UNDP-World Bank Water and Sanitation Program, which has led to empowerment and commitment of national resources, and to responsive local adaptation.

- **Appropriate timing and matching needs:**
  Both centers were established at the ‘right time’ when significant changes in the water and sanitation sector were being discussed and implemented. Both centers responded to needs emerging from changes in policies and strategies, and their services matched the changing needs and opportunities in the sector. External donors provided most of the start-up funds.

  Lessons: Appropriate timing proved to be the most important external factor for ensuring sustainable operations. Similar centers have to be based on an analysis and match defined needs and opportunities in the sector. There has to be a strong national capacity and commitment to action and changes.

- **Preferential treatment:**
  Both Centers were given special status as sector training institutions by governments and donors. They were perceived as integral parts of the water and sanitation sector, and not as external consulting groups. The centers benefit still from a special status in the sector, but will increasingly have to compete and interact with NGOs, commercial consulting groups and other relevant institutions.

  Lessons: The Centers depend on stable and long term political support from key stakeholders. Positive preferential treatment could be necessary in establishing national ITN centers. It will take time for a center to establish itself; and there are long-term needs and tasks that require special attention and treatment by donors. The Centers have however to prepare themselves for increased competition, and address the need to secure long term financial sustainability.

- **Strong national leadership and ownership:**
  The two centers recruited national leadership and expertise with intimate knowledge of the sector. The Directors were both able to represent and effectively negotiate the interests of the centers. They were also recognized as technically competent within their areas of work. The Centers maintained stable, close links and interactions with key stakeholders in the water and sanitation sector (government, donors, NGOs and private companies). Interaction and communication were based on shared knowledge, interests and background.

  Lessons: National leadership proved to be one of the most crucial factors to explain performance. For institutions that are expected to become locally sustainable, competent national leadership and a sense of national ownership is critical. It was equally important for the centers to be anchored in a special sector and maintain close links with its key stakeholders. The centers benefited from diversification within the sector (new clients and areas of work), but should remain within one sector.

- **A long-term capacity building approach with a multi-disciplinary staff:**
  The centers consider themselves national resource centers committed to short and long term capacity building, and have not changed into commercial consulting groups focusing on only short term demands or just profitable assignments. The centers therefore recruited a multi-disciplinary staff to meet human and institutional capacity building needs within the sector. Technical issues and technological development have played a less significant role.

  Lessons: It was important to differentiate between a resource center pursuing a broad national strategy and a for-profit consultancy group working on short-term assignments. ITN centers will have to accept the realities of the competitive market, but should maintain a clear identity and research and development capacity in order to stay at the cutting edge of technical development. The focus of ITN centers should be on human and institutional capacity building within the water and sanitation sector. The comparative advantage of the centers is in the broad sector development. Other groups could address technical issues.

- **Maintain a flexible and adaptable national program profile:**
  The ITN centers were planned with a special purpose; the two centers adopted different program profiles in...
line with national needs and demands; and did not adopt pre-designed program approaches. The centers have, therefore, benefited from keeping a national focus. Most of their activities have been anchored in the water and sanitation sector in the respective countries. This approach provided national legitimacy and formed a basis for regional outreach. TREND is almost completely a national center, while IWSD has always allowed regional participation in courses, and is increasingly involved in regional training and consultancy activities.

Lessons: ITN centers should be firm on overall principles and strategies, but flexible and pragmatic when it comes to program profile and national adaptation. The national program focus represents strength for both centers while regional activities add a new dimension. The centers have to find an appropriate balance between national and regional activities, ensure cross-fertilization between the two, and sufficient capacity to carry out both.

Risk Factors
- **Lack of long term institutional continuity:**
  The NGO option faced both centers with complex dilemmas when it comes to long term institutional continuity and sustainability. The centers are currently dependent on a few individuals and vulnerable to rapid internal and external changes. As NGOs, the centers depend legally on their members and Board of Directors. These are weak institutional backing or structures to ensure continuity, when change occurs.

Lessons: The host institution should ideally provide long term institutional continuity. The centers should as NGOs ensure that key stakeholders are represented and have a sense of ownership of the organization. They should also have a 'critical mass' of senior consultants to be less vulnerable to staff turnover.

- **Potential undermining of long term sector needs:**
  The current focus on a demand driven approach for the operation of self-sustaining centers may gradually undermine or distort the National Resource Center concept, which includes focus on both short- and long-term sector needs. Where the centers have to secure financial sustainability, they might concentrate too much on short-term financially profitable assignment. Research and development, networking, information and documentation for the sector may consequently suffer, since these activities are less financially sustainable than training and consultancies.

A resource center operates differently from a commercial consulting group. All Center activities are not necessarily financially sustainable. It is not advisable for the centers to subsidize under-financed activities from more profitable assignments. Key stakeholders may have to secure funding of activities addressing long term sector needs which are not necessarily reflected in short term demands.

Lessons: ITN centers should work towards for financial sustainability, but simultaneously pursue a mission and make sure that long term sector needs are met.

- **Lack of innovative research and development:**
  A National Resource Center has to stay 'at the cutting edge' of intellectual development - not only to meet demands, but promote and create needs for new approaches and services based new on research and knowledge. Research and innovation are weak areas for both centers. They have to a limited extent been involved in research and development with marginal cross-fertilization between R&D functions and other activities. Too much training or consultancies may have had a negative impact on the centers' research capacity. It has been difficult for the centers to find an acceptable balance between research, training and consultancy activities.

Lessons: ITN centers have to protect and strengthen innovative research and development efforts in order to be at the cutting edge of technical development. The market defines, to a certain extent, opportunities and funding, and does not easily support long term R&D activities. The scope for research should be more actively pursued.

- **The centers depend on external funding of sector programs:**
  The general program support of the centers will soon come to an end, and all income will in the future be as payment for services. This is a major change and also achievement for both centers. In Ghana and Zimbabwe, however, the water and sanitation sectors are, to a large extent, dependent on external donor support; and so are both the centers.
The sector dependency on external resources does not seem to represent a threat to short-term sustainability for any of the centers. It might, however, represent a problem when it comes to long term sustainability of national sector centers, such as TREND and IWSD since donor priorities may change. Governments will most likely be unable or unwilling to pay the current rates for services without donor support.

Lessons: The centers may rely on external sector support for a period of time, but should diversify their sources of income and also start activities that are not financed by external donors.

- The centers depend on strong government systems:
Centers, such as TREND and IWSD depend on a sector and a government system with capacity and initiative to coordinate, facilitate and utilize their services. In both Ghana and Zimbabwe, the government partners have so far provided sufficient support. However, symptoms of weakening government systems may represent a threat to long term sustainability.

Lessons: Effective ITN centers depend on strong government systems, and all strategies and programs should seek to strengthen and not undermine the governments’ ability and capacity to coordinate the sector.
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