Final Evaluation of the GEF Project

RER/98/G31/A/1G/31

Preparation of a Strategic Action Programme (SAP) for the Dnipro River Basin and Development of SAP Implementation Mechanisms

Commissioned by UNOPS

July 2005

Executive Summary

The final evaluation for the Dnipro Basin Environmental Programme (DBEP) was carried out during May through July 2005 after all assignments had been completed, and while the project team was securing support for the SAP and for a continuation project under UNDP/GEF IW. The evaluation involved interviews with key stakeholders and a review of project reports. The evaluation was carried out per UNDP monitoring and evaluation guidelines, calling for an external evaluation at the mid point and conclusion of multi-year, multi-beneficiary projects.

The Project was launched to assist the Dnipro riparian countries: Ukraine, Belarus and Russia to develop a Transboundary Diagnostic Analysis (TDA) and Strategic Action Plan (SAP), in order to identify pollution sources, causes and impacts, and to chart a course towards better regional coordination and improved pollution abatement and biodiversity protection.

In addition to ministry officials and technical experts from the three beneficiary countries, the project involved the active participation of five international organisations – UNDP, UNOPS, IDRC, UNIDO and IAEA. Each had specific assignments as set out in the ProDoc. The management arrangements added a high level of complexity to project management, yet enabled the project to build from previous water resource activity in the region and to utilise a wide range of expertise.

The project can be considered highly successful in its achievement against objectives, and is especially noteworthy for the active involvement and support of the National Programme Coordinators and their Ministries (Environment and Natural Resources). The DBEP emphasised local expertise, made possible by a high level of expertise in the region, the common language base for the three countries involved, and the strong local experience of PMU and IDRC managers. There was a high degree of local ownership and corresponding greater opportunity for sustainability. The predominant use of local resources also enabled the team to complete all assignments and continue to operate throughout the slow process of SAP approval.

The Dnipro TDA constitutes a very good analysis of the status of the Dnipro basin biodiversity and water quality, and the causes and impacts of water quality impairments. It provided a solid scientific basis from which to establish a basin-wide strategic action plan. While it would have been useful to focus more attention on non-point / diffuse sources of pollution, and on groundwater quality in the basin, the identified high priorities are defensible and the background documentation is well conceived. The TDA effort enabled the participating experts and institutes to consider transboundary cause and effect relationships. The process enabled new applied research, for instance assessing fish species health across the basin for the first time. Through the TDA process, the countries were able to document the extent to which hydrological modification is affecting ecosystems health in the basin.

The SAP builds directly from the TDA findings, providing a set of six long term objectives, designed to address the six priority transboundary environmental issues set out in the TDA in a “stepwise” fashion. The SAP development process would be considered highly successful, but for the fact that Russia has found it difficult to fully approve the document. The Russian hesitation has been attributed to financial considerations.

The project formulation included development of regional thematic centres. The approach may have worked more successfully for the Dnipro than in other GEF/IW projects, however the use of thematic centres fell short of initial expectations and most centres did not achieve the regional scope and recognised excellence envisioned.

The project management unit together with the IDRC program office exhibited a high degree of professionalism, providing excellent project coordination and stakeholder focus. Training workshops and meetings were handled with professionalism and regarded highly by participants.

The Dnipro River Basin Council was launched as expected. It was the subject of extensive negotiation among DBEP sponsors and beneficiaries prior to project inception. The Council was designed to provide an expanded base of stakeholder involvement, including regional and local government involvement and NGO participation. It proved to be useful as a vehicle for sharing information and receiving comment on TDA/SAP development. Continuation of the Council is enshrined in the SAP, but questions remain as to its long-term sustainability and responsibilities once a Dnipro Basin Commission is launched.

The PDF-b for the second phase includes a variety of activities aimed to assist the three riparian states with implementation of the SAP. It also focuses particular attention towards reducing SME industrial discharges into the vodokanals within the Dnipro basin. The continuation project is strongly supported by stakeholders in the region and the PDF-b areas of focus are appropriate.

The DBEP impact has been positive, and should provide tangible long-term improvements in Dnipro water quality and basin biodiversity. Impacts at this stage are procedural and relate to the willingness of the riparian countries to focus attention and funding on water pollution issues in the basin. In particular one can look at the additional funding that has now been identified for water resource protection on the Dnipro, especially for Ukraine.

1. Glossary

APR	Annual Project/Program Report
BAP	Best Agricultural Practices
BAT	Best Available Technology
BEP	Best Environmental Practices
BLDC	Regional Strategy for Conserving Biological and Landscape Diversity in the Dnipro Basin (BLDC Strategy)
BOD	Biological Oxygen Demand
CAP	Common Agricultural Policy
COD	Chemical Oxygen Demand
DBEP	Dnipro Basin Environmental Programme
DRP	Danube Regional Project
EBRD	European Bank for Reconstruction and Development
EC	European Commission
EIA	Environmental Impact Assessment
EU	European Union
EUR	Euro
GEF	Global Environment Facility
GIS	Geographical Information System
GIWA	Global International Waters Assessment
GPA	Global Program of Action, UNEP
HELCOM	Baltic Marine Environment Protection Commission (Helsinki Commission)
IAEA	International Atomic Energy Agency
ICPDR	International Commission for the Protection of the Danube River
IDRC	Canadian International Development Research Centre
IFI	International Financing Institution
IPPC	Integrated Pollution Prevention and Control Directive
ISO (9000 & 14000)	International Standards Organisation (series 9000, company management standards, and series 14000, environmental management standards)
IW	International Waters
IWG	International Working Group
JMC	Joint Management Committee
LFA	Logical Framework Approach
M&E	Monitoring and Evaluation
MOU	Memorandum of Understanding
MTE	Mid-Term Evaluation
NGOs	Non Government Organizations
OVOS	"Otsenka vozdeistvia na okrujaiusciu sredu" = assessment of environmental impacts or EIA

PMU	Project Management Unit
PIP	Project Investment Portfolios
RBM	River Basin Management
RTC	Regional Thematic Centre
SAP	Strategic Action Plan
SAPARD	Special Accession Program for Agriculture and Rural Development
SEE	State Ecological Expertise (State Environmental Expert Review)
TACIS	EU Support Program for Russia and the former CIS
TDA	Transboundary Diagnosis Analysis
TEST	Transfer of Environmentally Sound Technology
TMP	Transboundary Water Monitoring Programme
UNDP	United Nations Development Program
UNEP	United Nations Environmental Program
UNIDO	United Nations Industrial Development Organisation
UNOPS	United Nations Office for Project Services
USD	United States Dollar
WFD	Water Framework Directive (EU)
WWF	Worldwide Fund for Nature

1 The Evaluation

This constitutes the final evaluation for the UNDP/GEF project: "Preparation of a Strategic Action Programme (SAP) for the Dnipro River Basin and Development of SAP Implementation Mechanisms" (short title: Dnipro Basin Environment Programme – DBEP)[1] The evaluation was carried out during May - July 2005, by an evaluator with previous experience evaluating UNDP/GEF IW projects in the region. The evaluation consisted of a literature review, field and telephone interviews. The field interviews were carried out during a 3 week period in May / June, including meetings with the Project Management Unit in Kyiv, and key project stakeholders in Ukraine, Russia and Belarus. Additional telephone interviews were carried out in June and July with participating international consultants and officials of the sponsoring agencies. A list of persons interviewed is attached as Annex 3.

The evaluation was carried out consistent with UNDP Monitoring and Evaluation procedures[2]. The evaluation report conforms to the expectations included in a Terms of Reference for the assignment, developed by UNOPS in May 2005.

The evaluator has endeavoured to achieve a fair and balanced evaluation report, based on the information received and comments provided. The evaluator takes full responsibility for the findings and recommendations.

2 Acknowledgements

The evaluator is especially grateful to the many project participants in Ukraine, Belarus and Russia who took time out of their schedules to discuss the project, and helped ensure that the evaluation mission went smoothly. The Dnipro project management staff provided excellent logistical and information support throughout the evaluation mission. The evaluation mission was greatly enhanced by the excellent interpretation assistance provided by Iryna Chernyshova.

3 Project Background & Design

The concept for a Danube Basin Environment Programme (DBEP) was approved in December 1999. The project was designed to develop a Transboundary Diagnostic Analysis (TDA) for the Dnipro Basin and to achieve agreement on a Strategic Action Plan (SAP) for protection and recovery of the river and its tributaries. The focus of the DBEP was on information gathering, strategic planning and capacity building. It was designed to aid in understanding the status, causes and impacts of pollution along the Dnipro, and to achieve agreement on the steps to be taken to better manage the river system, ensure long term human and ecosystem health, and sustainable use of the resource. The project was not designed as an investment project, and did not aim to achieve short-term direct and measurable reductions in transboundary water pollution in the Dnipro River. Accordingly, success indicators were to measured through multi-country agreements, information sharing and capacity building.

The project commenced in early 2000. The long period from conception to inception was spent in negotiations to reach agreement on project scope, activities and coordination between the three riparian governments: Ukraine, Belarus and Russia, together with the supporting agencies: UN Development Programme (UNDP) UN Office for Project Services (UNOPS), UN Industrial Development Organisation (UNIDO), and the International Atomic Energy Agency (IAEA).

---

[1] While the project document utilises the spelling 'Dnieper', the TDA/SAP reports indicate the spelling as 'Dnipro'. This evaluation utilise the later option.

[2] Handbook on Monitoring and Evaluating for Results, United Nations Development Programme (UNDP), Evaluation Office, June 2002;

The involvement of multiple sponsoring agencies within a UNDP GEF IW programme is not without precedent, but the DBEP is notable for the substantial contribution of other agencies. The project was launched under the auspices of UNDP, with UNOPS serving as the managing authority. The IDRC was an integral partner, listed with UNOPS as an executing agency. The other partners, UNIDO and IAEA managed specific project activities and inputs into TDA/SAP development. This use of multiple sponsors increased project complexity and presented management challenges, but also brought significant regional knowledge and technical expertise to the project effort. The resulting design can be seen as a satisfactory outcome that met the general expectations of all parties.

3.1 Project Background

The Dnipro project builds from previous interventions: In 1995 a request was made to GEF by the three riparian countries to develop an Environmental Management Programme for the Dnipro River Basin. The request then led to a PDF-b to develop a TDA and preliminary SAP. The first TDA was completed in 1997. The TDA was considered a good first step in identifying causes and impacts, but was considered insufficient as a strategic planning tool. In particular, there was a lack of up to date and reliable information on the environmental status of the river. Consequently, a second TDA analysis was proposed.

Predating GEF support, since 1994, the Canadian International Development Research Centre (IDRC) was active on environmental issues in Ukraine, including assisting on rehabilitation of the Dnipro River. Based from an initial budget of CDN $4 million, the IDRC commenced a project entitled "Environmental Management Development in Ukraine". In 1997, a second phase was approved using Canadian International Development Agency (CIDA) funds, to be utilised through December 2000. During these 6 yrs, approximately CDN $12 million was spent in Ukraine for projects aimed at Dnipro river rehabilitation, leveraging CA $1 million in local funds, and producing 70 research projects carried out by local Ukrainian institutions. The IDRC intervention in the region, focused especially in Ukraine, established a strong foundation upon which the DBEP was able to build.

Since shortly after the Chornobyl nuclear accident (April 1986), the International Atomic Energy Agency (IAEA) has been involved in monitoring the fate and transport of released nuclear materials. This monitoring program has included an assessment of the waterborne risks from released radionuclides, especially Strontium and Caesium.

3.2 Project Objectives, Components and Activities

The project design for DBEP follows the GEF operational strategy (Programmes 8&9). From the initial project brief, a Project Document (ProDoc) was generated, with the requisite logical frameworks and budgets.

The Project Brief indicates the long-term objective is to *"...remedy the serious environmental effects of transboundary pollution and habitat degradation in the Dnipro River Basin, to ensure sustainable use of its resources, and to protect biological diversity in the basin."*

To achieve this overall object, the ProDoc sets out 5 components:

Component I	Project co-ordination • Create a transboundary management regime and coordinating body;
Component II	The strategic action programme process • Assist countries in SAP formulation, review and endorsement process; • Formulation of National Action Plans by Interministerial Committees; • Build capacity for SAP implementation.
Component III	Improve financial/legal/operational mechanisms for pollution reduction and sustainable resource use;
Component IV	Biodiversity conservation • Improve conservation of biodiversity in the Dnipro River Basin;
Component V	Improving stakeholder participation in transboundary issues

- Enhance communication among stakeholders and encourage public awareness and involvement in addressing the problems of the Dnipro Basin.

3.2.1 Component I Project Coordination

The ProDoc indicated several project steering and management bodies should be formed, including a Steering Committee, Joint Management Committee (JMC), National Management Committees (NMCs) and a Project Management Unit (PMU). The ProDoc identified six Regional Thematic Centres to be created, that would take responsibility for coordinating the work of International Working Groups and provide input into the TDA / SAP development process. A Dnipro Basin Council was included, to provide a wider forum for discussion with stakeholders, including local officials and NGO's.

The ProDoc established specific assignments for the PMU and delineated the responsibilities of each of the partner agencies: IDRC, UNIDO and IAEA.

The management coordination structures set for the DBEP are consistent with GEF / IW practices and generally appropriate for the project. It is important to recognise that the ProDoc was subject to extensive negotiations between the parties. The resulting compromise document was vague in some instances (TDA/SAP development), and included some overlapping of responsibilities (hot spot development; harmonisation with EU norms & standards).

3.2.2 Component II, The TDA, the SAP and the NAPs

The ProDoc provided general information on the expected delivery of a Transboundary Diagnostic Analysis and Strategic Action Plan for the Dnipro basin. The ProDoc quoted from the GEF 1996 Operational Strategy and presented in outline form what GEF expected the TDA and SAP to contain.

*"The **TDA** uses the best available verified scientific information. It examines the state of the environment, the root causes for its degradation and the needs for remedial and preventative actions, including capacity building. It focuses on the transboundary issues without ignoring national concerns and priorities. It identifies information gaps, policy distortions and institutional deficiencies. The analysis should be cross-sectoral and examine national economic development plans, civil society (including private sector) awareness and participation, the regulatory and institutional framework and sectoral economic policies."*

The TDA development effort included three supporting activities: evaluate existing monitoring capacity and transboundary monitoring requirements; hold experts meetings; and identify hotspots.

The SAP was also generally described, stating it should *"…establish clear priorities for action to resolve the priority problems identified in the TDA. The SAP should carefully discern the priority transboundary issues. The concerns should be matched with proposed sectoral interventions (policy changes, regulatory reform, investment requirements, capacity building, public awareness development, stakeholder participation). The interventions should incorporate preventative and remedial actions…".*

The SAP approval process was expected to include a Ministerial Conference where the SAP would be endorsed. Also, National Action Plans were to be established by the three riparian states to describe the steps that each would take to meet their SAP obligations.

The DBEP Mid Term Evaluation identified a lack of specificity in the ProDoc description of TDA, SAP and NAP activities, pointing out that no instructions were provided as to how the tasks should be carried out, and what models should be emulated. This matter was explored with project developers and implementers during the final evaluation mission. The lack of specific guidance in the ProDoc on TDA/SAP development created some initial difficulties for the project team, who had no previous TDA/SAP experience. It should be noted that

guidance for TDA / SAP development has been evolving, and the Dnipro project commenced when a "manual" was not available. Recent developments, including an IWLearn TDA/SAP module, should ensure a more robust elaboration of TDA/SAP implementation steps in future GEF IW projects.

3.2.3 Component III Facilitating Investment in Reducing Transboundary Pollution

The component includes two aspects: to develop a priority investment portfolio and an assessment of available mechanisms to reduce pollution resulting from intensive animal husbandry. Both activities can be considered within the scope of TDA / SAP development.

3.2.4 Component IV Biodiversity Conservation

The objectives were to assess national / regional programmes for priority area protection and ecosystems status and to identify biodiversity hotspots. The legal context for biodiversity protection was to be covered, as well as consideration of forestry, fisheries and the impact of agricultural practices, including nonpoint sources. The effort was designed to feed into development of the TDA & SAP.

3.2.5 Component V Improving Stakeholder Participation in Transboundary Issues

The component focuses on awareness raising, through consultations and information dissemination. Included were activities such as a small grants programme for NGOs and the production and dissemination of TDA/SAP information to the public. The component included expectations for a socio-economic study, to feed into TDA / SAP development.

3.3 Risks

The project brief and ProDoc highlight risks, classified in the ProDoc as Political Risks, Operational Risks, and Economic Risks. **Political Risks** were largely associated with frequent government change and shifts in policy amongst the Dnipro riparian countries. However, the ProDoc notes that "….there have been important advances in environmental policy development and implementation and large changes in direction have not been characteristic of successive regimes.", and concludes a complete rejection of the SAP is unlikely, but that there is a significant risk in delays of approval. **Operational risks** mostly related to sustainability of technical institutes and the quality of staff. **Economic risks** concerned the commitment of the countries to finance national investments, and regional institutional mechanisms.

The risks identified in the ProDoc are reasonable and in hindsight proved accurate.

- Delays have indeed occurred but the SAP approval process continues.[3] The project developers were aware of the rapidly changing political, social and economic conditions in the region, but could not have foreseen the government upheavals in Ukraine, or the reshuffling of responsibilities for water resource protection in Russia.
- Operational risks have been an issue, with varying capacities amongst the involved institutes and experts.
- Economic risks remain, with financing SAP agreements a significant issue, contributing to the delays in SAP approval in Russia and Belarus.

In the 2002 Annual Project Review, the DBEP project manager expressed serious concern about project progress, indicating a high risk that the governments "will **not** support the necessary international agreements to give legal authority to the Dnipro Regional Council; will **not** formulate National Action Plans; will **not** support activities designed to improve biodiversity in the Dnipro Basin; and will **not** support efforts to encourage public awareness

[3] At the time of the evaluation mission,. Ukraine and Belarus had approved the SAP at the Cabinet level, while Russia had indicated its intention to do so following additional financial impact reviews

and disseminate TDA/SAP recommendations in the region". While these comments may be viewed as overly-pessimistic, and not reflecting eventual accomplishments, it must be recognised that some of the risks remain. NAPs are still to be approved and implemented; activities to protect and improve biodiversity have been slow to launch; the Dnipro Basin Council is included in the SAP but final SAP approval awaits an okay from Russia; and while the DBEP was able to encourage public awareness and participation, it is not clear that the countries will continue these efforts absent external support.

Early on, it was apparent that a structural weakness in the DBEP design and formulation was the lack of a significant over-arching legal document from which the responsible ministers could derive their legal authority with confidence. This made for difficulties with respect to information exchange and interministerial coordination, as the ministers involved lacked the necessary mandates to take important actions – such as to endorse the SAP. The requisite government endorsement was finally achieved in May, 2003 with the three Environmental Ministers signing the "Kyiv Declaration on Cooperation in the Dnipro Basin" at the 5th Pan-European meeting of European Environment Ministers in Kyiv.

4 Project Implementation

4.1 Project Implementation

The DBEP was implemented in a highly satisfactory manner. From a process standpoint, all major outputs and deliverables were achieved, within budget, albeit slower than initially planned.

In terms of participation, there was an exceptional level of country buy-in and involvement amongst environmental and water resource ministry officials, research institutes and technical experts in the three beneficiary countries. Involvement at the oblast and local levels was also good, especially considering the traditional central-government focus of the countries involved. High marks can be given for the participation of the NGO community, through forums and grants. In common with most environmental research and regulatory capacity building projects, the DBEP was less successful in achieving consistent and positive involvement from other government ministries (finance, agriculture, economic development, transportation) and private sector / industrial interests.

4.2 UNDP and UNOPS

Management arrangements established for the DBEP were initially problematic but in time got favourably resolved. The UNDP contracted the UN Office of Project Services (UNOPS) for project administration, with policy issues handled by the UNDP GEF IW Principal Technical Advisor in New York. The UNDP country offices played a financial role, providing invoicing and payment services for the regional thematic centres and local consultants.

During the evaluation mission, the UNDP Country Representatives and project coordinators were interviewed. The discussions brought up several important issues regarding the role of the county offices in UNDP multi-country projects. Compared to similar projects in the Danube and Black Sea, the level of country office participation for the DBEP was relatively high, as can be expected for projects without an impressed account, where there is a need to have the UNDP country offices dispense funds for local expert travels. In the case of Russia and Belarus, the level of coordination between the PMU and country offices was good, and needed assistance was given. In particular, the projects coordinator for UNDP in Moscow was very helpful in pushing for ministry approvals for the SAP and follow-on PDF-b process. The level of coordination in Ukraine was less successful, and included conflicts over official project registration responsibilities.

UNOPS and the UNDP /GEF principal technical advisor demonstrated flexibility and good management during the early stages of the project as the PMU was struggling to get a handle on the TDA/SAP process. UNOPS arranged for the PMU manager to travel to South Korea to attend a TDA/SAP development workshop for the UNDP / GEF Tumen programme, and

arranged for Gunther Mau from the Tumen project to travel to Kyiv for discussions with the PMU management. Other experts were also brought through Kyiv to provide TDA/SAP development expertise. This external assistance proved very helpful in setting the stage for a successful TDA/SAP development process.

A major source of frustration for the PMU, and for project managers at UNOPS, was the continuing 'teething problems' related to transition to the Atlas asset management system, jointly introduced by UNDP and UNOPS in January 2004. The project went through months where it was impossible to obtain from UNOPS an accurate assessment of project expenditures. The system also proved inflexible with respect to small expenditures. The DBEP did not operate with an impressed account, so all decisions involving financial expenditure required UNOPS pre-approval.

The PMU managers were able to marshal their resources to work within the initial budget allocation, even as the operations were extended for two years. Limited international consultant involvement helped. In particular, UNIDO was able to return back to UNOPS a bit more than 10% of its US $1.2 million allocation, which was used to bolster the PMU budget in 2004/2005.

4.3 IDRC, UNIDO, & IAEA

Negotiations on the ProDoc led to a division of responsibilities between the partnering agencies. Each agency had a separate subcontract with UNOPS for its portion of the US $7 million GEF appropriation, and was responsible for its consulting arrangements and project deliverables. Overall project coordination was provided by UNOPS acting as executing agency on behalf of UNDP.

The IDRC was co-listed along with UNOPS as an executing agent. IDRC took responsibility for setting up and managing the regional thematic centres and expert groups, and establishing the Dnipro Basin Council, the NGO forums and small grants program. IDRC also had specific TDA/SAP input responsibilities, such for the biodiversity assessment, and consideration of economic instruments for the improvement of wastewater treatment in the region. IDRC responsibilities developed naturally from their pre-existing activities and experience in Ukraine, including a network of contacts in water management and environmental protection. IDRC continued to work from its offices in Kyiv, which proved an ideal location also for the PMU office, and in time for a local project coordinator from UNIDO.

The UNIDO roles largely fit their industrial management expertise, with assignments for hot spot identification; development of the priority investment portfolio (PIP); a study on animal husbandry; a review of environmental legislation and other regulatory and policy studies. UNIDO outsourced most work, both to local and international experts. The large Canadian consultancy SNC-Lavalin led the industrial hotspots assessment, PIP development and animal husbandry review.

IAEA reviewed the management of nuclear facilities & disposal sites and recommended reforms for the SAP. The IAEA has closely monitored the region in the aftermath of the Chornobyl nuclear reactor accident. They were well positioned to provide data and recommendations with respect to nuclear fallout and waste risks.

The involvement of several agencies brought a wealth of knowledge and experience to the Dnipro project, and allowed the project to build from an established base of Ministry and research institute contacts, especially in Ukraine. It also created a significant project management challenge, and greatly constrained the PMU, which had no direct authority over many project deliverables and limited flexibility to revise the project implementation plan based on changing circumstances. The need to negotiate multi-agency responsibilities meant initial delays in project development. The overlapping division of tasks created some redundancies, and caused confusion amongst stakeholders. It is a testament to the capabilities of the persons involved – at the PMU, and amongst the partner agencies that the arrangement

was made to work and objectives were achieved. Physical proximity, with key personnel from the several agencies working together in Kyiv was a key success factor.

4.4 Component I Project Coordination

4.4.1 Project Management

The PMU was put together in late 2000, with the Project Manager arriving in September. In time the PMU staffing grew to include a Deputy / Technical Expert, NGO / Public Awareness Coordinator and Administrative Assistant. The PMU shared resources and office facilities with the IDRC.

Preliminary national meetings for the DBEP were held in December, 2000 in Belarus and January 2001, in Ukraine. The Inception workshop took place in March, 2001, and the 1st Joint Management Committee (JMC) meeting occurred in April, 2001, as did the 1st Russian national management committee meeting. By May 2001, the management structure for the project was essentially in place.

The JMC and Project Steering Committees were developed as required under the ProDoc, however they did not really function as intended –the JMC to be more frequently convened, at a lower political level, and the SC providing overall senior level coordination. In fact, most national representatives were the same for the two committees and their responsibilities overlapped.

4.4.2 Working Groups and Regional Thematic Centres

The Project was designed to include 6 Regional Thematic Centres (RTCs) coordinating specified sets of project activities carried out through international working groups (IWGs). The RTCs were to serve as the focal points for regional training, capacity building, information exchange and TDA/SAP development. Two RTCs were apportioned to each country, decided through negotiations amongst the Chairmen of the National Project Committees. In some cases, the potential lead agencies had been previously identified through their work with the IDRC, and their known competence in the subject area. The IDRC was responsible for coordinating the activities of the RTCs.

Regional Thematic Centres by country:

- Belarus – Cleaner Production; Pollution Prevention and Control.
- Russia – Biodiversity; Legal, Regulatory and Economic Issues.
- Ukraine – Pollution Monitoring; Information Management.

The country division of thematic centres was completed in April, 2001, with all RTCs identified, and TORs agreed to at a June 2001, meeting in Kharkiv, Ukraine. Work plans for the six RTCs were developed by September, and the first international work group (IWG) meetings were held by October.

The intent with the RTCs was to create regional centres of excellence. This was not realised, as the RTCs served mostly as national entities, gathering information between IWG experts in the three countries.

The GEF / IW experience with Regional Activity Centres / Regional Thematic Centres yields two recent examples from Central / Eastern Europe: the Black Sea Environment Programme (BSEP) and DBEP. As an assignment for the GEF IW Caspian Sea Environment Programme, Laurence Mee of Plymouth University, UK recently reviewed the performance of BSEP regional activity centres (RACs)[4] and offered a list of reasons for their limited success. The reasons parallel the Dnipro RTC experience, albeit with important differences. The Dnipro

[4] Caspian Sea Environmental Programme: The Regional Advisory Groups revisited, 2005 Laurence Mee, University of Plymouth UK.

RTC effort, while problematic, has demonstrated a higher degree of success, mostly because of the reduced number of countries to coordinate (3 rather than 6), a common language base, and similar regulatory and monitoring structures (legacy of the Soviet era). Nevertheless, the following shortcomings to the RTC format should be considered:

- Some of the institutions selected were not key national or regional centres of excellence and their staff lack necessary skills and professional stature.
- National governmental financial support was insufficient for establishing real centres of excellence, and in some cases GEF / IW support may have led to reduced national funding to the RTCs, as the international support enabled ministries to use their limited budgets elsewhere.
- RTCs were thwarted in their efforts to play a regional role by IWG colleagues, and other research institutes, who had a vested interest to limit their encroachment, and especially to limit their access to national data and information.
- National political support for the RTCs was in some cases dependent on key senior elected officials, which called into question RTC sustainability in light of frequent governmental changes.

During the evaluation mission, the work on biodiversity issues was cited as an example of effective coordination between the three countries. In this case the assigned Working Group was composed of high calibre experts who were able to drive the process, with the RTC in a subordinate, coordinating role.

For the planned GEF / IW follow-on project on the Dnipro, and as the three countries consider the structures for a Dnipro Commission, serious consideration should be given to dispensing with the RTC format, and utilising a working group format with rotating chairmanships. Such a system has worked successfully for other GEF IW projects, for instance in the Danube Regional Project.

4.4.3 Dnipro Regional Council and a Dnipro Basin Convention

The project included setting up the Dnipro Regional Council (DRC), to include participation from oblast level representatives, as well as persons from other relevant state ministries, NGOs, research institutes and the private sector. The DRC presented an opportunity to bring in a wider audience into the review and decision making process for TDA / SAP development. As indicated in the elaboration of activities to be carried out by IDRC, the Council would "serve as a forum to bring together results of work conducted by the activity centres, thematic working groups, and other GEF activities and issues raised by various forums organised through GEF… providing input and advice into the development of the SAP and NAPs". According to the ProDoc, the goal should be to establish a basin wide structure that could evolve into a permanent Dnipro Commission, providing "future basin-wide management of the Dnipro".

The creation of the Council took time. At the October 2002 JMC meeting the IDRC received approval to form the Dnipro Regional Council, and contracted with the Water Resources Research Institute in Kharkiv (RTC – pollution monitoring) to coordinate the effort. The 1st of two Council meetings was held in Kyiv, June 2003. The 2nd meeting was held in Minsk, December 2003. There was to be a follow up (3rd) DRC meeting scheduled for May, 2004 which did not occur.

For the two Council meetings, the level of involvement from environmental ministries, research institutes and NGOs was generally strong, with the level of participation from Oblast level officials, other Ministries and the private sector generally weak. There was initial resistance from some environmental ministry officials to participate in the DRC meetings, and general confusion over its purpose, intended outcomes and audience. Should it be a decision-making body or a public forum for taking comment on government strategies for basin

management? The agenda's for both meetings indicate that the purpose served was information exchange on TDA/SAP development.

The ProDoc mentions that the Council's future activities should be set out in the SAP. The agreed-upon SAP merely indicates that over the medium term (5-10 years) a Council should be established and meet regularly. At this point there are no provisions for the Council to meet again until the SAP is approved and the Council reconstituted, or until a GEF IW follow-on project provides additional funding.

The DRC experience has been positive. The two meetings were useful public forums, bringing together government officials and civil society representatives to discuss Dnipro basin issues, with a resulting greater appreciation of each other's views and competence. The DRC has not been a decision making body, and is unlikely to be viewed by the three countries as the proper foundation for the Dnipro Basin Commission. Nevertheless, future basin management efforts, through GEF IW and through a Dnipro Basin Commission, should retain this public forum approach, to include periodic public meetings with private sector interests, NGOs and local officials. In addition, it will be important for the future Commission to include external stakeholder representation.

Dnipro Convention

Ukraine, Belarus and Russia have signalled their support for a Dnipro Basin Convention, and interest to establish a Commission to implement the Convention and its protocols. These intentions are enshrined in the SAP as well as the Kyiv Declaration on Cooperation in the Dnipro Basin, signed during the 5th Pan-European meeting of European Environment Ministers in Kyiv (May 2003). The Kyiv declaration signalled a "readiness" to prepare an international agreement to serve as the main organisational mechanism for ensuring "stable international cooperation" among the Dnipro Basin countries, and to define "general principles, goals, objectives and commitments of the signatories in the sphere of Dnipro basin environmental rehabilitation". The planned follow-on GEF project can be instrumental in assisting the three countries to establish the Convention and Commission.

4.5 Component II The Strategic Action Programme Process

4.5.1 Monitoring Capacity

The DBEP included several activities for assessing and improving monitoring capacity amongst the Dnipro countries. Within the IDRC remit, and under the coordination of the Pollution Monitoring RTC (Kharkiv), and the information management RTC (Ukraine, meteorological inst) initial assessments were done to consider current water quality monitoring and data collection systems and to identify equipment needs. An initial meeting on Monitoring Capacities was held in Kharkiv, leading to a strategy for transboundary monitoring, including equipment lists. The National Management Committees then approved the strategy. The resulting information was used to develop the Transboundary Water Monitoring Programme (TMP) annexed to the SAP.

Approximately 10% of the project budget (US $700,000) was set aside for equipment purchases. This included computer and copy machinery for the RTCs and lab equipment for water quality monitoring laboratories. During the evaluation mission, visits to the RTCs and several laboratories documented that the purchased equipment had been delivered and being used as intended.

It is important to note that some breakdowns occurred in the lab equipment procurement process. In particular, each country received a digital chemical analyser (approx. US $100,000 each plus consumables), for designated water quality monitoring labs. In Belarus and Russia the customs process took several months and the machines were functioning at the time of the final evaluation. In Ukraine, the customs process took over a year and the analyser was still in its box awaiting start up.

In Belarus it was indicated that delays were because no arrangement was in place for tax-free transfer to government institutions. In Russia, the delays were apparently caused by the absence of detailed invoice descriptions. The long delay in Ukraine was blamed on project registration problems. In Ukraine the UNDP country office did not register the project at start-up, which is required to bring in equipment without taxes and duties. Registration is typically the responsibility of the UNDP Country Office; however the roles are not so clear for multi-country GEF projects.

There are lessons to be learned here with respect to the need for improved coordination with UNDP Country Offices and closer attention paid to the equipment procurement process.

4.5.2 The TDA

The TDA was developed between June 2001 and January 2003, by a team of regional experts, with the Thematic Centre on Pollution Monitoring (Kharkiv, Ukraine) playing a coordinating role, the PMU and IDRC jointly managing the process, and contributing assignments provided by various local experts and research centres under contract with IDRC, UNIDO and IAEA. External consultants included Laurence Mee & Martin Bloxham, Plymouth Univ. UK and Jan Barica (Canada).

The TDA development effort commenced in June 2001. Over two workshops in Russia and Ukraine in September / October 2001, the basic TDA concepts were introduced, a reporting structure was agreed to and assignments were allocated. The effort included three main activities: 1) expert meetings & regional workshops to discuss root causes; 2) identification of pollution hotspots; 3) drafting and finalising the TDA. A draft table of contents including 9 chapters and annexes was agreed to, with each regional thematic centre and team carrying out specific assignments and developing socio-economic studies. Teams were required to develop summaries of transboundary relationships of issues (cause/effect).

A second phase of the TDA process commenced in April 2002, following a status review of the effort. At this point, the PMU invited Laurence Mee and Martin Bloxham of Plymouth University (UK) to prepare materials for presentation at a May 2002 TDA progress review meeting in Kharkiv. Their presentation involved recommendations to revise the TDA using a modified Global International Waters Assessment (GIWA) methodology. After considerable discussion, agreement was reached to alter the TDA process, and modify the scoping exercise, to focus greater attention on causal links and transboundary impacts. A revised work plan was developed, providing an additional 6 months for completion of the TDA.

Four workshops were held in July 2002 to adapt previous work to the new format / layout. A final workshop in early August was held to complete the draft causal chain analyses for inclusion in the TDA. In October 2002 the draft TDA was presented at the Joint Management Committee (JMC) and a final draft was submitted in early 2003.

During the final evaluation mission, the pros and cons of the TDA mid course correction was discussed. Some TDA authors indicated they did not view the revisions to be significantly better than the original version. Some considered that the revised method forced very general consideration of some issues, and that critical national issues with transboundary consequences were lost. One participant mentioned that the logic of the prioritisation was convoluted and questioned the weighting of importance of the 12 identified transboundary issues based on the number of linkages to other issues.

Comments also focused on the practical aspects, and the role of a TDA. One viewpoint was that these should be working documents designed to set the stage for SAP development. They need not be perfect as long as they were understood and included the essential status and impact information. From this viewpoint, the additional half-year used to revise and complete the TDA could perhaps have been better spent moving forward on the SAP.

A contrary opinion, also process related, suggests that the delays were not significant and more than compensated by the opportunity to get the participants to consider water resources

issues on a larger, more systemic basis, to examine causal chains and transboundary impacts, and move beyond narrow national observations and analyses. The process pushed the experts to delve into the root causes of significant pollution problems, rather than just reporting their existence.

The TDA identified six high priority problem areas, and ranked them as priority A and B issues:

- Chemical pollution (Priority A)
- Radionuclide pollution (Priority A)
- Eutrophication (Priority A)
- Loss/modification of ecosystems or ecotones and decreased viability of stocks due to contamination and diseases (Priority A)
- Flooding events and elevated groundwater levels (Priority B)
- Modification of the hydrological regime (Priority B)

The Dnipro TDA constitutes a very good analysis of the status of the Dnipro basin biodiversity and water quality, and the causes and impacts of water quality impairments. It provided a solid scientific basis from which to establish a basin-wide strategic action plan. While it would have been useful to focus more attention on non-point / diffuse sources of pollution, and on groundwater quality in the basin, the identified high priorities are defensible and the background documentation is well conceived. The TDA effort enabled the participating experts and institutes to consider transboundary cause and effect relationships. The process enabled new applied research, for instance assessing fish species health across the basin for the first time. Through the TDA process, the countries were able to document the extent to which hydrological modification is affecting ecosystems health in the basin.

4.5.2 The SAP and the NAPs

The **SAP** provides a series of expected actions by the three countries to reduce transboundary pollution, with general timetables and general costs calculated. SAP documentation includes a Priority Investment Portfolio, with 20 top priority investments (10 for Ukraine, 5 each for Belarus and Russia). The inclusion of the PIP as an annex to the strategic actions was agreed to by the three countries and constitutes a crucial link between the policy and capacity building objectives in the SAP, and the need to invest in the clean up of specific pollution hot spots.

The Strategic Action Plan development proceeded after TDA conclusion. The PMU managed the process, through the thematic centres and country teams. The SAP was drafted for country reviews and approvals by the end of 2003. Ukraine approved the SAP in early 2005, and in late May, Belarus did likewise, (with several caveats on financing). In June 2005 Russia signalled its intention to approve the SAP pending further financial review.

The SAP builds directly from the TDA findings, providing a set of six long term objectives, designed to address the six priority transboundary environmental issues set out in the TDA in a “stepwise” fashion. These Long Term Ecological Quality Objectives (LTEQOs) include:

1. Sustainable nature use and environmental protection in the Dnipro Basin
2. Environmental quality that is safe for human health.
3. Conservation of biological and landscape diversity

Each LTEQO sets out policy and institutional reform steps that are needed for their achievement. Activities and expected results are included under each step, with general timetables and approximate costs. The total estimated required investment for achievement of the long-term objectives is US $1.7 billion over 15 years.

Several of the planned outcomes are interesting to note here.

- The states have agreed that in order to achieve sustainable nature use and environmental protection (LTEQO I), they should harmonise with EU environmental legislation (step 1.4).
- The countries have determined that in order to better conserve biological and landscape diversity (LTEQO III), 3.5 million hectares of low productivity agricultural lands should be withdrawn from use over the next 10-15 years and restored to original conditions as forests, meadows, steppes and wetlands. Both of these priorities suggest interesting opportunities for GEF assistance during the follow-on project.
- As part of the measures to safeguard human health, the legal actions to be taken include the introduction of "a systematic approach to pollution control and prevention in the industrial sector (integrated preventative approach), and to implement environmental management systems in combination with Best Available Techniques (BATs)"

The SAP development process would be considered highly successful, but for the fact that Russia has found it difficult to approve the document. The Russian hesitation has been attributed to financial considerations. Additional factors may be the limited importance of the Dnipro River to Russia, and institutional indecision due to the continuing reorganisation of the environmental management portfolio.

The SAP process was noteworthy in its "home-grown" development, relying on regional expertise, not international consultants. Second, the SAP was developed through a collaborative process, with ample opportunity for ministry officials to comment. Interestingly, minor criticism was received about the SAP process from management at UNIDO and IAEA, who felt they did not have sufficient opportunities to participate in the SAP formulation. Some issues recommended by IAEA for inclusion into the SAP, such as the remediation of uranium tailings ponds, did not end up as high priorities in the SAP. Nevertheless, both agencies support the final document.

All three of the Dnipro states have drafted **NAPs**, which are at various stages of approval. Ukraine has been implementing its pre-existing National Action Plan for the Dnipro Basin while a revised NAP, consistent with the new SAP moves through the approval process. Belarus has received Academy of Science approval for its draft NAP. Russia has a draft NAP that is on hold, pending Russia's further financial review and approval of the SAP.

4.5.3 Build Capacity for SAP Implementation

The ProDoc sets out the expectation for assistance to the riparian countries to expand their capacities for monitoring and information exchange.

Regional Environmental Data Base

The regional thematic centres in each of the countries carried out a database development effort, with a combined database put together by the TC on Information Management (Ukraine). The combined system was reviewed during the final evaluation and appears to be appropriate to regional conditions. A key feature is its simplicity and ease of use. The PMU worked extensively with the TC to ensure that the database system was user friendly and simple to operate, without heavy pictures and tables that would clog slow Internet access systems.

The database has been well-received by the environmental protection agencies, especially in Ukraine, where the government has elected to model the database in other river basins, including the Dneister. The Ministry of Environment in Ukraine has submitted an environmental information law for consideration, which would stipulate a broad array of environmental information to be made available to the public.

The combined database includes information only up to 2002. The three countries agreed to the capping of the data at 2002, pending agreement on a Dnipro Basin convention. For the database to become a real management tool, it is important that "real time" data gets included.

An additional shortcoming is the fact that the database does not include hot spot data. It would be useful in the future for the database to include GIS-based data plotting hot spot discharges and ambient water quality data, to enable a clearer picture of the extent of impairment from significant point sources.

The database does not have a password protection system; so all persons have access to all information. It also does not provide options for country / ministry experts to provide direct data update. Rather, the information is submitted to the RTC via disk or Internet, and the RTC inputs the data. Future modifications should be considered to streamline the data entry system, allowing direct inputs from each national data centre.

There are no mechanisms in place for continued updating of the database after conclusion of the GEF project. The database is now in limbo, pending further GEF IW support, and/or the signing of additional agreements between the three countries.

The State of the Dnipro Report

The Project included development of a 'State of the Dnipro' Report. The Ukrainian Land Resource Monitoring Centre was contracted from IDRC to develop the SOE, with the contract signed in December 2002.

The ProDoc was unclear as to the particular uses for this document and its intended audience. It was merely stated that such a report should be developed "based on existing information, supplemented by new studies conducted within the Scope of the project". The PMU decided the State of the Dnipro Report should serve as a "benchmark" tool from which to measure and monitor future SAP implementation.

Developing a "State of the River Basin" report has specific implications in the Danube and Black Sea context, where it is agreed to meet the EU Water Framework Directive requirements for a 'State of the River Basin' report. For the Dnipro River, the agreement to harmonise with EU environmental norms suggests that a State of the Dnipro Basin report should be produced as a key output of the Dnipro Basin Commission, once established.

The Expeditions

The project supported two scientific expeditions to gather water quality data along the entire river system, focusing on the transboundary areas. The expectation was to use similar equipment and methodology across all 3 countries and also include seasonal data gathering. It was noted that initial disagreements had to be overcome regarding which institutions and research methods to use. Also, Russia was slow to get involved, and did not participate in the 1st research cruise.

The expeditions were successfully carried out, and provided essential information for the TDA development. In particular, the expeditions enabled a one-time snapshot of water quality conditions across the length of the basin. The basin countries should consider periodic follow-ups (3-5 years) to provide trend data and look further into specific issues, such as benthic health and sediment contamination, and the impact of variable flows downstream of dammed reservoirs.

4.6 Component III Facilitating Investment to Reduce Transboundary Pollution

This component was largely carried out under the responsibility of UNIDO, with the IAEA reporting on radionuclides hot spots.

4.6.1 Industrial Hotspots

For the identification of hotspots and development of a portfolio of priority investments (PIP) UNIDO chose to utilise outside expertise through an RFP (request for proposal) process. SNC Lavalin emerging as the preferred supplier of consulting services. The SNC-led team, comprised mostly of persons from the DBEP IWGs reviewed various hot spot approaches, such as those carried out in the Danube, Baltic Sea and in South America using the GIWA

framework. They were looking to find a pragmatic / practical approach. The SNC-led effort developed their own approach, agreed and commenced through workshops held in Kyiv and Kharkiv in May-June 2002.

The hotspot identification and prioritisation effort was highly successful both in identifying critical investment projects along the Dnipro and in developing a hot spot ID method that can and should be replicated in other projects. The hot spot prioritisation process was notable for its consideration of both qualitative and quantitative factors. The team developed a methodology to determine and rank dischargers based on the type and extent of discharges. The specific methodology and mathematical calculations were developed by one of the local team experts (from Russia). The methodology enabled a systematic ranking of hotspots based on objective criteria. An economic analysis was then done as a final step in the determination of the priority hotspots, to consider whether in addition to the severity of pollution, there was also a positive cost/benefit ratio to investing in abatement technologies. The method has been published now by UNIDO, and has received interest from other organisations working to identify and rank hot spots.

The qualitative / quantitative culling process reduced the priority hot spot list to 10 hotspots in Ukraine, and 5 each in Belarus and Russia that together comprise Dnipro River Basin Project Investment Portfolios (PIP). These are included in an appendix to the SAP. The investment portfolios provide an analysis of the discharge problem, together with remedies and their investment costs, set against the expected return on investment. All sites will require full feasibility studies prior to any further investment. Most are for improvements to the Vodokanals (WWTs) in addition to several industrial sites, as well as a stretch of intensive livestock production in Russia. Four of the projects were subjected to follow-up assessment: "Technical and Economic Assessment(s) of Environmental Mitigation Measures" for the: Kyiv and Smolensk Vodokanals, the Mozyrsky Refinery and the Zaporozhsky Aluminium plant.

One issue noted, is that SNC became aware late in the project that the World Bank had commissioned work on hotspots in the region, from a human health perspective. Better coordination might have enabled a transfer of information between these projects.

The project included a donor conference, (May 2004). The PIP's were presented at the conference, but no agreements were reached on funding any of the projects. The timing and use of donor conferences needs to be considered in future GEF IW projects. In this case, and in other projects (Danube, Black Sea, GloBallast) the utility of donor conferences can be questioned. Bringing a large number of donors and interested agencies together for a show and tell conference has not translated into project investments.

4.6.2 Economic Instruments in Municipal and Industrial Pollution Control

The economic instruments component was managed through IDRC, and produced three pilot studies: two in Ukraine and 1 each in Russia and Belarus:

- Belarus: Salt production at the Open Joint Stock Company Mozyrsol
- Ukraine: Nizhyn Polluted Water and Municipal Treatment Facilities System
- Russia: Starodubsk Butter and Cheese plant, Briansk.

Each of the pilot studies included a training component, an environmental audit and final workshop to discuss results.

4.6.3 Management of Waste from Intensive Livestock Production

SNC Lavalin carried out the assessment under the remit of UNIDO. The report was issued at the end of 2003. The effort included coordinating the work of national teams of experts in the three states. The intent was to provide input into the SAP process.

The assessment included a legislative review, a desk study of typical waste practices / mitigation measures, more detailed reviews of specific farms and the identification of

problems and recommended solutions. The case studies included one large livestock operation in each of the 3 riparian countries. None of the three were included in the Priority Investment Portfolio. The report includes a useful checklist and methodology for livestock enterprise environmental audits.

An interesting set of statistics from the report are that during the 10 year economic transition period (1992 - 2002), livestock production fell by nearly two thirds in Ukraine and Russia and nearly half in Belarus. The general trend was an increase in livestock at individual farms, coupled with large reductions in industrial / collective enterprises. Yet manure usage during the period did not fall nearly as dramatically, due to "inefficient conversion ratios of feed to produced meat".

The assessment included information on US, Canadian and EU environmental requirements for animal husbandry. Unfortunately, the focus is almost exclusively on regulatory programs and largely ignores farm assistance programs. While economic instruments were mentioned, very little detail was given as to how these are carried out in EU, US and Canadian legislation, and information was not provided on the economic incentive programmes for environmental stewardship included in the US Farm Bill and EU CAP.

The discussion on legal norms in Belarus, Russia and Ukraine is essentially a recitation of the environmental norms in place, without much discussion of what they mean in practice for livestock management. It would have been useful to have more information provided on the extent of farm management assistance in each country, especially as the report recommends the development of better agriculture extension services.

One recommendation given is to lease land to foreign operators for establishing centres of excellence. A better approach would be to support the development of local centres of excellence. Best practices will be more likely emulated if shown to be cost effective, and applied to local conditions by local farmers.

4.6.4 Donor Conference

Managed by the PMU, a Donor conference was held in (2004) after the SAP and PIP were completed, but prior to SAP approval by the Dnipro countries. The priority investment portfolio and SAP were presented and received interest. While the conference was well attended by bilateral and multilateral donor representatives, there was weak participation from investment bankers (European Bank for Reconstruction and Development, etc). No investments have yet been initiated as a direct result of the conference.

4.6.5 Laws, Regulations, Licensing and Enforcement Systems

This component was carried out through UNIDO. The intent, from the ProDoc, was to evaluate the regulatory system(s) for pollutant discharge compliance and polluter responsibility. The objective was for these evaluations to translate to specific actions the countries would agree to take collectively (through the SAP) and independently (through the NAPs) to improve discharge compliance and polluter responsibility.

It appears that the original objective was revised during the course of the project, as the resulting reports are focused on country-by-country assessments for harmonisation with EU legislation. Hence the study "Harmonisation of Environmental Legislation of Dnipro River Countries with Legislation of the European Union", notable mostly for a detailed review of Ukrainian law and harmonisation analysis, based largely on a previously developed 2001 report to the Ukrainian Ministry of Ecology and Natural Resources on EU harmonisation.

A second report, entitled "Environmental Legislation of Russia, Ukraine and Byelorussia compared with the Principles of EU environmental law, with focus on water legislation" (June 2002), provides information of greater relevance to the original ProDoc objective. The report was developed by an international consultant, based on information generated by the

legal RTC and IWG experts. A key finding of the report concerns environmental liability laws in the three Dnipro states, and the difficulty in seeking damages from industries for environmental impairment caused by illegal discharges. The report provides good recommendations on strict liability statutes, special laws dealing with major accidents, the use of tax incentives for environmental improvement and opportunities for environmental investment technology under the Kyoto Protocol.

4.6.6 EIA Policies and Practices

Within the UNIDO set of responsibilities, a report was produced in 2003 focused on EIA policies in Russia, Ukraine and Belarus, comparing them to international norms, and providing recommendations on reforms. The effort was primarily a desk study, based on literature reviews and discussions with national EIA experts. In particular, the report focused on the EU EIA directive, and included a useful set of gap tables setting EU EIA norms against legislation in each of the countries.

Compared to the EU EIA approach, the SEE / OVOS approaches in Ukraine, Belarus and Russia tend to be less specific in terms of the types of projects requiring an EIA and less exacting on the review of alternatives, and minimisation of impacts. The systems are largely state dominated, based from a time when the state dominated industrial production. There is a relative lack of transparency, processes are informal, and decisions are based on technical criteria with little consideration for affected parties, indirect, synergistic or cumulative impacts.

A review of technical and institutional capacities of the countries to carry out EIAs was not part of the study, which is unfortunate as it would have been useful to include some review of current performance, such as the number of (SEE & OVOS) assessments performed, approved, revised and rejected. There is a good discussion of administrative procedures in each country. Procedural guidelines and greater transparency arise as significant recommendations.

4.6.7 Policies, Practices and Management Guidelines for Industrial Waste Ponds

The component was completed in 2003, under UNIDO coordination. It includes a set of four reports in English and each local language, and includes an integrated report. The integrated report provides a well-researched background piece on the extent of the problem of accumulated industrial wastes and sludge.

The report authors estimate 8.5 billion tonnes of industrial waste in storage facilities in the Dnipro basin (2001), 50% in Ukraine, 10% in Belarus, 40% in Russia. The facilities are primarily petrochemical, fuel industry, metallurgy, coal mining, ore mining & processing. 10 million tonnes of the stored waste is sewage sludge from the Vodokanals, contaminated with heavy metals. The report also notes a significant problem with seepage from solid municipal waste sites improperly lined.

The recommendations section is brief and without much substance, which is unfortunate in light of the serious problems facing the three countries in dealing with stored industrial waste. There is little in the way of suggestions on reducing the generation of industrial hazardous waste. Also, the report provides no specific recommendations on the creation of additional waste processing facilities. There is no mention of alternatives, including incineration, waste to energy, encapsulation, etc. There is one very important recommendation made with respect to improving waste manifest systems. The TDA includes waste storage as a high priority environmental problem, and the SAP includes an objective to “strengthening the capacity for industrial and municipal waste management” within the next fifteen years

4.6.8 Nuclear Facilities and Disposal Sites

IAEA produced in November 2002, the report “Radioactive contamination of the Dnipro River Basin: Contribution to the Transboundary Diagnostic Analysis and Recommendations

for the Strategic Action Plan". The report provided a scientific assessment of data on radioactive contamination in the basin and radiological consequence, with special attention to the current and possible future migration of radionuclides and any transboundary impacts.

It was noted that since the Chernobyl disaster, water-monitoring stations have been in place in the exclusion zone and along the major rivers. Migration has reportedly decreased significantly. Concentrations of Caesium and Strontium in flowing rivers are now well below permissible levels set by national authorities and below internationally acceptable levels. The report notes that lakes without regular outflow remain a real problem, especially those that are peat based. Some have concentrations 1-2 magnitude levels above fish consumption advisories, and ingestion of forest food or dairy and beef that graze in contaminated flood plains remains a problem.

In addition to the residual threats from Chornobyl, the report indicates that radioactive waste storage disposal sites are a moderate risk in Ukraine and Belarus. Also, obsolete nuclear research reactors near Minsk and Kyiv present major problems with respect to decommissioning, but do not represent environmental / water quality risks.

The IAEA report recommended as priority hot spots the Pripiat flood plain – due to Chornobyl, the radioactive waste dumps on the former PCP (Pridniprovsky Chemical Plant), site in Dniprodzerzhinsk and uranium processing operation in Zhovti Vody, and the inhabited areas near Chornobyl with enclosed lakes. None of these made the final list of high priority hot spots in the priority investment portfolio. The TDA and SAP included the IAEA report information and listed radionuclides as a priority transboundary issue.

4.6.9 Water Abstraction and Water Returns

Within the IDRC outputs, the Scientific Research and Technological Institute of Municipal Economy, in Kyiv, produced a report in March 2003 on water abstractions and returns. The report includes very useful summaries of the key water volume and abstraction issues for each of the states. For example, it points out for Russia a 40% reduction in polluted water inflow into the Dnipro basin in 2001 in comparison with 1990, while total water extraction and discharge were both down by 32%. These can be attributed to a 50% reduction in agricultural and industrial production in the Russian section of the Dnipro basin during that period. This contrasts with Belarus, which reported no significant changes in water consumption in recent years. However Belarus reported a decrease in the discharge of insufficiently purified water as of in 2001, and improved hydrochemical indicators of water quality in most of the country's rivers. The situation in Ukraine shows a third set of transition dynamics, with extractions down 55%, discharges down 46% and similar use patterns, yet there has been an increase in the relative amount of polluted water inflow in the Dnipro basin in 2001 in comparison with 1990. The report indicates that the deterioration of wastewater quality in the Dnipro Basin is caused by the decreasing efficiency of industrial water treatment plants and ineffective treatment facilities in small towns and medium-size cities. While the report was not completed until March 2003, some of the findings on water abstraction and returns were available and included in the TDA.

The report provides a few general recommendations at its conclusion, mostly aiming to improve the sharing of data on abstractions and discharges between the three countries. Recommendations are also made to improve the inspection and certification of public and private wastewater treatment facilities, and to improve treatment.

The report notes that groundwater is the primary source of drinking water in the Russian, Byelorussian and Northern Ukrainian sections of the Dnipro Basin, with surface waters being used primarily in the southern Ukrainian sections. It would have been useful for the assessment to pay greater attention to groundwater abstraction issues as part of the basin study.

4.7 Component IV Biodiversity Conservation

Component IV was successfully completed, managed through IDRC. A mix of local and international consultants and experts were involved in a series of sub studies and reports. Reports were developed on agriculture, biodiversity legislation, protected areas and pilot projects, biodiversity strategy, fisheries and forestry. The results were incorporated into the TDA and SAP.

4.7.1 Protected Areas, Priority Ecosystems and Biodiversity Hotspots

Project reports were developed covering all areas within the subcomponent, including:

- An assessment of protected areas, led by Smolensk State Pedagogical University, Russia;
- Ecological corridors, led by Taras Shevchenko National University Kiev;
- The Dnipro Source Nature Reserve, led by the Environmental Fund, Renaissance of the Dnipro River, Smolensk; and
- Protection of wetlands in the Zhoblin-Rechitsa Area, led by the NGO, Ahove Ptushak, Belarus.

4.7.2 Biodiversity Legislation

A report entitled “Review of Dnipro Basin Biodiversity legislation ensuring Public Participation Support” was developed by three sets of national expert groups, under the coordination of the Belarus State University, Management and Social Technologies Department and submitted in December 2002. The main report was produced in Russian with an English summary.

The summary report includes a review of the legal protections accorded flora and fauna, protected areas, endangered species and public participation in the three countries. The report acknowledged that there are no regional institutions in place to coordinate activities towards biodiversity conservation

4.7.3 Agriculture, Fisheries and Forestry

Agricultural Practices

A research effort was carried out to consider agricultural practices with respect to transboundary protection of biodiversity. The Institute of Land Organisation and Use, Ukrainian Academy of Agriculture, led the effort.

Fisheries and Aquaculture

The report: “Review and Status of Fisheries and Aquaculture in the Region in Relationship to Biodiversity Conservation: Identification of Gaps and Problems was submitted in October, 2002 by the Hydrobiology Institute of the National Academy of Sciences, Ukraine. The objectives for the research were to analyse the current status of fisheries in the basin and identify outstanding issues and proposals for the SAP. The assessment covered biodiversity considerations as well as the impacts of the fisheries industry and aquaculture.

According to the study, the greatest threat to biodiversity and the health of fish populations along the Dnipro is the damming of the river, resulting in “impoverished river biotopical diversity” and unfavourable reproduction conditions, because of the abrupt daily water level fluctuations. Other unfavourable factors include the substantial contraction of flooded meadowlands, overgrowth in shallow areas by aquatic vegetation, agricultural and municipal discharges.

As with other sectors of the economy, the fishing and aquaculture industries in the region have dropped significantly in production since the early 1990’s, attributable both to the general economic downturn as well as the damming of the Dnipro. The research suggests that fish industry activities are likely to have a large impact on basin biodiversity, with up to 50

fish species imperilled. The research further indicates that up to 4 million amateur fishermen catch on average up to 168,000 tons of fish, further depleting stocks.

A significant accomplishment of this research effort is its creation of the first ever inventory of fish species inhabiting the Dnipro Basin. The inventory includes 90 species, lists 9 introduced species, 9 interventionist species and 5 invasive species.

The report provides a final table listing actions that should be taken to improve biodiversity and protect indigenous fish populations. It is well conceived and provides useful categories rating the recommendations in terms of priority and the status of achievement in the three countries. In particular, it is important that the riparian states develop a monitoring system for assessing fish resources and tracking species health.

Future work in this area should provide recommendations on how the aquaculture industry can be expanded in a way that promotes ecologically sound practices. Incentives to develop on-land ponds and facilities, and stricter regulations for reservoir and in-stream aquaculture production, could help to reduce direct pollution and invasive species risks, while providing economic opportunities in depressed rural/ agricultural areas.

Forestry

The Biodiversity RTC in Smolensk developed a report on forestry issues. The full final report was written in Russian, with a summary in English. The English summary was well written, taking a unified, basin-wide approach and including excellent recommendations.

One of the interesting issues uncovered in the text is the somewhat ironic finding that the Chornobyl accident has contributed to an increase in biodiversity in the region's forestlands contaminated with radionuclides. The contaminated area represents 4,658.7 thousand hectares, or 34.2% of the total forest-covered area of the Dnipro Basin. The largest areas of contaminated land are found in the Ukrainian part of the basin, while the most contaminated (over 5 Curie per square kilometre) areas are concentrated in Belarus. Because of the restrictions placed against utilising these highly radioactive areas, there has been an overall favourable impact on their biological and landscape diversity. Natural ecosystems have been restored and natural cycles have been free of the interruptions caused by felling, and clearing purpose-set fires. The challenge will be to maintain these highly functioning natural systems as they return to common use after the radioactive contamination levels decrease

An interesting legal aspect from the report is that all three countries are (slowly) developing forest certification systems, which may in time provide a powerful tool to promote more environmentally friendly forestry methods.

The report provides a concluding set of 25 recommendations in the areas of Forest Policy and Legislation, Forestry Management and Use Practices Environmental Protection Practices, and Research, Monitoring and Education.

Both the TDA and SAP include useful forestry information, built from this study. The SAP includes a short-term (5-year) goal of developing and implementing an interstate basin wide programme of actions on the expansion of forests.

While the report summary provides some statistics on the amount of forest-cover in the river flood zone and embankment areas, it would have been useful to provide additional information on the significant role that forests play in reducing stream bank erosion, and mitigating nonpoint source runoff.

4.7.4 Regional Strategy for the Protection of Biodiversity

The "Regional Strategy for Conserving Biological and Landscape Diversity in the Dnipro Basin" (BLDC Strategy) was finalised in February, 2004, developed by the Biodiversity International Dnipro Centre and the Biodiversity IWG, under IDRC contract.

The strategy was designed to assist the countries to eliminate root causes of biodiversity loss, and was established in pursuance of the international commitments on biodiversity of the three countries, including the Convention on Biological Diversity. The strategy covers issues involving agriculture, fisheries, forestry, the assessment of reserve and priority areas, and the comparative analysis of biodiversity legislation.

The BLDC strategy was not developed in time to feed into the TDA / SAP process, and in fact builds from the TDA/SAP, the NAPs and national conservation strategies, to create a unified biodiversity strategy.

The BLDC Strategy lays out regional and national actions needed to meet the following objectives:

1. Optimal forest area that provides stability of the Dnipro Basin ecosystems with due regard of zone particularities
2. Environmentally sound and coherent network of preserved and restored wetlands as a part of the Pan-European Ecological Network
3. Environmentally stable condition of meadows and steppes
4. Environmentally justified and optimised network of conservation areas and agro-landscapes.
5. Environmentally sound and optimised network of protected natural territories and eco-corridors
6. Environmentally balanced reproduction of indigenous, endemic and transitory fish species.
7. Environmentally sustainable condition of water areas, flood-plains and riverside ecosystems.
8. Preserving the species variety, natural habitats of species, population structure and continuity of the environmental framework.

The BLDC includes financial considerations, with an estimated US $276 million needed for implementation through 2020, broken down by spending to achieve each of the above eight objectives, by country and including international donor and other funding sources (approximately $25 million from donors and $100 million from other sources).

The BLDC strategy is a useful addition and expansion of the biodiversity LETQOs (Long term environmental quality objectives) set out in the SAP.

4.8 Component V Improving Stakeholder Participation

The component was managed by IDRC and included objectives and activities designed to build greater stakeholder participation, especially building competence and participation from local governments and non-governmental organisations (NGOs).

The NGO support effort included the establishment of national and regional NGO forums, and a small grants program. During the course of the project there were three national forums held (one in each country) and two international forums.

One general issue on NGO support came up frequently during the evaluation mission. The issue concerns the dual aims of NGO involvement –towards local, grass roots environmental protection, and towards pressuring changes in government environmental policy and management. The NGO participants interviewed indicated a frequent hot topic of debate at the forums was the extent to which they should be critiquing government action, or rather should focus their energies out in the field, on monitoring and cleaning up activities. Of course these dual aims are not mutually exclusive and a vibrant NGO community will have practitioners of both. Part of the tension in the debate may relate to the sensitive position of GEF IW projects being government-sponsored and managed, yet including components designed to improve the capacity of government critics.

It should be noted that the environmental ministry officials interviewed were positive on the role of NGOs and the support provided to them from GEF IW. Some senior officials were

initially sceptical of the role of outside parties in the Dnipro Basin Council; however the resulting exchange of views was seen to be positive.

4.8.1 Impacts of Transboundary Pollution on Populations in the Basin

A study was developed by the Council for Analysis of Production Forces of Ukraine.

4.8.2 Development of a Project Web Site

The subcomponent was designed to provide a communication tool within the project and then to enable a wider audience to have access to project information. The subcomponent was contracted through IDRC to the Information Management RTC, the Ukrainian Scientific and Research Institution of Hydrometeorology.

The web site was established and benefits from a clear and simple layout. Some additional linkages would have been helpful, for instance to the water quality database. The website initially tried to establish an open forum, but this proved a nuisance, with prank mail. A password-protected forum for experts was not attempted.

4.8.3 Consultative Meetings with Broad Stakeholder Involvement

This objective meshes with other objectives to establish the Dnipro Basin Council and hold NGO forums. Through these two other mechanisms, the DBEP was able to build broad stakeholder involvement, at least amongst interested persons in the environmental and water resource sectors. The project was less successful in getting private sector and economic interest involvement. For instance, the Dnipro Basin Council meetings involved little or no participation from the agriculture, mining, industrial and transportation sectors.

4.8.4 Internet Access for Key Stakeholders

The DBEP included an objective to improve communication between key stakeholders, through improved internet access and equipment, especially targeted to the local and oblast level. In Russia, the effort was managed through the NGO: Environmental Fund, Renaissance of the Dnipro River, in Smolensk. In Ukraine, equipment was provided to the Ministry of Environment and Natural Resources and to six regional offices. In Belarus, the Ministry created a web site.

While the final evaluation did not permit visits to all sites, the equipment in several regional offices was provided and functioning properly, and all comments received on the delivery and use of equipment was positive. All three countries have Dnipro basin information available on the internet.

4.8.5 Publication and Dissemination of Project Materials

The publication and dissemination of project materials was implemented through the National Ecological Centre of Ukraine. Outputs included publishing a series of quarterly bulletins and several posters. The project also published a “popular” user-friendly version of the TDA, available in each country’s national language (not in English). In general the quality of publications for the general public was very good, and the use of NGO assistance very much appreciated.

4.8.6 NGO Forums

Three national and two international forums were held, managed through IDRC as part of the small grants programme, albeit under a separate activity and budget line. The national forums were held in Bryansk, Russia in May, Kiev, Ukraine in June, and Minsk, Belarus in June 2002. The international forums occurred in Kiev in October 2002 and Moscow in December 2002.

The TDA was the main topic of the international forums, with many NGOs providing criticism of the process, and their lack of involvement in the development process. Comments

received on the TDA included concern that nonpoint / diffuse sources of pollution did not receive much attention and that there was little attention paid to the need to limit economic activities within the floodplain.

4.8.7 Small Grants

One series of small grants was tendered and concluded under the IDRC. The programme included twenty-four grants, mostly focused on awareness raising and educational projects. Three of the projects have the potential for longer-term commitments:

- Civil / Environmental Rights Support Centre
- Brynsk Oblast of "…an electronically linked network of centers of environmental monitoring".
- "Building Environmental Awareness of Boyarka Residents…"

Other notable grants included an IDRC contract to a "Green TV" company for video about the DBEP, including footage from the expedition. Also, the NGO Mama-86 developed the project "Dnipro as seen by children, providing an opportunity for children ages 6 – 16 to submit their visual sense of the Dnipro. Over 600 drawings were submitted.

5 Project Impact

The project was designed to provide a scientific basis, structure and actions for joint and national activities to protect and clean up the Dnipro River. Its impact can not be measured in short term water quality improvement, but rather in the extent to which it has laid the foundation for regional collaboration and national actions to improve water quality over the longer term. In this regard, the project has had a positive impact.

As a direct result of the DBEP, the Basin countries are expanding their national budgets to improve Dnipro river water quality. In particular, Ukraine's budget for water quality related investments and control measures along the Dnipro and its tributaries has increased threefold since 2001.

The project has had a positive impact on the amount and extent of information being shared between environmental officials and technical experts amongst the three states. The DBEP has made a significant applied research contribution, with pioneering work on quantitative assessments of hot spots, and first time regional fisheries and biodiversity assessments.

Hot spot identification, leading to a priority investment portfolio, has set the stage for increased external investment to reduce pollution discharges. UNIDO is already involved in one follow-up project.

The Dnipro and its tributaries are showing a modicum of water quality improvement, largely as a result of the economic downturn in the region, resulting in reduced agricultural and industrial inputs, and as a result of the passage of time since the Chornobyl accident. The key test of the DBEP will be whether it has established a basis for continued improvement as the regional economy improves.

The project contributed lab and computer equipment, provided training opportunities for experts and ministry staff, and enabled the expansion of information on causes and impacts of water pollution. These actions should lead to improvements in the capacities of local, oblast level and national governments to monitor and control pollution discharges into the Dnipro and its tributaries. Nevertheless it is difficult at this stage to indicate a positive impact; especially as political change continues to shuffle government personnel and responsibilities, especially in Russia, and in Ukraine. Also, water quality labs and research institutes in the region suffer from insufficient government funding.

With respect to legal and policy reform, mention can be made of the connection between the project's EIA review effort, and the decision of Belarus to draft a new EIA law. The legal

reform effort underway in Ukraine may be more a result of its EU harmonisation focus, but has also benefited from DBEP policy review efforts. In Russia, progress on environmental legislation is moving slowly, due to continuing structural changes. Legislation and regulatory controls in the three countries remain unclear with respect to environmental liability, while environmental impact assessment requirements remain weak and implementation is inconsistent.

The project did not have much impact on the strategies and programs of other ministries and agencies outside of the environmental and water resource ministries. There are many recommendations set out in the TDA/SAP and supporting reports dealing with management of agriculture, forestry, fisheries, mineral extraction and other industrial development, yet the authorities responsible for these economic sectors were not directly involved in the project and there is no indication given that they have altered their activities as a result. The "Kyiv Declaration on Cooperation in the Dnipro Basin" and the SAP represent binding country obligations, however their successful implementation will require greater interministerial coordination.

The Project demonstrated positive impact in relation to the continuing expansion, involvement and competence of the environmental NGO community in the region. Through the Dnipro Basin Council, and the NGO Forums, the DBEP was able to successfully engage NGOs directly into the policy formulation process. This was an important contribution, and ministry officials acknowledged that their input led to changes in the SAP. Through the small grants programme, NGOs were able to participate in the DBEP, especially to build greater public awareness.

Linkages with other GEF International Waters Projects

Early in the project, the DBEP PMU received valuable assistance and information on TDA/SAP development from the GEF IW Tumen River project, and other international experts with GEF IW experience. Not much attention was paid to regional linkages (Black Sea, Danube, Caspian) although closer links were began to be forged in 2003 with invitations for the DBEP Project Manager to attend BSEP meetings in Istanbul and the November 2004 Stocktaking meeting in Bucharest.

6 Conclusions

The DBEP has met, and in some cases exceeded expectations, with all deliverables produced. It created and maintained strong country buy-in and participation during a time of considerable political, social and economic upheaval in the region. During the evaluation mission, more than a few local beneficiaries and experts indicated they viewed it to be one the most successful internationally funded projects they are aware of, especially with its use and development of regional expertise.

The project was completed within budget, despite being extended by two years to complete the SAP review process. The project succeeded in pulling together a high calibre team and developing a scientifically sound and well-documented TDA, which benefited from taking a modified GIWA approach and bringing key experts together to define causal chains and transboundary impacts.

The SAP constitutes a well-developed set of expectations for regional action. While the timetables are imprecise, the expected actions are appropriate to the water resource and region. The SAP document is annexed together with the Priority Investment Portfolio, and the framework for a regional monitoring programme and environmental database. Together with the Agreement on Cooperation signed in Kyiv in 2003, this set of materials is the culmination of agreed upon actions in light of the TDA findings.

Despite the overall conclusion of project success, it must be kept in mind that after five years of effort, the SAP is not fully endorsed by each country, and the countries are not yet moving to fulfil their agreed upon objectives. While Ukraine and more recently Belarus have agreed

to the SAP, Russia has only indicated its intention to approve it in the future, pending further financial review, and the approval of Belarus includes caveats for additional financial review.

The results of the TDA/SAP effort suggest that continued GEF IW involvement could help the riparian countries establish a river basin agreement (Convention) and commission, which can ensure lasting protection and improvement for the Dnipro and its tributaries. In the midst of a slow economic recovery, there is now an important window of opportunity to establish regional institutions and put in place environmental controls and incentives programs that can ensure long-term recovery and protection of basin water quality and biodiversity.

The Dnipro is central to the Ukrainian and Byelorussia societies, and to the southwest Russian region. Its cleanup will remain important for national and regional environmental protection programmes, and suggests that the regional coordination measures established through DBEP can be sustainable.

7 Recommendations

- The decision to proceed with a PDF-b for a follow-on Dnipro project is appropriate. All three countries have indicated their support for the PDF-b, which is aimed towards SAP implementation. The follow-on effort is designed to assist the countries as they develop a Dnipro convention and work together on transboundary water quality monitoring. These are reasonable aims in continuation of the DBEP. It is important to note that while the conditional SAP approvals of Russia and Belarus are sufficient to have the PDF-b process commence, they are not sufficient for the launching of a follow-on project. It should be made contingent that full SAP approval from all three countries is achieved before DBEP-2 can commence.

- The PDF-b document includes a special focus on assistance to small and medium size enterprises to improve industrial wastewater pre-treatment, to reduce their loadings to the Vodokanals (public wastewater treatment facilities). The TDA identified this as a high priority issue and it is acknowledged as a priority area in the SAP. The objective will require a mixed set of actions in the areas of institutional and legal development, capacity building, project identification and capital investment.

  Partnering opportunities should be considered early in ProDoc development, if the small – medium industry assistance effort is included. The goal should be to identify projects and stimulate investments (national and international) not merely to identify problems. It will be useful to contact investment banking sources to determine their criteria for investment assistance, and interest in participating. It is likely that corresponding changes to national legislation will be needed, to tighten pre-treatment requirements. The effort should lend itself towards the establishment of regional cleaner production centre(s) and the implementation of ISO 9000 & 14000 standards. This objective has important parallels to the Danube TEST (Transfer of Environmentally Sound Technology) programme, and suggests a continued role for UNIDO.

- During the fourth quarter of 2005 it will be useful to bring the national project managers and PDF-b development team (PMU management) together to discuss next steps in SAP implementation. The real risk is that momentum will ebb as the countries wait for more GEF funding.

- The Dnipro riparian countries have made initial agreements regarding the sharing of information, but nothing more will be done to update the database until the SAP is fully approved and the expert working group for information management is reconstituted. Recognising that this data management effort presents a very small cost to the three governments, it is recommended that they allocate in their budgets sufficient funding for the national water quality databases to be maintained and updated, and that the key experts and institutes involved work to retain common data platforms and protocols to ensure the combined database can be quickly reconstituted and updated in the future.

- The DBEP web site is in limbo pending final SAP approval and the transition to a new GEF IW project. During the PDF-b effort, arrangements should be made to provide continued support for web site management – using PDF-b development funds and national funding.

- The DBEP NGO small grants programme yielded strong support and generated considerable good will. Its limitations were due to funding and timing constraints, and a rather narrow focus towards public information and education. By contrast, the Danube effort involved two funding tranches and an emphasis on fieldwork, with improved farm management as a key objective. It is recommended that the small grants programme be significantly expanded in a follow up Dnipro effort. The work should include projects with direct water quality impact, and where feasible should link with larger investment projects – such as wetland mitigation, and water quality monitoring. The goal should be to bring local grassroots NGOs into partnership with the environmental ministries and research institutes. Each small grants programme should have a concluding evaluation and a regional event where exceptional outcomes can be acknowledged.

- The approach to NGO support in the GEF IW Danube, Dnipro and Black Sea projects has included creation of umbrella NGO organisations. In each of these basin initiatives, the umbrella organisations have not proved sustainable. The top-down effort to organise NGOs is not yielding the desired objectives and should be revised. Consideration should be given to in-house PMU coordination of NGO forums and workshops, with capacity building focused directly on promising NGOs, identified through the NGO Small Grants programmes. As the expertise and capabilities if local NGOs develop, they will in due course develop their own umbrella coordinating mechanisms.

- GEF IW projects aiming to develop TDA/SAPs and to establish conventions and commissions for transboundary water management require there to be a legal basis for the coordinated efforts at the outset. The lack of a formal legal basis made information sharing and interministerial coordination difficult during the DBEP, until in 2003 a formal treaty was signed. While negotiating a multi-country agreement at the beginning of GEF IW projects may delay inception, it will be time well spent in smoothing the implementation process.

- The financial accounting and invoicing procedures established through UNDP and UNOPS to the project were cumbersome, especially after the UNDP/UNOPS/UNIDO switch to the Atlas management system. In particular, because of system inflexibility and the need for advanced authorisation, the PMU had to inflate the number of persons expected to attend conferences, as a fallback for last minute delegation changes. The Atlas system also makes it very difficult to get quick feedback on expenditures by project component. For the DEBP continuation, it is essential for the project to maintain its own project financial tracking, and UNOPS should allow the PMU to work from an impressed account.

- The multi-agency approach taken on the DBEP, while adding complexity, also provided the benefit of local experience and specialty expertise. Future opportunities for multi-agency projects should be considered, as the benefits outweigh the burdens. In particular, a multi-agency approach provides opportunities for replication and sustainability that can continue the momentum prior to and after a UNDP/GEF IW project. IDRC's work in Ukraine helped pave the way for many aspects of DBEP. Now, during the PDF-b process for a UNDP/GEF continuation, UNIDO continues to assist with industry and wastewater treatment projects in the region, building from the hot spots and PIP development effort. As an example, UNIDO has recently allocated US $450,000 to assist the City of L'viv Ukraine (*Capacity Building for the Environmental Management and Planning in the City of L'viv, Ukraine, Phase 1).* When considering multi-agency projects in the future, attention should be given to the timing and reach of association agreement(s). Considering

the GEF project development process as a whole, there are several entry points for partnering: a) at the launch of PDF-b development, b) while the ProDoc is being drafted, and c) after project inception when a PMU is tendering for specific assignments. Point a) provides the greatest opportunity for building a real partnership that can maximise the use of both UNDP and partner expertise and financial resources. Point c) gives UNDP and a project PMU the maximum flexibility and control, to choose how and to what extent they will use other international agency partners and to manage the timing, content and quality of deliverables.

8 Lessons Learned

- The usefulness of a training module for TDA/SAP development was made clear during the DBEP and the issue has now been addressed with production of an IW:Learn TDA/SAP module.
- The skills needed to effectively manage a GEF IW project include not only technical competence but also communication and diplomacy. The PMU team, as well as IDRC and UNIDO project managers could all speak Russian and / or Ukrainian and had previous experience in the region. The Project Manager had a legal background, with a technical expert as deputy. A mix of talents coupled with local knowledge provides a strong foundation for project success.
- Experience from the Dnipro suggests that the establishment of regional thematic (activity) centres is problematic and not sustainable. A significant amount of RTC capacity building was needed, as several of the centres were not sufficiently staffed or experienced in their focus areas. It appears that the selection of RTCs was not strictly merit-based. In the case of the DBEP, the structural weakness of having RTCs in a prominent role was compensated for by the general high calibre of experts in the IWGs, and good management skills from the PMU and IDRC. For future GEF IW projects, the aim should be to find and engage the very best experts within an international working group structure, coordinated through PMUs and basin commission secretariats.
- The experience from the Dnipro suggests improvements can be made in the coordination of UNDP/GEF IW project management, with respect to UNOPS (PMU) and UNDP country office coordination. Project implementation can be enhanced if there is upfront agreement on country office responsibilities and if the PMU consistently works to keep the UNDP country office managers informed and involved. In discussions with the UNDP Country Representative for Belarus, the idea of a GEF/IW presentation and discussion at upcoming regional Resident Representatives meetings was raised. This could help to provide an overview of the GEF IW efforts in the region, and coordination with UNDP country programmes.
- The DBEP supervisory experience suggests the possibility to streamline formal committee structures in future GEF / IW projects, including the DBEP follow-up. Having a separate joint management committee and steering committee was proven to be redundant. If not a reduction in management committees, then at least sequential and combined meetings need to be held to reduce time demands on senior ministry officials. When a river basin commission gets established, and if the GEF IW project is still being implemented, this question of committee overlap will be even more important. The overlapping roles of national programme managers and commissioners suggest that where possible, the positions should be held by the same person in each country, enabling joint project steering committee and commission meetings.
- Donor conferences are a common feature in GEF / IW projects. In many cases, the conferences have been useful from the standpoint of information sharing, but have failed to deliver with respect to generating funding for specific projects. One problem is that the timing of donor conferences typically conforms to project timetables, not to the funding

cycles for potential investors. Another difficulty is that many projects identified and presented at donor conferences are at the concept stage, and will require pre- and feasibility studies before investors can seriously consider them. The donor conference component for GEF / IW projects should be reconsidered, to move away from the one hit, large audience format. ProDoc writers should consider including a PMU staff position for an investment project portfolio manager, who meets with key potential investors early on, to determine timing requirements, priorities and potential interest. The goal should be to translate hot spot ID and PIP development efforts into actual investments in pollution abatement.