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Environment and infrastructure

Unit 4411
Environmental policy
and management of natural resources

Environmental Fiscal Reform for Sustainable Development and Poverty Reduction

Workshop Proceedings and Country Case Studies

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Preface

In November 2002 the OECD-Development Assistance Committee (DAC) Network on Development Co-operation and Environment (ENVIRONET) mandated the development of a Work Program on Environmental Fiscal Reform (EFR) to explore issues relating to fiscal and market-based policies for poverty reduction and environmental management. A Task Team led by the United Kingdom and Germany has been established to lead this work. The program was agreed with a wide range of experts and stakeholders including country teams from China, India and South Africa at a scoping workshop hosted by the OECD in January 2003 in Paris.

Essential part of the program is the development of a “reference paper” on Environmental Fiscal Reform (Chapter 4). This paper is building on existing experience and focusing on the political challenges to implementation and ways to overcome them. The final version of the paper is foreseen to take two forms – publication as a brief, political OECD document and as a more comprehensive and with more cases illustrated joint interagency paper. The EFR process has been enriched by separate sector case studies including international workshops on fiscal reforms in the forestry and fishery sector (Chapters 1 and 2) as well as country case studies (China, India and South Africa; Chapters 5-7). The results of the various fields of work in the scope of the EFR process have been presented and discussed at a synthesis workshop on Environmental Fiscal Reform hosted by BMZ/GTZ from 24-25 November in Berlin. The workshop was attended by 48 participants from 17 different countries and 12 Development Agencies as well as the IMF and the World Bank (Chapter 3).

At all stages, the work had benefited from the active participation of experts from China, India and South Africa as well as from the International Monetary Fund, UNEP and the World Bank. Having hosted the workshop on EFR in the fishery sector FAO provided important support to the work in the scope of this process. The Task Team has also benefited from assistance from a variety of bilateral development agencies and from the OECD Directorates responsible for Environment, Agriculture, Fiscal Affairs and Trade, in the context of OECD-wide work on Sustainable development.

This document is a compilation of outputs of the Work Program on EFR. The views expressed in the various chapters represent the views of the respective authors or workshop participants.

Bonn, 8 June 2004

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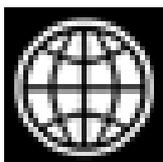
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Part I

Workshop Proceedings



**The World
Bank**

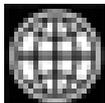
Proceedings of the International Workshop on

**Reforming Forest Fiscal Systems
to Promote Poverty Reduction, and
Sustainable Forest Management**

*October 19–21, 2003
World Bank, Washington, D.C.*

DFID Department for
International
Development



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The efforts of country teams responsible for providing the country background papers and assisting with editorial queries is acknowledged. Others who have contributed significantly to the preparation of the proceedings are: Adriana Bianchi (WBI), James Douglas (World Bank Forests Team), Nalin Kishor (World Bank Forests Team), Tapani Oksanen (Indufor Oy), and Paul Steele (DFID). A special acknowledgement to Laura Ivers (PROFOR) for overseeing and managing the production of the proceedings.

Introduction

Tapani Oksanen

Indufor Oy; Workshop Moderator

Forests provide multiple benefits such as goods and services important to people's livelihoods, economic growth, foreign exchange earnings, and environmental services. The range of actors involved in the production and consumption of forest-based goods and services include governments, private industry, local communities, individual forest owners and their associations, and nongovernmental organizations. But too often the state formally manages, regulates, and prices these forests as an undervalued capital resource subject to the control of certain politically powerful groups and individuals. The design of instruments to implement forestry policy, including forest fiscal systems, consequently needs to take into account the multiple roles involved in forestry and the political process of directing toward the same overall goals a large number of actors with diverse and sometimes conflicting objectives and vested interests.

Sustainable forest management has for a long time been the primary goal of forestry policies. The development and use of economic and policy instruments such as forest revenue-collection systems to increase rent capture has been recognized in the international dialogue about forestry as key to promoting sustainable forest management, and several of the proposals of the Intergovernmental Panel on Forests, Intergovernmental Forum on Forests focus on this issue. With the adoption of the Millennium Development Goals, the importance of maximizing the contribution of the forestry sector to poverty reduction is increasingly recognized as an important corollary objective. Because of the relative failure of the forestry sector to contribute effectively to poverty-related development processes, increasing attention is being given to issues of governance and policies, including key fiscal policies, which critically determine how (and in whose interests) forests are managed and used.

Forest fiscal systems play a vital role in capturing the full value of forestry goods and services and in ensuring that they are effectively distributed in a way that promotes the sustainable management of forestry resources while contributing toward broader societal objectives such as poverty reduction and economic growth. A recent World Bank assessment estimated that losses from failure to collect taxes and royalties from legal forest operations amount to some US\$5 billion per year, more than three times the amount of overseas development assistance (ODA) financing for sustainable forest management.¹ This lost revenue may arise from illegal practices, corruption, and weak government capacity to collect, enforce, and monitor forestry tax collection—often in remote rural areas. In addition to being a missed opportunity for financing sustainable forest management, this represents a tremendous lost opportunity for financing poverty reduction programs at different levels.

Pressures leading to the unsustainable use of forests can come from several different sources. In many developing countries demographic factors will inevitably lead to loss of forests in the coming decades. In the broader context of poverty reduction, this may sometimes be desirable as forests are converted to other land uses to meet the needs of growing populations and economies. When this conversion is managed in a way that meets basic sustainability requirements, it can represent the transformation of one form of capital into another, with a potentially positive impact on poverty reduction. The evidence from many parts of the world, however, reveals the loss or degradation of forestry resources at an unsustainable rate with little return on growth or poverty eradication. Appropriately designed forest fiscal systems can also contribute to preventing unsustainable or uneconomical change in land use by ensuring that the full value of the resource is appreciated and captured by those who influence forest conversion at different levels of decision-making, from local communities to national parliaments.

A domestic forest processing capacity that far outstrips the ability of domestic forests to supply timber on a sustainable basis creates another important pressure for resource overexploitation. This overcapacity, combined with weak enforcement and poor governance, promotes illegal logging, corruption, and unsustainable harvesting of forests. Three of the country discussions—Cameroon, Ghana, and Indonesia—highlight the serious problem of overcapacity and cite reform of fiscal policies as a key measure to address the problem.

Forest fiscal systems, together with resource tenure and security, set the fundamental parameters of the private sector's utilization of an often publicly owned asset. This is becoming increasingly important as the

role of the private sector (including companies, communities, and individual forest owners) as managers and users of forests is rapidly expanding in many countries through devolution of tenure rights and establishment of different forms of public–private partnerships. These fiscal systems comprise concession fees and royalties for both industrial and community forestry concessions, other forest-related taxes and fees, export duties and fees, and any exemptions and financial incentives given to forest managers and users. Equally important is the distribution and use of the revenues collected. Experience shows that a well-designed and effectively implemented forest fiscal system, particularly one emphasizing incentives to sustainable forest management and investment in value-added processing industries, can be a much more effective instrument to increase the forestry sector's contribution to growth and development than a narrow regulatory-based approach.

An active debate on concession policies and forest fiscal systems has taken place for a number of years. Several countries, encompassing a diverse range of forest types and associated industries, are implementing or considering new approaches to allocate rights to utilize forests, often with the support of the international community. Although each of these countries' situations are different, in all cases the objective is to identify practical ways to use forests sustainably and make a more positive contribution to national poverty reduction objectives (as defined in Poverty Reduction Strategy processes or similar policy statements) through stimulating growth and providing regular and enhanced revenue flows to governments. This workshop was designed to contribute to the learning process among a selected group of tropical countries that are actively trying to implement forestry policies to achieve sustainable forest management where the forestry sector could potentially have a significant impact on poverty reduction. The workshop on which this report is based, "Reforms of Forest Fiscal Systems to Promote Growth, Poverty Reduction, and Sustainable Forest Management," focused especially on the politics of the reform process, taking into account situations of vested interest, corruption and poor governance, and weak institutional structures.

The Workshop

Objectives

The workshop had the following four objectives:

1. Engage key policymakers in selected countries to review the experience of forest fiscal reforms.
2. Share lessons learned on emerging best practice and define strategies to move from current policies to best practice.
3. Define concrete steps to move forward the forest fiscal reform process in the participating countries.
4. Disseminate the results of this experience to other countries and stakeholders.

Scope and Themes

As indicated by its title, the workshop took a broad approach to the discussion of forest fiscal reforms. In addition to economic efficiency (maximum rent collection), fiscal instruments were expected to serve at least the following broader objectives:

- Promote sustainable forest management, that is, provide an incentive for the different types of forest managers (individuals, communities, industry) to manage forests wisely and without depleting the resource base.
- Promote other objectives defined in the forest policy, such as devolution of the forest resources to local communities, increased participation of the private sector as custodians of the forests, provision of forestry goods, and benefits for the rural populations.
- Contribute to poverty reduction, emphasizing equity, attention to specific groups (such as the rural poor), and gender issues.
- Promote good governance, emphasising, for instance, decentralization, accountability, and transparency.
- Advance environmental objectives related to natural resource utilization and conservation in general.

Based on this broad interpretation of the scope of discussions on forest fiscal systems, the following three concrete themes, each with a set of leading questions, were identified to guide the discussions during the workshop:

1. How do we define the mix of fiscal instruments and set the right levels?

- What is the right mix of instruments that meets the basic criteria of economic efficiency, is administratively feasible (in terms of revenue collection and use, reduced corruption, and monitoring and control), and supports broader social and environmental objectives?
- What is the most appropriate basis (area, volume) and mechanism (administrative, market based) for determining forest-related fees and other fiscal instruments and their right levels?
- What provisions can or should be made to introduce specific incentives into the forest fiscal system—for example, sustainable forest management and other identified policy objectives, such as poverty reduction, good governance, and environmental conservation?
- How can we minimize inconsistencies between the different instruments and mechanisms?

2. How do we use the revenues raised?

- How should the collected revenue be used and shared among different stakeholders and purposes at different levels to support the objectives established?
- Allocate all revenue through the central government budget versus more decentralized structures.
- Share revenue among communities, local government, and central government.
- Earmark revenue for specific uses such as monitoring and law enforcement.
- What are the pros and cons of different arrangements?

3. How should we manage the politics of the fiscal reform process?

- What processes are used to define and implement appropriate forest fiscal systems, and how do we identify who should participate?
- How do we identify “champions,” build coalitions, and sequence reforms to overcome private sector and political vested interests?

Participants and Agenda

Experts from seven countries representing the major tropical forest regions of the world participated in the workshop: Cambodia and Indonesia, Cameroon and Ghana, and Brazil, Honduras, and Nicaragua. The participants (Annex 1) were policymakers representing the ministry responsible for the forestry sector, the Ministry of Finance, private sector, and civil society. This balanced representation of different policy-level actors was considered important for an informed discussion as well as the possibility of defining and implementing concrete steps to be taken at the country level as a follow-up to the workshop. In addition, a number of representatives of donor and international agencies and nongovernmental organizations participated as observers.

Prior to the workshop all country teams prepared background papers and presentations on their experience in forest fiscal reforms, including an assessment of the challenges of implementation and areas in which further fiscal reforms are needed.

The agenda of the workshop (Annex 2) began with the presentations of the background papers, followed by breakout group discussions on the three themes identified above. As a final step, the country teams agreed on the next steps to be taken in the respective countries as a follow-up to the workshop. The discussions during the workshop emphasized lessons learned among the participants and an exchange of experiences within an informal group of experts. At the end of the workshop, the observers were given an opportunity to express their views. The workshop ended with a discussion on the next steps to be taken at the international level to move forward the discussion on forest fiscal systems.

Next Steps

Building on the dialogue begun at the workshop, an informal learning group will continue to share members' experiences with forest fiscal reform processes. The Program on Forests (PROFOR) will support continued exchange by providing a space to post and share documents on its Web site (<http://www.profor.info>). The experiences and lessons learned from the group will be communicated to a broader audience, including as the fourth session of the United Nations Forum on Forests in May 2004.

End Notes

A Revised Forest Strategy for the World Bank Group, World Bank, Washington, D.C., October 2002.

Aide Mémoire on the International Workshop on Reforms of Forest Fiscal Systems to Promote Growth, Poverty Reduction and Sustainable Forest Management

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October 19-21, 2003

World Bank, Washington, D.C.

The International Workshop on Reform of Forest Fiscal Systems took place October 19-21 at the World Bank in Washington DC. The Workshop brought together a total of 21 participants from seven countries (Brazil, Cambodia, Cameroon, Ghana, Honduras, Indonesia, and Nicaragua), representing finance ministries, forest departments, academia, and the private sector. A number of bilateral donor and international development agency observers also attended the meeting. The objectives of the workshop were to promote South-South learning, and frank discussion on the political economy of forest fiscal reforms.

The importance of mobilising forest revenues and maximising their contribution to broader policy objectives is increasingly recognised and the importance of well-designed and effectively implemented forest fiscal systems – specifically concession and revenue systems - has been long appreciated. Issues of resource tenure and security, royalties (in terms of their value and method of collection) and benefit distribution, set the fundamental parameters of the private sector's utilisation of an often publicly owned asset. Experience has shown that a well designed and effectively implemented concession and revenue system – particularly one emphasising incentives to sustainable forest management and investment in value added processing industries - can be a far more effective instrument in maximising the forest sector's contribution to growth and development than a narrow regulatory based approach.

An active debate on concession policies and forest fiscal systems has taken place for a number of years. Several countries, encompassing a diverse range of forest types and associated industries, are implementing or considering new approaches to allocating rights to utilise forests. While their situations are different, in all cases the objective is to identify the practical ways to ensure that forests can be utilised sustainably and make a more positive contribution to national poverty reduction objectives (as defined in PRSPs or similar statement of policy) through stimulating growth and providing regular and enhanced revenue flows to governments. The Workshop provided a valuable forum to facilitate these discussions.

The Workshop was organized and funded by German Technical Cooperation (GTZ), the Program on Forests (PROFOR), UK Department for International Development (DFID), and the World Bank Institute (WBI). Finally, by highlighting the key issues and challenges in implementing fiscal reforms in the forest sector through country case studies, the Workshop has provided an important input to the OECD-DAC work program on Environmental Fiscal Reform (EFR).

Opening Remarks

Jim Douglas, Forests Team Manager, World Bank, welcomed participants to the Workshop and chaired the opening remarks. Kevin Cleaver, Director Agriculture and Rural Development Department, World Bank, said the Workshop would provide an opportunity for technical discussions, possibly foster a learning network on forest fiscal systems, and lead to better collaboration with development agencies. Dan Biller, Environmentally and Socially Sustainable Development Program Leader, World Bank Institute (WBI), stressed capacity building for policy formulation and highlighted the WBI's work on markets for biodiversity, natural resource management conflict resolution, and compliance and enforcement in natural resource management.

Objective and Focus

Tapani Oksanen, Workshop Facilitator, reviewed the main objectives of the workshop:

- Engage key policy makers to review experience with forest fiscal reforms.
- Share lessons learned on emerging best practices and define strategies to move from current policies to best practices.
- Define concrete steps to move the forest fiscal reform process forward in participating countries.
- Disseminate this experience to other countries and stakeholders.

The scope of discussion encompassed components of a forest fiscal system - timber royalties, concession fees (both industrial and community), forest-related taxes and fees, export duties and fees, exemptions, and other incentives such as grants or preferential interest rates. Beyond considering forest fiscal systems for revenue maximization and efficient revenue collection, the Workshop set out to look at forest fiscal instruments as tools to promote sustainable forest management (SFM), other forest policy objectives and broader societal goals including poverty reduction, gender equality, and good governance.

The Workshop focused on three key themes:

1. How to define the mix of fiscal instruments and set the right levels?
2. How to use revenues collected?
3. How to manage the politics of forest fiscal reform processes?

Country Case Study Presentation Highlights

Countries presented case studies on the status of their forest fiscal reform processes that were prepared in advance of the Workshop.

Ghana

In Ghana, the forest sector provides 6% of GDP, 11% of export earnings, 100,000 jobs and 75% of energy consumed. Trade liberalization and deregulation of the forest sector as part of structural adjustments in the 1980s created a too rapid and unsustainable growth in the forest sector. Ghana's forest policy reform process began in 1995 with a log export ban. Reforms since then include a competitive bidding procedure for resource allocation, revision of stumpage rates to reflect international market prices, an export levy on lumber according to species, a value added tax for domestic sales, removal of import duties on logs, and a levy on veneer and lumber exports. Constraints to implementing forest fiscal reform in Ghana have included: the strong influence of the industry lobby; skewed distribution of forest revenue to industry, leaving little incentive for landowners (both government and communities) to manage forests; a weak regulatory/institutional framework characterized by too many fees (approximately 30) inefficiently collected; and an inefficient processing sector. Remaining challenges in Ghana include how to increase financial flows to communities, improve monitoring and information systems, and enforce laws. Recommendations for successful fiscal reform were for: regular adjustment of taxes; institutional reform to enhance interagency coordination; long-term fiscal/taxation systems to allow for long-term planning for the private sector; improved monitoring effectiveness; increased transparency and

stakeholder consultations. Legislating forest fiscal policy is important to ensure policy consistency when Ministers change.

Cameroon

Timber is Cameroon's second largest export after oil, and may soon surpass oil. The forest sector is comprised of a few large operators and many small scale and informal operators. Forest sector reforms in Cameroon have focused on broadening the tax base and improving enforcement through decentralization. In 1999 a Forestry Revenue Enhancement Program was established, constituting a collaborative framework between the Ministries of Finance and Environment and Forestry. This new partnership along with the reforms have resulted in significant increases in forest revenues. A bidding system was established, area taxes were increased, forest concession management plans were made mandatory, and a system of bank guarantees to cover fiscal and environmental obligations was initiated. This reform has contributed to overall economic growth and possibly to poverty alleviation. 10% of area taxes collected are transferred to local communities, contributing to poverty alleviation efforts. However, how effectively this money is being invested in rural area services is not yet clear. Additionally, a special forest development fund has been established. Private forest industry in Cameroon views the reforms as having reduced the profitability of many enterprises and suggests that some of the fees could be fine tuned. For example, the area tax penalizes larger concessions, and should be adjusted to exclude areas of the concession not logged. Similarly, the usage tax should be based on the value of the species and quantity logged, and a log tax levied on mills is a disincentive to processing. Additionally, the bidding process is viewed as insufficiently informed in terms of the quality of forest concessions, resulting in imbalances in domestic supply of round timber. Moreover, industry feels that fiscal policy must fight tax evasion across the board and provide incentives for legal operations and good governance.

Indonesia

In 1985, a log export ban was put in place to stimulate domestic industry. In the 1990s high export taxes were levied on sawn timber to further encourage processing. Taxes and levies in Indonesia now include a one time area-based utilization fee, a reforestation fund fee based on cubic meters harvested, a forest resource tax of 10% of log check price. Since 2001, forest management has been decentralized and regions now impose taxes – such as corporate taxes, timber export taxes, and processed timber export taxes - without informing the central government. Starting in 2004 fees will be paid before trees are felled, in accordance with a “cruising report,” based on expected harvest. In Indonesia illegal logging poses many problems in terms of lost revenues and skewed timber markets and incentives. This also results in an inability to calculate the real cost of timber extraction. Better monitoring and data and information is needed to inform fiscal policy, optimize fees and address illegal activities.

Cambodia

In Cambodia, forests contribute around 5% to GDP and provide 90% of rural energy. In 1992, a concession-based forest management system was introduced, and resulted in problems that led to the suspension of logging activities in 1994. Subsequently, concession agreements were renegotiated and an inter-ministerial technical working group was established. A long-term management plan is required for each concession, along with an approved annual harvesting volume and a block management plan for harvesting. The Ministry of Economy and Finance and the Ministry of Agriculture, Fisheries and Forests (MAFF) hold annual forest revenue planning meetings. MAFF sets quotas for forest product export, and a round timber export ban encourages local processing. An export tax is paid to the government budget and a payment of 1% FOB value goes to a fund for tree planting. With regard to illegal logging, efforts are being made to illuminate such activity, including a bar code system for tracking logs and independent forest monitoring.

Honduras

Forests cover 53.2% of Honduras' surface area and the forest industry is the fourth most competitive industry in Honduras. Honduras' forest fiscal system has developed through stages. During the period 1974-1991 – the Forest Development Corporation (COHDEFOR) was authorized to oversee fee collection, state investments, forest management, purchase and sale contracts, domestic forest product marketing and exports. From 1992-2002 –productive and commercial activities were separated, with COHDEFOR the owner of national forests and timber sold through public auction administered by

COHDEFOR. Honduras is now in the process of simplifying its forest legislation and reforming the forest fiscal system to promote protection of environmental services, incentives for reforestation, increased value added, NTFP promotion, and use of smaller wood diameters.

Nicaragua

Nicaragua's forest area covers 43%, or 5.7 million hectares, of its territory, and approximately 3.8 million hectares of that area could be used for commercial forest production. In Nicaragua, the forest sector has been challenged by policy with contradictory goals for conservation and industry, resulting in illegal activity constituting up to 70% of all logging. In June 2003, new legislation was passed, establishing a system for preservation and sustainable development that will help address the current chaotic situation in the sector. Now there is only one law for forests, the forest resources have been returned to land owners, and the forest administration is being decentralized. The new law encourages export through fiscal incentives and establishes a national fund that will provide fiscal incentives to help develop legal operations. For example, incentives include as municipal and sales taxes exemptions for plantations, and up to 100% tax deductions for reforestation costs. However, the forest fiscal policy incentives and objectives have created controversy in the context of the national fiscal simplification process underway. Remaining challenges are to improve registration and control system to help combat illegal logging. The private sector is pleased by the new law, but concerned about problems with internal debt and with the long-term stability of the forest fiscal rules.

Brazil

In Brazil, the forest sector accounts for 7.1% of exports, 2 million jobs, and 4% of the GDP. Although 70% of the Amazon is publicly owned, Brazil does not have a concession system. Brazil is assessing its forest fiscal policy within the context of its national forest program (NFP). Plantations comprise less than 1% of Brazil's forest area, but produce 60% of industrial roundwood. Integrated businesses like pulp and paper and steel industries have fewer taxes placed on them and do not pay forest resource use. In Brazil, paying for forest resource use is a new concept, and earlier efforts to improve sustainability in the forest sector through regulations and monitoring and assessment have resulted in land conversion for agricultural use to avoid regulations. Now policy is focused on motivating forest producers toward sustainable practices and markets through technical assistance, information and technology, subsidies and innovations such as the clean development mechanism. Next steps to promote this approach include allocation of public lands to protection and production, national forest information systems, and the development of a third party logging control system. Regarding illegal logging in Brazil, up to 50% may be illegal. However, an environmental crimes law in Brazil has had deterrent impacts as the illegal operators are fearful of going to prison.

Case Study Discussion

In discussion following the case studies, auction systems were a topic of interest. Indonesia considered following Malaysia's system of setting and auctioning an annual area to be harvested. However, implementing this system would require detailed information on the forests and how many trees could be extracted from each hectare. Indonesia is considering auctioning concessions that are revoked as a result of poor performance. Ghana is adopting a competitive bidding system.

Regarding how to monitor and regulate illegal activity, Indonesia noted that this is an international problem because of involvement of other companies and illegal trading and markets that consume the illegally harvested timber trade. Cameroon suggested steps to work on illegal logging: ensure documents relating to logging are all coherent; personalize documents to companies; and establish a log tracking system (a bar code system is being implemented in Cameroon).

In discussion regarding the use of domestic prices versus international prices in setting royalties and other payments, it was suggested that international prices are more reflective of the real value of wood. An approach to calculate the price based on a "basket" of local, regional and international prices was also suggested.

Facilitator Observations from Case Studies and Discussion

Based on the country case study presentations, the following key points and issues were identified:

- Countries are at different stages in their reform processes as well as in the analysis underlying such reforms;
- The mix of fiscal instruments considered varies from a narrow focus on timber concessions to a broader focus on a wide range of forest tenure arrangements and products;
- forest fiscal systems have contributed to raising funds, the next step is how to use fiscal systems to attain policy goals;
- improved transparency and accountability in the use of forest revenues for social and community development is needed;
- royalties and payments are increasingly determined on the basis of market values;
- the mix of fiscal instruments and system for setting levels is complex and difficult to administer in a transparent manner;
- Incentives for SFM are emphasized by some countries, but are sometimes in conflict with overall government fiscal policies;
- Only in a few countries are forest fiscal reforms linked with broader sectoral processes such as NFPs;
- Ensuring compliance and eliminating illegal competition are seen as key to successful reform;
- Increasing revenue collection from formal operators combined with failure to control illegal or informal operators creates imbalances;
- Private sector expectations for fiscal reform differ from those of government, and the reaction of a stable and competitive environment for investments is emphasized;
- Reform should be backed by an act of parliament to ensure long-term stability; and
- There are a few promising examples of partnerships between ministries responsible for the forest sector and finance/economy.

Discussion on Key Themes

Following the case study presentations, workshop participants met groups to discuss the three key themes of the workshop. The outcomes of the discussions were reported to Plenary the subsequent (on October 21st) morning.

1. *Mix of Fiscal Instruments*

The group discussion centered on the following questions:

- What is the right mix of instruments that meets the basic criteria of economic efficiency is administratively feasible and supports broader social and environmental objectives?
- What is the most appropriate basis and mechanism for determining forest-related fees and other fiscal instruments and their right levels?
- What provisions can/should be made to introduce specific incentives into the forest fiscal system for sustainable forest management and other identified policy objectives?
- How can we minimise inconsistencies between the different instruments and mechanisms?

In general, participants noted that an effective mix of instruments depends on the country context as what is effective in one country is often very different from what works in the next. Regarding various instruments, an area tax was viewed as appropriate due to the high recovery rate and low administration cost for implementation. A stumpage tax indicates extractive activity, but how to set the price remains a question and differentiating the tax by species was stressed. Export taxes applied to unprocessed timber were viewed as a useful incentive to encourage value added products domestically. Regarding the basis and mechanisms for determining forest-related fees, market-based approaches were preferred, and clear administrative procedures and third party involvement were viewed as helping to ensure a transparent process. To minimize inconsistencies between instruments, clear policy objectives, clear roles and

stakeholder dialogue were emphasized. In discussion on implementing an area tax, clear, verifiable procedures for concession management and auctions were stressed as essential to assure “clean” results and avoid corruption. In Nicaragua property ownership issues pose potential complications because forests are not nationalized and land ownership can be claimed after living on an area of land for more than ten years, a situation with the potential to result in conflicting ownership claims. Conversely, in Cameroon the government owns all land and can thus allocate all land for conservation or intensive use. In discussion on why high taxes on log exports may be preferred to an export ban, it was noted that although one point of a ban is to encourage value added through processing, that if domestic processing capacity is poor such a policy can be detrimental.

2. How to Allocate Revenues

This group discussed how revenues collected should be used to support objectives identified, and the pros and cons of different arrangements such as:

- Allocating resources through the central government budget vs. more decentralised structures
- Sharing revenue between communities, local government and central government
- Earmarking revenue for specific uses such as monitoring and law enforcement

The group identified as allocation objectives the promotion of SFM, good governance, poverty reduction, and environmental objectives, and clarified stakeholders in allocation to be the government (federal, state/province, and local), landowners, and communities. The need for improved transparency and accountability was emphasized, and guidelines for revenue use at the local level and incentives for local officers to motivate enforcement and combat corruption were suggested.

Countries shared their general structure for resource allocation:

- Cameroon: 50% to federal government, 40% to local councils, and 10% to villages where exploitation occurs;
- Cambodia: 20% revenue goes to the Forest Department;
- Indonesia: tax and non-tax revenues are differentiated with non-tax revenues used for reforestation; Honduras: revenue from timber sales go directly to COHDEFOR;
- Brazil: except for the Forest Recovery Fee, all revenues are allocated to the federal budget;
- Nicaragua: resource allocation is decentralized to strengthen local communities;
- In the Atlantic region: 25% to local communities; 25% to regional government; 25% to municipality of indigenous peoples; and 25% to federal level. The allocation is different for other parts of the country.

Regarding decentralization, it was noted that delegation of roles without clear rules can undermine effectiveness or resource use.

Recommendations from the discussion included that allocations should be based on clear criteria and take into account projects and programs required to achieve objectives at national, regional, local and community levels. If funds are earmarked, this should be for a specific, targeted use and only for a certain period of time. In discussion, it was emphasized that revenue distribution should not be legislated because circumstances can change, and suggested that resources for municipalities should be determined at the regional level and only used for investment in forests.

3. Managing the Politics of a Forest Fiscal Reform Process

The group discussion on the politics of forest fiscal reform framed its discussion with the following questions:

- What processes are used to define and implement appropriate forest fiscal systems, and how do we identify who should participate?
- How do we identify “champions”, build coalitions, and sequence reforms to overcome private sector and political vested interests?

The group noted that internal and external drivers that influence fiscal reform:

- Internal – NFPs, national budget and fiscal requirements, enhancement of instruments and legislation
- External – conditionality from donor agencies, global influence on trade and the competitive environment

A reform process is generally initiated by a ministry, subsequently cleared with other ministries/institutions, then opened for broader consultation, taken to the council of ministers or cabinet and parliament, and then implemented. Identification of stakeholders to participate in the reform process should be guided by analysis of issues, identification of beneficiaries and losers, identification of interest groups, and analysis of development partners. To build coalitions to support reform, it was suggested that effective “lobbying” mechanisms should be established, that trade-offs should be balanced in a mutually beneficial way, and that decision making should be made transparent. Strategies to overcome vested interests in public and private sectors include: timing the reform to avoid elections; keeping the public well-informed; encouraging competitive/transparent rather than administrative/discretionary pricing of resources; and balancing interests of different groups (i.e. national vs. subnational groups). In conclusion, a level playing field should be established for all stakeholders. Regarding the issue that measures for automatic review of fiscal reforms without referral to parliament would reduce the influence of various lobbies, it was suggested that the lobbies are in fact stronger at the administrative and ministerial level than in parliament. Additionally, it was noted that: forest fiscal reform must take into account other national reform processes, increased access to information might increase the ability of stakeholders to sit together, and improved dialogue between forest experts and politicians may facilitate reform.

Next Steps: Perspectives of Country and Development Agencies

Country Perspectives

Brazil plans to develop a system for forest concessions in the Brazilian Amazon. The system will include two types of concessions: 100 million hectares under a system of forest conservation unit concessions; and 150 million hectares under public land concessions. A law regarding the forest conservation unit system will be submitted to congress by the end of 2003 for debate and approval. A workshop with broad stakeholder participation to develop a draft concession model and define an appropriate legal framework will be held by the end of November 2003. A key stakeholder at the workshop will be the general attorney who will act as mediator and provide guidance on legal solutions. The public land concession system is expected to be tested and implemented in 2004.

Honduras noted a number of lessons learned, including that: forests contribution to GDP must be well articulated to strengthening the argument for allocating more funds to forest management and protection; environmental service such as climate regulation and ecosystem services should be valued in economic terms and compensated for; and revenues captured should be distributed in a more equitable manner. The forest sector needs to be included in broader national fiscal policy reform negotiations. There should be broad stakeholder participation in forest fiscal policy reform, and forest fiscal policy should be harmonized with the laws of other sectors. Additionally, politicians need to be educated about the forest sector and its role in development and poverty reduction. As actions to be taken, Honduras identified: approval of the new forest bill; development of the national dialogue; improvement of information and awareness on forests’ contribution to the national economy, quality of life and poverty alleviation; and linking forest fiscal reforms to the national poverty reduction strategy. Additional measures include conducting social audits to inform reform, and reviewing and updating fiscal regulations on an ongoing basis to ensure they reflect changing situations.

Fiscal reforms in **Nicaragua’s** forest sector are part of a larger societal public policy reform process that has been ongoing for the last decade. Under the new forest law, specific regulations are being developed under the general regulations, and must be standardized within the national development plan. Steps to do this will be taken once Nicaragua has completed the heavily indebted poor country (HIPC) process for debt relief. Nicaragua’s next steps include establishing mechanisms for monitoring and follow up resulting from fiscal reform, finalizing agreements with municipalities to guarantee fiscal reform success and improve governance, continuing an open dialogue with civil society and the private sector, and developing a communications strategy to inform civil society and media on reforms. Additionally, agriculture and forest sector policies must be harmonized.

Cambodia outlined issues it faces, including forest concessionaires opposition to reform, limited human capacity and lack of good equipment, and a lack of trust among stakeholders (from government, donor, NGO, and the public and private sectors). One of Cambodia's planned next steps is to work with the public to define a procedure to formulate forest, budget and taxation laws and to define what stakeholders will be involved and at what level. At the technical level, the SFM plan, forest revenue management system, and agreement on land concessions need to be implemented, monitored and audited to improve transparency and good governance. Cambodia would like to improve human capacity, increase research, and strengthen communication among stakeholders to improve cooperation and identify win-win policies.

Indonesia identified the need for an inventory of the forest sector operations, detailing producers, scale of production, production type, type of permits issued (central or district) and type of fees as an important next step to better inform sector policy. Reviewing revenue collection mechanisms and the optimality of the fiscal systems, collecting better information on the cost of production and on setting an acceptable profit level for the private sector, is also an important task.

Cameroon identified short-term, mid-term and long-term actions. In the short-term, a national workshop will be held on the results of this workshop, a review of the results from fiscal reforms during the period 1999-2003 will be carried, and the log tracking system will be implemented. In the midterm, developing tax targeted at NTFP and informal sector and raising revenues for the national fund for environmental activities were set as priorities. A task for the long-term is to work with sub-regional partners to ensure coherence of forest policies in the central Africa region with a view to harmonizing fiscal policies. Such harmonization would help to regulate trans-boundary timber movements, a priority for the private sector in Cameroon.

Ghana identified issues to be addressed and areas for improvement, such as: illegal logging and related market price distortions for forest products and services; the large number of agencies involved in the collection of forest fees; capacity building for accurate media coverage of forest sector issues; effectively balancing national revenue objectives and forest sector objectives; and improved information dissemination to facilitate the reform process. Ghana's next steps will be to broaden the decision making process and dialogue with stakeholder, develop mechanisms for inter-ministerial collaboration, study cost structures to set appropriate taxes for industry, and institute a log and product tracking system to improve revenue collection.

Donor and Development Agencies Persepectives

The **International Monetary Fund (IMF)** noted an emphasis in the discussions on taxes over other revenue instruments, and commented on the importance of property ownership, land tenure policy and associated rights and responsibilities in meeting the two objectives of capturing forest revenues and promoting sustainable forest management. The IMF recommended sharing success stories and good practices in gaining fiscal dividends and raising awareness of large costs to society from poor fiscal policy management.

The **United Kingdom's Department for International Development (DFID)** emphasized developing the relationship between finance ministries and forest agencies. Regarding support for log tracking systems, DFID said assistance and capacity building to initiate such a system would be appropriate, but cautioned that the costs of maintaining such a tracking system ultimately should be absorbed into the market. DFID encouraged the development of a learning group on forest fiscal systems and suggested that participants could share their experience at the upcoming session of the United Nations Forum on Forests in 2004.

German Technical Cooperation (GTZ) emphasized the need for forest fiscal reform to be considered within broader development frameworks and for improved dialogue and political bargaining among forest sector stakeholders. As part of an OECD program on environmental fiscal reform, a meeting will take place in Berlin in November 2003 and forest is one of the pilot sectors in the program. GTZ may be able to provide assistance to fiscal reform processes through ongoing support to NFPs. Additionally, a new GTZ program to support COMIFAC could support a process for regional fiscal policy harmonization in central Africa. In closing the workshop, Jim Douglas, World Bank, commended participants for discussing not just how to collect revenue, but how much revenue to collect and how it should be allocated among various uses. Noting that concession management systems' have typically focused on input-based regulation resulting in inefficient management, he suggested a closer examination of outcome-based

regulatory systems as a topic for future discussions. He supported a learning group and suggested that PROFOR could provide a platform for such information sharing. Additionally, he expressed the Bank's willingness to support activities such as a side-event on the reform of forest fiscal systems at the next session of UNFF in 2004.

Annex 1: Final Participants List

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Annex 2: Agenda

International Workshop on Reform of Forest Fiscal Systems

October 19-21, 2003
World Bank, Washington, D.C.

Day 1 Sunday, October 19

6:30 p.m. Cocktails
7:00 p.m. Dinner/ Welcome (Lombardy Hotel)

Day 2 Monday, October 20

8.30-9.00 a.m. Registration (with coffee) /Participant per diems
9:00-9:30 a.m. Welcome: Kevin Cleaver (ARD); Dan Biller (WBIEN)
 Introduction of participants
 Workshop objectives (Tapani Oksanen)
9:30-11.00 a.m. Country presentation (Ghana)
 Country presentation (Cameroon)
 Open discussion
11:00-11.30 a.m. Coffee
11:30-1:00 p.m. Country presentation (Indonesia)
 Country presentation (Cambodia)
 Open discussion
1:00-2:00 p.m. Lunch
2:00-3:30 p.m. Country presentation (Honduras)
 Country presentation (Nicaragua)
 Country presentation (Brazil)
 Open discussion
3:30-4:00 p.m. Coffee
4:00-5.30 p.m. Break out groups on three key themes:

- Mix of fiscal instruments: impacts on key stakeholders, balancing economic and environmental objectives and administrative and political feasibility
- Use of revenues raised: general budget, forestry management (eg monitoring and enforcement), and non-productive uses (both legal political patronage and illegal corruption)
- Managing the fiscal reform process: role of key stakeholders for and against reforms, building coalitions and identifying champions, sequencing, overcoming private sector and political vested interests

Day 3**Tuesday, October 21**

9:00-9.15 a.m.	Summary of first day and feed back
9.15-11.00 a.m.	Report back and discussion on thematic breakouts Discussion
11.00-11.30 a.m.	Coffee
11:30-1.00 p.m.	Break out groups of country teams to agree next steps
1:00-2:00 p.m.	Lunch
2:00-3:00 p.m.	Plenary presentation and discussion of country teams next steps (four teams followed by discussion)
3.00-3.30 p.m.	Coffee
3.30-4.30 p.m.	Plenary presentation and discussion of country teams next steps – continued (three teams followed by discussion)
4.30-5.00 p.m.	Comments by external agencies: Ideas for follow-up
5.00-6.00 p.m.	Closing discussion: Next steps and follow -up activities

**SUPPORT UNIT FOR INTERNATIONAL FISHERIES
AND AQUATIC RESEARCH - SIFAR**

Report of the

**WORKSHOP AND EXCHANGE OF VIEWS ON FISCAL REFORMS FOR
FISHERIES - TO PROMOTE GROWTH, POVERTY ERADICATION AND
SUSTAINABLE MANAGEMENT**

Rome, 13-15 October 2003

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 2004



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Document Preparation

Resource rent is of over-riding importance in fisheries exploitation. Depending on the institutional arrangements in a fishery, it may be the driving force leading to overexploitation in its two main forms (overcapacity and overfishing) or it may be the basis for the generation of sustainable wealth and revenue. Fiscal arrangements, and hence their reform, are important in at least two ways. First, fishery management systems are gradually beginning to emerge that allow resource rent to be generated on a sustainable basis. Fiscal conditions will determine the sharing of this wealth between different stakeholders. Second, fiscal arrangements may themselves constitute an important management measure, usually supporting other management instruments and helping to control exploitation levels.

In this context, the Support unit for International Fisheries and Aquatic Research (SIFAR) conceived and organized an international workshop on fiscal reform for fisheries, which was hosted by FAO from 13-15 October 2003 in Rome, Italy. Financial support for the workshop was provided by DFID (the UK Department for International Development).

A key goal of the workshop was to facilitate discussion between participants, drawing on their varied backgrounds, on the central theme of how best to use fiscal methods to achieve both fisheries policy objectives, and broader economic, social and environmental objectives.

This report presents a synthesis of the workshop. The preparation of the document draws on presentations made by participants of the situation in each country represented at the meeting. It also uses the summaries prepared by chairpersons and rapporteurs of discussions held in thematic sub-groups which concerned:

- How to define the mix of fiscal instruments and set the right levels?
- What to do with the resource rent?
- How to manage fiscal reform and negotiate access agreements?

And it uses the summaries prepared by chairpersons and rapporteurs of discussions held in three more regionally-based groupings, the aims of which were to:

- Identify thematic priorities on regional basis,
- Investigate co-operation possibilities,
- Suggest mechanisms to improve fiscal arrangements,
- Make recommendations for follow-up.

Finally, the document draws on a set of conclusions and recommendations developed and unanimously agreed by the participants in the closing plenary session of the workshop. The workshop participants recognised the importance of fiscal reform and recommended strongly that ways be found to continue dialogue at international, regional and national levels.

This document was prepared and edited by Stephen Cunningham and Tim Bostock, respectively IDDRA consultant to SIFAR / FAO and Executive Secretary of SIFAR.

Distribution:

Workshop participants
Fisheries directors
FAO Fisheries Departments
FAO Members

Introduction

This international workshop on fiscal reform for fisheries was conceived and organized by the Support unit for International Fisheries and Aquatic Research (SIFAR) and subsequently hosted by FAO from 13-15 October 2003 in Rome, Italy. Financial support for the workshop was provided by DfID (the UK Department for International Development).

The report of the workshop is presented in this document¹. The workshop agenda adopted by the participants is presented at Annex 1. The workshop brought together 29 participants, from 10 countries and 6 organisations. The list of participants is presented at annex II.

Papers prepared for the workshop by participants are to be presented as a separate Report Supplement (in press). Two background papers prepared for the workshop are annexed.

Report and Synthesis of Presentations

Opening of Workshop

Mr Grimur Valdimarsson, Director, Fishery Industries Division, FAO welcomed participants to the workshop. He set the meeting in context, pointing out that where once FAO had helped fishers to catch more fish, now the focus was on helping countries to reduce fishing effort. Overexploitation is now the pervasive problem and landings of the 10 most valuable species have declined by 45% due to overfishing. Reducing effort is proving a difficult challenge. The most promising approach appears to be some kind of system of limited rights coupled with charging for the rights. It is in this latter aspect that this workshop on fiscal reforms in fishing may be of particular interest.

Mr Tim Bostock, Coordinator, SIFAR (Support unit for International Fisheries and Aquatic Research) stressed that an important output expected from the workshop was the discussion between participants on this important but relatively novel topic.

The draft agenda was adopted by the meeting. Mrs Nancy Gitonga, Director of Fisheries, Kenya was unanimously elected chairperson for the first day of the meeting (the chair passing to Mr Yugraj Yadava, Director, Bay of Bengal Programme for days 2 and 3). She began by asking participants to briefly present themselves, following which she asked the workshop facilitator Mr Steve Cunningham, IDDRA to outline the workshop objectives.

Mr Cunningham began by making a short presentation on the importance of resource rent, both as the economic driving force leading to overexploitation in unmanaged or poorly managed fisheries and as the potential source of economic benefits in well-managed fisheries. He also stressed the key role played by access arrangements, with free and open access to fish resources being widely recognised as the main problem.

He then outlined the objectives of the workshop. The workshop brought together participants with a range of experiences and the primary goal was to use these different experiences as the backdrop to an exchange of ideas on:

- How to generate maximum value from fishery resources?
- How to ensure efficient revenue collection?
- How best to use fiscal methods to achieve fisheries policy objectives? And also to achieve broader economic, social and environmental objectives.

In the context of fisheries management, the fiscal system might be expected to have a number of features, including to:

- Promote sustainable fisheries management, development and exploitation
- Promote other fisheries objectives - e.g. increased private sector participation as stewards of the resource

¹ The views expressed in the Report or in the papers prepared for the workshop are those of the respective authors or participants and should not be considered as reflecting the views of FAO or its Members.

- Contribute to broader goals: e.g. poverty reduction, good governance (accountable, transparent, reduced corruption), and environmental objectives concerning natural resource utilisation and conservation.

In order to facilitate the desired exchange of experiences and ideas, the workshop sessions were organised into a series of phases. Presentations were made by participants of the situation in each country represented at the meeting. Discussions were then organised first through thematic sub-groups discussing the following three themes:

1. How to define the mix of fiscal instruments and set the right levels?
2. What to do with the resource rent?
3. How to manage fiscal reform and negotiate access agreements?

Each thematic sub-group then presented a short report back to the plenary. Discussions were then continued with three more regionally-based groupings, the aims of which were to:

- identify thematic priorities on regional basis,
- investigate co-operation possibilities,
- suggest mechanisms to improve fiscal arrangements,
- make recommendations for follow-up.

The three groupings were:

- Mauritania, Morocco, Guinea, Senegal
- Kenya, Mozambique, Uganda
- Bay of Bengal/India, Forum Fisheries Agency/Pacific, Papua New Guinea

Each sub-regional grouping reported back to plenary, on the basis of which a series of recommendations were drawn up and adopted by the meeting.

Presentations by Participants

The papers on which the presentations were based are to be included in a Report Supplement (in press). The intention in this section is not to present a summary of each paper but simply to highlight the main issues that were raised, both in the papers and in the discussion that ensued.

Mr Peter Manning²

Mr Manning gave a presentation on the fiscal implications of resource rent, principally associated with Namibia's hake fishery.

He began by stressing that the central issue in fiscal reform is to understand the value of the fish stocks. The key element is to calculate resource rents but for many reasons this is not an easy task.

He pointed out that Namibia is somewhat unusual in having no artisanal sector, as historically Namibia did not have a coastal population due to its hyper-arid desert coastal region. The management system is based around TACs with quotas being allocated to rights holders. Such quotas are subject to quota levies and other fees.

In principle fees are lower for domestic fishers than for foreigners but in practice this is a difficult distinction to enforce since companies are often able to use a combination of accounting and company law to ensure that they end up in the lower cost bracket.

Namibia nevertheless collects up sufficient of the resource rent being generated in the fisheries to cover the full costs of management, including MCS and research, and to make a net contribution to the public purse.

² In the absence of a Namibian Government Representative, Peter Manning (Coordinator, ACP Fish II feasibility study 2002-2003) was invited to make the presentation on the basis of a study he undertook in 2002 of the hake fishery of Namibia.

In the hake fishery, resource rent still accruing to the industry is estimated to be around US\$53.8 million; that is, net of rent already collected by the Government and potential rent dissipated in other ways.

One policy being followed, that uses rent that might otherwise accrue in the fishery, is to try to create employment on land by charging lower quota fees to wetfish vessels than to freezer trawlers. The difficulty is that the latter vessels generally produce more highly valued frozen-at-sea products so that rents are sacrificed for the employment. This raises the question of how best to utilise such rents: is it more appropriate to create fishing-related employment, or should a wider view be taken of the issue, perhaps using fishing rents to create employment elsewhere in the economy?

Mr Cherif ould Touelieb³, Mauritania

Mauritania has an EEZ of some 234,000 sq km. It also has the largest Marine Protected Area in Africa, representing 60% of the coastal zone. Fishing is a very important economic activity. The catch potential is estimated to be between 1.5 and 1.7 million tonnes. Current catch is around 600,000 tonnes, 90% of which comes from the industrial sector. The fishing sector represents about 10% of GDP, and generates about 40% of hard currency receipts (almost all the catch is exported).

Mr Touelieb showed that the extraction of resource rent from fishery resources has long been important for the Mauritanian government. Since the 1980s, some 20% to 25% of central government revenue has been funded through fish resource rent. He presented a table showing that the structure of this rent has changed through time. In the 1980s and early 1990s, Mauritania had a system of export taxes operated through a state monopsony. This system was radically changed around 1993, being replaced by a licensing system. The new system not proven anything like as efficient from a rent collection viewpoint as the old one with the result that the contribution made by national fishers has declined substantially. Rent is now obtained principally through fishing agreements, in particular through the agreement with the EU.

Mr Touelieb emphasised that whilst Mauritania wished to continue to apply the UNCLOS principle of sharing catch opportunities between local and foreign fishers, the Government now sought to promote joint ventures as a means of keeping as much of the rent as possible within the country.

The biggest problem faced in fishery management was that of institutional weakness, with a need in particular for training to develop human capacity. There is also a need to control fishing effort, a need that Mauritania has begun to address through the development and implementation of a series of fishery management plans. Fiscal arrangements are an important part of these plans.

Mr Keizire Boaz Blackie and Mr Geoffrey Bahigwa⁴, Uganda

Mssrs. Blackie and Bahigwa began by pointing out the difficulty of obtaining unequivocal data concerning the fisheries sector which previously was thought to contribute some 2.4% to GDP but which recent estimates put at 12%. The sector employs about one million people (4% of population). Fish exports have grown from less than 1% of total exports in 1990 (US \$1.4m) to 17% in 2002 (US \$80.9m), second only to coffee. Fish provide a relatively cheap source of animal protein especially for the poor, and the sector is important both for economic growth and poverty reduction.

Given the importance of the sector, the Government is gradually developing its fishery policy and a national strategy was published in 2002. Fisheries also figure significantly in the national poverty eradication action plan.

The issue of free and open access has been recognised and a co-management approach is being promoted to deal with it. Major institutional innovations are underway in fisheries with the development at the micro-level of a network of about 500-700 Beach Management Units (BMUs) being introduced at the community level. At the meso-level, BMUs can co-operate and form large lake-wide associations, e.g. on Lakes George and Kyoga. At the macro-level, the Department of Fisheries Resources is being transformed into a National Fisheries Authority.

³ Director of Studies and Management of Fishery Resources, Fisheries Ministry, Mauritania

⁴ Respectively, Senior Fisheries Economist, Department of Fisheries Resources, Ministry of Agriculture, Animal Industry and Fisheries and Senior Research Fellow, Economic Policy Research Centre, Makerere University, Uganda

Both Central and Local Government seek to extract some rent from the fishery sector, the former mainly through export taxes on the processing sector, the latter through fees on fishing vessel licences. At the national level, a levy of 3% on fish exports is proposed to support national fisheries management functions.

At the local level, the need to plough back rents from fisheries is recognised and BMU legislation will empower communities in revenue collection and utilization. BMUs will be eligible to bid for landing site tenders for revenue collection.

Mrs Nancy Gitonga⁵, Kenya

The current vision for the Kenyan fishery sector is to increase fish production on sustainable yield basis in order to improve incomes of fishers and fish farmers, alleviate poverty, reduce unemployment and enhance food security at both the household and national levels. Policy development and implementation is the responsibility of the new Ministry of Livestock and Fisheries Development.

Fisheries are important in Kenya both from a social viewpoint - fishing is a way of life for fishing communities - and from an economic viewpoint - fisheries contribute to the economy through employment creation, generation of income and foreign exchange earning. Fisheries resources also provide for recreation through sport fishing and angling activities, which promote fisheries tourism in Kenya.

Freshwater fisheries are of great importance in Kenyan fisheries, with Lake Victoria currently contributing around 90% of Kenyan landings. The dominant species is Nile Perch but landings are falling. The Government is seeking to manage more effectively the Lake fishery, whilst developing the marine sector.

Kenya has a marine EEZ of some 230,000 sq km. Most of the marine catch is taken in shallow inshore waters, mainly by artisanal fishermen using simple boats and gears.

The offshore waters of the Kenyan zone yield catches of large tunas, billfishes and pelagic sharks to foreign fishers without local participation. Kenya would be willing to negotiate with DWFNs for fishing rights in her EEZ in accordance with the UNCLOS provisions, but before such negotiations, the country would wish to have sufficient knowledge of her stocks, and seek advice on the form and contents of a potential access agreement that would tie DWFNs into a formal relationship with the Kenyan Government

The Government aims to improve fishery infrastructure through developments such as establishing ice making plants, modernizing landing sites, providing all weather roads to landing sites, creating fish quality control laboratories, and providing services such as electricity and telecommunication at landing sites

The marketing of fishery products is vulnerable to unfair application of non-tariff trade barriers such as Sanitary and Phytosanitary (SPS) measures by importing countries. There is a need therefore to build capacity to effectively participate in SPS measures and implement international fish quality and safety standards to sustain the market share.

The recently-finalised Economic Recovery Strategy is geared towards the realization of wealth and employment creation covering the period 2003-2007. An investment code to consolidate investment incentives, protection and institutional framework in a single legislation is being put in place. The Strategy includes poverty reduction initiatives in the implementation action plan, which emphasise sustainable development of the huge potential of the fisheries sub sector in the country.

Policy reform is also being promoted in fisheries sub-sector with the development of a comprehensive fisheries master plan. Kenya seeks to enter into agreements to promote closer regional co-operation in the management and regulation of the trans-boundary fishery resources. The Government also wishes to encourage the growth of micro-finance institutions to provide credit to the sub sector, and intends to introduce fiscal reforms to deal with cost of exploitation of fisheries resources, processing, preservation and export of products. It also intends to ensure the adequacy of financial resources to expedite fisheries growth through research and transfer of technology.

⁵ Director of Fisheries, Kenya

Mr Hassan el Filali and Mr Hachim el Ayoubi⁶, Morocco

The fishing industry is an important sector in the Moroccan economy, representing some 2.5% of GDP and accounting for a billion dollars' worth of exports (around 15% of total exports).

Fish landings are around 1 million tonnes per annum, dominated in weight by small pelagics, especially sardine which represents some 70% of the total. In value terms the cephalopods, particularly octopus, are the most important species.

The catching sector comprises three principal segments: industrial, coastal and artisanal. Together these three segments generate some 113,000 jobs. Onshore there are some 360 processing units, producing frozen, canned and preserved fish, as well as fish meal and oil, and employing around 38,000 people. It is estimated that another 250,000 jobs depend indirectly on fishing.

Having gone through what might be called a classical fishery development model (essentially increasing production with the aim of increasing incomes, food security and exports), Morocco has recently adopted a new vision of fisheries development. This new vision centres on sustainable resource management and identifying the appropriate role for the sector in national development. As a consequence, the legal and regulatory framework is being renewed with an objective of managing fisheries taking into account the concept of rent.

The fiscal framework involves taxes, fees or levies related to investment, resource exploitation and fishing activity. In each case a wide range of fiscal instruments is used.

There are a number of difficulties with the current fiscal situation. First, short-term budgetary considerations tend to dominate rather than a fishery-management-based vision. Second, there are a great many taxes and organisations involved. Third, some levies and fees are very high compared to the level of service offered. Finally, questions are raised as to the equity of the system.

Mr Ndiaga Gueye⁷, Senegal

The fishing sector is an important part of the Senegalese economy representing 2.5% of GDP, 37% of exports by value, and employing some 17% of the working population. Fish also play an important role in food security, providing some 75% of animal protein.

Total production has increased substantially from 50,000 tonnes in 1965 to over 350,000 tonnes in 2002, but many resources, especially the most valuable ones, are now fully- to over-exploited.

A number of key problems can be identified concerning the sector including the need for sustainable management of fish resources, improved sector governance, maximisation of resource value, and improving communication between actors in the sector.

The current policy agenda can be traced back to a national discussion forum in November 2000, which enabled priorities to be identified. The main priority is to establish a framework for access regulation, following which development actions can be strengthened. In this context, both the institutional, and legal and regulatory frameworks are being revised.

A sector strategy has been developed around six key objectives. These are to ensure the sustainability and economic viability of fishing, to meet local demand for fish, to modernise the artisanal segment, to increase value added from fisheries products, to develop an effective funding system for both public and private activities, and to strengthen bilateral, regional and international co-operation.

A variety of activities are being undertaken to meet these objectives. At the fishery management level, the priority is given to access regulation through the development of fishery management plans. An important part of this concerns the development of a more appropriate institutional and economic environment, including the establishment of fiscal arrangements in line with the new goals of sectoral policy.

⁶ Ministry of Fisheries, Morocco

⁷ Director of Marine Fisheries, Senegal

Ms Josie Tamate⁸, Forum Fisheries Agency

Ms Tamate presented the situation in the Pacific region covered by the Forum Fisheries Agency (FFA). The FFA was established in 1979, following the adoption of the Law of the Sea Convention. It has 17 members - 16 independent states and 1 territory - and consists of a Committee and a Secretariat. It is funded by contributions from the members. All decisions are made by consensus or on a two-thirds majority if consensus cannot be reached. There are no provisions for disciplinary actions if a member does not comply with regionally agreed rules and procedures.

The Western and Central Pacific (WCP) Tuna Fishery is one of the largest and most productive in the world. Landed catches are around 1 million tonnes annually, with a monetary value of nearly US\$ 2 billion. Major foreign fishing fleets include USA, Japan, Korea, Taiwan and Philippines. An increasing local (FFA members) fleet has been observed in the last few years.

Productive waters in the WCP region are found within the 10°N - 10°S band; more than 50% of FFA members lie in this band. FFA members located within this productive zone have succeeded in demanding higher fees from distant water fishing nations (DWFNs). These countries have also formed a subgroup within the FFA context called the Parties to the Nauru Agreement (PNA group).

These tuna resources are of great importance to Pacific Island Countries/FFA members, representing around a third of all exports by Pacific Island countries. The fisheries make a significant contribution towards economic development, providing employment for an estimated 20-40,000 people and generating access fee revenue to the FFA members of some US\$ 60 million per annum.

Access fees are typically paid as a lump-sum at the beginning of the licensing period. Such fees are dependent on the level of catch, the tuna price and the rate of return. Purse seine access fees range from US\$ 10k to over US\$ 100k per year. Additional fees are charged if and when vessels call into an FFA member port. Fees for longline vessels typically range from US\$ 5k to over US\$ 20k. Vessels based in FFA members pay lower licensing fees but are liable for export taxes, and the like. A new method of charging access/licensing fees is being considered which would involve a minimum lump-sum payment plus an additional payment at the end of the licensing period. The current approach by FFA members is not directly linked to resource rent but this may change in the near future with various projects/studies underway to measure the rent and options to increase revenue from fisheries. There is a need to promote transparency mechanisms for licensing fishing vessels in the region.

A number of mechanisms have been applied to implement and monitor access agreements. These include the Palau Arrangement for the Management of the WCP Purse Seine Fishery, Harmonised Minimum Terms and Conditions (MTCs), FFA Vessel Monitoring System (FFA VMS) and the Niue Treaty on Co-operation in Fisheries Surveillance.

The WCP Tuna Convention was adopted in September 2000 after 6 six years of negotiation between major DWFNs and coastal states in the WCP region. This Convention introduces a new element into the tuna fishery with the prospects of enhanced programs for tuna conservation. It appears to offer new opportunities for FFA members to generate greater benefits from their resources. The biggest challenge for FFA members will be to maintain their regional co-operation and unity.

Mr Jonathan Manieva⁹, Papua New Guinea

It is estimated that PNG marine resources could produce annual sustainable landings of some 500,000t worth around US\$ 600 million. Current recorded market value of PNG catch is only US\$ 100 million to US\$ 200 million, partly due to the difficulty of obtaining the true value of artisanal fisheries and partly due to fish price variations from year to year. There is significant potential to increase the economic value and returns to PNG of these fisheries through better management and development programs.

Fisheries policy is determined by the Minister of Fisheries and implemented by the National Fisheries Authority (NFA). The main objective has been to ensure that PNG fisheries and other living aquatic

⁸ Project Economist, FFA

⁹ Industry Liaison Co-ordinator, National Fisheries Authority, Papua New Guinea

resources are exploited within sustainable limits, with the 2000 Fisheries Act placing an obligation on Government to ensure the conservation and optimum utilization of marine resources within the EEZ.

The approach taken to meet policy objectives has been to develop, implement and monitor fishery management plans for each specific fishery. Such plans establish rules for access to fish resources. A key element has been the move towards annual licences.

The NFA is a financially-autonomous semi-government corporate body, governed by a 10-person Board which includes representatives from government, the fishing industry, resource owners and non-government organizations. It derives the bulk of its operational revenue from access fees related to Distant Water Fishing Nation activities. Other sources include mandatory licence fees, assistance from donor agencies and penalties arising from successful prosecutions under the Fisheries Management Act 1998.

The revenue obtained is used to fund NFA operational costs with any surplus being declared as a dividend and paid to the government. This autonomy has ensured that the NFA has the financial resources to carry out its functions, unlike under the former structure where operational budget and financial plans were subject to Ministry of Finance approval during the annual national government budget allocation process.

Since its establishment in 2000, it is felt that the NFA has achieved its objectives in terms of revenue generation and the implementation of established management policies and plans.

By far the most important commercial fishery in terms of both catch and economic value is the tuna fishery. Catch on average is usually 100,000 to 150,000 metric tonnes a year but it is estimated that the resource can sustain much higher annual catches of 250,000 to 300,000 metric tonnes with a potential market value of US\$ 250 million depending on the commodity price. PNG acknowledges the need for a regional approach to managing tuna and is party to a number of bilateral and regional multilateral fisheries arrangements.

In the past access to tuna resources for foreign vessels has mainly been on the basis of the payment of licence fees. However, some access fishing licences have been granted on a concessionary basis in conjunction with onshore investments and it is anticipated that this policy will continue to develop in the future. An increasing portion of the catch is now being taken by domestic and locally-based foreign vessels, and much of this domestic catch being processed onshore.

Current access is valued at over US\$ 10 million per year, including fees, levies, expenditure during port calls etc and is increasingly linked by policy decision to a commitment to onshore investment, preferably in the form of value-added processing of the catch for export.

Mr Yugraj Yadava¹⁰, Bay of Bengal Programme/India

Mr Yadava presented the Bay of Bengal situation with particular emphasis on India. The fisheries sector is of great socio-economic importance in India where it is recognised as a powerful income and employment stimulator. Over 6 million fishers and fish farmers depend on fish for their livelihoods. The main objectives of the current 5 year plan (ending 2007) are to optimise production and productivity, increase exports, generate employment and enhance the socio-economic well-being and status of fisher communities.

India has a very large EEZ of over 2 million sq km, with an estimated harvest potential approaching 4 million tonnes. The domestic marine fleet is overwhelmingly artisanal with some 226,000 traditional vessels, of which around 45,000 are motorised. There are also 53,000 mechanised vessels and 170 large fishing vessels (over 21m in length).

Total fish production is currently around 6 million tonnes, split roughly 50-50 between marine and inland fisheries, although the latter is growing much faster (6% per annum) than the former (2%). Access to marine fisheries remain free and open with the result that increases in demand (and hence prices) have

¹⁰ Director, Bay of Bengal Programme, Chennai, India

led to increases in numbers of fishers and in the efficiency of their activities. The number of active fishers, which was around 200,000 at the beginning of the 1960s, exceeded 1 million in 1997.

Fish exports exceed US\$ 1 billion per annum. Their development has been accompanied and results from the development of onshore facilities, especially in freezing and canning.

Although there is general awareness of the need to manage fisheries, the challenge is significant. General economic growth has tended to be lower in the coastal belt than elsewhere in India. The fishery sector is faced internally with overcapacity, under-employment and low per capita earnings, and externally by the lack of alternative occupations, seasonal mobility but low labour mobility to other sectors, low levels of literacy and relatively high levels of debt.

The challenge is to develop, in this context, a long term policy allowing for the balanced and sustainable exploitation of the marine fishery sector.

Mr Herminio Lima Tembe¹¹, Mozambique

The total catch of Mozambique is estimated at 112,000 tonnes, of which 90,000 tonnes comes from artisanal fisheries. The catch comprises shallow water shrimp (10,000 tonnes); deep sea prawns (1,500 tonnes); crabs (5,700 tonnes); and fin fish (94,800 tonnes). The value of fish production is some US\$ 132 million.

Fish exports are around 20,000 tonnes, valued at US\$ 96.5 million. The main export markets are EU 62%, South Africa 13%, Asia 12%, and Zimbabwe with 8%.

Earnings from license fees and levies are some US\$ 3.8 million.

The Fisheries Master Plan, adopted in 1994, established an estimated budget of US\$ 5.1 million for the recurrent costs of the fisheries administration. This was intended to correspond to 2.5% of the value of fish production, which was forecast to be US\$ 182.2 million by year 2000 and US\$ 209.3 million by 2005. In the last three years the sector public budget has ranged from US\$ 1.5 to US\$ 2.7 million, corresponding to 1.15% and 2.5% of the value of fish production in 2001 and 2003 respectively. International financial assistance has provided additional investment funds for fisheries development and institutional support. This assistance has grown from US\$ 6.8 million to US\$ 13.5 million over the same period.

Rents available to Government as a result of fishing activities are clearly ear-marked, with 40% going to the Ministry of Finance, 50% to a Fishery Investment Fund, which provides credit to fishers and allows for capacity-building and 10% to the Ministry of Fisheries.

Prior to 1990, Mozambique had fisheries agreement with the Soviet Union (URSS), and the European Community (EC). With the approval of the Fisheries Law in 1990, the policy and institutional context where no longer compatible with these fisheries agreements. Other than tuna and other highly migratory fish species that can be fished within the Mozambique EEZ, the fish stocks in the Mozambican territorial waters were reserved to national fleets.

A new Fisheries Agreement with the EU in line with the prevailing policy framework regarding access to fishing rights and with the national legislation is to be implemented from January 2004. This agreement is felt to be advantageous because it will provide additional earnings to meet sector financial needs, including funds for strengthening fisheries management and institutional capacity building. It should also foster monitoring and control of tuna fleets, whilst avoiding conflict with national fleets, in terms of the target species and fishing zones. It will increase economic utilization of under-exploited stocks and may contribute to improved post harvest arrangements based on on-shore processing.

¹¹ Director for Economics, Ministry of Fisheries, Mozambique

Mr Abdourahim Dah¹², Guinea Conakry

Fishing is one of the most important economic sectors in Guinea. Annual production is estimated at some 100,000 tonnes, providing 75% of animal protein. The sector is estimate to provide employment directly for around 9,000 people and indirectly for a further 200,000. Licence sales generate 20 to 25 billion Guinean francs of revenue per annum.

The goal of fisheries policy is to maximise the sustainable economic and social benefits that the country can obtain from its fish resources. Specific objectives relate to food security, the fight against poverty, the integration of the sector into the national economy, job creation, a substantial increase in Government receipts, and maintaining the balance between the resource and its environment.

In order to achieve these objectives, the Government has put in place a sectoral policy designed to control exploitation levels in order to ensure the sustainability of catch and revenue. Key activities include resource assessment, MCS, infrastructure development (particularly with a view to quality) and developing the capacity of the Ministry of Fisheries and Aquaculture.

Fishery management measures seek to conserve both fish resources and their habitats, to reduce conflict between artisanal and industrial fishers, to reduce discards and improve post-harvest handling. From a socio-economic perspective, measures are being taken to develop national fishing capacity, increase onshore value-added, create jobs, increase Government revenues and reduce poverty by improving living conditions for the population.

Access to the resource is controlled by licence. Trawling is forbidden within 10 miles of the coast. Pair trawling, purse seining and beach seining are also forbidden. Vessel capacity has been restricted to 1000 GRT for demersal vessels and 2600 GRT for pelagics. The Government requires fishing companies to land in Guinea. MCS has been strengthened in the coastal zone.

However a number of structural factors currently limit the effectiveness of these measures, including relative weakness of MCS and research.

From a fiscal viewpoint, the most noteworthy development was the attempt to develop a national fleet by offering incentives, in terms of reduced licence fees, for chartered vessels to re-flag to the Guinean flag. Regrettably the programme failed with negative consequences for all socio-economic elements in the system (fees going to the Treasury, jobs, industrialisation). Around 2/3 of the normal level of fees were lost under the programme, and resource exploitation worsened due to the derogations granted to these vessels in terms of authorised fishing zones.

For the future, the Government remains convinced of the need to create national fishing capacity in order to be able to create national processing capacity and develop value-added fish products prior to export. A new approach is therefore being tried based on the encouragement of temporary joint ventures, which benefit from various provisions in the investment Code. It is anticipated that this approach will eventually result in increased profitability, improved MCS and resource conservation, greater socio-economic impacts and a more rational fiscal system, which does not depend solely on licence fees.

Discussion of Presentations

A lively discussion session followed each presentation. This section outlines the main issues that were raised during the various question and answer sessions. Some of these issues were then discussed further in the thematic and/or regional discussion groups.

There was much interest in the issue of whether fish resource rents should be used to encourage employment within the fishery sector itself. A number of different views were expressed. On the whole, whilst recognising the potential political attractiveness of increased fishery employment, participants felt that a wider view needed to be taken of the question in order to ensure that the best decisions were taken from an economy wide viewpoint. It was not sufficient to focus on sector employment.

¹² Director of Marine Fisheries

Related to the theme of employment generation was the issue of how to use the potential wealth of fish resources for poverty reduction. The big problem in fishing is that wealth and revenue tend to sow the seeds of their own destruction through overexploitation. The challenge is how to generate wealth and revenue on a sustainable basis and ensure that they are distributed equitably. There is no unique solution to this challenge but the discussions brought out the need in this context to balance macroeconomic and sectoral objectives, and to determine how the fishery sector can best contribute to the achievement of macroeconomic goals, such as poverty reduction and employment.

A key requirement is the need to control capacity. Most, although not all, fisheries discussed by participants show signs of overexploitation and the issue of how to control capacity was central. The need to relate solutions to the characteristics of the fishery and to design feasible institutional arrangements was stressed.

The importance of use rights was widely recognised. A difficult question concerned how best to determine use right fees. Although participants came to no particular answer, it did become apparent that revenues currently being extracted by Governments are generally well below potential rents. The remainder may be capitalised into the price of use rights, although often this appears not to be the case so that the proportion of rent that is not extracted continues to encourage overcapacity.

The issue of transferability of use rights was also discussed. The conclusion was reached that although in theory there is a choice to make such rights transferable or not, in practice in many situations transferability tends to become the *de facto* situation, regardless of the *de jure* one.

The question of sharing resources between local and foreign fishers was also discussed. Whilst some participants felt that local fishers should be favoured, others argued that the main priority for fishery management was to control the overall level of fishing effort. The breakdown between local and foreign elements was then a politico-economic question, turning essentially on the Government's economic objectives and the relationship of the fishery to them.

It was concluded that where access agreements existed they should be managed as part of the overall fishery management system. In terms of negotiating access agreements, the advantages of regional co-operation were stressed, as was the need to maintain cohesion between regional partners. If the decision were taken to end an agreement, careful consideration should be given to the arrangements that would exist afterwards.

The importance of appropriate MCS arrangements was emphasised. In many cases, countries have used a licensing approach without knowing what is being caught. The importance of developing fishery information systems was recognised in order to match fishing effort to the resources available. Observer programmes are being developed widely.

Thematic Group Discussions

Participants were organised into 3 thematic groups. In each group, participants found the discussion of great interest. A general complaint was that the time available was insufficient for the groups to deal comprehensively with all of the topics on the agenda for each group and that they would have liked to discuss.

Group 1

The first group focussed on the issue of how to define the correct mix of fiscal instruments and how to set the right level. The group concluded that, although each fishery must be regarded individually, the right mix and appropriate level of fiscal instruments would have to be in accordance with a set of key issues, notably:

- Politics: Fisheries objectives
- Analyses: Ecosystem and fleet properties including management institutions
- Assessment: Current state of ecosystem and harvest/management sector

The issue of fisheries objectives was debated at length by the group in response to the question of how conflicts between objectives might be avoided to ensure policy coherence. The group came up with a list of possible (and common) objectives, including:

- Food production/food supply
- Positive resource rent (super-normal profit)
- Sustainable employment
- Fisheries management/MCS cost recovery (relates to 2)
- Implementing Code of conduct
- Poverty reduction
- Recreational fishery
- Sustain cultural systems
- Environmental considerations
- And so on

The potential for conflict between such goals was recognised. The group concluded that objectives must consistent with knowledge and political priorities and that increasing awareness of the importance of clarifying political objectives is a major task. In order to achieve this latter it was felt that there was a need to educate policy makers and administrators. It was also felt that quantification of objectives would help.

It was recognised that different countries give different objectives different priorities. As a result, setting the proper objectives is essentially a political matter and can not be settled by technical measures. But technical measures can, and should, be used to relate values or other quantities to any relevant objective and to clarify the trade-offs that are inevitably made when one objective is chosen over another. This will contribute to making the political process more transparent and knowledge based.

In discussing the question of "What is the right mix of instruments that meet the basic criteria of economic efficiency, administrative feasibility and balancing economic and environmental objectives?", the group noted that available management means may be presented in different ways. The overall goal is to ensure that the level of fishing effort and capacity is commensurate with the catch opportunities available. In principle, this balance can be achieved either by reducing the efficiency of fishing or by reducing the fishing activity as such (or the two combined). Traditional technical regulation could be placed in the first category. The other category is presented in the table below.

	Input control	Output control
Direct	A: <ul style="list-style-type: none"> • Limited entry • Closed season • (Closed area) 	C: <ul style="list-style-type: none"> • Traditional quota management • ITQ systems • Other quota systems
Indirect	B: <ul style="list-style-type: none"> • Access fees • Other taxes on fishing effort 	D: <ul style="list-style-type: none"> • Production fees • Export taxation • Other taxation on catch

The table clarifies that fiscal arrangements may have an important role to play in management. Different instruments ('management means') may have different properties in terms of inducing change: whereas one may be more appropriate for moving the system towards a situation where objectives are achieved, another may be more appropriate for sustaining the preferred situation. The key issue, in particular in the last case, is to control the resource rent. Resource rent remaining in the fisheries sector could potentially undermine a sustainable situation of resource rent production. In this context, fiscal instruments may be useful as a management method to restrain fishing effort as well as being a means of extracting rent.

One practical question that arises is the apparent difficulty of introducing tax-based systems. However, although taxation may be difficult to introduce in a situation of zero resource rent (e.g. at open access equilibrium), situations may occur where tax introduction is more likely to get acceptance among fishers and fishers organisations. One such situation could be a significant upward shift in the demand for fish. By setting a tax equal the implied change in price, the resource rent related to the new situation could be collected, provided that appropriate institutional mechanisms exist. This requires opportunistic behaviour on the part of the rent collecting authorities that may be difficult to achieve if the approach taken is through tax codes that are enshrined in law.

Group 2

The second group focussed on the issue of what to do with resource rent. The group began by discussing general objectives that could be met with the resources generated, namely:

- Economic growth (job creation, foreign exchange earnings)
- Poverty reduction (increased incomes, food security)
- Sustainable resource management
- Community (population) stabilisation

The group identified some cross-cutting issues, particularly institutional reform and fiscal management. In the case of the former, it was noted that both Kenya and Mozambique have created separate Ministries for Fisheries, and that in Uganda thought is being given to the creation of a National Fisheries Authority, which would be a semi-autonomous parastatal organisation. These changes are being complemented at the local level by the introduction of co-management systems.

The standard approach to the management of fiscal issues is for rent to go directly to the Central Government Treasury with allocations to fisheries then being made through normal government budgeting procedures. This approach has tended to starve fisheries administrations of resources although there are some signs of improvement as Governments come to realise the importance of better fisheries management. One element of reform being discussed in Uganda is the idea that the NFA might collect revenue directly for fisheries management. And in Mozambique, the share of revenue generated from fishing going to different Ministries is clearly defined.

The group suggested that an appropriate use of resources generated from fishing activity would be to improve the physical infrastructure in fishing communities. Such improvements might include roads, electricity to enable cold storage and reduce waste, and the construction and management of landing sites. Activities more directly related to fishing would include the creation of appropriate credit facilities and the funding of MCS programmes.

This group concluded that in the final analysis it is sustainable fisheries management that is important because without this there will be no economic growth, poverty reduction, sustainable livelihoods, and stable communities to talk about.

Group 3

The third group addressed the issue of how to manage the fiscal reform process and negotiate access agreements. The group reached the following conclusions:

1. Access agreements and fees from them provide an important source of revenue for the Government in terms of budgetary support.
2. It would appear that budgetary needs and political factors are more important than scientific information when negotiating access agreements.
3. Proper preparation is required before the negotiation of agreements takes place. A country must have a package of what it would like to achieve. There is a need to take account of the catch history and status of fish stocks in the zone, fleet compliance history, national policies and objectives.
4. There is a need for a clear set of guidelines for negotiating agreements.
5. There is a need to strengthen national capacity to monitor, control and enforce the requirements as set out in the agreements. Often, coastal states do not have the capacity to undertake this.
6. There should be better management and co-ordination of the reform process.
7. There should be wider consultation so that the general public would have appreciation and sense of ownership of the resource. The benefits from fisheries can and do spill over to other sectors e.g. construction of roads and schools.

8. There are direct and indirect beneficiaries from fisheries. Proper and transparent negotiation of agreements and reform process will maximise benefits and minimise adverse impact of the reform. There would be no real losers and/or great beneficiaries from the reform process provided that this is carried out properly.
9. There is a need for political will to endure changes if an agreement failed to take place or nullified at the end of its life. This is to cushion the budgetary implications from the short-fall of revenue. If access agreements are to be ended, their end needs careful planning.
10. An emphasis on sustainability is crucial during the fiscal reform process and the negotiation of access agreements.
11. This group also reached the conclusion that, in the end, everything depends on Sustainable Fisheries Management Practices.

Regional Group Discussions

In order to identify national and regional priorities, participants were organised into three country-based groups.

Group 1: Morocco, Mauritania, Senegal, Guinea

The group discussed the questions raised at the workshop from a regional perspective.

Concerning fiscal arrangements, the group reached the following conclusions:

- Fiscal arrangements are important to improve State budgetary receipts
- Such arrangements can also play an important role in the management of the fisheries sector in general and in fishery management in particular
- There are multiple objectives and priorities may differ, leading to differences in perception of fiscal arrangements and the role that they may play
- There is a need to improve communication between public and private actors in the context of fiscal reform
- The use of fiscal arrangements to manage fisheries must be well justified. The system should not be over complex, and should not be a source of instability or uncertainty for investors.
- In order to enhance the chances of success when using fiscal arrangements as a supplementary tool to manage fisheries, there is a need for institutional reform and for capacity building amongst fisheries managers.

In this context, the group recommends:

- To move towards a revision of fiscal arrangements in the fishery sector. In order to achieve this, it would first be necessary to undertake a review of arrangements in the different countries of the sub-region.
- To improve communication networks and participatory processes concerning fiscal reform in the fishery sector
- To support and strengthen institutional and human capacity in fisheries departments to ensure that the fiscal reform process can be carried through effectively.

With respect to the use of revenue generated from fishery rents, the group concluded that such revenue should go to the national Treasury to contribute to national development. However, it is important to ensure that fishery policies (management and development) are among government priorities and that adequate resources are made available for their implementation.

With respect to fishing agreements, the group concluded that in order to ensure sustainable resource management, it is necessary to have single, integrated allocation mechanisms which take into account the fish potential of each country.

The group made the following general recommendations with regard to the follow-up which could be given to this workshop:

- To establish a Discussion Forum to continue the discussion begun during the workshop and monitor the take-up of the recommendations made
- To disseminate the recommendations of the workshop to all international organisations interested in fisheries policy in the countries involved
- To encourage and request FAO and other institutions to continue to support regional sub-regional co-operation, particularly the sub-regional fisheries commission and the Ministerial Conference of Atlantic Seaboard States.

Group 2: Uganda, Kenya, Mozambique

The group noted that similar instruments were being applied throughout the region. At present, resources tend to go through national Treasury but the group concluded that in the past fisheries had not been effective in generating an appropriate budget when competing for resources with other Departments. For this reason, the group recommended earmarking for fishery management some proportion of the rents generated from fishing.

Institutional arrangements and capacity are currently weak and the group identified the need to:

- Build awareness among policy-makers in different Departments - Finance, Planning, Fisheries - and to ensure collaboration between them
- Organise a regional workshop in support of a process of identifying priorities and appropriate fiscal arrangements.

In order to develop regional co-operation, it is important that the South West Indian Ocean Commission is implemented. This will enable:

- The harmonisation and monitoring of access agreements
- Improved EEZ management in the general interest
- The issue of IUU fishing to be addressed.

It is also important to strengthen the Lake Victoria Fisheries Organisation to improve the management of the shared resources there.

The group suggested that the best way forward was to develop dialogue. To this end, this group also proposed the organisation of a regional workshop. It was suggested that there should be a follow-up meeting in one year's time to review progress in this novel and difficult area, which has policy implications at many levels of Government. There is a need to engage all concerned Ministries so that a national plan can be developed and agreed.

Group 3: FFA, Papua New Guinea, Bay of Bengal Programme/India

In considering the identification of thematic priorities on regional basis, this group came to the conclusion that:

- All areas are important and have equal priority
- There is a need to take a holistic view of the management of fisheries, taking into account all the resources – natural, human and capital.

The major issue is how to manage the fisheries – with existing capital and/or new capital. This requires:

- Effective management systems
- Clear and well-defined objectives and guidelines
- Wider consultation processes with all stakeholders
- Management plans needs to be flexible

On the issue of co-operation possibilities, the group concluded that the main requirements were to:

- Think regionally and ACT nationally. This is important given that countries share a common resource, e.g. the Bay of Bengal region and tuna in the Pacific.

- Establish/develop action plans to implement fiscal reforms. Wider consultation should be encouraged when developing these action plans.

In terms of mechanisms to improve fiscal arrangements, the group identified that it would be useful to organise or undertake:

- Regional consultations to achieve better understanding of the common resource and harmonisation policies across the board for ease of implementation. Consistency is important.
- National consultations to ensure that the stakeholders understand the dynamics of fiscal reforms and the instruments applied.
- Sectoral reviews or analysis to prepare management plans for important fisheries.

In conclusion, the group recommended that assistance be given to:

- organise regional consultation; and
- prepare sectoral analysis and reviews (national level).

Comments from Workshop Observers

Observers at the workshop were invited to give overall comments on the workshop and possible ideas for follow-up.

SIFAR offered to help facilitate further dialogue on fiscal reforms in fisheries, through the setting up of an FAO-based Listserv, which could provide the virtual platform for people to exchange ideas.

AIDCO from the European Commission welcomed the opportunity to attend the workshop and had learned much. The EC is willing to support implementation of some of the issues discussed - for example regional networking and national units for policy analysis and technical support. This is also compatible with Cotonou objectives.

DFID (UK) is supporting work on policy coherence for development in fisheries with the OECD fisheries committee. It was reported that the workshop issues would be fed into that programme, and that workshop outputs would also be presented at a workshop on environmental fiscal reform hosted by Germany on 24-25 November 2003 in Berlin.

FAO thanked the participants for the excellent discussion and stressed that fisheries can create wealth - but the rent is easily squandered through over-capacity and excess effort. Fiscal reforms are about creating incentives to make it more likely that individuals do the right thing and sustainably manage the fishery resource.

India on behalf of the participants thanked the organisers saying that in the 1990s FAO pioneered sustainable and responsible fisheries and now these ideas are being widened to include fiscal reforms. As Mahatma Gandhi observed "there is enough for everyone's need, but not for everyone's greed".

Summary of Principal Workshop Conclusions and Recommendations

1. The rationale underlying fisheries management, exploitation and development is beginning to change. Where once the focus was primarily on producing greater quantities of fish, the emphasis is now gradually moving, through concepts such as responsible fishing and sustainable management, towards wealth and revenue generation and their appropriate distribution. This change in focus presents new challenges to fisheries administrations. This workshop dealt with very novel issues and ideas. A major effort will be required over the coming years to develop and implement the ideas discussed at this workshop.
2. With the new emphasis on wealth and revenue generation, the issue of resource rent becomes central. Although calculating such rents precisely is a difficult exercise, tools exist to estimate orders of magnitude. Developing and implementing fishery management instruments (such as licences) that allow this value to be revealed in a market place will help.
3. Where wealth can be generated, choices must be made concerning its distribution. Rent can be left with resource users, or can be extracted by Government on behalf of all citizens. In most cases,

current levels of extracted rent represent only small percentages of the total available, if the fisheries were well managed. Consideration must be given as to how best to use fisheries in meeting socio-economic objectives, in terms for instance of using revenue for poverty reducing investments, or through more direct provision of income, nutrition and in some cases employment for poor people.

4. Through appropriate fiscal arrangements, fisheries can make a major contribution to Government budgets. This contribution should be first and foremost via the Treasury, which can then take appropriate allocation decisions. In this context, it is important however that sufficient resources are budgeted and delivered to enable the fishery management function to be undertaken correctly, taking into consideration the potential of fisheries in the macroeconomy, if they are well managed.
5. Appropriate fiscal arrangements can also play an important role in fisheries management first, by helping to control the overall level of effort and second, by encouraging effort reallocation between fisheries. The challenge is to identify and implement such appropriate arrangements.
6. Given the novelty of the approach, which represents a major break with the past, there is a need for extensive communication and discussion of the ideas with all stakeholders. There is a need on the one hand for the Fisheries Ministry to build awareness amongst other Ministries and Government agencies of the contribution that the fishery sector can reasonably be expected to make. There is also a need for dialogue with the private sector on the general interest in fiscal reform and the implications.
7. In order to achieve fiscal reform, there will be a need to ensure that appropriate institutional arrangements exist and perform well. An institutional audit may be a useful starting point, enabling institutional reform requirements to be identified. Capacity will also have to be built up amongst fisheries managers. Technical assistance in calculating resource rents and in institutional analysis would be of particular interest.
8. In order to ensure sustainability, there is a need to develop holistic management systems, which integrate all fishing effort. This principle should also be applied in the case of access agreements.
9. Given the novel and important nature of the topic, the Group was keen to find ways to continue dialogue. A number of suggestions were made. One was to establish a discussion forum to develop further the themes raised at the workshop and to share experiences in implementation. It was suggested that a follow-up meeting should be organised in one year's time.
10. Workshop conclusions should be widely disseminated, including to all international and regional organisations having an interest in fisheries policy in the various countries and regions. A policy note could be prepared and made accessible online.
11. Although fiscal issues are clearly of great importance, fiscal arrangements are only one part of the fishery management system. There is a need to ensure that the various elements of the system are developed in a harmonious way.
12. Where resources are shared on a regional basis, there is a need to ensure effective management and collaboration between partners, including the harmonisation of fiscal arrangements. The workshop recommended strengthening or establishing regional bodies to play this role.
13. There is a need to clarify objectives to ensure policy coherence. Apparent contradictions, for instance, between attempts to control fishing capacity within a context of resource rent extraction and attempts to encourage fishery development through favourable investment codes need to be dealt with very carefully.
14. In many cases, fiscal systems are very complicated based on a wide range of taxes, fees and levies. In a fiscal reform process, it would be useful to simplify so far as possible the system.
15. At a regional level, it must be recognised that countries are at different levels in terms of their fishery management and development programmes, and that they may not share common objectives. Regional workshops should be held to build awareness of the issues and to contribute to the process of identifying priorities and appropriate fiscal arrangements.

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Annex 2: Workshop Agenda

"Fiscal reforms for fisheries – to promote growth, poverty eradication and sustainable management": a workshop and exchange of views

Secretariat: Support unit for International Fisheries and Aquatic Research (SIFAR), Fisheries Dept. FAO (www.sifar.org; www.onefish.org)

Facilitator: Dr Stephen Cunningham, IDDRA

Day 1		Monday October 13 th
8.30 - 9.00	Registration	
9.00 - 9.25	Welcome by Fisheries Dept., FAO and introductions by participants	
9.25 – 9.30	Election of Chair for day 1	
9.30-10.00	Workshop objectives – Facilitator	
10.00 - 11.00	Country presentations - Namibia	
11.00 - 11.30	Coffee, tea	
11.30 - 12.30	Country presentations - Mauritania, Uganda	
12.30 – 13.00	Introduction to discussion themes and organisation of the three thematic groups including election of respective Chairs and Rapporteurs	
13.00 - 14.30	Lunch	
14.30 – 15.30	Split into <i>thematic group</i> discussions	
15.30 – 16.00	Tea, coffee	
16.00 - 17.30	Discussions in <i>thematic groups</i> (cont'd) and preparation of presentation for day 2	
18.00 - 19.30	Cocktails	
Day 2		Tuesday October 14 th
9.00 - 9.25	Summary of day 1 – Chair day 1 and Facilitator	
9.25 – 9.30	Election of Chair for day 2	
9.30 – 11.00	Country presentations - Kenya, Morocco, Senegal	
11.00 - 11.30	Coffee, tea	
11.30 – 12.30	Country presentations – Fisheries Forum Agency, Papua New Guinea: Perspective on the Pacific	
c.12.30 – 14.00	Lunch	
14.00 – 15.30	Country presentations – Bay of Bengal, Mozambique, Guinea Conakry	
14.30 - 15.30	Thematic groups – plenary presentations and discussion	
15.30 - 16.00	Tea, coffee	
16.00 - 17.30	Thematic groups – plenary presentations and discussion (cont'd)	
Evening	Dinner	

Day 3	Wednesday October 15th
8.45 – 9.00	Summary of day 2 – Chair day 2 and Facilitator
9.00	Election of Chair for day 3
9.00 - 11.00	Discussion by the <i>country groupings</i> :
11.00 – 11.30	Coffee, tea
11.30 – 13.30	<i>Country groupings</i> - plenary presentations and discussion
13.30 – 14.30	Lunch
14.30 – 15.30	Presentation, discussion and adoption of draft report focusing on next steps
15.30 – 16.00	Tea, coffee
16.00 – 17.00	Continuing discussion and amendment of draft report as required
17.00 – 17.30	Final comments inc. from observers (open) Closure of meeting by Chair of the Day

Annex 3: Workshop Background Papers

Information Sheet 1: Resource Rent ¹³

What is resource rent in fisheries?¹⁴

The concept of resource rent is fundamental to this workshop. Consideration of what happens to resource rent, or potential resource rent, associated with the utilisation of a natural resource such as fisheries has important implications for the success of a national development strategy.

The concept of resource rent

Resource rent is a concept that relates the demand for a natural resource to its scarcity. It may be defined as revenue accruing in excess of that needed to cover costs, when costs include a return to capital and labour, to risk and to entrepreneurship.

Resource rent refers to profits in excess of the 'normal' profits that entrepreneurs would expect to earn through any other enterprise in the economy. Normal profits are not some fixed rate of profit but essentially represent the opportunity costs of the fishing enterprise.

When the demand for a renewable natural resource exceeds the capacity of the resource to supply, it begins to produce a rent. In these circumstances, where there is not a sufficient supply of the natural resource to meet the demand for it, it is not possible for fishing enterprises to respond to price increases by producing more on a sustainable basis. Once the fishery has been fished down to the optimum productive level of biomass, any further increases in catch will result in a reduction of the biomass below the level of optimum productivity, and eventually to smaller catches at greater cost. Ultimately the limit of what can be produced is determined by how much the resource can produce. This induces people in the marketplace to compete to secure a share of the limited production for themselves. Profits in excess of what could be considered normal profits are generated and these are referred to as resource rents.

Conditions where resource rent accrues

In fisheries there are two sets of conditions in which resource rent is generated:

When a fishery is developing, that is, when the supply is still sufficient to meet the demand, regardless of whether there is an effective management regime in place. As fishing effort targeting the stock increases, the fish stock is fished down to its optimal level of productivity, at which point the resource rent is maximised. It is precisely the presence of this resource rent which, under conditions of open access, leads to an increase in fishing effort until all the resource rent is dissipated.

In a mature fishery where there is a management regime that effectively limits fishing effort. The more effective the management regime is in limiting fishing effort to the level at which the harvest is economically optimised, the greater will be the rent realised

Magnitude of resource rents

Resource rents associated with some fisheries can be very large. This is particularly true of many high value ground fish species, such as hake. The US National Marine Fisheries Service estimated net revenue for New England groundfish was about 65% of gross revenue, indicating a high percentage of resource rent (FAO 1992). Technically attainable rents for many mature fisheries typically exceed 50% of the landed value of the catch (Arnason 1991).

Resource rent will vary over time according to environmental / physical and biological parameters and market conditions.

¹³ Prepared by SIFAR, October 2003.

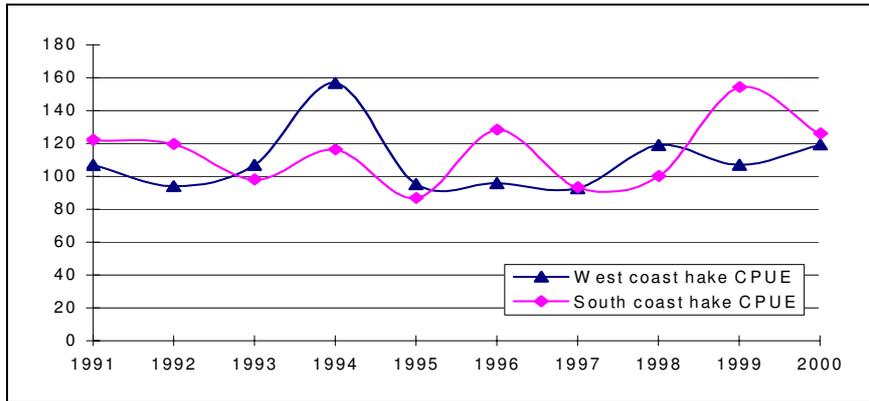
¹⁴ Taken from a case study by Peter Manning in "Assessment of the Economic Benefits African countries Received from their Marine Resources"; Three Case Studies; Inst. Mar. Econ. And Bus. Admin., Bergen 2003 [Eide, A; Manning, P; and Steinshamm, S.].

Influence of environmental variation

The degree of dispersion or aggregation of a particular stock will determine, in part, how costly it is to catch. Variations in costs relating to changing environmental conditions which vary from year to year have an impact on how much resource rent is generated.

The marine environment on which southern Africa's hake stocks depend is variable and the variation in the associated costs of harvesting the resource are reflected in the catch per unit of effort (CPUE).

Figure 1: CPUE for the South African west and south coast hake fisheries (kg/min) (MCM).



Changing market conditions

The following changing market conditions also have an impact on the generation of resource rent:

- **Supply and demand:** shortfall in supply is likely to result in price increases and higher rents being generated until the point is reached where market resistance to further price rises brings about a substitution effect. Oversupply in relation to demand will reduce prices and may eliminate rent associated with a particular stock. What is more generally the case in relation to ground fish species is that supply cannot meet the demand, thus inducing consumers to compete for what is available, creating a scarcity value.
- **Species characteristics:** different fish species represent vast differences food product quality and thus attract market prices. Such factors as fat content, texture, structure and size affect both their suitability for processing, market acceptance and price. Differences can even be marked between same species and groups. Inter- and intra-species differences in size also impact on price per kilogram. These factors including size makeup of the catch, therefore, also have an important bearing on its value and on the resource rent that might be associated with it.
- **Post-harvest handling and value-added:** fish that have been handled well post-harvest is often able to command substantially higher prices on (albeit more volatile) international fresh fish markets. Fish frozen at sea can attract better prices than land-frozen product where the quality may suffer; there is also a significant difference in the unit cost of production. Clearly, therefore, significant differences in the revenue may result from the adoption of one processing strategy over another. The decision which strategy to adopt has considerable implications for the realisation of potential rent.
- **Impact of management:** changes in the property rights regimes associated with the harvesting of a particular stock may themselves bring about a change in the form in which product is marketed and thus the extent to which rents are associated with it.

Natural resource abundance, rent and economic growth

It is by no means assured that a country will realise the wealth associated with the natural resources with which it is endowed, simply because they are exploited. A country with abundant natural resources is conceptualised as possessing wealth waiting to be released when the resources are exploited. However, Sachs and Warner (1995) demonstrated how economies with a high ratio of natural resource exports to GDP, tend to have low growth rates. One explanation for this phenomenon is that the countries fail to capture the resource rent and make good use of it. These authors cite cases where development has not

followed from the utilisation of resources. It requires a focused effort directed towards making good use of resource rent thereby ensuring that the wealth tied up in the natural resources is used for the good of society as a whole.

An understanding of resource rent generation, or of the potential rent associated with a particular resource, is essential to making informed policy decisions that will lead to a productive process that optimises the use of the resource for society as a whole.

Information Sheet 2: Fiscal Issues in Fisheries Exploitation and Management ¹⁵

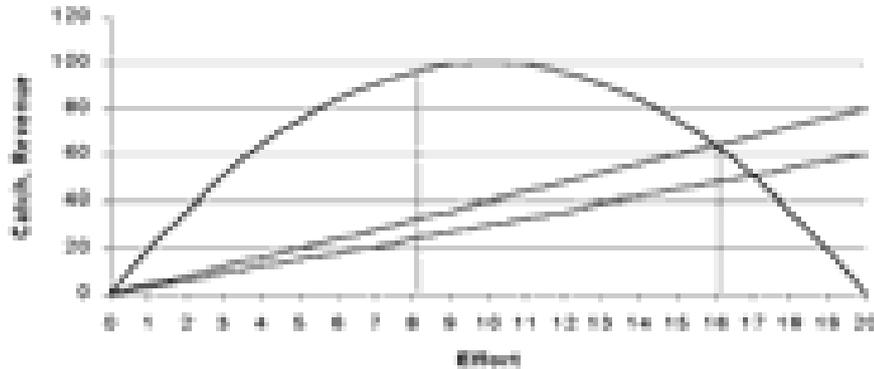
Until recently, fiscal arrangements in fisheries were concerned almost entirely with subsidies of one kind or another - fuel subsidies, investment codes, exemptions from import duty, technological assistance, and so. This situation continues to prevail in many, if not most, of the world's countries.

However, there has been a gradual awareness that well-managed fisheries can produce great wealth. And related to this, that it is precisely this great wealth that drives unmanaged or badly managed fisheries towards overexploitation, first in terms of overcapacity and then in terms of overfishing. Fisheries managers have little choice therefore but to put wealth on the agenda if lasting improvements are to be achieved.

Once the issue of wealth is on the agenda, the fiscal issue follows closely behind since fiscal arrangements will determine how the wealth is distributed.

1. Resource rent: the source of wealth in fisheries

There are many ways to think about resource rent. One way is to look at the problem in terms of resource ownership. Fish resources are clearly valuable, sometimes highly so. If they were owned by someone, that person would be in the position to charge a fee to those wishing to exploit their resources in exactly the same way as owners of fishing vessels, for instance, charge a fee to those who wish to use them (for example, for research cruises or for sport-fishing). The payment that the resource owner could receive is called the resource rent.



In the diagram above, the parabola represents both fishing revenue and sustainable fish production, on the twin assumptions that fish prices are constant and fish production is described by a Schaefer model. The straight lines from the origin represent fishing costs as effort expands, measured in terms of standard fishing vessels. The lower of the two lines represents all fishing costs except fishing enterprise profits. The difference between the two lines represents the profits that enterprises must earn if they are to stay in business in the long run.

If revenue exceeds cost (including this profit), as it does below effort levels of 16, then the fishery will be perceived to be exceptionally profitable and extra resources will be drawn into it until revenue equals cost. Note that the model predicts that fishing enterprises will remain profitable at the equilibrium point. The issue of fisheries management does not, therefore, turn on the profitability of fishing enterprises. There is

¹⁵ Prepared by IDDRA, October 2003.

some empirical evidence from FAO¹⁶ that supports this result showing that fishing enterprises are by and large profitable. It should, however, be noted that this model is a long run one, and that it is possible in practice for the equilibrium point to be overshot (costs exceed revenues) for some period of time. One also has to allow for variability in most parameters.

Nonetheless, the main problem is that in the process of the expansion of fishing effort, resource rent has been completely dissipated. It has gone to finance the overexpansion of the fishery. In this simple model, resource rent is maximised when effort is half the open access level. In this case, the effort level leading to resource rent maximisation level would be around 8 standard units. Revenue generated by the fishery would then be 96 of which 64 would be resource rent and 32 exploitation costs. These latter would still include the profits of the fishing enterprises, although there would be fewer of them. Of course, the precise numbers are meaningless here but the ratios are not untypical of the real world.

It will also be noticed that in this case moving the fishery to the rent maximisation level increases the amount of fish available, hence increasing consumer welfare.

2. Rent, access and incentives

An alternative way to look at resource rent is in terms of access conditions and the incentives that they create. Access to many fisheries has been, and in many cases continues to be, free and open. Under such circumstances, fishers perceive the resource rent below an effort level of 16 as extra profit and they are given an incentive to expand fishing effort. There is nothing irrational about fishers' behaviour taken individually but at the aggregate level the behaviour is irrational since it leads to overcapacity and overexploitation.

The problem that fishers face is that generally (there are some exceptions) they are not able to control aggregate behaviour and therefore they are forced to pursue their self interest, even though they may know that the group will lose out as a result.

In these circumstances, fishers need some higher authority to control the overall level of effort. It is somewhat ironic therefore that such higher authorities have often made the problem worse for instance by subsidising fishing operations or by encouraging technological progress.

Looking at the diagram above, suppose that the fishery is in equilibrium at 16 effort units. Suppose that fishers are then subsidised for some reason, decreasing costs so that the lower of the two cost curves becomes relevant. The result is that overexploitation is worsened. And the same is true of technical progress that occurs in situations where access to the fishery remains free and open.

The same is also true of programmes that aim to increase fish prices (e.g. the focus on value added) although the diagram does not lend itself to the analysis of this problem.

The point is that under conditions of free and open access, what appear to be perfectly reasonable government policies of encouraging value-added products and technical progress in fishing can have the perverse effect of creating incentives for fishers to overexploit the resource yet further.

The key therefore lies in dealing with access conditions. Since it is free and open access which is the problem, the solution must either be that access is no longer free or that it is no longer open or some combination of the two. Most fishery management programmes have focussed on closing access. A fiscal-based approach would focus on making access no longer free.

3. Resource rent: the three possibilities

In addressing the resource rent issue, there are only three possibilities, not mutually exclusive:

- First, as argued above, rent can be dissipated.
- Second, rent can be extracted by the management authority.
- Third, rent can be capitalised into the value of a suitable use right.

¹⁶ U Tietze, J Prado, J M Le Ry, R Lasch (2001) "Techno-economic performance of marine capture fisheries", FAO Fisheries Technical Document 421

Combinations of all three are possible.

4. Need for appropriate instruments and institutions

In order for rent to be either capitalised or extracted, there is a need first to develop instruments and institutions that allow the wealth from the fishery to be created on a sustainable basis. Depending on the fishery, a variety of choices may be available.

The management authority then has to decide how much of the rent to extract. There appear to be good reasons not to attempt to extract all the rent. The most obvious relate to the enforcement difficulties of very high royalties, and also the disincentive effect. If fishers know that all rent will be extracted there will be little incentive for them to develop either revenue enhancing or cost reducing innovations, but both of these will be in society's interest. The best approach appears therefore to be a partnership between fishers and management.

5. Who is to do the exploiting?

The issue of wealth creation brings to the fore the related issue of who is to do the exploiting of the fish stock and under what conditions. One possibility is only nationals, another is only nationals who possess fishing vessels. Some countries allow foreign fishing, but usually under strict conditions.

The best known and perhaps most contentious of the arrangements including foreigners concern fishing agreements of one kind or another. Such agreements often involve developed countries (EU, USA, Japan) paying for their vessels to be given access to the resources of coastal states. In theory such agreements are subject to UNCLOS but a blind eye often seems to be turned to the surplus principle enshrined in that convention.

Be that as it may, both parties presumably gain from the exchange since such arrangements have continued for some time. And fishing agreements are clearly an important part of fiscal arrangements for some developing countries since a large proportion of central government revenue may depend upon them. In these cases, they usually represent by far the most important way in which rent is generated from the fishery.

As a general rule, it might be said that each restriction on who may exploit a fishery reduces rent potential, and from this point of view there are reasons to encourage foreign exploitation where it is more efficient.

But such agreements also raise some issues for developing countries. First, are foreign fleets genuinely more efficient or are they subsidised? In which case, does their presence represent a kind of dumping by the distant-water state.

Second, are domestic fleets unable to produce similar rents? Generally speaking, domestic fleets will have a much greater economic impact than foreign fleets, so that governments may even be prepared to sacrifice some rent in return for this impact. One of the criticisms that might be made of fishing agreements is that they have removed the pressure from many coastal states to manage their domestic fisheries in an economically efficient manner. As a result, the domestic industry, whilst apparently receiving favourable treatment, has in fact been disadvantaged compared to foreign fleets.

Third, are the fishing agreements sustainable? And what is the coastal state to do after the agreement if it should end? This question also raises the question of how domestic fleets are managed. If there is no effective system in place when the fishing agreement ends, a country risks not only losing the rent it obtains but also seeing domestic fishing capacity expand rapidly to fill the void whilst being unable to replace the rents.

6. What to do with fish resource rents?

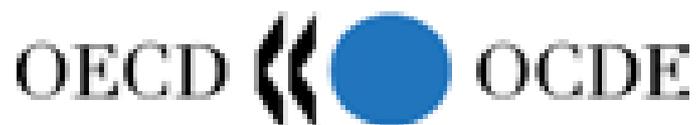
If wealth can be extracted from the fishery, the question arises of what to do with it. This is clearly a question of general government policy and it is not the intention here to tell governments what to do. The purpose is simply to raise some issues.

Often the view is taken that because the rents have been generated by the fishery sector, they should be re-invested in that sector. But they could also be invested in the coastal sector more generally, or even economy-wide.

To some extent the best solution depends on the size of the rents. In countries such as Mauritania and even more so in the case of some island states, where rents provide a significant proportion of general government revenue, it makes sense for collection at national level to be overseen by the Finance Ministry.

In many cases however, fishery resource rents or potential rents are too small to warrant much attention at the national level. Hannesson (1993) suggested that as a general rule it makes sense to devolve rent collection to the highest level where it makes a difference. Obviously this is a bit subjective. In the case of Norway, where fishery rents are dwarfed by those from the oil industry, he suggested the creation of a coastal commission charged with their collection.

The ultimate devolution is of course to fishers themselves. This approach was taken by some of the pioneering countries in this field, including New Zealand and Iceland where fishing rights have simply been given to fishers. In the case of the latter at least, once the wealth thereby given away became apparent, as rights began to be traded, the policy has been called into serious question.



Synthesis Workshop on

Environmental Fiscal Reform for Sustainable Development and Poverty Reduction

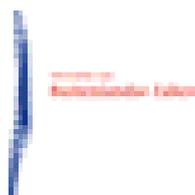
Berlin, 24-25 November 2003

- WORKSHOP PROCEEDINGS -

Hosted by:



With the support of:



Environmental Fiscal Reform – Setting the Scene

“EFR must be a balanced approach with carrots and sticks in it. Designed well, it can ensure proper management of resources and secure long-term growth.”

– Jim Prust, IMF

Opening Remarks

Philipp Knill from the hosting German Federal Ministry for Economic Cooperation and Development (BMZ) opened the Synthesis Workshop on Environmental Fiscal Reform (EFR), giving the participants a warm welcome to Berlin. In charge of the German development cooperation policies BMZ understands EFR as an element under its approach of Global Structural Policy. With the mandate of the OECD-DAC in November 2002 Germany intensified its work on the issue of EFR. Mr. Knill stressed that for BMZ it is most important to distil from this process of South-South- and interagency-exchange lessons on how development agencies can support specific efforts on the ground. He highlighted the need to ensure a focus on poverty reduction and implementation in the EFR process.

In his welcoming note, Arno Tomowski from the co-hosting Deutsche Gesellschaft für Technische Zusammenarbeit GmbH (GTZ), pointed out the interdisciplinary character of the meeting and expressed the hope that it would produce new, innovative ideas and practical means for mobilizing local financial resources for sustainable development. He referred to the Millennium Development Goals (MDG) and underlined the relevance of the objective of poverty reduction also for EFR. He also emphasized the potential of EFR to contribute to favourable incentive structures and improved framework conditions in which development cooperation activities on the ground are likely to be more successful.

As co-leading agency in the OECD-DAC work programme on EFR (together with BMZ and GTZ) the United Kingdom Department for International Development (DFID) represented by Paul Steele (DFID) thanked BMZ and GTZ in the opening for hosting the workshop. Mr. Steele gave a short introduction to the work that the task group on EFR had performed under the “chapeau” of the OECD-DAC mandate, the objectives of the workshop and the workshop agenda¹⁷: EFR aims at raising revenues that can be used for poverty reduction, improving financial management, reducing loss of potential revenues and of natural resources, reducing pollution, raising efficiency and increasing access to environmental services for the poor.

Environmental Fiscal Reforms – How Much Can Be Done? – Presentation

Jim Prust from the International Monetary Fund (IMF) introduced the topic of the workshop: Environmental Fiscal Reform. EFR describes any policy measure in the overlap between environmental and fiscal policy; more specifically, tax and revenue policies that bring environmental benefits and yield fiscal revenues. This focus excludes anything non-fiscal, non-environmental and non-revenue-raising, explicitly command-and-control measures (CAC) of environmental policy and the expenditure side of fiscal policy. Both are, however, complementary to EFR. As a third and parallel goal EFR should have a positive impact on poverty reduction and the poor. This guides and specifies EFR in the following way:

1. The poor should not be off worse due to EFR (defensive interpretation),
2. The poor should benefit directly (offensive interpretation),
3. The revenues raised by EFR should be used for pro-poor spending.

It is essential to distinguish between taxing pollution on the one hand and taxing the exploitation of natural resources on the other hand: EFR can be applied where governments act as owners, e.g. when taxing exploitation of publicly controlled natural resources, like fish or forests (e.g. through concessions, area or stumpage fees, taxes on processed products etc.), or where governments act as market referees due to market imperfections (e.g. taxes on crude or refined products, on electricity use, on vehicles, on emissions etc.). To ensure pro-poor impacts, governments should “do no harm” to vulnerable parts of society (e.g. by using targeted subsidies or tax breaks).

¹⁷ See workshop agenda, Annex 2

Mr. Prust underlined that EFR is no panacea, but subject to a range of constraints (property rights, administrative and governance issues, monitoring of emissions etc.). However, the potential benefits of EFR are large, including a better environment, higher fiscal revenues and higher economic welfare due to an efficient use of the price system in the private as well as in the public sector. Depending on existing policies and the natural resource base of a country, EFR might help raising significant additional income.

How EFR Links to the International Development Framework – *Panel discussion*

As the following panel discussion made clear, EFR is a pro-poor approach to bridge the gap between actors in the fields of environment and finance, not only in developing countries but also in development agencies. However, EFR processes are loaded with complex combinations of diverging and partly conflicting interests. Therefore the focus on political economy issues (instead of a more “technical” approach), both of workshop and case studies, met widespread approval by participants.

Dharmendra Sharma (Ministry of Finance, India) affirmed the “natural friendship” between environmental and financial objectives in the long run. According to Nalin Kishor (World Bank) there is scope for poverty reduction through EFR, building upon the progress that has been made in integrating environmental issues in Poverty Reduction Strategy Papers (PRSPs) particularly as they develop from their interim versions into the final full strategies. Furthermore, because of its quality to bring together different ministries and to animate intersectoral cooperation PRSPs can be seen as an important vehicle for promoting the EFR-process. However, taking water supply as an example, Mr. Sharma stressed the difficulties in balancing poverty reduction and environment protection: the benefits of cleaner rivers due to EFR do occur downstream whereas the poor who often live in the catchment areas of rivers do not benefit.

Wolfgang Schmitt (GTZ) expressed the view that among many obstacles the major challenge for EFR is the election cycle. Therefore, as one panellist put it: “EFR needs to become a vote-getting issue.” Mr. Schmitt highlighted the need for clear cut “selling points” in favour of EFR and outlined a few. He stressed that successful reforms can enable a country to benefit more from the process of globalization. In the case of Germany parts of industry even have become technologically international front-runners due to “smoothly designed” EFR.

Nevertheless, even if due to a wisely designed reform the economy wins, political opposition has to be taken into consideration. The same holds true for administrative capacity constraints (e.g. for monitoring systems) and governance issues, like corruption. Comments from the audience during the panel discussion emphasized problems with regard to targeting and monitoring (how to get the prices right? How to identify small and disperse polluters?) and raised concerns about how to guarantee that EFR-revenues are actually used for poverty reduction. Finally, Mr. Prust drew attention to the fact that the targeting of fiscal instruments should be as precise as possible.

Fiscal Reforms in the Forestry and Fishery Sectors

“We have to use the fiscal system to allow for the proper utilisation of the resource.”

– Dharmendra Sharma, Ministry of Finance, India

Fiscal Reforms in the Forestry Sector – *Room Discussions*

As an introduction to sector-specific EFR in the forestry sector, Nalin Kishor (Worldbank) gave a short overview over the workshop proceedings of the “International Workshop on Reform of Forest Fiscal Systems” hosted by the World Bank in Washington DC (19-21 October 2003).

According to the discussions at the Washington Workshop, forest fiscal systems should aim at identifying practical ways to ensure that forests can be used in a sustainable way while increasingly contributing to national poverty reduction objectives by stimulating growth and providing regular and enhanced revenue flows to governments.

The subsequent group discussions focused on the following topics:

1. Allocation of revenues as a means for benefiting the poor: problems and preconditions;
2. The difficulty of getting the prices right;
3. Managing the fiscal reform process including the challenges posed by corruption.

The problem of revenue leakages was recognized widely during the group discussion. In this respect EFR in the forest sector was identified not only as a means to increase the efficiency of fiscal instruments but moreover to benefit the poor and to reduce leakages. But as participants pointed out, many countries are often not prepared to cope with the revenues nor to ensure transparency and monitoring of how the revenues are used. This is even more so if revenues are raised by provincial and local entities. Hence decentralization might interfere with an efficient EFR-process.

Against this background an animated discussion took place on the Ghana experience: Between 1992 and 1998 the stumpage value that was collected by the government was said to have increased from 20% to 98%. This success has been achieved by a process of policy reforms, in which the major stakeholders, as different ministries, forestry commission, civil society, land owners, trade associations etc., have been included. It was mentioned that – even if there are constraints as weak regulatory and institutional frameworks – countries which are developing structures that encourage transparency and consultation have the potential to proceed a process of policy reforms successfully.

The group stated the importance of (access to) information. Currently, information asymmetries between the stakeholder groups involved as well as monitoring deficiencies hampers the collection of taxes and fees from forestry. Systematic collection and dissemination of information is needed. In this respect the view was put forward that a potential task for donors could be to facilitate tackling the problem of „hidden-information“ about costs of goods and services from forestry. Also the problem of pricing non-(internationally)-traded goods from forestry was discussed intensively.

Valuation of the goods and services by the local people was seen as one possible solution, because they know the benefits of the goods and services from forestry best.

The participants shared the view that instruments with a very complex tax base offer more potential for corruption than less complex fiscal instruments. Taken as an example, stumpage fees often have a tax base which differentiates between six or even more species. Those instruments are very difficult to monitor and therefore more susceptible to corruption. As potential instruments to fight corruption, participants mentioned international commitments against illegal logging and the certification of sustainably managed resources. In addition it was illustrated that some issues still need to be included in the discussion on EFR in the forest sector: getting the general framework in the forest sector right, strengthening the role of certificates for sustainable forestry and developing the concept of compensation and payments for providing ecological services. These issues can be addressed within the process of national forest programmes (nfp's).

Fiscal Reforms in the Fishery Sector – Room Discussions II

As an introduction to sector-specific EFR in fisheries, Keizire Boaz Blackie (Ministry of Agriculture, Animal Industry and Fisheries, Uganda) gave a short overview over the workshop proceedings of the Workshop and Exchange of Views on Fiscal Reforms for Fisheries hosted by FAO in Rome from 13-15 October 2003.

The focus of fisheries management has gradually moved towards the huge economic rents generated in the sector and their adequate distribution. These rents are calculated to account for around 10-60% of landing. Appropriate fiscal arrangements can raise substantial revenues for government budgets and contribute to the sustainable use of the resource.

The subsequent group discussions focused on the following topics:

1. Subsidies;
2. Access control and transboundary management;
3. Access agreements and opening up to international markets;
4. Treatment of small-scale fisheries.

Subsidies, especially the subsidisation of developed countries' fishing fleets, were identified as the main obstacle to a sustainable management of the resource. Since the granting of subsidies for fishing fleets is widely spread, subsidy removal is often associated with severe competitiveness concerns. Large parts of the fishing industry survive just due to direct monetary transfers, e.g. subsidized motor fuel for fishing boats etc. This leads to pressure on government budgets, accelerated depletion of fish stocks, inefficiencies and misuse – e.g. in Senegal fishermen sell their subsidized motor fuels to taxi drivers. However, in order to keep domestic fishing industry competitive, governments stick to subsidizing. This subsidy deadlock can only be overcome by international cooperation and policy harmonization.

The central problem resource management in the fisheries sector faces is the open access character of fish stocks. Controlling access is crucial to guarantee enforcement of national fishing policy and transboundary management. Therefore a sufficient share of EFR revenues in the fishery sector will always have to be earmarked to enforcement and monitoring. As some of the cases discussed indicate, transboundary management of shared fish stocks can only be successful if all governments involved comply with the agreements made. If one government does not enforce the corresponding policies, domestic fishermen of this country may gain competitiveness advantages, although the degradation of the resource has to be borne by all countries involved.

Access agreements negotiated with foreign fishing fleets were discussed controversially in the group. On the one hand these agreements provide significant revenues to government budgets (e.g. it is estimated that EU agreements account for 30% of government revenues in Guinea Bissau and 15% in Mauritania) and have the potential to create jobs. These revenues may still be boosted by improving bargaining power of developing countries towards distant water fleets, e.g. by regional cooperation. On the other hand poor management of access agreements can destroy the life basis of local fishing communities. Equally, opening up the often highly protected fisheries sectors in developing countries to international markets is feared to have severe consequences for domestic industries.

It was widely agreed that small-scale fisheries should be treated differently, for potential tax revenues are usually not even high enough to cover costs for monitoring and enforcement of taxation policies. Considering small-scale fisheries, alternative approaches like community-based management of fish-stocks were discussed. These approaches usually have direct pro-poor impacts, particularly in terms of empowerment.

Comprehensive EFR and Country Case Studies

“People often think grey skies and drinking bottled water is the price one has to pay for modern life. Very often only the experience of crisis helps getting EFR on track.”

– Charles Abdallah, Ministry of Environment, Lebanon

Rationale, Experiences, Barriers and Solutions, Impacts and Prospects – Presentation

Kai Schlegelmilch (German Environment Ministry) illustrated the process of introducing eco-taxes in Germany and other European Countries. He pointed out that with the concepts being clear and well known in principle the political will is of crucial importance. Therefore, it is necessary to establish alliances and coalitions, i.e. by earmarking revenue generated from EFR with pension reform (the case of industrialized countries).

In the scheme of the German “Ecological Tax Reform” the revenues from an increased and broadened energy taxation are not exclusively earmarked for a reduction of the social security levies but also for funds for environmental programmes. The tax was implemented in small, predictable steps over a period of years, fixed by law from the very beginning.

Mr. Schlegelmilch pointed out that due to public expectations the design of EFR should ensure first environmental impacts already to be achieved in the short term. The double dividend approach in real life does sell less than might be expected, for it is not always understood. Equity and competitiveness

concerns should be taken into account. Some further recommendations Mr. Schlegelmilch gave for the communication of EFR were:

- EFR should not stand alone, but be introduced as an important element of a larger policy package.
- People seem to want revenues of environmental taxes (at least partly) to be spent for environmental purposes.
- Environmental impacts should be examined and communicated.
- Winners should be identified and directly asked to support EFR in the public debate.
- An information and PR-campaign should be launched (making use of the above elements).

Even though the discussion on eco-taxes was started within the environment community more than 15 years ago, decisive for the actual implementation of the so-called "Eco-Tax" was a largely fiscally motivated alliance (NGOs, science, trade unions, churches, single entrepreneurs etc.). The expected positive employment effect got the trade unions on board. The Ministry of Finance finally supported the idea and the Eco-Tax was implemented in 1999. During the sharp rise in world oil-prices in autumn 2000, however, the Eco-Tax became again subject to polemic and controversial discussion. Mr. Schlegelmilch pointed out that if revenues had not already been calculated for reduction of social security contributions, the tax might have been stopped at this point due to the common public discontent. So the revenue-raising function proved crucial for the continuation of the Eco-Tax.

So far the German EFR leads to a (small) decrease in transport fuel taxes, the demand for car-pooling increased significantly as well as the number of passengers in the public transport system. Due to reduced labour costs the job increase was predicted to come up to 250,000 by 2003. Finally, CO₂-emissions and energy consumption were estimated to have been reduced by 2-3% in 2003.

Lessons Learned from Country Case Studies – Interview Round and Plenary Discussion

*„Let's get the process rolling, even though things are not perfect.
The best should not be the enemy of the good.“*

– Anja von Moltke, UNEP

The panel discussion on the country case studies revealed a lack of capacity and awareness in Environment and Finance Ministries as one important constraint for implementation of EFR. How to make use of market-based instruments is often not known. Therefore, key responsibilities have to be performed with low capacities only. Furthermore, due to often insufficient data on environmental and fiscal issues potential EFR often lacks a solid information basis.

Parts of the discussion were rooted in the question whether it is legitimate to take the "bald to the barbershop": It was commonly felt that public awareness of environmental problems tends to be very low in most developing countries. People tend to accept bad environmental conditions (e.g. low water quality, air pollution etc.) as the "normal price to pay" for living in big cities, modern life etc. As soon as an environmental crisis is perceived as such it might help getting EFR on track. However, as the Lebanon country case study shows, even critical non-environment-related events, like an external debt crisis, can open windows of political opportunity for EFR.

One crucial question that rose from the discussion was how public awareness on environmental issues can be mobilized. Regarding this issue the following arguments were raised: If the rationale behind the implementation of energy taxes are global environmental issues, for example climate change, this argument might become very difficult to sell within the political process. It was pointed out that EFR will only sell to the public if it has positive impacts on growth. Taken India as an example, it was recommended to build coalitions between politicians and bureaucrats as well as to establish a cross-sector dialogue. In addition the advantage of linking EFR to broader fiscal reforms was underlined. Much attention was paid to the often-observed fact that wherever EFR contributes to transparency and accountability a corrupt bureaucracy will fiercely resist the reform.

Participants mainly agreed that an important alliance-building mechanism for EFR roots in the revenue potential of the instrument. EFR can be - if suitably designed - a means for winning elections. However, it would be too ambitious expecting from EFR the compensation for other taxes in the long-run. This will only work for environmental tax bases with an inelastic responsiveness of demand to price changes.

The need for subsidy removal was unanimously recognized. However, opinions differed whether it was recommendable to begin reforms with subsidy removal or with the implementation of instruments that find space in the current politics (usually not subsidies). Some references were made to take into consideration the legal framework that might constrain EFR-policy design, e.g. in India where taxes always go to the general budget by law, which constricts application of earmarking.

Challenges for EFR and How to Cope With Them

“You need the perceived, severe environmental problem for getting started. This can be pointed at by the Ministry of Environment or NGOs. But if you don’t get the Ministry of Finance on board, you’ll lose the battle. Both roles have to be performed.”

– Stephan Paulus, GTZ, Germany

In the afternoon participants gathered in break-out groups. The animated debates focused on the following challenges of EFR:

1. Getting EFR processes started;
2. Organising these processes;
3. Inter-ministerial coordination;
4. “Marketing-strategies” for EFR.

It was widely agreed that it is important not to get bogged down by issues of definition or clearly delineating the scope of EFR. EFR is not a cast-in-stone, ready-to-use package of policies. What is more important is to identify concrete country, sector or resource specific interventions, however small, and to get started. Anyway, environmental awareness has to be the starting point if EFR is presented as an approach to improve the environment. But windows of opportunity have to be used instead of trying to push reforms under unfavourable political circumstances. However, often it might be more promising to use other aspects of EFR to gain support in the beginning (cost recovery, poverty reduction, disaster prevention, security & oil dependency issues). Finally, the participants stressed that donors should put the issue of EFR in the mainstream of development cooperation. “Let’s get started”, was the general message on which the participants agreed.

The agenda-setting can be initiated by any stakeholder (NGOs, churches, Ministries of Environment - or respective sector ministries) through forums, networking, workshops and marketing campaigns. The issue should be framed in a way that helps getting relevant protagonists (particularly finance ministries as key players) and progressive institutional entities involved and convinced. In addition, it was seen as important to build on ongoing processes to avoid duplication and to benefit from already developed inter-ministerial cooperation structures. For the latter it is decisive to learn to understand each other and to speak each other’s language.

Different stakeholders need to be addressed at different stages of the policy cycle (agenda setting, developing policy options, decision-making, implementation, monitoring). To identify appropriate policy options consultation with groups of experts will be needed (studies, pilot projects etc.). The decision-making process involves mainly parliamentarians and lobbies. Winners and losers will have to be identified. Implementation applies to administration. In this respect interagency cooperation was seen as crucial for successful implementation; it was also discussed to facilitate implementation by establishing an “interministerial steering-group”. Monitoring and re-evaluation finally may concern administration and NGOs again. However, the Ministry of Finance was identified as the key player. Considering sequencing of reforms it was emphasized that clear property rights are a precondition for EFR.

The participants discussed various options to address different target groups with an awareness campaign: as a result the audience argued for broad marketing campaigns that sell EFR in a simple and eye striking way to the public. Additionally, international workshops and conferences should serve as

forums for exchange of experience and networking. In this respect South-South lesson learning was considered particularly useful and politically feasible; partly also compared to North-South learning. Nevertheless, many agencies involved in the policy process either lack political will or technical capacity (or both). Therefore capacity building is crucial. In this respect national training workshops for key stakeholders were seen as useful means to identify positions and common interests and to create visional networks within developing countries. Finally, there was consensus that fiscal instruments alone are not capable of tackling any environmental problem adequately. The “right mix” of instruments has to be identified.

Comments on the OECD-DAC Reference- and the Interagency Paper on EFR

“The advocate has to speak the language of the target group.”

– Ari Hotala, Ministry of Foreign Affairs, Finland

Introduction

Stephan Paulus (GTZ, Germany), Remy Paris (OECD) and Paul Steele (DFID, UK) gave a short introduction to the background of the two papers. Development cooperation has moved over the last years from project to macro level and EFR is one tool to “green” these macro processes. The shorter OECD-DAC Reference Paper intends to reach political decision makers, particularly within the donor community, while the Interagency Papers serves as a much more detailed resource book and is also directed more explicitly at developing country institutions. Both papers are in the first place addressed at non-environmental actors.

Discussion

The OECD-DAC Reference Paper and the Interagency Paper on EFR received a lot of appraisal (for the draft executive summary, please refer to Annex V). They were widely considered as very useful, although some fine-tuning was still said to be required. This included the following remarks:

- It should be stated already in the introductory parts of the papers that EFR is not only an instrument but also “a policy process”.
- The country examples in the paper are very much biased towards the South. More examples from Eastern countries could be included.
- Some references should be checked on correctness. It is recommendable to check whether commonly cited “best practices” really work in the field.
- It should be considered to include certain additional topics, e.g. mining, solid waste management, vehicle tax etc.
- More linkages to international frameworks and dialogues should be made (e.g. UNEP, UNFF).
- More tables, charts and/or graphics may be included.
- EFR should not divert attention from other initiatives (e.g. community management of resources) for their direct linkage with poverty reduction.
- It is important to clarify the objectives of EFR as well as a working definition upfront.
- Are the papers advocacy or descriptive papers? This could be made clearer.
- Some refining should go into revisiting the balance of the three objectives of EFR (poverty reduction, environmental protection and revenue generation).
- The linkages between EFR and economic growth need further attention.
- Issues related to decentralisation (of fiscal revenues) should be reflected in more depth.
- 10 selling points for EFR could be elaborated to display the benefits of EFR in a simple and eye-catching manner.
- The recommendations part (also for the donors) still needs to be fleshed out significantly.

Recommendations, Follow-up and Next Steps

“We don’t need a mega-programme of EFR. We need a small pilot project, that can demonstrate a change and serve as a success story.”

– Divya Datt, The Energy and Resources Institute (TERI), India

For discussing the follow-up and next steps participants split up in two groups, one on the role of and recommendations for donor agencies, the other on the role of developing countries’ governments.

Recommendations for Development Cooperation and Donor Agencies

Capacity building for the environment was seen as still crucial for donor agencies. The environment departments should capacitate themselves for addressing issues in a way that make them appealing to their department dealing with fiscal and macro-economic issues. This implies increasing the economic competency available in environment departments.

EFR should not be sold as one-size-fits-all. Some PR will have to be done. Depending on the target group (whether intra-agency or partner-country institutions) different “marketing” approaches might need to be taken. In the donor community linking the issue strongly to the MDGs, poverty reduction and sustainable development is key. In addition, at this stage of the EFR discussion it may be important to simplify and use labels in order to get the main messages of EFR across without watering down the issue.

EFR should be started on project and programme basis, build on ongoing processes and the framing of the initiatives by donors should also involve other partner ministries than the Ministry of Environment.

Participants recognised the need for EFR to be demand-driven, although lack of technical capacities and low public awareness may limit articulation of demand. Equally, in development cooperation environment seems to be a “fading” issue. Marketing campaigns at different levels may help to “create” this demand. Therefore it is important to simplify to help people understand the messages.

Ongoing EFR(-like) processes need to be identified and communicated.

Recommendations for Developing Countries Governments

Entry points for EFR depend on the country-specific institutional set-up. The current stage of the policy cycle will have to be considered.

For the environment and sector ministries to comply with their role to provide sound data on environmental problems capacity building is crucial. Otherwise this lack of capacity of a key player will hamper reform progress in several stages of the implementation process. This applies especially to countries with a decentralized administration.

Loopholes for abuse of regulations were identified as one reason why reforms are often rejected. Therefore policy design has to be made very thoroughly. Sharing experience can contribute to avoid these loopholes. Furthermore, giving monitoring agencies more power will limit the scope for corruption.

South-South lesson learning was considered much more useful and politically feasible than a North-South approach.

Closing Remarks

In the closing remarks the informal and open atmosphere, vivid participation and good results were emphasized. It was commonly felt that the interdisciplinary workshop had contributed to understanding each others’ perspectives better. There was a feeling that the EFR process has gained momentum and should not be left to only finalising the papers discussed at the workshop but in addition result in further, more specific and implementation oriented activities.

Next Steps

The deadline for written comments on the papers as well as revised versions for the country studies to be published next year was set for the 10th of December 2003 (to be forwarded to GTZ, Jan Peter Schemmel). In spring 2004 the workshop proceedings will be published together with the presented country studies and probably the sector workshop proceedings. In the first half of 2004 the OECD-DAC Reference Paper and the Interagency Paper will be published and launched. For a more detailed time-plan with regard to the two papers finalisation, please, refer to Annex VI. Participants will be updated about further follow-up activities (e.g. in the scope of the OECD-DAC work programme on EFR). For this matter, everybody is encouraged and welcomed to send information on follow-up activities to GTZ for distribution.

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Annex 2: Agenda of the Berlin Workshop

Environmental Fiscal Reform (EFR) – Synthesis and Follow-up 24/25 November 2003 in Berlin

Background

In November 2002 the Working Party Environment of the OECD Development Assistance Committee (DAC) mandated the development of a Work Programme on Environmental Fiscal Reform (EFR). The programme was agreed with a wide range of experts and stakeholders including country teams from China, India and South Africa at a scoping workshop hosted by the OECD in January 2003.

Part of the programme is the development of a “reference paper” on environmental fiscal reform. This paper will build on existing experience and focus on the political challenges to implementation and ways to overcome them. The final version of the paper will take two forms – publication as a brief, political OECD document and as a more comprehensive and case-illustrated joint interagency paper. This process will be enriched by separate country as well as sector case studies including international workshops on fiscal reforms in the forestry and fisheries sector.

Objectives of the Workshop

To bring together and present the results of the OECD-DAC work programme on Environmental Fiscal Reform (EFR):

1.
 - a. drafts of the OECD-DAC reference and interagency paper on EFR,
 - b. forestry country case studies & international workshop hosted by the World Bank
 - c. fisheries country case studies & international workshop hosted by FAO
 - d. country experience with EFR in South Africa, China, India and elsewhere.
2. To comment on and discuss the above with a group of key stakeholders particularly including developing country perspectives.
3. Agreement on how to follow up within each institution and agency on EFR.

Participants

The workshop is targeted at developing country partners, representatives of development and international agencies and international experts (from both finance and environment). This includes those involved in the January 2003 workshop on EFR hosted by the OECD in Paris, members of the OECD DAC ENVIRONET and Poverty Environment Partnership (PEP) and at all those who contributed to the various elements of the EFR work programme. The workshop will be limited to about 60 participants.

Agenda

Sunday 23 November (for early birds):

20:00 Informal dinner

Monday 24 November

Time	Session	Speakers, moderators, rapporteurs
		Workshop-Moderation: Mohamed El-Khawad (GTZ)
8:30	Registration	
9:00	Welcome and workshop objectives	<ul style="list-style-type: none"> • Philipp Knill (BMZ) • Arno Tomowski (GTZ) • Paul Steele (DFID)
9:30	Environmental Fiscal Reform – setting the scene (short input and panel discussion): <ul style="list-style-type: none"> • What do we mean by EFR? • How EFR links in to the international development framework: EFR and the MDGs, the Johannesburg Plan of Implementation, the WTO round, the PRS process, and the governance discourse? • Discussion 	<ul style="list-style-type: none"> • Jim Prust (Assistant Director, Fiscal Affairs Department, IMF) • Dharmendra Sharma (Director, Indian Ministry of Finance) • Nalin Kishor (ESSD, Worldbank) • Wolfgang Schmitt (Managing Director, GTZ) Moderator: <ul style="list-style-type: none"> • Stephan Paulus (GTZ and Co-Chair of the ENVIRONET of the OECD-DAC)
10.45	<i>Coffee Break</i>	
11:15	Fiscal reforms in the forestry and fishery sectors – similarities and differences (inputs and room discussions) <ul style="list-style-type: none"> • forestry fiscal reforms • fishery fiscal reforms Discussions	<ul style="list-style-type: none"> • Nalin Kishor (ESSD, Worldbank) • Boaz Blackie (Uganda) Moderators: <ul style="list-style-type: none"> • Harald Lossack (GTZ) • Remy Paris (OECD)
12:45	<i>Lunch Break</i>	
13:45	Feedback from the room discussions to the plenary	
14:00	Comprehensive EFR (input) & Country Case Studies (interview round and plenary discussion): <ul style="list-style-type: none"> • South Africa • Tanzania • Germany • India • China • Lebanon Discussion	<ul style="list-style-type: none"> • Kai Schlegelmilch (German Federal Environment Ministry) • Cecil Morden (South Africa; National Treasury) • Dr. Adolf Mkenda (Tanzania; University of Dar es Salaam) • Kai Schlegelmilch (Germany; Federal Environment Ministry) • Gopal K. Kadekodi (India; Institute for Social and Economic Change) • Prof. Yang Zhigang (China; Chinese Academy of Sciences) • Charles Abdallah (Lebanon) Moderator: <ul style="list-style-type: none"> • Paul Steele (DFID)

Time	Session	Speakers, moderators, rapporteurs
16:00	<i>Coffee Break</i>	
16:30	Challenges for EFR and how to cope with them (break out groups)	
18:00	End of programme	
19:00	<i>Dinner & cultural event</i>	

Tuesday 25 November

Time	Session	Speakers (some still to be confirmed)
		Workshop-Moderation: Mohamed El-Khawad (GTZ)
9:00	Summary of Day One	• Arno Tomowski (GTZ)
9:15	Presentation of break out groups on overcoming challenges to EFR & plenary discussion	• Rapporteurs Moderation: • Arno Tomowski (GTZ)
10:30	<i>Coffee Break</i>	
11:00	OECD-DAC Reference Paper & Interagency Paper on EFR: presentations & discussion	• Remy Paris (Secretariat of the OECD-DAC ENVIRONET) • Paul Steele (DFID) Moderation: • Mohamed El-Khawad (GTZ)
13:00	<i>Lunch Break</i>	
14:00	Follow up and next steps: working groups	
15:00	<i>Coffee Break</i>	
15:30	Follow up and next steps: Feedback into plenary and discussion	Moderation: • Arno Tomowski (GTZ)
16:15	Sum-up and Final Remarks	Moderation: • Arno Tomowski (GTZ)
17:00	<i>Informal conclusion with coffee, tea, cake & biscuits</i>	
17:30	<i>End of Workshop</i>	

Part II

EFR Policy Paper

For Official Use

DCD/DAC/ENV(2003)4/REV

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

26-Apr-2004

English - Or. English

**DEVELOPMENT CO-OPERATION DIRECTORATE
DEVELOPMENT ASSISTANCE COMMITTEE**

DAC Network on Environment and Development Co-operation

**FIRST DRAFT REFERENCE DOCUMENT ON ENVIRONMENTAL FISCAL REFORM
(EFR) FOR POVERTY REDUCTION**

(Note by the Secretariat)

The DAC Network on Development Co-operation and Environment (ENVIRONET) has undertaken to explore issues relating to fiscal and market-based policies for poverty reduction and environmental management. A Task Team led by the United Kingdom and Germany has been established to lead this work. An International Scoping Workshop, hosted by the OECD in January 2003, set out the directions for this work. A first draft reference document on Environmental Fiscal Reform (EFR) for Poverty Reduction was prepared for discussion at the meeting of ENVIRONET on 2-3 October 2003 [DCD/DAC/ENV/M(2003)1/PROV]. Subsequently, a Synthesis Workshop held in Berlin on 24-25 November, reviewed the draft Policy Reference Document. This document is the result of the work of the Task Team. It is circulated to ENVIRONET members for FINAL REVIEW AND COMMENTS; these should be submitted to the Secretariat by 28 May 2004. Subsequently the document will be proposed for DECLASSIFICATION, with a view to being published in the DAC Guidelines and Reference Series

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The DAC Network on Development Co-operation and Environment (ENVIRONET) has undertaken to explore issues relating to fiscal and market based policies for poverty reduction and environmental management. A Task Team led by the United Kingdom and Germany has been established to lead this work. The Netherlands and Sweden have also provided active support to the Task Force. An International Scoping Workshop, hosted by the OECD in January 2003, set out the directions for this work. A First Draft Reference Document on Environmental Fiscal Reform (EFR) for poverty reduction was prepared for discussion at the Meeting of ENVIRONET ON 2-3 October 2003 [DCD/DAC/ENV/M(2003)1/PROV]. Subsequently, a Synthesis Workshop on 24-25 November, in Berlin, reviewed the DRAFT Policy Reference document as well as other outputs from this work, including results from international workshops on EFR in the forestry and fisheries sectors, hosted respectively by the World Bank and the FAO in October 2003.

At all stages, the work had benefited from the active participation of experts from China, India and South Africa as well as from the International Monetary Fund, UNEP and the World Bank. The Task Team has also benefited from assistance from the OECD Directorates responsible for Environment, Agriculture, Fiscal Affairs and Trade, in the context of OECD-wide work on Sustainable development. This document is the result of this work.

Reference Document on Environmental Fiscal Reform for Poverty Reduction

Summary and Recommendations

1. **“Environmental Fiscal Reforms” (EFR) are a key instrument for raising fiscal revenues and fighting poverty while furthering environmental goals.** EFR approaches and instruments complement and strengthen regulatory and other approaches to fiscal and environmental management.

2. **EFR can contribute to poverty reduction directly** by helping address environmental problems - such as water contamination and air pollution – that impact the poor. EFR can also help *indirectly*, by generating or freeing up resources for investment in infrastructure which is critical for the poor, such as water supply and sanitation. EFR can also help free-up budget resources for other kinds of pro-poor investments such as health and education. EFR can therefore play an important role in pursuing the Millennium development goals of *“halving absolute poverty by the year 2015”* and of *“reversing the loss of environmental resources”*.

3. **EFR approaches are an important part of the development policy tool kit.** This was pointed out on the occasion of recent UN Summits on Financing for Development (Monterrey) and on Sustainable Development (Johannesburg) in March and September 2002 respectively. The WSSD stressed that poverty reduction and improved environmental management go hand in hand.

4. **The range of EFR instruments is wide.** Different EFR approaches and instruments are applicable to different sectors and issues. This document covers instruments most relevant to developing countries. These includes taxes on natural resource extraction such as fisheries and forests, cost recovery and pricing measures to improve access to basic services such as water and energy, taxes and subsidy reforms to discourage the use of environmentally damaging products, as well as taxes and fees to control harmful industrial pollution and waste.

5. **Comprehensive approaches to development, such as “Poverty Reduction Strategies” and “sector-wide approaches” provide important opportunities for EFR.** These approaches provide new opportunities to integrate EFR in the context of country-led national and sectoral development plans. Medium term expenditure frameworks (MTEF), in particular, address directly issues relating to fiscal revenue collection and tax and pricing reforms. A number of Poverty Reduction Strategy Papers make reference to EFR approaches to address either fiscal or environmental objectives relevant to the poor.

6. **EFR measures are feasible in most developing countries and indeed are applied by many.** However, different measures may be more appropriate for different countries and sectors. While there can be no simple generalisation, broadly:

Natural resource pricing measures, such as taxes for forests and fisheries exploitation, are relevant for most resource-rich countries – which tend to be the low income countries.

Reforms of product subsidies and taxes are applicable to most countries, but particularly energy producers where fuel subsidies are often high.

Cost recovery measures such as user charges on energy and water, are applicable to most countries but must be implemented carefully to protect the poor.

Pollution charges are particularly relevant for rapidly-industrialising middle-income countries where industrial pollution is a serious problem but administrative capacity relatively strong.

7. **The fiscal, environmental and poverty-reduction benefits of EFR can go hand in hand. But this is not automatic.** There can also be trade-offs between various objectives which must be addressed explicitly. EFR requires careful policy design, taking account of issues relating to (i) equity; (ii) fiscal and environmental effectiveness; (iii) administrative feasibility and efficiency and, (iv) political feasibility.

8. **The “political economy” dimension of EFR is key. Essential steps in policy design include** identifying likely winners and losers and understanding the perspectives and interests of affected stakeholders – political leaders; poor and vulnerable groups; the private sector; the government; civil society groups; and the media. How the revenue raised (or freed up) as a result of reform is allocated is also crucial.

9. **The EFR policy cycle involves a number of linked phases. Donors can play important roles at each stage:**

a) “Agenda setting” stage

10. EFR must start with a sound understanding of the issue to be tackled, including notably its impact and causes and its relative importance in view of the many pressing issues facing a country. **Donors** can play an important role in this regard by supporting the work of Universities, research groups and international organisations in relevant areas.

b) Policy development stage

11. “Policy Development” involves an assessment of the mix of instruments (fiscal and non-fiscal) which could be used to address the problem identified most efficiently, given existing socio-political and institutional conditions. It also includes identifying potential “winners” and “losers” from reform and possible compensatory measures. Through their support to various economic sectors, notably through Poverty Reduction Strategies and sector-wide approaches, **donors** can encourage integrated, cross-sectoral policy reforms including in relation to EFR. This includes, in particular, ensuring that available opportunities for “win-win” EFR approaches are not missed.

12. Donors can also support those sectors of government (such as Finance or Environment ministries) who favour reform to overcome bureaucratic inertia or resistance from hostile ministries or agencies. They can also encourage transparency, access to information concerning public finances, public participation, and accountability, which are key preconditions for sound policy development and, more generally “good governance”. They can support capacity development, notably in the relation to the measurement of implicit taxes and subsidies and the quantification of impacts.

c) “Dialogue, information dissemination and advocacy” stage

13. Identifying a problem and possible solutions is not enough. Securing and political acceptance and public support for EFR proposals often requires active advocacy, including through public awareness campaigns. Where the problems associated with corruption and patronage are serious, resistance to EFR and particularly around natural resources will be particularly strong and building strong alliances is vital.

14. **Donors** can contribute to such dialogues and awareness-raising, including through support to civil society groups. They can also support international sharing of experience and dialogue on EFR among developing countries governments, international organisations and NGOS. Examples of this include current initiatives, for example, on the transparency of extractive industries (Extractive Industries Transparency Initiative – EITI) and illegal logging (Forest Law Enforcement Governance and Trade Process – FLEGT). Donor agencies can also make available information on reform experiences from OECD countries, bearing in mind that many OECD countries also face various challenges in implementing successful EFR.¹⁸

d) “Implementation” stage

15. Implementation generally starts with public announcement of upcoming reforms preferably early on. It is important to give affected parties the time to prepare and adapt to the proposed changes. Gradual phasing-in of reforms is another way to reduce the transition costs.

16. **Donors** can play an important role by helping financing the transitional costs of reform, in order to protect the poor from negative impacts or to overcome politically powerful blockages. This also includes supporting technical co-operation to help industries adjust to change (e.g. by switching to cleaner production techniques).

Building the credibility of monitoring and enforcement agencies

17. Credibility is essential to sustain support for reform, and confront challenges from, for example, affected industries which have direct interests in portraying the monitoring agency as unprofessional, corrupt, or abusive. Environmental Agencies must also be credible vis-à-vis Ministries of Finance. This includes, in particular, confirming to existing rules and principles of public expenditure management. This is particularly crucial when environmental agencies are entrusted with the collection and management of

¹⁸ For instance, while various OECD countries have substantially extended the use of environmental taxes since the early 1990s, there are currently still many exemptions and tax rate reductions currently granted to sectors most exposed to international competition. For a more detailed discussion of these issues, see the Final Report to Ministers of the OECD Ad Hoc Group on Sustainable Development (forthcoming, 2004).

taxes or fees or when the proceeds from environmental taxes and fees are earmarked and transferred to them for environmental management purposes. The capacity of fiscal authorities to collect and administer existing taxes (including compliance monitoring and enforcement) may also need to be enhanced for proposals for fiscal reforms to be credible.

18. **Donors** can play important roles in providing technical assistance to develop partners' capacity in all these areas. In the case of natural resource, this may include the formulation of new management regimes as well as the formalisation and registration of property rights.

19. **General principles to guide donors' actions in all these areas include:**

Country ownership and sensitivity to local context

In their policy dialogue on EFR, donors must take full take account of local conditions. Donors should encourage country ownership and not force the pace. Donor agencies also have to be sensitive to political challenges of EFR and attuned to the cultural and historic particularities. They should avoid imposing "blueprints", but instead provide financial, technical, institutional and political support to countries' own efforts. Strong country ownership, in turn, encourages donor harmonisation and will shield countries from excessive donor influence.

Readiness to act opportunistically

In a politically and economically volatile environment, it is crucial to take advantages of windows of opportunities when they arise. A new political leadership – especially if it has popular support – can be the catalyst for major policy shifts. Donors should be prepared to seize on such new opportunities as they arise.

Pragmatism

It may be necessary and justified in some cases to deviate from standard fiscal practice and to earmark, or assign part or all, of tax revenues from EFR to a particular use in order to secure political and /or public support for important reforms. In such cases, it is essential to build in appropriate safeguards to ensure consistency with efforts towards fiscal consolidation.

Harmonisation, alignment and policy coherence

In EFR, as in other areas, donor support should be harmonised – with donors working together to avoid duplication of missions, studies or institutions. And it should be aligned behind country-owned and led strategies – and procedures. In this connection, EFR measures should be included in PRSPs, Medium-Term Expenditures Programmes and Sector-Wide approaches.

Coherence of donor country policies on environment and EFR is also vital: Donor countries can undermine the objectives of their development co-operation policies by inconsistent policies in other areas. Donor agencies should strive to raise this issue within their governments to draw attention to this risk and try minimize it. For example, export credit agencies should be urged to ensure that export interests do take account of development co-operation objectives relating to the environment and poverty. Similarly, donor agencies should raise awareness in their governments of, e.g., agricultural policies which distort world market prices, or fisheries agreements with developing countries which run against environment and poverty-reduction objectives.

Part III

Country Case Studies

Environmental Fiscal Reform in China

Achievements, Challenges and the Way Forward

(Paper presented at the Berlin EFR Synthesis Workshop, Nov. 24-25 '03)

Prof. Ma Zhong – Chairman, Environmental and Natural Resource Pricing and Taxation (ENRPT) Task Force, China Council for International Cooperation on Environment and Development (CCICED)

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Introduction

The opportunities and challenges that China currently faces in terms of environmental improvement, poverty alleviation and fiscal reform must be understood against the background of China's outstanding growth performance over the past two decades, the pervasive structural reforms that have supported and been prompted by this growth, and the long-term policy vision.

China's years of highest growth coincided with a period of extensive reforms aimed at establishing the system of a "socialist market economy". In 1992 the Fourteenth National Congress of the Communist Party of China set the general framework of China's economic reform. A central plank of the reform agenda was reform of the pricing, public finance, and taxation systems. Prices were to be set by the market mechanism, and a new taxation system began to operate whereby tax revenue was shared by central and local authorities. To a great extent, China's huge efficiency gains can be pinned down to "getting the prices right". While this happened for many private goods, the same could not be said for public goods: in particular the existing pricing and taxation framework has failed consistently to account for costs and benefits associated with environmental externalities. To a great extent, EFR is motivated by the need to rationalise the pricing of public goods. ***In consistence with ongoing reforms, EFR has a logical role to play in compensating for the failure of market forces to adequately reflect environmental costs and benefits.***

Environmental improvement has also become a policy priority in its own right. China's rapid growth has come at a high price to the environment: the economic cost of growth in terms of environmental damage is estimated at between 3.5% and 7.7% of GDP per annum. There is now high-level recognition that this pattern of growth is not sustainable and that fundamental changes to the interface between environment, economy and society are needed if China is to realise its vision of a "well-off society". This is reflected namely in the recent upgrading of the State Environmental Protection Agency (SEPA) to ministerial rank, and the extension of its mandate to include 'green' issues. Government White Papers and policy statements increasingly make calls for integrated planning and cross-sectoral coordination. The notion that environmental and natural resources (ENRs) can support rather than constrain growth if properly managed is gaining currency in policy debates. ***The notion that improved ENR management is integral to long-term social and economic development has gathered political momentum.***

The Government of China (GoC) has made some good progress over the past decade in terms of environmental protection. However, traditional regulatory instruments are not keeping pace with the rapid structural changes: they are quickly becoming blunt and mistargeted. There is a need to revise the environmental policy framework to make it more flexible and responsive to changing market realities and more cost-effective. ***In the context of China's transition towards a market-economy, EFR is an appealing option for improving ENR management.***

This paper will briefly present the state of play with regard to EFR in China. The following section sets out the general context in which EFR is embedded. This is followed by a brief review of the evolution of EFR in China. The main issues are then highlighted, and the opportunities and obstacles discussed. We conclude with some thoughts on how to take forward EFR in China.

General Overview – the Context of EFR

Environment Policy in China

There have been significant achievements in environmental protection in China over the past two decades, particularly from the point of view of legislation and regulation. China has now established an environmental statutory framework that takes the Constitution¹⁹ as the foundation and the Environmental Protection Law as the main body. Many special laws on environmental protection as well as laws on natural resources related to environmental protection have been enacted and promulgated, the latest examples of which are the Water Act, the EIA law, and the Cleaner Production Act²⁰. Moreover, one of

¹⁹ The Constitution of the People's Republic of China stipulates, "The state protects and improves the living environment and the ecological environment, and prevents and remedies pollution and other public hazards," and "The state ensures the rational use of natural resources and protects rare animals and plants. The appropriation or damage of natural resources by any organization or individual by whatever means is prohibited."

²⁰ Other laws include the Law on the Prevention and Control of Water Pollution, Law on the Prevention and Control of Air Pollution, Law on the Prevention and Control of Environmental Pollution by Solid Wastes, Marine Environment

the most comprehensive environmental regulatory systems in the world – known as the Pollution Levy System (PLS) – has been in place since 1982. PLS revenues have increased steadily and in 2000 reached RMB 5.8 bn, covering about 25% of Chinese industrial enterprises. (The PLS will be discussed in greater detail further below).

Despite these notable successes, China is still facing serious problems of pollution and environmental degradation. The concentration of both air and water pollutants are among the highest in the world, causing damage to human health and lost agricultural productivity. Land degradation, desertification, soil erosion, deforestation, water shortage and pollution, loss of biodiversity all pose a threat to future sustainability of agriculture, with attendant food security concerns. Deforestation and grassland degradation is regarded as the most significant and serious environmental problem in China at present. Some new features of current problems include the rise of municipal and Non-Point Source Pollution. Old instruments, including the PLS, are not rising to the current environmental challenge, and need to be revised, reformed and supplemented.

Poverty Situation

China's historic achievements in terms of reducing poverty have been widely publicised. The incidence of poverty fell from 32.9% in 1978 to 15.1% in 1984 and then to 3% in 2000. These impressive inroads were possible because of the broad incidence of poverty in 1978 and the high and sustained growth since. Blanket education policies and anti-poverty programs took care of the rest. In the current context it is widely recognised that further progress in reducing poverty requires a very different approach. The current challenge of poverty reduction is very different because: (i) income inequalities – particularly between urban and rural, coastal and inland populations – have increased at an alarming rate over the past few years²¹; (ii) the majority of the current poor are concentrated in remote and mountainous areas where the natural environment is very fragile. These two features – growing inequalities and geographic marginalisation to environmentally fragile areas – are closely related in many ways. For example, China's rapid growth has resulted in increased competition for the use of scarce environmental resources such as water. This increases the vulnerability of the poor and causes conflict between the poor and more influential groups.

Past approaches either on poverty reduction or environmental protection have typically treated the two separately. To the extent that the linkages between the two were considered, the implicit assumption in planning had been of a zero-sum game between poverty reduction and environmental protection policies. There is now increasing recognition in planning circles that appropriate policies to reduce poverty will have to: (i) be better targeted; (ii) take account of complex and dynamic poverty-environment linkages. Indeed the focus is increasingly on policies for reducing the incidence of environmentally related or environmentally conditioned poverty.

Fiscal Context

Key Features of China's Fiscal System

In China there is a national structure of revenue and expenditure assignments, and associated general and special purpose transfers. Provinces have the autonomy to determine sub-provincial structures. Inequity in service provision occurs inter and intra-provincially. Expenditures are highly decentralised, whilst capacity to raise own source revenues and control of tax base or rates is limited. The system of transfers is insufficient and ineffective in reducing disparities and there is a range of poorly coordinated special purpose transfers.

Moreover, there is a complex system of equalisation and special purpose transfers from central and provincial governments. In general these are dominated by returned revenues (esp. VAT) to the location of origin, that have a disequalising effect benefiting rich areas with high rates of economic activity over poor areas. Control over the system of transfers is split between the Ministry of Finance (MoF), the National Development and Reform Commission (NDRC) (for capital transfers) and line ministries.

Protection Law, Forestry Law, Grassland Law, Fisheries Law, Mineral Resources Law, Land Administration Law, Water Resources Law, Law on the Protection of Wild Animals, Law on Water and Soil Conservation, and Agriculture Law. The Chinese government has also enacted more than 30 administrative decrees regarding environmental protection, and over 600 local laws on environmental protection.

²¹ China's official Gini coefficient was only 0.46 in 2000, well below most other developing countries.

Previous reforms to the system of intergovernmental finance have led to significant increases in central government revenues, but also introduced some new distortions. For example, the 1994 tax sharing reforms which aimed at centralising revenue and altering the mechanisms for sharing revenue with the provinces, stopped at the provincial level (so that sub-provincially there are different structures) and did not take account of critical changes to expenditure responsibilities. As a result many county and township governments, especially in poor areas, are unable to meet their expenditure responsibilities, and public service delivery is deteriorating in many areas as a result. ***There is now growing recognition of the need for comprehensive reform of the intergovernmental fiscal system.***

Recent Reforms

In the short-term, the Government of China is engaged in a vast **fee-to-tax** program of reform, aimed at consolidating the large number of existing fees (off-budget) into unified taxes, in order to bring these revenues into the budget and overcome the characteristic inconsistencies between fees. In the long-term the GoC is considering a more profound reform of the tax system. The broad aims of taxation reform are to:

- (i) Adjust properly the macro size of the taxation by increasing the percentage of the total taxation to over 20% of GDP;
- (ii) Optimize the taxation framework by re-analyzing the necessity and effectiveness of some taxes with specific purposes, and adjusting the proportion between direct and indirect taxes and central and local taxes;
- (iii) Improve the composition of major taxes (e.g. current revision of special consumption taxes)
- (iv) Strengthen the macro control capacity by increasing the percentage of central tax in the total taxes; and
- (v) Enhance the taxation collection and management

Institutional Set-up for EFR: Actors, Rules and Interactions

At the central executive level, there are four key bodies to consider: the Ministry of Finance (MoF); the National Development and Reform Commission (NDRC); the State Taxation Administration (STA); and the State Environment Protection Agency (SEPA). If we consider how different functions and responsibilities are divided between these, we may get a clearer picture of why it is that the need for EFR arises.

Pricing policy comes under the domain of the NDRC. The NDRC is essentially market-oriented: its role is to ensure that market forces may effectively play out to determine prices. As such there is no effective framework for the pricing of *public* goods at this level. Prices of public goods can however be influenced indirectly through the taxation system, which comes under the authority of the STA. The STA's key and overriding function, however, is to raise and collect revenues, not to adjust the pricing system. Moreover, the STA is merely an implementing agency: the final decisions on taxation are made by MoF, which is also in charge of public expenditure decisions. Similarly, SEPA is but an implementing agency for the NDRC: it can submit proposals to NDRC regarding user charges/ fees, but NDRC gets the final word on the rates charged.

In terms of enforcing regulations, which is the primary function of the system of pollution charges, local authorities are responsible, often the local Environment Protection Bureaus (EPBs). These are more often interested in growth and firm's profits (and tax contributions) than in their long-term environmental impact. *Local authorities work towards a growth target, not an environmental one.* Moreover EPBs, and the state system more broadly, have control and oversight mainly over large and medium sized State-Owned Enterprises (SOEs). These however, are not the primary culprits for pollution problems. Between 1990 and 1995 their combined pollutant emissions declined by 9%. Regulation developed in the early 1990s has apparently been effectively enforced at medium and large-sized SOEs where central government has the most clout. It is small private enterprises that pose the greatest environmental threat. This sector has mushroomed in the last 20 years, and accounts now for roughly three quarters of gross industrial output (compared to 45% in 1990 and 14% in 1980). Their small size, and the fact that they usually locate in remote rural areas, mean that they usually operate beyond central government oversight.

EFR – The Chinese Experience

As things currently stand, there is no integrated environmental and natural resource pricing and taxation framework in China. Strictly speaking, no single tax in China's current tax system should be labelled as an "environmental tax", but several taxes may have some potential impacts on environment and natural resources – what we will refer to as "environmentally-related taxes".

We will also consider environmentally related charges/ levies, although these are conventionally understood in China as a pricing issue that by-passes taxation. We choose to do so because: (i) charges are seen as temporary measures, not permanent solutions, and eventually many charges will therefore be replaced by taxes; (ii) in order to keep consistent with the terminology used in the EFR report.

Environmental Related Taxes in China

In the current taxation framework taxes related – directly or indirectly – to environmental and natural resources can be seen in table I.

Table I: China's Current System of Environmental Related Tax

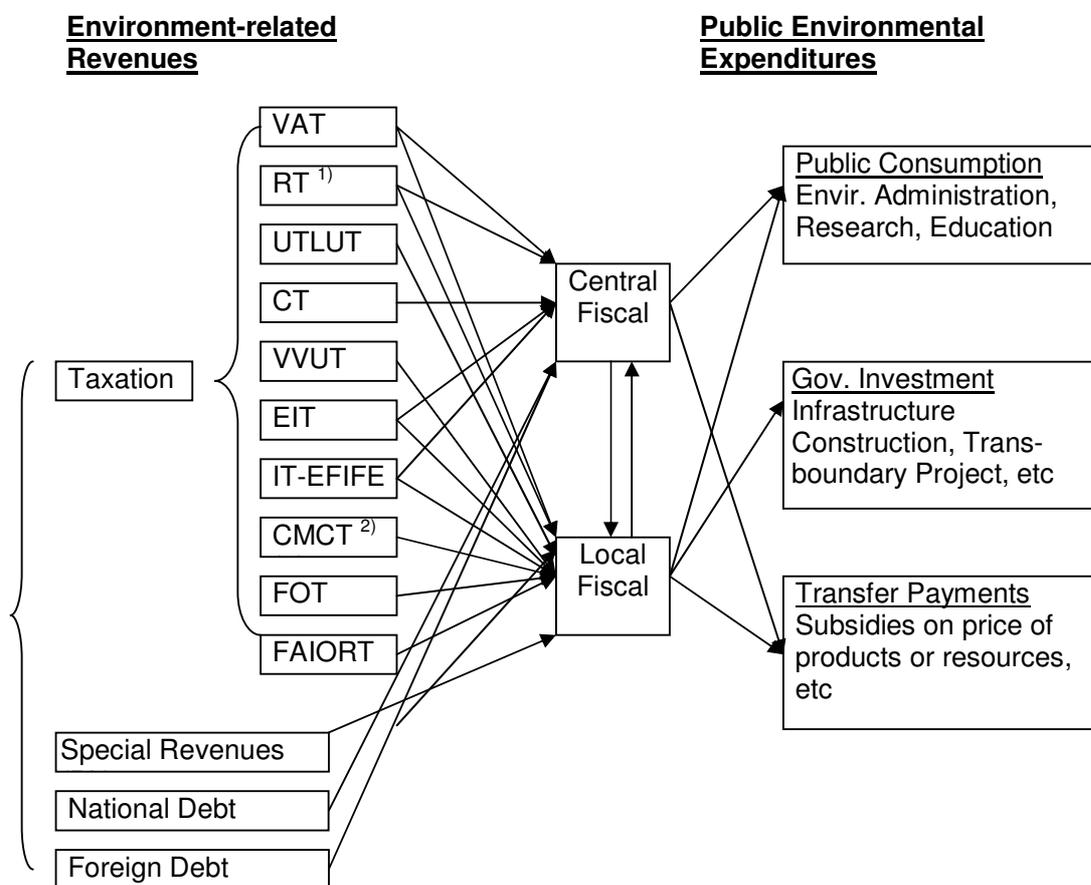
Category	Tax
Value Added Tax	VAT
Property Tax	Vehicle and Vessel Usage Tax (VVUT)
	Urban and Township Land Use Tax (UTLUT)
Turnover Tax	Consumption Tax (CT)
Resources Tax	Resources Tax (RT)
Income Tax	Enterprise Income Tax (EIT)
	Income Tax on Enterprises with Foreign Investment and Foreign Enterprises (IT-EFIFE)
Special Purpose Tax	City Maintenance and Construction Tax (CMCT)
	Farmland Occupation Tax (FOT)
	Fixed Assets Investment Orientation Regulation Tax (FAIORT)

Source: Ma Zhong and Wu Jian (2003)

As table I shows, six environmentally-related taxes have been introduced within China's tax system: a natural resource tax, a consumption tax, an urban construction and maintenance tax, a vehicle use tax, a fixed asset investment direction adjustment tax and a land use tax. These six taxes account for about 8% of national tax revenue. Consumption taxes are currently imposed on five energy-related products including: gasoline, diesel oil, motor tires, motorcycles and cars. These taxes are considered 'environmentally related' as they provide scope for environment-based tax differentiation (this is currently being discussed in policy circles). Property taxes apply to vehicle use and land value investment and are environment-related in a similar way to the consumption tax. The vehicle and vessel usage tax is not intended for environmental protection purposes but may potentially have such a function because of the differentiation according to tonnage of ships and trucks, and by type of cars.

Among these the **resources taxes** are the ones with the most explicit environmental dimension. China now has resource taxes on coal, petroleum, natural gas, salt, and urban land use. The main purposes of these however are not to promote conservation or sustainable use of natural resources, rather to adjust the incomes of companies and promote market competition. Moreover, the current resources taxes only focus on non-renewable resources and do not cover renewable resources (e.g. forests, water etc).

Figure I: Environment Related Revenues and Expenditures



Source: Ma Zhong and Wu Jian (2003)

Notes: As showed in the above chart, some of the taxes are central tax revenue, some are local tax revenues, the rest are shared by the central and local governments, in which:

- (1) RT: the tax paid by offshore oil enterprises belong to the central government, and the rest to local governments;
- (2) CMCT: The part consolidatedly paid by the railway department, the headquarters of various banks and the headquarters of various insurance companies belong to the central Government; the rest to local governments.

Special Revenues – PLS and Water Fees

Taxes make up the majority of public revenue, but currently those public revenues with an environmental intention mainly show up as special revenues. There are two types of special revenues directly related to environmental concerns: pollution charges and fee on urban water resources. The fee on urban water resources is a price that the government set for natural resource use. A pollution levy is charged on pollution discharge and in theory is meant to internalize the external costs caused by polluting behaviour.

All pollution levies are effective under the pollution levy system (PLS) which was introduced nation-wide in 1981. The PLS applies to air emissions as well as water discharges and solid waste and noise pollution²². Central government sets the level and structure of pollution levy, but responsibility for collecting the charges is with the local Environmental Pollution Boards (EPBs). This effectively leaves in the hands of the local environmental authorities (LEA) responsibility of establishing how much of the calculated levies they would collect from each facility. Charges were initially imposed on emissions of 113

²² At presents it functions more like a non-compliance fee system, but reforms are being considered whereby it will play a more significant and direct role in influencing incentives.

substances, but as capacity was built up over the years, this has been expanded to close to 200. Additional charges have also been applied to provide further incentives for compliance with the PLS.

Despite the impressive overall performance of the PLS, important weaknesses have been identified. Firstly, levy rates have not been indexed to prices, and thus have failed to keep pace with growth of industrial output. Given that the magnitude of the levy generally ended up being much lower than incremental pollution costs, the incentives were weak for polluters to invest in clean up rather than pay charges. Moreover, the pollution levy was assessed only on industrial sources. Finally, enforcement has proved difficult given that EPBs do not have sufficient capacity to pursue all sources within their jurisdiction.

To address these weaknesses, the State council has announced major changes to the PLS, which will come in to effect from July 1, 2003. These include extension of the levy to cover small private enterprises that were previously exempt, and shifting payment of levies and charges to the main local budget rather than the EPBs. These new measures – which have been praised by various international donors – will be supported by new laws, to come into force in the course of 2003.

Environmentally-Related Subsidies

Important agricultural inputs are priced well below their full resource costs in China. Inputs such as chemical fertiliser and pesticides are subsidised (negatively taxed) since the cost of environmental and health damages are not reflected in the prices paid for these inputs. The farmgate prices of basic staple grains such as rice and wheat are also significantly below the full resource costs for the same reasons. At the same time farmers in China are subject to multiple local taxes with arbitrary and sometimes high rates.

Some Concrete Implications of EFR in China

With reference to specific sectors, EFR in China will entail the following:

- Raising the price of water, heating and gas;
- Imposing charges on urban wastewater treatment, urban waste management and hazardous waste disposal to enable the construction and operation of new urban environmental infrastructure;
- Within the framework of reform of the power sector, include the cost of desulphurisation facilities in power plants as part of the price of power. In addition, mobilise enterprises' interest in air pollution control and urge coal-burning power plants to install desulphurisation equipment and maintain it;
- Phasing out gradually irrational subsidies for pesticides, irrigation water and energy;
- Establishing favourable investment and taxation policies and import/ export regulations for environmental technologies to attract domestic and foreign investors.

More detailed recommendations put forward by the CCICED Environmental Economics Working Group are presented in Box I below.

Box I: Recommendations put forward by the CCICED Environmental Economics Working Group to the GoC (Oct 2002)

Environmental taxes on energy products and vehicle use

SO₂ tax on coal

- Tax rate: based on the work done by the WGEE in the first phase, a preliminary suggestion is 865 yuan/ton SO₂ (WGEE, 1977), and it is four times as high as that charged at present.
- Levy methods: for large users - emission tax, for small ones - product (consumption) tax based on its content of sulphur (at present, the scope of the product tax may be limited to users living in city and town regions).

Resource tax on coal

Based on the research previously conducted under the China Council for International Cooperation on Environment and Development, the resource taxes mainly aim at adjusting differences in natural

quality of coal between different resource developers, and do not reflect the value of resource. For example, for most coal firms in China, the rate of resource tax on coal is less than 0.5 yuan/ton, but the real value (user value) is about 6 yuan/ton. The increase of resource tax rate on coal will increase fiscal income, and decrease the air pollution with coal consumption (Stein et al, 2002).

- **Consumption Taxes on Gasoline and Diesel Oil**

The tax burden (in terms of percentage of tax to price) on gasoline and diesel oil is lower than that in OECD countries, so there is potential for increasing the rate. At present, in cities with serious air pollution, extra consumption taxes on gasoline and diesel oil may be added aiming at controlling air pollution. For example, in cities with serious air pollution from vehicle tail gas, standard cleaning equipment on vehicle should be required, and the tax rates on gasoline and diesel oil should be increased as well.

Water pollution and environmental taxes

- Treatment charge on domestic sewage: in cities, domestic sewage charge (or tax) should be levied in order to raise funds for the construction and operation of central disposing factory of waste water.
- Taxes on water pollution: for large and middle enterprises – effluent and emission taxes should be levied; for small ones – output taxes based on their output and the standard emission rates should be levied.

Environmental taxes on agricultural inputs and other products

- In regions with major rivers and lakes, taxes on pesticide and chemical fertiliser may be levied in order to reduce water pollution and other pollution caused by chemical fertiliser and pesticide. A preliminary suggestion is to levy a 10% ad valorem tax on nitrogen fertiliser to encourage more balanced fertiliser use and limit the negative environmental effects of its overuse (see Study on Environmental Costs of Rice Production in Hunan and Hubei, 1999).
- In some major cities, it is appropriate to consider taxing on plastic bags in order to reduce its overuse or promote its recycle.

Investment tax incentives

- Taxes remit or accelerated discounting on environmental investments may be put into practice.

Source: see <http://www.harbour.sfu.ca/dlam/WorkingGroups/economics/99%20report.html>

Main Issues / Challenges for EFR

EFR as a Means to Rationalise the Pricing of Public Goods

Taxation has a crucial role to play in rationalising the pricing of public goods. This role is all the more pressing given the necessity to deal with environmental impacts of changes in China's patterns of production as a result of WTO accession. At the very least this will involve:

- (i) **Revising and improving the current PLS:** the PLS is essentially a non-compliance fine system and as such is ill-adapted to a rapidly changing context of transition. In reforming the PLS, there will be a need to specifically address: a) scale of charges, b) coverage of charges (e.g. extending PLS to cover private enterprises in rural areas), c) use of collected funds;
- (ii) **Building a strong basis for science-based policy-making:** The appropriate rates of environmentally-related taxes and charges has to be decided on the basis of sound assessments of environmental damage/ environmental values. The starting point of this is good data. At the moment two types of data are very uncertain: a) data on ecological degradation: there is no monitoring system for ecosystems; b) pollution data is very incomplete. What we need first of all therefore, is to put in place a nation-wide system of monitoring. This will be important also for purposes of enforcement (see below).

Making EFR Consistent With Other Policy Objectives/ Priorities

The overarching policy vision for the next two decades is to realise the goal of a 'well-off society'²³. Environmental improvement is an integral part of that vision. However, there will inevitably be significant trade-offs, where environmental objectives have to contend with economic growth, fiscal and social objectives.

Reconciling environmental improvement with economic development in the context of population growth, urbanisation and industrialisation is a tall order. Doing so will require: (i) working upstream to integrate environmental policies into national macroeconomic policies (e.g. finance, tax and banking); (ii) working downstream to integrate environmental objectives and best practices in social and economic development policies at regional and sub-national levels; and (iii) cooperation and improved coordination with other line ministries. To assist this process, there will be a need to address competitiveness concerns from industry and to demonstrate the contribution of environmental and natural resources to sustainable growth. Furthermore, it will be important to harmonise and balance the distribution of benefit/cost among the various interest groups, regions, and generations.

EFR will often involve drastic price increases. In order to **make EFR consistent with social objectives** the issue of affordability must be taken seriously: there should be systematic evaluation of distributional impacts, and consideration of compensatory / mitigatory mechanisms where EFR might lead to affordability problems.

Moving Towards Integrated Planning, Policy Making and Implementation

As we have seen, the institutional set-up is such that **there is a fragmentation of responsibility leading to three types of coordination failure**: a) between ministries at the central level; (ii) between central and sub-national governments; (iii) among sub-national governments. The following cases illustrate well some of these coordination failures:

- a) Natural reserves: these cover 12% of total surface area in China. However, there is no law in place on the protection of natural reserves. The State Council (equivalent of Cabinet) issued a decree stating that natural reserves are a responsibility of *sub-national governments* (regardless of the scope of their significance) but does not make explicit *which* level of government should be responsible, and what that responsibility entails. As a result there is very little expenditure on conservation of natural reserves.
- b) Watershed management: There are 7 big trans-boundary rivers. These have characteristics of public goods. Government policy makes no provision for upstream-downstream coordination for integrated watershed management. As a result, there is no incentive upstream or downstream for investing in water pollution treatment. This situation can be rectified if a system were in place for fiscal transfers from central government to upstream locality to pay for treatment.

The Importance of a Good Governance Framework

- **Specification of property rights** is a precondition for the application of economic instruments in environmental management. Indeed, in the absence of property rights, market signals may be wholly ineffective. It is also important in itself as it reduces uncertainty over access to, and development of resources. Box II provides an example of how clarification of property rights can supplement and support EFR.
- Importance of **transparency and accountability**: there is at present no rigorous system of accountability in public expenditure. Inefficiencies are rife as a result. The challenge for MoF is to introduce *systematic* and *overall planning* of expenditures. There is currently no overall accounting structure in the public budget for tracking environmental revenues and expenditures. Improving government budgeting and accounting practices and procedures is therefore key.

²³ The "Xiaokang", or literally a "Well-off", society includes but goes far beyond a much better off material life. It implies an equal standing for values of social equity and environmental quality alongside material betterment.

Box II: China's reforestation program

The Chinese government has spent an enormous amount of money on a reforestation program that involved dishing out public money to spend on planting trees on private land. This was a very costly approach and the same outcome could very well have been achieved at much lower cost by working on incentives through clarifying property rights and tweaking the tax system to influence the market price to increase the relative financial return on land used for forestation.

Obstacles to EFR

In putting EFR in to effect, difficulties will arise at every stage in the policy cycle, from agenda-setting and design to implementation and monitoring. In the early stages EFR will have to compete with other reform priorities, namely in health and education. In this competition EFR will be disadvantaged if it is led by SEPA, since SEPA is not formally a member of the cabinet, though it is of equal rank to ministries. The suggestion therefore is that in the early stages, EFR should be led by MoF.

Once EFR gets through the initial stages, the most obvious obstacle to implementation is a systemic one: the fiscal and environmental regimes are weakened by **split responsibilities** which may lead to **coordination failures**, and sometimes even to **institutional conflicts**, given unclear division of responsibilities and incentive-incompatibilities between ministries and levels of government. As we have seen, the main functions and concerns of the MoF, and NDRC – which are the decision-making agencies, is not environmental protection. Conflicts of interest may therefore arise. The main institutional conflicts are between SEPA and STA on the issue of *earmarking*, and between the SEPA and the State Economic and Trade Council (SETC) on *competitiveness impacts* of environmental taxes. There is also the problem of control and oversight in a multi-tiered fiscal system: central government cannot easily monitor delivery on centrally formulated policy directives at lower levels. With regard to the pollution levy and EIA compliance for example, anecdotes abound of the ease with which data can be manipulated and inspectors fooled or paid off.

Other important obstacles to implementation relate to **information** and **capacity** deficits. As previously mentioned, **data insufficiencies** mean that it is very difficult to get accurate data on pollution, environmental degradation, and environmental values, which is a necessary basis for determining appropriate rates of taxes/ charges. Putting in place a nation-wide system of monitoring should therefore be a high priority. But, even if accurate and reliable data were readily available, implementation may be made difficult because environmental authorities are grossly under-resourced. On most issues relating to EFR the MoF will have the final word and will draw on technical guidance from SEPA, but SEPA is grossly under-resourced to take on this role.

Finally, a crucial problem concerning implementation is lack of government oversight of private enterprises, particularly in rural areas. This is particularly important given the historical tendency of some enterprises to avoid compliance, and the fact that private rural based enterprises pose the greatest environmental threat in terms of industrial pollution.

Opportunities for EFR

The current climate of reform and transition in China and major developments in the environmental and fiscal policy fields provide important opportunities to address some of the barriers to EFR.

Changing Attitudes of Policy Makers to Market, Environment and Poverty

Over the past decade there has been a tangible change in policy-makers' approach to reform reflecting a better understanding of and increased reliance on markets and incentive-based instruments. Specifically, the move towards a market-based socialist economy and the impetus to streamline and rationalise state expenditures lends political momentum to the reform of subsidy policies.

Increasingly, there is demand for environmental improvement coming from outside SEPA. This is reflected namely in the upgrading of SEPA to ministerial rank. Concurrently, there has also been a growing realisation that using market-based instruments to work through incentives may be an effective way to improve enforcement and cost-effectiveness of environmental policy. The requirements of a rapidly growing economy are for the government to apply more flexible economic instruments in

environmental administration. Up to now bio-diversity protection, natural resources management and environmental investments have become important components of environmental protection. Global environmental issues, especially climate change, desertification and bio-diversity, are becoming very urgent national issues. Great Development in the Western Parts and the huge construction projects, such as Transferring Western Gas to the Eastern Region, Transmitting Western Electricity to the East, etc, have generated or will generate large scale financial demands for environmental protection. Under the background of rapid economic development and complex environmental issues, it is the time to strengthen central government's financial capacity in protecting natural resources and mitigating environmental issues.

Finally, there has been increasing political recognition of the importance of poverty-environment linkages and the importance of improving environmental quality as a means to reduce poverty. GoC has been setting poverty alleviation and environmental protection as policy priorities. This is demonstrated for example in the upgrading of SEPA to ministerial rank. Also, many govt programs, such as the Great Western Development Programme (GWDP) and the New Rural Poverty Reduction and Development Plan have put both environmental protection and poverty alleviation as parallel policy objectives.

Building on Existing Strengths and Synergies With Ongoing Reforms

Much useful legislation is already in place, as has been mentioned previously. There is of course much room for improvements in the current environmental statutory framework, but it does provide an excellent basis for environmental policy. What we need to do now is work on building capacity for effective enforcement. Similarly, the framework for integrated and cross-sectoral planning is already in place (e.g. through the NDRC and the China Council for International Cooperation on Environment and Development²⁴). Implementing economic instruments may catalyse reform of existing institutional and administrative arrangements, and in this sense may encourage cross-sectoral planning.

EFR may also build on synergies with broader objectives of fiscal reforms, e.g. rationalising of taxation system, general move from taxing income and savings to taxing consumption of goods and natural resources etc. More specifically, in the fee-to-tax reform there may be an opportunity for pushing for an integrated environmental tax framework. This will involve: (i) establishing individual environmental taxes by charging resource exploitation and polluting products; and (ii) overall assessing and reforming the existing taxes to make them encourage environmental protection and sustainable use of natural resources. There may also be important win-win opportunities in sectors where perverse subsidies are sizeable (e.g. energy and road pricing).

A Strong Legal Basis Supporting Achievement of Environmental Objectives

The numerous new laws and regulations (e.g. Water Act, EIA law etc) are a clear signal of the importance of environmental protection, and do help to close some important loopholes. Some areas are top priority for GoC and have received considerable political backing from the top. For example repeated awareness campaigns and tough targets for a 10% reduction in emissions of 12 key pollutants from 2000 levels by 2005 have created a much stronger will to tackle the issues, even at local level, and the new legislation provides helpful tools for those who want to improve compliance. The legal regime is backed up by various international donor projects, including the EU-China Environmental Management Programme, which includes a component to identify and encourage the uptake of cleaner technologies.

²⁴ Set up by the State Council in 1992, the China Council for International Cooperation on Environment and Development (CCICED) is a high-level advisory body to the Government, which aims to strengthen co-ordination between ministries to ensure integrated policy-making that promotes environmental sustainability, and socio-economic development.

Implementing EFR²⁵

To accommodate to the reality during the period of China's transition from planning economy to market economy and the primary phase of development, the reform of environmental taxation should be implemented gradually, especially when the tax rates are supposed to increase significantly. One proper method is to announce the introduction of a tax long before it is actually introduced; to introduce it at a level well below the desired final level, and to increase it gradually. The adjustment may take a period of 3-5 years, however, the direction of reform should be clear and the adjustment should be carried out firmly.

Environmental taxes have significant distribution impacts, which depend on local circumstances, location, time horizon and how the revenues from environmental taxes are spent. These impacts may be addressed for example through (a) differential taxation (lower taxes on necessities), (b) retraining, compensation of impacts and gradual implementation and (c) revenue neutrality, i.e. commensurate reduction of other taxes with high incidence on the poor, and (d) cross-subsidisation from rich to poor user groups.

To promote the reform of environmental taxation, some other measures should be carried out: 1) to reduce opposition from industrial sectors by tax exemptions and reinforce supports by the use of revenues from environmental taxes; 2) reforms on the use of funds raised by the pollution levy system; a) non-free use of the funds; b) reform the funds allocating mechanism and management system. 3) strengthen the legislation basis of environmental taxation.

Conclusions and the Way Forward

China is undergoing unprecedented reforms in at least three areas relevant to environmental taxation: institutional reform, fiscal reform, and environmental policy reform (especially of the levy system). Under the situation of serious pollution, low efficiency in the use of natural resources, and the demand for reforms on pollution levy system and taxation system, it is a proper opportunity to consider streamlining the current disparate systems of pollution charge and fees and environment-related taxes and integrating them into an internally consistent and economically efficient environmental taxation system. In doing so, a poverty and income distributional dimension needs to be explicitly built-in: effort is required to maximise poverty reduction outcomes. Effort should also be made to link up with national planning processes: GoC will be starting the process of preparing for the 11th Five Year Plan next year.

In the long-run, deep institutional reforms will be needed if EFR is to be taken further and made sustainable. There is a need for better mechanisms for coordinating planning across sectors/ ministries and between levels of government. Budgetary management and accountability is very weak in China, and an improved public financial management and accountability framework will be key.

²⁵ The following guidelines are adapted from the CCICED EEWG recommendations to the GoC, accessible at: <http://www.harbour.sfu.ca/dlam/WorkingGroups/economics/99%20report.html>

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Environmental Fiscal Reform in India

Issues and Some Steps Forward

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Disclaimer

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Introduction

Environmental issues are complex, multi-faceted and cross-sectoral in nature. Protection of the environment and management of natural resources thus requires a variety of instruments. Over the last few decades, economic instruments have been used to complement legislation-based environmental policy. Their use has been greater in the developed world, but developing countries are also making increasing use of such instruments. The use of these instruments in combination with others (Table 1) would be shaped by the existing constitutional, legal, and institutional framework.

Table 1: Institutions, strategies and methods for environmental management

Institutions	Strategies	Methods
Government (e.g. Pollution Control Boards)	Legal	Command and control methods (CAC)
Market (where the producers and the consumers who are affected by environmental problems meet)	Settling the price and compensations for environmental problems through bargaining and negotiations	Use of economic instruments or market based instruments
Community or associations of people	Involving all the stakeholders as participatory entities	Community based methods, or changing property rights systems

Scope of Environmental Fiscal Reform in India

Simply put, EFR (environmental fiscal reform) refers to the use of fiscal instruments for the management of natural resources. The instruments under the realm of EFR constitute the intersection of the environmental policy matrix and budgetary policies (both revenue and expenditure). These would include direct instruments such as pollution charges based on volume of pollutants discharged. Indirect instruments would include taxes on products or inputs that are environmentally harmful; tax concessions or subsidies (including soft loans) to encourage the use of or investment in cleaner technologies or products; and reduction of environmentally harmful product subsidies. EFR would also include in its realm pricing of natural resources and select publicly provided services, as the deviation of prices from the marginal cost of supply may be viewed as the tax or subsidy impacting on the government budget (Sankar 2002). Examples of such deviations are witnessed in several sectors in India.

Thus the following classification may be used to define the scope of EFR:

- Tax policy (direct pollution charges; indirect product taxes to encourage/ discourage the use of environmentally benign/harmful products; and providing an environmental orientation to reforms in general taxation);
- Expenditure policy (e.g., reducing environmentally detrimental subsidies; government expenditure through subsidies or allocations for environmental protection/ restoration programmes; research, development and dissemination of environmentally sound products and technologies; environmental education and awareness; etc.);
- Pricing of natural resources and other related services which would include capturing resource rents (e.g., user charges/fees for the use of water and electricity, and rents on forests, fisheries, minerals, etc.).

Environmental Fiscal Reform in India

The Fiscal Framework in India

It is important to understand the fiscal system of a country for studying the appropriateness of various fiscal policy options for that country. Fiscal systems can differ widely across countries. Federal systems with allocation of taxation and expenditure powers at different tiers - central, provincial and local- would require a different approach to EFR as compared to the centralised systems or fiscal systems in smaller countries. Similarly, for designing appropriate EFR strategies, fiscal processes also need to be understood in terms of the decision-making systems for introduction and change of taxes and expenditure allocations.

The Constitution of India, in the Seventh Schedule, prescribes the division of legislative powers (including taxation powers) between the Union and State Governments through the Union, State and Concurrent lists. Many environmentally relevant subjects such as water, land, agriculture, public health and sanitation, fisheries, and certain industries are state subjects. Railways, highways, maritime navigation, ports, airways, some industries, oil fields and major minerals, fishing beyond territorial waters, etc. are included in the Union List. On the other hand, subjects like electricity and forests are in the Concurrent list. While the taxation powers are exclusive, the expenditure powers are not so, which explains why the central government has many schemes in areas covered by state subjects including environmental matters.

Consequent to the 73rd and 74th Amendment of the Constitution of India, state governments have enacted enabling legislation providing for local self-governments both in rural and urban areas, including empowering them to levy duties and taxes in some areas. The fiscal authority of these institutions is defined through separate lists in the Constitution (eleventh and twelfth schedules). These lists describe the subjects, the schemes related to which, have been entrusted to the local self-governments. This last tier of governance in India, called the Panchayati Raj Institutions, is subject to specific fiscal powers being conferred by the state legislatures.

As far as taxation issues are concerned, the authority to levy taxes on sale of goods (except in the course of inter-state trade) lies with the state governments. Duties on export and import of goods and excise duties on production of goods (except for alcoholic and certain medicinal preparations) fall under the control of the Union government. Income taxes on corporate bodies and individuals (except taxes on agricultural incomes) are levied by the Union government. There is no specific entry in the Constitution in respect of taxes on services (except for certain specific services like entertainment). The Union government has accordingly assumed the authority to levy taxes on services under the residuary powers of entry 97 in the Constitution²⁶. In short, the value added tax system in India is quite fragmented, with powers to levy taxes on import, export and production of goods with the Union government while those to levy taxes on sale of goods are with the state governments. Taxes on services are largely with the Union government. There are initiatives to introduce a value -added tax system in the States and Union Territories. As and when introduced, this system will enable the linking up of the federal and states tax systems substantially, which may facilitate a more structured policy on environmental fiscal reform.

Some Attempts at Integration of Environmental Concerns in Policy and Planning

The first real impetus for developing a framework for environmental protection in India came after the UN Conference on the Human Environment in 1972. Environmental policy in the 1970s and 1980s recognized the need for an institutional identity to environmental policy making, resulting in the setting up of the Ministry of Environment and Forests (MoEF) as a full-fledged Ministry in 1985, and a spurt in environmental legislation leading to an extensive framework of environmental laws in the country (Appendix I). In addition the states set up their own legislative frameworks. Appendix II elaborates the case of Karnataka as an example.

Over time, the need was felt for the integration of environmental concerns in the planning process itself. Environment became an explicit part of the five-year plans, starting from the Sixth Five-Year Plan (1980-85), and its integration in sectoral planning was addressed through mandatory environmental impact

²⁶ The proceeds of Union taxes are divided between the Union and states according to the principles laid down by the Finance Commission, appointed every five years. A State Finance Commission, also appointed every five years, recommends transfer of fiscal resources to the local institutions from the state governments.

assessments of large projects. The government has also initiated the preparation of State of Environment Reports, based on which Environmental Action Programmes for each state are proposed to be designed. Notable recent initiatives include the preparation of National Biodiversity Strategy and Action Plan (NBSAP) and the passing of National Biodiversity Act in December 2002.

Use of Fiscal Instruments for the Environment

The government's approach towards prevention of pollution has been mostly in the nature of legislation-based command and control measures while natural resource management has been largely carried out through programmes supported by allocations from the central (e.g., programmes of Ministry of Environment and Forests, Ministry of Non-conventional Energy Sources, Ministry of Agriculture etc.) and state budgets. The use of fiscal instruments (other than expenditure policy) in environmental policy has been rather limited, even though the need to employ economic and fiscal policy instruments for the control of pollution and management of natural resources has gained steady recognition during the 1990s.

In the Policy Statement for the Abatement of Pollution, released in 1992, the MoEF noted the need for a mix of policy instruments in the form of regulations, legislation, agreements, financial incentives, etc to address environmental concerns. In the Ninth Five Year Plan (1997-2002), an important element of the environmental strategy was - 'integrating environment with decision making through valuation of environmental impacts; evolving market-based instruments as an alternative to the command and control form of environmental regulation; appropriate pricing of natural resources based on their long-term marginal cost of supply; appropriate fiscal reform and natural resource accounting'.

Mehta, Mundle and Sankar (1993/94) considered an abatement cost function for effluent treatment plant in paper and pulp units in India, and concluded that marginal abatement costs of relatively high cost producers should serve as the basis for setting charges/ taxes so as to ensure that producers find it cheaper to abate than to pollute. They recommended four options for experimentation by policy-makers: a) abatement charges with the government undertaking cleaning-up, b) abatement charges with cleaning-up contracted out based on competitive bidding, c) a tax proportional to excess pollution on firms violating standards and subsidies for those going beyond the prescribed abatement standards, and d) private permit trading system. A study conducted on "Incentives and Regulations for Pollution Abatement with an Application to Waste Water Treatment" (Mehta et al. 1994) at the National Institute of Public Finance and Policy in 1994 also advocated a greater role for market based instruments in India.

A Task Force was constituted by the Ministry of Environment and Forests in 1995 to evaluate MBIs (market based instruments) for industrial pollution abatement. The Report of the Task Force, submitted in 1997, recommended explicit incorporation of MBIs in pollution control laws, greater reliance on economic penalties in the short and medium term, and completely replacing criminal penalties by MBIs in the long run. The Task Force also recommended modification of the existing water cess to make it a genuine effluent-based tax based on the pollution load rather than the amount of water consumed, as also abolishing tax concessions on installation of pollution control equipment. The Task Force recognised the need for systematic data collection to estimate marginal abatement costs and the regulatory burden and called for the introduction of additional MBIs:

- i) Use of pollution taxes in accordance with the polluter pays principle, for small, dispersed sources of emissions/effluents;
- ii) Use of tradable permits for large firms provided there was an adequate number of firms in the market;
- iii) Levy of user fees differentiated according to the treatment cost imposed by each unit, to cover costs of Common Effluent Treatment Plants where individual treatment of waste discharge was not feasible because of the economies of scale.

At an international workshop on Economic Instruments for Prevention and Control of Industrial Pollution organized by the MoEF, the World Bank and the Confederation of Indian Industry at Delhi in June 2001, there was a consensus that the time was ripe for introducing Economic Instruments (EIs) in India. Four points were stressed during the deliberations:

- (a) EIs should complement the existing standards regime;
- (b) EIs should be used as an incentive mechanism to encourage industry to adopt environment friendly technologies;

- (c) Preparatory work should be undertaken on the relative costs and benefits of EIs compared with CAC instruments; and
- (d) Involvement of the stakeholders in the design and enforcement of EIs is necessary to ensure the success of EIs.

The workshop recommended pilot studies in selected areas for design and implementation of pollution charges, and constitution of a Task Force consisting of stakeholders, environmental experts and representatives of local bodies for this purpose. The workshop also made specific recommendations regarding the need for introducing a mix of pollution charges, industrial rating and disclosure programmes, tradable permits, bank guarantee/performance bonds, taxes on inputs and outputs, and public procurement favouring firms complying with environmental standards.

As a follow-up to the Workshop, the MoEF set up a Task Force in 2001 to expedite the implementation of pilot schemes on pollution charges in selected critically polluted areas (hotspots). The Terms of Reference drawn up for the pilot programme noted that given the legal issues and impediments involved in implementing a typical Baumol-Oates type of pollution charge scheme in India, the next best alternative needs to be adopted for providing a similar incentive to grossly polluting industries. The Terms of Reference suggested the following instruments as proxy pollution charges: i) water cess charge, ii) legislation on water pollution and conservation, iii) bank guarantees based on marginal costs of abatement, iv) pollution charges based on estimates of marginal costs of abatement. Project proposals have been called for from selected SPCBs (State Pollution Control Boards) in this regard, and a detailed action plan for implementing the pilot programme is slated to be drawn up.

The MoEF has also commissioned several case studies to examine issues relating to economic instruments for pollution abatement. One such study funded by the MoEF (Pandey et al. 2000) estimated abatement costs of pollutants and recorded wide variations across different industries. The study pointed out the inefficiency of the current legislation, which required all polluters to meet the same discharge standards, and called for the introduction of economic instruments for cost effective pollution control. The study emphasised the need for regulators to allocate their monitoring resources more efficiently by targeting industries characterised by relatively high discharges and low costs of pollution abatement. The study also recommended an effluent charge for controlling industrial water pollution, based on the BOD (biological oxygen demand). Another such study commissioned in 2001 relates to development of MBIs for the Kawas-Hazira region in Surat district of Gujarat. The study report also observed that taxes and incentives based on efficiency instruments align the pollution control agencies better with the polluters than the command and control regime. Such instruments also facilitate the triple bottom-line of economic-efficiency, environment-responsibility and social relevance, entitling the industrial units to Clean Development Mechanism and other cleaner production benefits.

The State of the Environment Report prepared for India in 2001 as part of a project supported by UNEP and the MoEF recommended that economic measures need to be put in place to encourage a shift from curative to preventive measures, internalisation of the costs of environmental degradation, and conservation of resources. The revenue generated may be used for enforcement, collection, treatment facilities and R&D. The Report also called for economic incentives for environmentally benign substitutes, technologies and energy conservation. The need for evolving an appropriate tariff structure for water services to encourage wise usage and to generate funds for cash-strapped service-providers was also recognised in the Report.

The actual use of fiscal incentives in the country has, however, been rather limited. These take the form of tax concessions for the adoption of pollution control equipment and a somewhat more structured policy for the promotion of renewable energy technologies. Tax incentives are usually specified for identified abatement technologies and activities, not providing dynamic incentives for technological innovation and diffusion. Also, since most of these are end-of-the-pipe treatment technologies, these incentives do not promote more efficient use of resources. There are some provisions for the use of levies, cess, fines, penalties etc. for polluters, though their implementation and effectiveness could do with improvement. The following section gives a brief tour of economic instruments being used in India. Some such instruments are also being used at the state level. Appendix II gives a summary of major instruments in Karnataka.

Direct Measures for Pollution Control

Water Cess [levied under the Water (Prevention and Control of Pollution) Act of 1974; modified in 1991 and also in 2003]

Under this Act, a cess is collected on water consumed by 16 specified categories of industries (see Appendix III) and also by local bodies, mainly with a view to augment resources of the Central Pollution Control Board (CPCB) and the State Pollution Control Boards (SPCBs). Some relevant features of the Act are presented here:

- Imposition of water cess: The cess rates have been revised in 2003, after a lapse of 11 years. But the revised rates are still quite low as compared to any economic measure of value of water. The Act also provides 25% rebate on cess payable to industries which (a) consume water within the quantity prescribed for that category of industries, or (b) have established ETPs (effluent treatment plants).
- The cess so collected is shared between the CPCB and SPCBs in the ratio of 20:80.
- The proceeds of the cess are used by the pollution control boards towards various objectives of the Water and Cess Acts. As per the spirit of the Act, water cess is meant for making water use more sustainable. But, except for some expenses on training the staff and maintaining testing laboratories, the pollution control boards do not invest the amount on water treatment plants or for measures to improve water quality. Moreover, the actual collections are meagre, often making the cost of collection higher than the revenue.

Consent Fees under the Water and Air Acts

- Under the Water Act 1974, all new industries falling in different categories (Red, Orange and Green) are required to get a consent to operate by paying a Consent Fee to the concerned SPCB for discharging sewage and /or trade effluents within the standards. The consent fees are fixed progressively depending upon the capital investment structure of the industrial units seeking the consent.
- Under the same Act, the municipal corporations and councils discharging sewerage effluents have to take a prior consent from the SPCB, for which a consent fee is charged.
- Likewise, under the Air (Prevention and Control of Pollution) Act of 1981, all newly established industrial units have to obtain consent to operate from the SPCB by paying a consent fee for discharge of emissions into the air within the standards established by the SPCB.
- In both these cases, apart from the proceeds being low, such fees are rarely used for organizing and managing the sewerage or better air quality management systems. The fee collections are treated as revenues for the PCBs.
- The consent fees were not revised for quite some time, despite the changing capital investment structure of different industries changed significantly over time.

Public Liability Insurance Act, 1991 and Environment Relief Fund

This Act imposes on the owner the liability to provide immediate relief in respect of death or injury to any person or damage to any property resulting from an accident while handling any of the notified hazardous chemicals. Some of the major features of the Act are:

- An insurance policy of an amount equal to the 'paid up capital' or upto Rs. 500 million, whichever is less, by new undertakings as well as existing plants.
- The owner also has to pay an annual premium to the Union government's Environment Relief Fund (ERF).
- Reimbursement of relief to the extent of Rs. 25,000 per person is admissible in case of fatal accidents in addition to the reimbursement of medical expenses upto Rs. 12,500.
- The liability of the insurer is limited to Rs. 50 million per accident up to Rs. 150 million per year or up to the tenure of the policy. Any claims in excess of this liability shall be paid from the ERF. In the case of higher amounts, the balance shall have to be met by the owner. The payment under the Act is only

for immediate relief; the owner shall have to provide the final compensation, if any, arising out of legal proceedings. This was designed after the Bhopal Gas Leakage case in 1984.

Indirect Measures for Pollution Control

Depreciation Allowance on Plant and Machinery Used for Pollution Control

The central government has notified a list of machinery and plants on which an investment allowance is granted under section 32A of the Income Tax Act of 1961. Investments up to 35% of the actual cost of new machinery or plant to assist in the control of pollution and protection of environment (such as ETPs and APCs) are granted depreciation allowance in the first year itself.

Additionally, certain specific equipments qualify for 100% depreciation. These are, broadly, air pollution control equipment, water pollution control equipment, solid waste control equipment, energy saving devices, and certain renewable energy devices.

In addition, 100% depreciation has been allowed in this year's Union Budget (2003/04) on plant and machinery and buildings that house such plants, forming part of water supply project or water treatment system.

Exemptions from Indirect Taxes

Several excise and customs duty exemptions are provided for environmental goods. Examples including those introduced in the Union Budget 2003-04 are:

- Excise duty exemption on the use of fly ash, phospho-gypsum in 25% or more as raw materials; on production of low cost building materials and components.
- All water supply projects totally exempted, in regard to capital goods and machinery, both from customs and excise duties. In addition, pipes have been exempted from excise duties.
- Customs duty exemptions on import of equipment, machinery and capital goods required for the production of building materials such as bricks, light weight aggregates, light weight concrete elements etc., using fly ash and phospho-gypsum; reduction in excise duty upto 15% on pre-fab components required for housing.
- Excise on electric vehicles reduced from 16% to 8% in the 2003-04 Union Budget.
- Customs duty on LNG re-gassification plants reduced from 25% to just 5% in the 2003-04 Union Budget.
- Customs duty on components of membrane cell technology used in caustic soda industry reduced from 15% to 5 %.
- Introduction of a new cess in the Union Budget 2003-04 on petroleum products, to abate air pollution from this sector. An additional cess of Rs. 0. 50 per litre of diesel and motor spirit has been levied.

There are also similar initiatives at the state level. As an example, the following incentives are provided in the Karnataka state budget.

- Subsidy on organic manure increased from 25% to 50%.
- Capital subsidy on drip irrigation and sprinkle equipment increased to 50% for all farmers, and to 100% for scheduled caste and scheduled tribe farmers.
- Interest subsidy of Rs. 2000 for existing auto-rikshaws (three-wheeler passenger vehicles used as taxis) to switch over to LPG as fuel.
- Subsidy on solar water pumps raised from 25% to 50%.

Soft Loans on Pollution Control Devices and Systems

Several soft loan options are available on installing solar water heating and lighting and wind energy systems. There are incentives at the state level- Karnataka Power Transmission Corp. Ltd. for instance, provides a concession (e.g., Rs.0.25 rebate per unit of its electricity consumption) on installation of solar systems. Recently, the Karnataka government has also introduced some programmes for solar water pumps.

Concessions for Decongestion of Specified Areas

States and municipal corporations are encouraged to identify specific areas to locate industrial units away from towns to mitigate congestion and to reduce pollution effects. Such industrial lands qualify for lower and often nominal land rents. Special provision exists if any CETP is to be established in the notified areas, for which there are both central and state government subsidies available.

Reducing Subsidies and Moving Towards User Charges

There has been growing recognition of the fiscal and environmental implications of subsidy policies in the energy, water and agriculture sectors. In the energy sector, the government has taken steps towards removing price controls on oil and coal and lowering subsidies on energy generally. Coal prices were decontrolled in the year 2000; however, due to subsidies on rail transportation, delivered coal prices remain below the market prices. With the dismantling of the Administered Pricing Mechanism (APM) in April 2002, subsidies on all oil products were removed barring Liquid Petroleum Gas and kerosene, which are mainly used by households. Supply of electricity to residential and agricultural consumers, however, remains subsidised and forms the lion's share of the total subsidies allocated to the energy sector. Subsidies in this sector have increased steadily over the years. The average tariff of electricity has increased from 89.06 paise/kwh in 1991/92 to 240.03 in 2001/02 (Planning Commission 2002). Despite the rise in electricity tariff, the gap between cost of supply of electricity and the average tariff has widened from 50 paise in 1996-97 to about 110 paise in 2001/02. The justification for and the impact of electricity subsidies have been an issue of debate over the last decade.

Irrigation subsidies remain an issue of concern - less than 10% of the operating costs of irrigation systems are recovered through water rates. In 1993/94 these subsidies amounted to Rs 124 billion and accounted for 23.84% of total non-merit subsidies (as defined in Srivastava and Sen 1997). This, apart from discouraging efficiency in the use of water, has resulted in accumulation of operation losses, adversely impacting the operating efficiencies of irrigation systems because of inadequate maintenance of canal and drainage works. In the case of drinking water supply too, prices do not reflect the cost of supply and flat rate charges are common.

The foregoing discussion indicates that some progress has been made in the use of economic and in particular fiscal instruments to address environmental concerns. These efforts, however, need a more organized and structured approach. Some general recommendations for advancing environmental fiscal reform are noted in the following section.

Environmental Fiscal Reform in India: the Way Ahead

Continuous Review of Environmental Status and the Effectiveness of Existing Instruments

There is limited compilation of information on a regular basis by the CPCB and the SPCBs on the extent of use and implementation of fiscal measures and incentives. This information would enable an evaluation of the effectiveness of such measures and better design of economic instruments. Examples of information that needs to be collected include data on units availing depreciation allowance and tax exemptions, subsidies, and other incentives and the resulting impacts.

Such monitoring will also ensure dynamic efficiency of the EFR process, taking into account changes in technology and possibilities of substitution over time. Monitoring will also be necessary to understand the environmental, fiscal and social/distributive aspects of EFR. It would need to be assessed whether a particular instrument would be effective in meeting its objective e.g., would the proposed level of a pollution charge act as an effective deterrent to emissions. The revenue implications of fiscal instruments are more easily understood. In this context, issues relating to setting up a dedicated environment fund into which tax revenue could be channeled and from which revenue could be earmarked for environmental applications, would also need to be examined. Finally the social implication of such instruments would need to be understood both in terms of how progressive the incidence of environmental charges may be as also how these may clash with other social objectives of the government.

Examining the Implications of Legal Provisions in Existing Acts

A serious limitation in taking EFR forward is that the existing environmental laws (listed in Appendix I and II), do not allow for pollution load based charges. However, under Article 243H and 243X of the Constitution, *gram panchayats* and urban local bodies are empowered to levy user charges and pollution charges as taxes and levies. These include water charges, sanitary charges, fuel tax on the use of fuelwood collection from *panchayat* lands, etc. Under the National Biodiversity Act of 2003, the State Biodiversity Authorities can now levy similar charges. These instruments should be used effectively under the existing Acts and modifications in existing legal provisions need to be considered.

Matters of Efficiency in Implementation

The CPCB and the SPCBs constitute the major institutional arrangement for the control of pollution. The proceeds of Water Cess collected are remitted to CPCB, which in turn disburses grants to SPCB for administration, investments, subsidies etc. This is a cumbersome and inefficient procedure, reducing the motivation and incentives on the part of SPCBs to act on pollution abatement measures. Some alternatives to this sharing system need to be evolved.

Ensuring Greater Interaction Amongst the Ministry of Finance, Ministry of Environment and Forests, Planning Commission and Other Ministries

There has to be an integrated assessment of the environmental implications associated with various sectoral policy options and environmental considerations need to be made an integral part of the budget making process. The government should use its general taxation and spending powers to induce economic behaviour that is environmentally accountable apart from dealing with specific environmental issues or problems as they arise. It should be noted that any advance in the process of EFR will require a significant role for the Ministry of Finance. However, the current Task Force on Market Based Instruments set up by the MoEF does not involve the Ministry of Finance to the requisite degree.

Reconciling Tradeoffs and Tapping Synergies With Other Objectives of Fiscal Policy

EFR cannot be designed independent of the other demands on fiscal policy. On the other hand, environmental fiscal reform and tax policy both have to grapple with difficulties in administration, monitoring, enforcement and efficiency-equity tradeoffs. Fortunately, there are a number of synergies between environmental and other objectives of fiscal policy- the best example being that of non-merit subsidies. The Tenth Five-Year Plan highlights that the definition, magnitude, utility and justification of several subsidies merit reconsideration. The Plan underlines the need for widespread and bold imposition of user charges on all non-merit goods, while recognizing the socially regressive nature of such subsidies. By highlighting the glaring environmental and resource use implications of some non-merit subsidies (as in the case of irrigation, fertilizers, power and even food subsidies), a clear link between fiscal reform and environmental improvement can be established.

Strengthening the Environmental Management System in the Country

A sound environmental management system is a prerequisite even for an effective command and control system for pollution control. There is a growing recognition of the need for greater institutional strengthening and coordination to address environmental concerns in the country. It is also recognized that one of the principal weaknesses of the environmental protection regime arises from the fact that the functioning of the Pollution Control Boards is constrained by inadequate staff, training and financial resources. In the specific context of EFR, there is also a need to reinforce the networks for better generation, analysis and dissemination of information and to strengthen the relevant laws and institutions to support EFR. Effective EFR will require capacity building in environmental economics in various ministries and line agencies, particularly the MoEF and MoF.

Educating and Consulting Stakeholders

Education and awareness will be a critical factor in creating a demand for environmental fiscal reform and general acceptance of such reforms. Even where the imperatives for policy change are clearly understood, implementation of reform cannot progress unless there is a consensus amongst stakeholders, as is obvious in the case of the power and fertilizer subsidy. The role of the government is crucial in creating a consensus for change by making people aware of the long-term benefits of apparently harsh decisions. As the Approach Paper to the Tenth Five-Year Plan highlights, reforms would

need to be accompanied by research, awareness, public education and persuasion. The Central Government must lead this campaign and forge an understanding and consensus with State Governments, who must do the same with local bodies. Stakeholder consensus also requires that the process of negotiation and reforms be transparent with responsible use of new resources generated through reforms.

Involving the States in the Process

The Constitution of India distributes the powers to make laws between the Centre and the States as enumerated in the three lists in the Seventh Schedule. Consequent to the 73rd and 74th amendment of the Constitution of India, state governments have also enacted enabling legislation providing for local self-governments both in rural and urban areas. A number of subjects where EFR can be expected to play a major role in the country come under the purview of the states (e.g., agriculture, irrigation, transport) or both Centre and the States (e.g., power). Further, a number of fiscal instruments such as sales tax also come under the purview of the states. Thus evolving a consensus for such reform across the states would be a big challenge for the government, particularly given that the Centre-State sharing of fiscal revenues is itself invariably a subject of continuous debate.

Understanding and Assessing Environmental Externalities

An economically efficient environmental charge would need to be designed such that it induces polluters to implement abatement measures up to the point where the marginal benefit from pollution reduction (e.g., the value of averted damage) equals the marginal cost of doing so. However, given the difficulties of valuing environmental damages, very few taxes in practice fulfill this criterion, instead being based on some pre-determined target levels. As valuation techniques become refined and practical in the long term, environmental charges would move closer to economic optimum levels. Meanwhile, as international experience indicates, lack of information about marginal abatement and environmental costs need not deter the introduction of such charges and taxes.

A Phased Approach to Environmental Fiscal Reform

A phased approach to environmental fiscal reform may be more pragmatic. The Task Force on Market Based Instruments (1997) recommended such an approach, with greater reliance on economic penalties in the short and medium term, and complete replacement of criminal penalties by Market Based Instruments in the long run. TERI (2001) had suggested that market-based instruments be implemented in phases, e.g.

- Continuation and redoubling of efforts to move towards recovering the full costs of electricity, irrigation, municipal water, and sanitation and solid waste services, while at the same time improving the quality of the services.
- Introduction of more sophisticated instruments such as time-of-use electricity tariffs over time, and encouraging inter-sectoral water charges where possible.
- Redesigning the water cess in a phased manner so as to encourage water conservation, gradually increasing the level in real (after accounting for inflation) terms from a low initial level.
- Moving towards industrial air pollution charges based on emissions, once again increasing the charges gradually.
- Moving towards establishing pilot projects in suitable locations for establishing tradable permits programmes for air pollution, as suggested by the Task Force (1997). At first, non-tradable discharge permits could be used, and then tradable permits.

More specifically the following measures can be considered for air and water pollution.

Water Pollution:

- (i) Start with locally imposed user charges, paying special attention to metering of large industries, which ought to be charged on the basis of water usage or pollution load.
- (ii) Examine institutional and legal options for introducing effluent charges for other significant sources that are not connected to public treatment plants.

Air Pollution:

- (i) Examine the possibilities of using existing fiscal instruments for product charges
- (ii) Design focused programmes for tackling specific pollution problems that could be fiscally neutral (tax differentiation or charge-rebate scheme).
- (iii) Assess changes that would be required in legislation, giving a preference to programmes that do not require major changes.

More detailed and resource specific suggestions are provided in Appendix IV of this paper. In conclusion, it needs to be reiterated that while some steps have been taken in the country towards environmental fiscal reform, it is time to take a more structured view of the issue. At the same time, it needs to be remembered that fiscal policy is one of the several instruments available and it needs to be used in conjunction with others to ensure environmental sustainability and efficient natural resource management. Finally, it should also be kept in mind that the efficacy of environmental fiscal reform (or any environmental policy instrument, for that matter) would depend on the choice and design of the instrument, the administrative capacity to monitor its implementation and the overall policy and institutional environment in the country.

Annex 1: The Legal Framework for Environmental Protection at the National Level

The main legislative enactment for the preservation and protection of environment in India

Prevention of pollution

1. The Water (Prevention and Control of Pollution) Act, 1974
2. The Water (Prevention and Control of Pollution) Cess Act, 1977
3. The Air (Prevention and Control of Pollution) Act, 1981
4. The Environment (Protection) Act, 1986
5. The Public Liability Insurance Act, 1991
6. The National Environment Tribunal Act, 1995
7. The National Environment Appellate Authority Act, 1997

Wildlife.

The Indian Wildlife (Protection) Act, 1972

Forests

1. The Indian Forest Act, 1927
2. Forest Conservation Act, 1980

Bio-diversity

Bio-diversity Act, 2002

Annex 2: Existing Laws, Rules and Regulations for Environmental Protection in Karnataka

Title of the Act	Brief Description	Comments
Forestry Sector Related Acts		
Karnataka Forest Act, 1963	This Act is modeled on the lines of Indian Forest Act of 1927. Relevant provisions of the cattle trespass Act of 1871 in combination with the sections of State Forest Act govern grazing in forests. However, cattle grazing are permitted in natural forests and the same has resulted in the destruction of regeneration in the forests alarmingly.	The encouragement of throwing open the whole of the natural forests to grazing has resulted in a proliferation of non-productive cattle in forest rich districts to the drier tracts.
The Wildlife (Protection) Act, 1972	This Act provides for protection of wild animals, birds and plants and for matters connected therewith or ancillary incidental to. It appoints the wildlife wardens and constitution of the wildlife advisory board, etc.	About 54 species are in RET category; elephants population is declining at 4% per year;
Forest Conservation Act, 1976	This Act restricts the de-reservation of forests or use of forestland for non-forestry purposes without the prior approval of the Union Government. The Rules and Guidelines under this Act as amended on October 25, 1992 have elaborately outlined and defined the application of the Act, procedure to be followed for acquisition of forestland for non-forest purposes, submission of proposals, compensatory afforestation and certain clarifications about the procedural requirements. Vacant land already in possession with the government agencies and that have not been notified as protected forests will not attract the provisions of Forest (Conservation) Act, 1980. In all the non-forest use of forestlands, compensatory plantation has to be complied with.	The forest categories falling different categories are (sq.km): Dense:24854 Open:7546 Mangrove:3 Scrub:4566 The dense forest area declined by 5 sq km between 1992 and 1997, while open forest area increased by 25 sq kms. Upto 1980, 2124 sq kms of forest area have been converted for non-forest use.
The Karnataka Preservation of Trees Act, 1976	This act provides for the preservation of trees in the state by regulating the felling of the trees and for the planting of adequate number of trees to restore ecological balance and for matters connected therewith.	Due to fuelwood collection and felling of trees in plantation areas, this act is not very effective.
Forest Policy 1998, and Central Govt. Guidelines in 1990	Under the new forest policy evolved in 1998, Karnataka government has introduced Joint Forest Management since 1993, through a Notification. This is a strategy of community-based management of degraded forests.	As of 2000, as many as 1212 Forest Protection Committees covering about 12800 ha have been created.

Title of the Act	Brief Description	Comments
General Environmental Protection		
Environment (Protection) Act, 1986	This Act seeks to achieve the objective of protection and improvement of environment and for matters connected therewith. This legislation enables the co-ordination of activities of the various regulatory agencies, setting up of an authority or authorities with advocate powers for environment protection etc. Both the Central Pollution Control Board and the KSPCB are established under this Act. Eight major rules are frames under this Act. They cover, hazardous wastes management, imports and exports (1989, 2000), hazardous chemicals (1989), EIA notification (1994-95), Bio-medical wastes management (1998), Manufacturing of Recycled plastics (1999), Coastal Zone Regulation (1991), Noise pollution (2000), Municipal solid waste management (2000), and Ozone depleting substances Rules (2000).	(i) Appendix Tables 1, 2, 3 show some of the ambient quality standards established for Karnataka. (ii) KSPCB has brought as many as 12, 922 industries, hotels, mines, and layouts under various pollution controls laws. (iii) CPCB has identified 17 categories of highly polluting industries in the country, 120 industrial units in Karnataka.
The National Environment Tribunal Act, 1995	This Act provides for strict liability for damages arising out of any accident occurring while handling any hazardous substance and for establishment of a national Environment Tribunal for expeditious disposal of cases arising from such accident and for granting relief and compensation.	Not much is know on the effectiveness of this Act.
The National Environment Appellate Authority Act, 1997	This Act established to hear appeals with respect to restriction of areas in which industries, operations or processes or class of industries, shall not be carried out or shall be carried out subject to certain safeguards under the Environment (protection) Act, 1986, and for matters connected therewith or incidental thereto.	
Water Related Acts		
National Water Policy 1987, and the new Policy pending with the Parliament 2002	The proposed policy states that water is declared as part of a larger ecological system. Water is a basic human need, refers to participatory water management, promotion of water user associations, and makes reference to the role of private sector in water management.	The environmental concerns are least emphasized in the new policy. So also about the hardship on women and not recognizing water as a "human right".
Water (Prevention and Control of Pollution) Act, 1974	The basic objective of this Act is to maintain and restore the wholesomeness of the country's aquatic resources by prevention and control of pollution. Water is a state subject under the constitution. Consequently, the Water Act, a Central law, was enacted under Article 252(1) of the Constitution, which empowers the Union Government to legislate in a field reserved for the States. All the States have approved implementation of the water Act.	Appendix Table 6 shows the trend from 1990 to 2001 in installing ETPs. The Water Act as well as Cess Act do not allow the KSPCB to apply any 'polluter pay principle' for purposes of improving compliance and reduction of water pollution.
The Water (Prevention & Control of Pollution) Cess Act, Rules, 1977, 1978 as amended in 1991	Industry and user specific water cess have been introduced following the guidelines from CPCB. The SPCBs are to deposit the cess amount with CPCB.	Appendix Table 5 shows the same. Some of the major difficulties faced implementation are: Local authorities are reluctant to pay; practical difficulties in applying compliance acts.

Title of the Act	Brief Description	Comments
Ground Water (Regulation for Protection of Sources of Drinking Water) Act 1999	This Act prohibits individuals sinking wells without permission, within 500 meters of public source of drinking water; empowers the appropriate authority for declaration of over exploited and water scarcity area and watersheds, prohibition of extraction of water from existing over exploited wells etc.	The Act is devoid of any clause on fixed charges for constructing wells, or on regular extraction of water from such wells.
The Karnataka Irrigation and Certain Law (amendment) Act 2000, amended from 1965 Act	Under this Act, creation of Water User Societies under Karnataka Co-operative Societies Act 1959 are permitted. The Societies are expected procure water from the Irrigation dept., to prepare water budget, levy and collect water charges, manage the water distribution system, mobilize resources for efficient use of water, etc.	By now as many as 1478 Water User Associations have been registered, against the target of 2799.
<i>Air Related Acts</i>		
The Air (Prevention and Control of Pollution) Act, 1981	This Act provides for the prevention, control and abatement of air pollution and confers powers to the Central and State Pollution Control Board with a view to carry out the aforesaid purposes.	Appendix Table 6 shows the number of industrial units having established air quality maintenance equipments since 1990.
Motor Vehicles Rules, 1989	In 1989, the Central Motor Vehicles Rules introduced nation wide emission levels for both petrol and diesel driven vehicles. Rule 115(1) requires that every motor vehicle be manufactured and maintained so that smoke, visible vapours, grits, sparks, ashes, cinders are not emitted when the vehicle is driven. Emission standards for petrol and diesel vehicles have been specified by the motor vehicles rules.	The Auto Fuel Committee set up by the Govt. of India has recommended differential fuel cess, which has also been endorsed by the recently appointed Chellaiah Committee on product output and input taxes.
<i>Acts Relating to Towns and Cities</i>		
The Karnataka Municipal Corporations(Amendment) Act 2000	Under this Act, Corporations may (notwithstanding any thing contained in the Karnataka Motor Act of 1957) levy and collect an infrastructural cess on motor vehicles suitable for use on roads within the city; likewise, they can also levy a solid waste management cess (in addition to property taxes).	However, it is not clearly known how many municipal corporations have actually implemented this Act and have actually been collecting the cess.
Town and Country Planning Act, 1976	Any promoter of project in a town area has to obtain a certificate from the Town and Country Board stating whether the proposed land use is compatible with the laid plan. Karnataka had its own Town and Country Planning Act since 1961, which has undergone several Amendments and presently is known as The Karnataka Town and Country Planning (Amendment) Act, 1993.	There are 219 municipalities/ corporations, which have to follow these Acts.
The Hazardous Wastes (Management and Handling) Rules, 1989,2000	The Central Government formulated these rules under the Environment (Protection) Act, 1986. It is required that the operator or occupier of a facility dealing with hazardous waste ensures that the hazardous waste is packaged in a suitable manner for storage and transport and the labeling and packaging shall be easily visible and be able to withstand physical conditions and climatic factors. Packaging, labeling and transport of hazardous wastes shall be in accordance with the provisions of the rules issued by the Central Government under The Motor Vehicles Act, 1988, and other guidelines issued from time to time.	(i)KSPCB has by 2000-01, identified as many as 944 hazardous waste generating industries in Karnataka. (ii) 591 industries have applied for authorization (iii)Under this rule, by 2000-01, 26 units have established re-processing /refining or disposal units,7 industrial units have incineration facility, 6 have on-site facility for storage.

Title of the Act	Brief Description	Comments
The Recycled Plastics Manufacture and Usage Rules, 1999	These rules set out prescriptions on manufacturing of carry bags, and containers, using recycled plastics. Markings such as recycled and % of recycled material used should be put. Restrictions on the use of colour and pigmentation and thickness are also there.	There is mechanism on checking on the compliance of these rules.
Bio-medical waste (Management and handling) Rules, 1998	The Central Government formulated these rules under the provisions of the Environment (protection) Act, 1986. This rules is applicable to all persons who generate, collect, receive, store, transport, treat, dispose and / or handle Bio-Medical Waste in any other manner, except such Occupier of Clinics, Dispensaries, Pathological Laboratories, Blood bank, providing treatment/service s to less than 1000 patients per month are required to obtain authorization by submitting authorization fee of Rs. 100/Bed/Annum for all bedded Health care Establishment's .	(i) The KSPCB has by 2000-01, identified 2000 HCEs in Karnataka (ii) 894 HCEs have applied for authorization. (iii) The KSPCB has granted provisional authorization to as many as 690 HCEs during 2000-01.
Ozone Depleting Substances (Regulation and Control) Rules, 2000	These Rules were notified on 19 th July, 2000. In Karnataka, the Ozone Depleting Substances (ODS) are used in sectors like Air-conditioners, Refrigeration, Halons, Foams, Solvents and Aerosols.	The Board has identified about 306 industries in the Sate who are using ODS in their manufacturing processes.
Seventy-fourth Amendment of the Constitution Article 243	The subject matter of the protection of the environment and promotion of ecological aspects was included as an item in the Twelfth Schedule to the Constitution by the Constitution (Seventy-fourth Amendment) Act, 1992. This Amendment enables the Legislature of the State to endow the Municipalities with powers and authority as may be necessary to function as institutions of self-Government. Schemes are to be prepared by the State Government and devolution may be entrusted to the Municipalities including those in relation to protection of environment and promotion of ecological aspects. No State in India has, however, endowed the Municipalities with such powers under Amendment including Karnataka.	(i) Solid waste management in all the municipalities and corporations are required to be handled under this Act. As well as Environmental (Protection) Act of 1986.
Marine and Coastal Matters		
Coastal Regulation Zone Notification, 1991	This notification was issued under the Environment (Protection) Act, 1986, declaring Coastal Stretches as Coastal Regulation Zone (CRZ) and Regulating Activities in CRZ. In order to prevent deterioration of the oceans from unregulated land use in the coastal areas, this statute has been adopted. Karnataka having oceanfront (in S. Kanara, Udipi and U. Kannada districts is required to prepare maps showing the locations of Coastal Regulation Zones (CRZ) and to mark their boundaries on ground. Within the CRZ-I, which extends at the most 500-m from the high tide line, no development action would be permitted. Within CRZ-II, urban land use is permitted. CRZ-III includes the land under rural land use. The CRZ-IV refers to the islands.	

Title of the Act	Brief Description	Comments
<i>Panchayat Raj Institutions and Rural Development</i>		
Karnataka Panchayat Raj Act 1993; Seventy-third Amendment of the Constitution Article 243	Under the amendment of the Act, subject matters of environmental concern added as the responsibility of the Gram Panchayats are: Health and sanitation, roads, waterways, drinking water, social forestry, fisheries, minor irrigation, land improvements, Minor forestry produce, fuel and fodder and few others.	The existing trend shows that the Gram Panchayats are not giving much attention to sanitary, drainage, road, fishery, and forestry. The PHCs are also not meeting all the health care requirements; neither GPs are willing to work on User charges for this. On drinking water supply the User charges are being levied by GPs.
<i>Mineral related Matters</i>		
The Mines and Mineral (Regulation and Development) Act 1957; The Mineral Conservation & Development Rules, 1988;Karnatak a Mineral Rights Tax Act of 1984; The KS Minor Mineral Concession Rules 2000; and several others.	All these rules are based on the Karnataka Mineral Policy of 2000 (and the earlier ones) and National Mineral Policy. Apart from these, there is the Mines Act of 1952, and Mines Rules of 1955. The 1957 Act makes provision for levying of royalties on mineral extractions, whereas the 1984 Act allows the state to levy taxes on the extractive industry. The tax is treated like the land revenue, while the royalty is based on the principle of exhaustibility rates. Via the leases, the quantity of extractions is controlled.	Experience from Karnataka and also from elsewhere, revision of royalty rates is not based on market or exhaustibility conditions. Taxes are generally made as a percentage of the royalties. Hence they are not independent. Actual recoveries lag far behind the targets.

Other rules, regulations and acts existing presently in Karnataka:

- State Agricultural Policy
- Karnataka Mineral Policy 2000
- Karnataka Panchayat Raj Act, 1993
- Land Bank Policy
- The Mysore Land Improvement Act, 1961, 1964
- Common Property Resources (CPRs)
- The Karnataka Scheduled Castes and Scheduled Tribes (Prohibition of Transfer of Certain Lands) Act, 1978
- Karnataka Land Tenure Act, 1976
- Integrated Pest Management (IPM) Policy

Annex 3: Schedule 1: Industries Identified Under Water Act, 1974

The criteria for listing these sixteen industries under this act is water intensity (Influents) and Effluent discharges.

- Ferrous metallurgical industry
- Non-ferrous metallurgical industry
- Mining industry
- Ore processing industry
- Petroleum industry
- Petro-chemical industry
- Chemical industry
- Ceramic industry
- Cement industry
- Textile industry
- Paper industry
- Fertilizer industry
- Coal industry
- Power and generating industry
- Processing of animal or vegetable products industry
- Engineering industry

Annex 4: Environmental Fiscal Reform in India – Some Further Recommendations²⁷

On the basis of the experience with the existing EFR provisions listed in the paper and various studies, within the government and outside, the following recommendations can be suggested.

The Case of Water Supply and Sanitation (Other than Irrigation)

The existing Water Cess Act needs to be modified and replaced by new Acts with the introduction of both 'User Charges' and 'Polluter Charges', simultaneously. The present water cess rates are quite low. The economic value of water is quite high. These rates should be regularly and automatically revised based on the average CPI and the power tariff rates. Some specific steps that can be considered are:

- A rebate or refund on the cess charges can also be considered as an incentive to water intensive units having installed trade effluent treatment plants with provision for using recycled water. Suggested rebate or refunds are as under:
 - 25% rebate from charges for establishing such a treatment plant
 - 50% rebate for recycling and reusing 50% of waste water
 - 75% rebate for exceeding 75% or more of recycled water
- Out of the cess amount collected, about 10% be transferred to the department or ministry of industries to be used exclusively to promote investment in creation of infrastructure for water pollution control (e.g., for setting up of CETP for small scale industrial sites, STP for local bodies). Another 10% be transferred to CMCs for setting up of common TSDF for HW and BMW, and management of municipal solid wastes, collection and recycling of HW.
- Decision on the use of the cess funds should lie with the respective PCBs. But, not more than 25% of the cess amount collected be used for office expenses. The remaining part can go for R. & D. expenses, including training, purchase of testing equipment etc.
- Under decentralized governance, *Gram Panchayats* can charge User charges on drinking water. Village communities can raise atleast 10% towards the capital and maintenance costs on water supply and sanitation investments.
- Water User Associations be encouraged to come into existence. For instance, as of September 2002, under an Act 24 of 2000 by the Karnataka government, as many as 1776 Water User Associations (WUA) are formed in the State.
- Urban Bodies can introduce *two part tariff* system. Instead of charging *annual water charges* on the lines of property taxes, incentives can be given to convert the same in to *One time fixed tariff*. The incentive can be in the form of a lump sum of annual fixed charges of 10 years taken together. Such '*One time tariff*' so collected should be treated as *Water Revenue Fund* for the Municipal Water System, exclusively to be used for enhancing water and sanitary works and *investments* such as setting up of drainage and sewerage systems. The second tariff, as monthly water charges should be revised once in five years based on CPI and power tariff rates. These collections should also be earmarked only for *maintenance* of water supply and sanitary systems, if necessary with the requisite amendments under the Constitutional provision for local bodies (e.g., Article 243x).
- Similar EFRs can be introduced on the exploitation of ground waters.
- Likewise, irrigation water rates need to be examined for the possibilities of a *Two part Tariff* system.

On Water Related Pollution Charges

Regarding the discharge of effluents in the outlets (rivers, *nalla* etc., as identified under the Water Cess Act), a method of 'Polluter Pay' principle be designed, based on a two tariff method.

²⁷ This section is based on research undertaken by G K Kadekodi for a chapter written for State of Environment Report for Karnataka, 2003

Economic Instruments for Air Pollution

At present the Air (prevention and control of pollution) Act of 1981, Rules of 1983 and the Noise pollution (Regulation and Control Rules) of 2002 etc., cover in respect of emission of solid or liquid and gaseous substances including noise. The Acts also include vehicular pollution (both noise and smoke) under Motor Vehicles Acts. The permissible standards have been established by the CPCB, and SPCBs adopted the same.

As mentioned in Section 2, the existing Acts do not permit imposing pollution charges. However some of the widely talked about instruments suggested for India are:

- Product-input charges
- Incentives and subsidies on ETPs
- Tradable permits
- Tax standard approach
- Provision of alternative energy efficient fuels

Some possibilities on these are briefly described here:

- Product- input taxation: This is different from pollution taxes. Take the case of air pollution from the industries, a case of open access public bad good. It is quite difficult to establish a polluter, estimate the extent of air pollution, and assign a tax amount based on the extent of pollution load emitted. Rather, it may be easier to identify the inputs or the outputs, which are responsible for the pollution, and can be considered for the pollution taxes. Then, a tax either on the input that pollutes or the output produced can be worked out.

Such a scheme is already introduced on gasoline products at the national level, but as a cess. This can be used more effectively for unleaded petrol (with higher pollution cess) and diesel (because of high SO₂ emissions), for mitigating vehicular pollution. In general, apart from motor vehicles, it can cover all industries heavily using such fuels (e.g., furnaces, for heat generation etc.).

Other major industries and products that can be considered for such Input/Output tax method are:

- Use of coal in power plants
- Naphtha in fertilizer and hazardous chemicals in pesticide plants
- Petroleum products
- Automobile industries (for vehicles with no catalytic converters)
- Paper and pulp industries (for use of chlorine)
- Battery industries (for use of lead)
- Tire industries (for use of synthetic rubber)
- Detergent industries (for use of phosphate)
- Production of a variety of non-degradable products (e.g., plastics, cameras)
- CFC linked products such as compressors
- Tax exemptions on bio-pesticides and production of organic manure be introduced.
- Incentive scheme: Several of them are already existing. Some of them have to be re-examined for their effectiveness.
- Tax-standards approach: Introduction of pollution taxes is attractive, as already described in Section 2. But, this will require augmenting the existing legal framework and modifications on the Air Act.
- Tradable permit system: This is a system of accounting for pollution loads by the industries. Depending upon the extent of actual emissions, all polluting industrial units get a credit or debit card showing the extent of pollution loads they are responsible for (as against the standards). Any unit polluting less than the standards gets a credit, in terms of pollution loads below the standard (e.g., tons of carbon per unit of production, and hence the total credit). A unit polluting above the standard will have a deficit in its pollution load account. Units having a credit for low pollution loads have an

advantage of selling or trading their credits, and units exceeding the limits can buy these credits and make up for the debit in their own account. The underlying principle is to maintain pollution loads at the established standards.

- Provision of alternative energy efficient fuels: This is an alternative wherein alternative renewable energy sources can replace fuels based on fossil oil and natural gas in industrial and transport activities. At least three specific alternatives with proven feasibilities are available, which should be encouraged. They are:
 - Bio-fuels, replacing fossil oil/gas based fuels
 - Organic Manure (replacing chemical fertilizers)
 - Use of ethanol in gasoline and diesel

This may be feasible under a Clean Development Mechanism. For effective implementation a National Bio-fuel Policy should be formulated. A Guideline document on this is already prepared by the Planning Commission. As much as bio-fuels, the organic manure can reduce the air and water pollution due to chemical fertilizers. The non-edible oil cakes themselves can become a major organic manure substitute for chemical fertilizers. Other organic manure based on forest and agro bio-mass should be encouraged on a big scale. Finally, enhanced production and use of ethanol as an additive fuel in diesel should be widely demonstrated and encouraged at all captive power generating levels using diesel oil. For this, both the ethanol producing sugar units and the diesel consumer sectors such as farmers (in irrigation pumping) and road transporters are to be brought together for demonstrating the feasibility and implementation.

Dealing With Solid and Hazardous Waste Products and Effluents

The major sources of solid waste in India are organic matters from households (about 75%), hotels and restaurants (15%), market places (10%). Some of the hazardous solid wastes come from hospital sources, though their total contribution may be negligible. All such wastes are at present controlled under various Acts such as Hazardous Wastes (Management and Handling) Rules, 2000; Town and Country Planning Acts in different states; Municipal Solid Wastes (management and handling) Rules; the Recycled Plastics Manufacture and Usage Rules; and Bio-medical waste (Management and handling) Rules.

A large number of waste and hazardous products have been identified and listed by CPB and SPCBs. Mitigation of these require a mix of CAC, Economic instruments and Community participation. The possible alternative mix of economic and social instruments are:

- Product charge
- Market creation
- Stakeholder approach: Bringing in private sectors
- Deposit Refund System (or buy-back system)
- Recycling

Some recommendations are described below.

- Product charge: At present, some municipal bodies collect waste disposal charges, as part of sanitary charges. But, in order to make it more effective, instead of being collected separately as sanitary charges, it should be made an add-on proportion of property taxes, differentiating private residential properties paying lower rates than industrial properties.
- As far as possible, training and creation of awareness among the public and the industries alike on the hazardousness of some of the wastes is a must.
- Depending upon the hardness, implementation of Hazardous Waste Rules in toto against free disposal is necessary (specifically for products containing mercury, cadmium or arsenic and such other products). CAC alone is relevant for this.

- The hospital and biomedical waste disposal is at present the primary responsibility of the concerned Occupier. Large hospitals should install incineration plants, for which economic incentives of soft loans, tax subsidies and higher depreciation allowances are already available.
- Market creation: For the hospital and nursing homes that can not afford to set up the incineration plants, a product charge proportional to the bed occupancy can be worked out, as a levy. With such levy revenue, private agencies can be encouraged to take up collection, incineration or disposal after treatment may be created.
- Stakeholder approach (Changing Property rights system): Creation of private or community based institutions to collect, sort and dispose of household and even bio-medical waste is possible on a large scale (which is being experimented in certain pockets of Bangalore). Initially the urban bodies may have to subsidize such schemes. But ultimately, the scheme can be maintained by the communities themselves. This scheme should be widely analyzed in form of case studies for its effective widespread implementation.
- The Deposit Refund system is feasible to reduce the negative environmental effects from various waste products in certain industries. A variant of this is the Buy-Back System. Under this scheme, certain waste producing products can carry a label of 'guarantee of a prefixed refund' on the left over of the product. Private outlets and communities can be encouraged to create outlets and take up collection of such left-overs (an example of creating a market) and refund a sum as announced on the original product label. This is economically feasible, specifically where recycling of such waste products is possible. The major waste products that can be considered are: plastic containers, food packets, cement and gunny bags, leather products, glass and ceramics, metals and metal products, pesticide containers, rubber and tires and many others. This institution already exists as an informal sector all over India. But this needs to be institutionalized.
- The idea of buy-back scheme is yet another way of creating a market on the repurchase of the waste product at a price based on market conditions (not fixed at the time of original sale as a deposit refund guarantee). Several consumer goods such as refund of food and beverage packets and containers, paper, bottles, tires, batteries, televisions, washing machines, water heaters, electrical gadgets, furniture, paper etc., can come under this category. Some of these products are already being sold in informal markets under such methods.
- Recycling: Creating private agencies, considerable amount of waste products such as leather, plastics, paper, bottles, tins etc., can be brought under one shelter for re-cycling. Recycled products should display a label announcing the same (e.g., hand made paper from recycling). Recognition of recycling by SPCBs will make this activity employment oriented as well as abating urban pollution.

The Case of Biodiversity Conservation

Most of the biodiversity issues fall under Wildlife (Protection) Act of 1972; Forest (Conservation), Act of 1980; Land Reforms Legislations, and several others including the Environment (Protection) Act of 1986. Additionally, the Coastal Regulation Zone Rules notified in 1991 by the central government; Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act of 1976 are also relevant. However, many of the coastal zone and biodiversity changes and losses are due to factors beyond the domain of these Rules.

The Biodiversity Act has been introduced in India in 2003. It contains several features with which a large number of economic and institutional instruments can be introduced. They are:

- Creation of National Biodiversity Authority.
- Creation of National, State and Local Biodiversity Boards.
- Creating National, State and Local Biodiversity Funds.
- Creating and Empowering Biodiversity Management Committees to levy charges by way of collection fee from any person for accessing or collecting any biological resource from areas falling within their territorial jurisdiction.
- Generating grants, loans and dispersing them for sustainable uses towards equitable sharing of the benefits arising out of the use of biological resources.

- Payment of monetary compensation and other non-monetary benefits to the benefit claimers as the concerned Authority may deem fit.
- The State Biodiversity Boards can levy fees, institute User Charges, in addition usual fines and penalties, on biologically threatened resources.

On Matters of Mining and Environmental Degradation

At present, a variety of royalty, dead rents and cess rates operate on different minerals, under the Indian Mines Acts (listed in Appendix 1 and 2). Royalties are linked to rates of extraction. The revision of the royalty, dead rent and cess rates is not done from time to time. They are either on *ad valorem* basis or as specific rates. Dead rents are charged whenever, a leased mine or concession is still not put to operation. There are also strict DGMS and other rules regarding mines safety and environmental protection. Apart from strict mine leasing rules, the compliance with various Acts (Water and Air, Environment Protection etc.) are also operative in mining areas.

The basic logic of royalty is to collect the margin between the extraction cost (of the leasee) and market price of the ore (or resource), commonly called as a return (to the owner of the resource) or as economic rent. As much as mineral prices and costs of extraction are changing over the years, the economic rents should also change, keeping pace with the market situation. Secondly, as an economic rent, it should reflect exhaustibility and environmental problems associated with extractive activities.

Dead rent is purely a fiscal wisdom for revenue purposes, with much less to do with either exhaustibility or market prices. Keeping all these in mind, some modifications can be considered.

- The royalty and cess rates (if applicable) can be directly linked to annual extraction costs and prices, and not on pro-rata basis. For this, royalties be fixed on the basis of *ad valorem*. A three-year moving average index of market prices of the minerals can be considered to fix the escalation rates on royalties.
- They are also to be indirectly linked to the lease time (in terms of number of years). Longer lease time of the mines can be considered for higher royalties. Longer leases should be reviewable after certain years for the mining based on environmental auditing.
- Royalties can also be linked with the area of the lease. Larger areas should attract higher royalties. Otherwise, under selective mining more and more environmental problems will be left out for the future.
- The concept of dead rent is a way to revive old lease rights, not in operation. Instead, every lapsed lease should be treated a new venture, for approval of the lease or concession based on fresh EIA.
- Out of the royalty collected, 50% can be retained by the mining departments for reclaiming and making the closed mines habitat worthy with laying better roads in the mining areas, providing better water supply in the mining areas, maintaining better mines safety and information network etc.

Matters Related to the Transport Sector

At present the transport sector's environmental management is governed by rules under Motor Vehicle Rules and the Air Act of 1981. These acts require considerable amount of policing, which is becoming difficult. For keeping up with the cost of policing and imposing compliance several alternatives can be considered.

- Automobiles (of all types) are to be dated in terms of their roadworthy conditions. To make this operational, automobile companies should be asked to introduce a new scheme of Buy-Back Rules. For instance, they can introduce a buy back agreement of old automobiles and refund a calibrated amount. This is a matter, on which all the states and the central government may have to agree. Only then, all the automobile companies can be asked to come with price proposals on Buy-Back Systems.
- Private sector toll tax systems can be encouraged on all major highways, by-passes, canal bank routes, transit through forest and eco-parks etc.
- The petroleum cess (introduced by the central government) should continue, but to be used exclusively for R&D promotion on improving catalytic agent system in the automobile sector.

Land and Forestry Related Issues

At present, the management of the forest and common lands is governed by various Forest and Land Acts and rules (listed in Appendix 1 and 2). Some of the major economic instruments already in operation are:

- Grazing fee for cattle: But this is not implemented in practice.
- Transit permit fees for driving through national parks. There are evasive methods on this also.
- Royalty on NTFP (on quantity basis). This is also not fully collected.
- On top of these, there are also a number of subsidies such as sandalwood and bamboo subsidy (to license holders only), timber and fuelwood subsidy etc. Also the head loaders are allowed to remove dry fuelwood without any charge. Some major steps that can be considered are:
 - Fiscal instruments: withdrawal of subsidies
 - Changing product input mix
 - User charges based on valuation of forest resources and services
 - Stakeholder approach
- In the light of the fact that forest degradation has long term depletion and environmental deterioration effects, all subsidies on sandalwood, bamboo, timber and fuelwood etc., should be slowly withdrawn.
- The entry fees to national parks and sanctuaries can be based on well conducted 'willingness to pay' studies (e.g., studies on Nagarhole national park, BNHS studies on Keoladeo park in Bharatpur etc. are available).
- Forest dwellers are to be empowered to protect and conserve the resources under the JFM schemes. To make such programmes participatory (as stipulated in several eco-development projects), on forest development in the buffer zone area, common land and village compartments at least 25% of costs are to be shared by the village communities.
- Awards can be instituted for Drug and pharmaceutical companies, who undertake re-plantation and promotional work on herbal and medicinal plants and sustained NTFP collections.
- In the command areas, crop compensation for good farming practice including leaving land under fallow could be introduced. Additionally, use of organic manure should be rewarded with higher farm harvest procurement prices. Distillers supplying spent fuels as organic fuels should be rewarded.
- Some Macro Measures at the State and national Levels: Apart from the sectoral measures recommended in this section, certain macro-level measures can also be considered. Two major ones recommended here are:

Creation of an Environmental Fund

At present promotion of R & D, creating awareness among the people, subsidy on CETPs, setting up testing laboratories and other such activities are to be met out of funds raised under the Air and Water Acts (mainly as cess and consent fees).

It is now increasingly been felt that, as has been done in several developed countries (and even countries such as Thailand), there is a need for creating an *Environmental Fund*. In this connection the following should be noted:

- The existing cess collections and other collections such as consent fee, fines etc., do not raise sufficient revenues to establish such a Fund.
- Enhancement of the respective collection efforts is equally difficult.
- As of present, the introduction of 'pollution taxes' is not feasible till the existing environment protection laws are amended. Some suggested measures on fund raising for this fund are given in the Box 1.

Box 1: Towards an Environment Fund

There should be two sources for this Fund: The state government and contributions from the polluting units. The State Government shall create a Fund out of the General Budget allocation annually. Portion of the state excise and sales taxes (in future VAT) be set aside by the Department of Finance for this purpose. Additional Environment Relief Surcharge be introduced on pollution intensive industries. Part of the cess, consent fees be regularly added to this Fund. Initially 25% is recommended.

Existing sales tax regulations need to be amended, after carrying out pilot studies on the surcharge rates, as well as apportioning part of excise and sales taxes for transferring to the Fund.

The Fund should be used exclusively for dealing with backlog of environmental problems, while the current problems are to be handled with the measures recommended in this report. It can also be used as a loanable fund for the industries to borrow for establishing abatement technologies.

Creating a Green Rating System

It is high time that a state level green rating system for the industrial units is developed. Eco-label ratings such as Green, Yellow and Red are to be issued to industrial units for their performance on the environmental protection front. TERI has already designed some steps on this. The Centre for Science and Environment has also given a proposal on these lines to MOEF.

After establishing a Rating method, the ratings should be publicly announced regularly and via E-governance. Pilot studies should be carried out for different industries to construct the rating indices.

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MARKET-BASED INSTRUMENTS TO SUPPORT ENVIRONMENTAL FISCAL REFORM IN SOUTH AFRICA

A Discussion Document

Executive Summary



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Introduction

This study aims to provide a coherent framework in which environmentally related fiscal instruments should be considered in South Africa. It is important for the continued integrity of fiscal policy that such instruments do not proliferate in an *ad hoc* or ill-formulated manner and that their development, where appropriate, is well conceived.

It is equally important that sound economic analysis be applied to South Africa's environmental issues for the following key reasons:

1. Negative environmental externalities impose potentially significant costs on society at large, with the poorest often being affected the most. Reducing the burden of these externalities is, therefore, important if markets are to work more effectively in allocating resources and for distributional reasons. At the same time, reducing environmental costs can come at a price. The study clearly recognises the need to maintain and further develop the competitiveness of the private sector as a backbone for future economic growth. In this respect, the costs and benefits of different actions seeking to reduce negative environmental externalities and the resulting distributional implications are of concern and hold significance both in the analysis and recommendations made.

Where potentially adverse competitiveness and / or distributional impacts are identified in the analysis, alleviation measures are recommended. It is, however, important to note the growing recognition that enterprises, which adopt sound policies on resource use, can generate financial savings and improve their commercial competitiveness. Concepts of resource productivity, and resource efficiency are gaining credibility as companies begin to understand that responding to environmental challenges can improve corporate performance. For the South African economy where links with the natural resource based have always been and continue to be very strong, such gains could be particularly beneficial;

2. From the perspective of National Treasury, some environmentally-related taxes are capable of generating significant amounts of revenue. One particularly attractive option for using revenues would be to undertake a "tax shifting" programme, whereby environmentally-related taxes are used to "offset" taxes on labour. Through such programmes, it could be possible to both improve environmental quality whilst simultaneously encouraging job creation. This option must be explored in more detail; and
3. Environmentally-related fiscal instruments are a set of tools likely to be "least-cost" options for reducing negative environmental externalities. Over the last decade, the use of these instruments has grown across the world as an increasing number of countries seek to reform their fiscal and environmental policies by making the two mutually reinforcing. It is generally acknowledged that fiscal policy, and tax policy in particular, contributes towards the creation of an enabling environment for economic activities to take place. Taxes, via their impact on market prices, send out signals that could have a significant impact on the behaviour of economic agents. Work on environmentally-related taxes and charges is ongoing in a number of different sectors in South Africa, perhaps most notably in the water sector through DWAF's Waste Discharge Charge System (WDCS).

It is against this background, that the study *'Market-based Instruments to Support Environmental Fiscal Reform in South Africa'* has been carried out. Its focus is on the use of market-based instruments to address some environmental concerns and their interface with fiscal policy. It seeks to provide the foundations for a sound and coherent fiscal policy framework to guide future work on environmentally-related taxes and charges. Where appropriate, suggestions are made for further research into certain instruments. This document is a summary of the main report and provides an overview of the approaches taken and the main conclusions.

Definitions

Taxes and charges form a sub-set of market-based instruments (MBIs). In this study, taxes and charges are defined as being 'environmental' by virtue of what it is that is being taxed. In this respect, the OECD and European Commission definition of environmental taxes is adopted:

'a tax whose tax base is a physical unit (or a proxy of it) that has a proven specific negative impact on the environment'

If 'environmental taxes' are considered only on the basis of their outcomes, then the debate over definition simply shifts to whether the outcomes are better or worse than would have been the case in the absence of the instrument. This is not always easily verifiable. It is frequently difficult to separate out the effects of taxes and charges from other changes, which operate in the economy. If 'intent' is the issue, then all sorts of questions of a political nature arise in respect of what might be called 'the balance of intent'. Is a tax *really* intended to be environmental, or is the Government simply portraying it as such so that it can legitimise a new source of revenue? The definition used here simply reflects a particular approach, but it is one, which has the support of international bodies such as the OECD and European Commission.

The following terms are used in this study:

- **Tax** – an unrequited payment where no 'proportional' service is received in return;
- **Charge** – usually a user fee paid to cover some, or all, of the costs of provision of a particular good / service;
- **Levy** – a more generic term used to describe both taxes and charges (However, it should be noted that in South Africa the term "levy" is used synonymously with "tax" and does not include user charges); and
- **Earmarked tax** – a tax where the revenue is earmarked for a specific purpose.

Current Environmentally Related Taxes and Charges in South Africa

The study began with the premise that it was necessary to understand as fully as possible the existing situation in respect of environmentally-related charges and taxes in South Africa. Some small surveys of municipalities were undertaken to understand the level and structure of user fees being levied. A database of taxes and charges has been assembled.

It is clear from the review that:

- The major environmentally-related taxes currently in place are those related to transport fuels (the main instrument being the general fuel levy) and vehicle taxation;
- A number of proposals for environmental taxes / charges have either been made or are actively being considered (notably those for waste water by DWAF). In general, there is some interest by departments in the prospects for ear-marking revenues to support certain environmental objectives; and
- Elsewhere, there are user charges in place where environmental services (such as provision of raw water, waste water treatment and waste collection and disposal) are being provided. It is not always clear to what extent these cover financial costs, though in the case of raw water charges, cost recovery is an explicit objective.

International Comparisons

The study looked at the level of environmental taxes as compared with other countries. This was assessed on the basis of a number of criteria. In general, there is not much of a conclusive nature that can be stated through these comparators and they are of limited utility in isolation. These indicators do not demonstrate whether the environmental policy in a specific country is effective. More useful for any given country is the time-series evolution in relevant ratios. These are shown in Figures 1 and 2.

Figure 1: Environmental Taxes as Percentage of GDP in South Africa and Other Countries

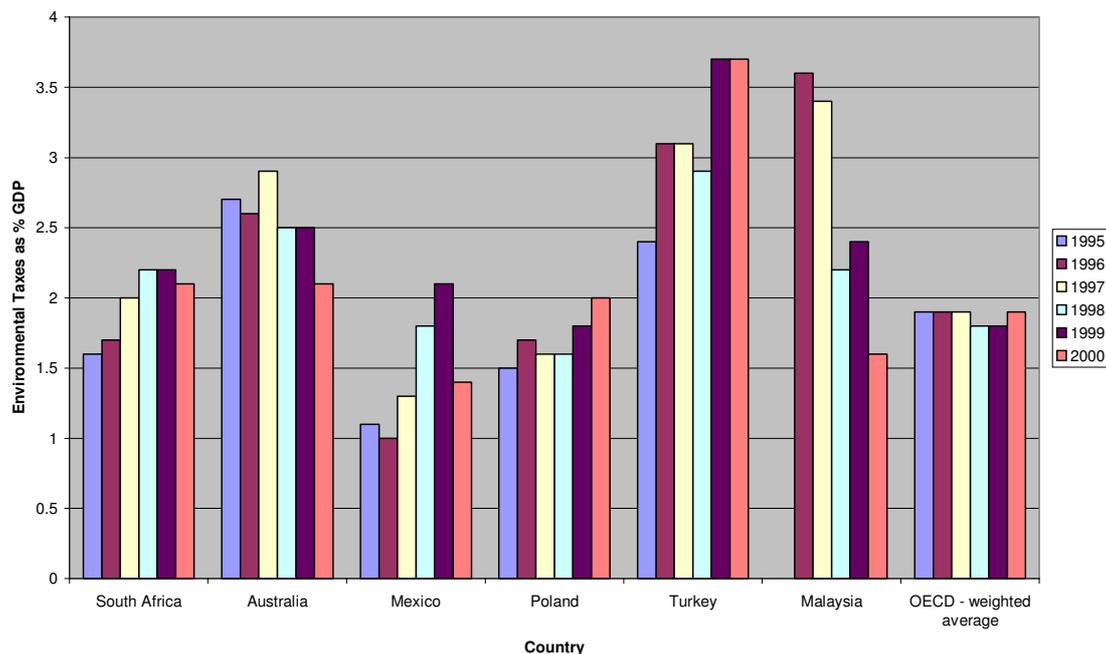
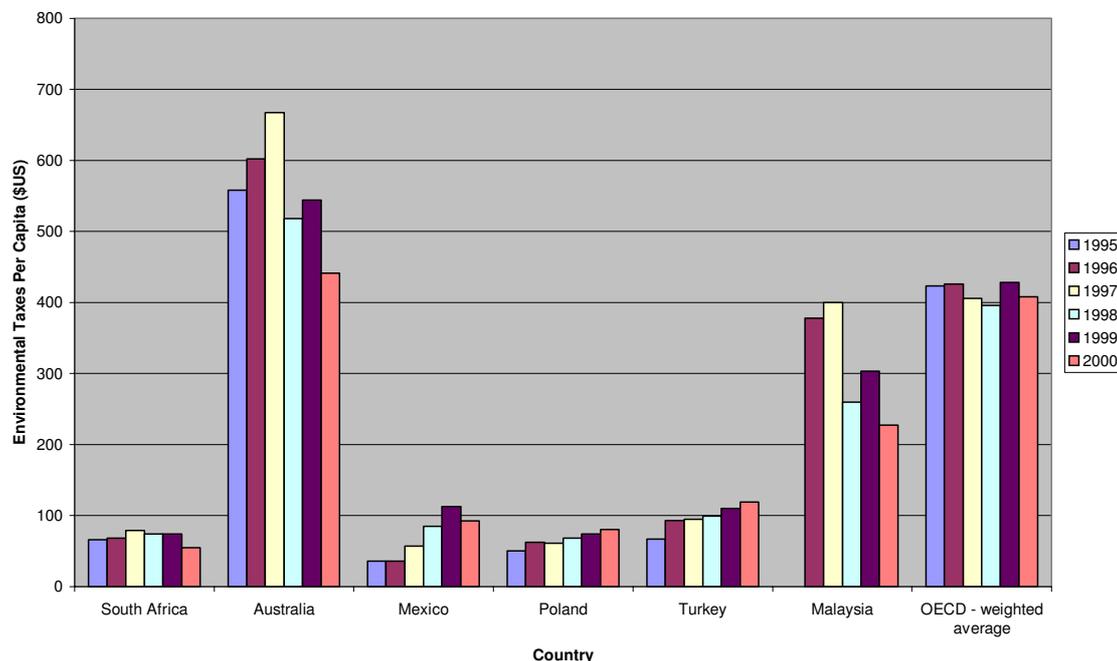


Figure 2: Environmental Taxes as \$US per Capita in South Africa and Other Countries



Figures 1 and 2 show that both the absolute and relative significance of environmentally-related taxes in South Africa have shown an initial increase, then a slight reduction when expressed in terms of GDP, but a reduction when expressed in absolute US \$ terms per capita. This reflects, in turn, the fact that environmental tax revenues are heavily influenced by evolution in the general fuel levy.

Review of External Costs

The review of external costs includes some new calculations in respect of environmental damage (note that negative externalities are concentrated on since the study is based upon 'polluter pays' instruments. There would, of course, be good reason in future work to look also at positive externalities and the potential for use of 'provider gets' instruments, for example in relation to land management issues). The review shows that:

- There are significant un-internalised externalities in respect of power generation. These are large even if only global warming impacts are considered. The damage costs of air pollutants which have more localized impacts are also likely to be significant;
- The total tax revenue from the general fuel levy is roughly in line with the externalities associated with air pollution and global warming damages caused by the transport sector;
- *Ad valorem* customs and excise duties on vehicle sales and the annual vehicle licensing fees levied at provincial level are probably not sufficient to internalise those residual externalities from transport, which are not associated with air emissions and accidents;
- Some work on water pollution externalities has been undertaken. Much of this relates to the mining industry. No obvious mechanism for incentivising reductions in water pollution currently exists and monitoring of emissions is poor. This is changing under proposals being developed by DWAF;
- Some work on air pollution externalities has been carried out. The externalities from industrial air pollution are very difficult to assess since the data and monitoring infrastructure is so weak. Indeed, the level of neglect which has persisted in respect of this issue is a theme to which is repeatedly returned during the study (see below);
- Some studies have been undertaken to estimate the external costs of household use of fuels other than electricity. These appear to show that significant externalities arise through health effects and accidents where such fuels are in use; and
- Little or no work appears to have been done in respect of waste management-related externalities, the effects of extractive activities (including disamenity), water use, and diffuse pollution from agriculture. By its very nature, that which has been done in water use is catchment specific.

In this context, the low level of development of environmentally-related taxes and charges is not necessarily a major problem since other instruments could be used to address the problems concerned. However, the fact that little or no significant environmental measures exist in respect of a number of key themes suggests some form of action, could yield considerable benefits.

Clearly levy-based instruments could have a role to play in improving the current situation, but their role has to be considered in the context of existing institutional constraints. Most notable of these is the low level of development in the organizations with responsibility for environmental enforcement and monitoring. It would be completely incorrect to assume that market-based instruments can operate in the absence of regulation. They cannot, and monitoring and enforcement capacity is no less a requirement of such instruments than they are of the command-and-control type measures.

Identifying Appropriate Environmentally Related Fiscal Instruments for South Africa

The study undertakes thematic reviews of the types of instrument already in use in other countries and assesses their applicability to South Africa in the current context. Table 1 summarises some of the key fiscal instruments, which could be considered. Note that instruments currently in use or being developed are also incorporated. The development of a water effluent charge system by DWAF has been included in the waste water section. Reference has also been made to some initiatives in the waste management sector.

As well as the constraints listed in the table, those of associated administrative structures should be taken into account. The capacity of the revenue collection service also deserves consideration in the design of instruments since this might impose constraints upon the potential for specific instruments to be implemented. This is an issue, which applies more generally when considering the administrative feasibility of new levy-based instruments.

It is worth noting that in specific areas, such as waste, there appears to be considerable potential for introducing instruments with significant implications for employment generation. International studies confirm this potential, as jobs are created in materials collection, separation, reprocessing, recycling, re-use and re-manufacture. It is quite clear that informal and formal activity of this nature is a major source of income for many of those collecting materials for recycling. Care should be taken to ensure that marginalizing existing operators does not undermine the opportunities for such win-win arrangements. The development of community scale enterprises may be an important aspect of such strategies.

Also note that Table 1 is not comprehensive. It is intended to suggest that specific problems *should* be addressed by tax and charge instruments.

Table 1: Summary Perspective of Possibilities for Application of Levy-Based Instruments in South Africa

Theme	Potential for Application in South Africa			Key Technical Constraints
	Short-term	Medium-term	Long-term	
WASTE				
Deposit Refunds	Yes (some returnables schemes already in place)			None immediately apparent
Product Levies	Yes (plastic bag levy in implementation stages)			None immediately apparent
Differential User Charging (pay-as-you-throw)	Yes in some areas - already considered (DEAT)	Yes		Implementation of doorstep separate collection infrastructure Fears of fly-tipping (need for more visible enforcement)
Disposal Taxes		Yes		Contingent upon development of regulatory and enforcement institutions to ensure regulation of landfills and prevention of illegal disposal (fly-tipping)
WATER				
Taxes on Water Use		Yes		Contingent upon better data on use, and potential for metering of use
WASTE WATER				
Taxes on Effluent / Non-compliance Fees	Already being considered (DWAF)			Requires suitable monitoring and enforcement regime (questions as to whether self-monitoring regime is currently sufficiently underpinned by monitoring / regulatory / enforcement capacity)
TRANSPORT				
Tax on Transport Fuels	Currently in place – could be legitimately increased			

Theme	Potential for Application in South Africa			Key Technical Constraints
	Short-term	Medium-term	Long-term	
Differential Excise Tax on Fuels	Currently in place – issues remain relating to structure of differentials (these are being considered on an ongoing basis)			
Excise Duties on Vehicles	Currently in place – issues relate to the design – currently based on recommended retail price (luxury tax) and unrelated to environmental considerations			
Provincial Annual Licensing Fees	Currently in place – issues relate to the design – currently based on weight and unrelated to environmental considerations (and only loosely to track cost issues)			This is an area of exclusive provincial competence. National Treasury could only intervene through establishing a framework, not setting the actual level of this tax.
ENERGY				
Fuel Input Taxes	Yes			None immediately apparent.
Electricity Taxes	Yes			None immediately apparent.
AIR POLLUTION				
Air Emissions Taxes / Refunded Taxes		Yes (probably linked to standards to 'develop' better data and monitoring)		Once monitoring, inspection and enforcement are developed OR as part of a package where charges are established relative to emission baselines (with enterprises free to submit independent monitoring data supporting reduced payments). This would help build up data and monitoring capability.
OTHERS (not examined closely in the study)				
Aggregates / Mining	Yes			None immediately apparent.
Pesticides				None immediately apparent – not perceived as a priority
Mineral Nutrients (fertilizer)				None immediately apparent – not perceived as a priority
Natural Resource Tax	Yes			None immediately apparent

Indepth Analysis of Instruments

Three potentially suitable instruments for South Africa were considered in more detail in the study. These are an input tax on fossil fuels used for electricity generation, an electricity consumption tax, and a reform of *ad valorem* vehicle excise duties. The intention is to show how design and evaluation issues might be conceived. The aim is to highlight the types of issue that must be considered in developing policy proposals.

Criteria against which instruments are evaluated are presented in Table 2

Table 2: Criteria Used for Assessing and Comparing Environmentally-Related Taxes

Design Issues	<ol style="list-style-type: none"> 1. Appropriate taxable event; 2. Structure of the tax (in terms of differentials, if any, across inputs, users etc.); and 3. Appropriate levels for the tax.
Tax Incidence	Where the economic burden of the tax falls
Environmental Effectiveness	<ol style="list-style-type: none"> 1. The incentives created for reduced fossil fuel use in the generation process and/or incentives for further uptake of pollution abatement technologies; 2. Incentives to increase use of renewable electricity generation sources; and 3. Effect on demand.
Revenues Generated	Estimates of total revenue
Use of Revenue	Suggestions on how the tax revenues should be used
Administrative Feasibility	How the tax should be administered? (<i>Note, a more complete exploration ought to estimate compliance costs to the regulator and the regulated entities</i>)
Impacts on Competitiveness	The tax's incidence is used to estimate the effect on the different economic sectors. Supplementary information is then used to explore the issue of which, if any, sectors are likely to be most vulnerable as a consequence of tax.
Distributional Implications	The issue of social equity is explored and the degree to which the tax may be regressive is examined
Ease of mitigating unintended consequences	Based on the anticipated impacts on competitiveness and social equity, possible ways of minimising any negative consequences are examined

Fuel Input Tax and Electricity Consumption Tax

The environmental rationale for an electricity consumption tax is less compelling than that for a fuel input tax. The electricity consumption tax is neutral in the sense that, unmodified, it does not distinguish between how the electricity was generated and therefore does not affect the competitiveness of a particular fuel or method of generation. Incentives to switch to alternative forms of and fuels for power

generation are not automatically built into the instruments and would need to be considered if the intention was to promote renewable energy, for example. However, a consumption tax does make it comparatively easy to differentiate end users and therefore the level of the tax can be easily varied between different user groups.

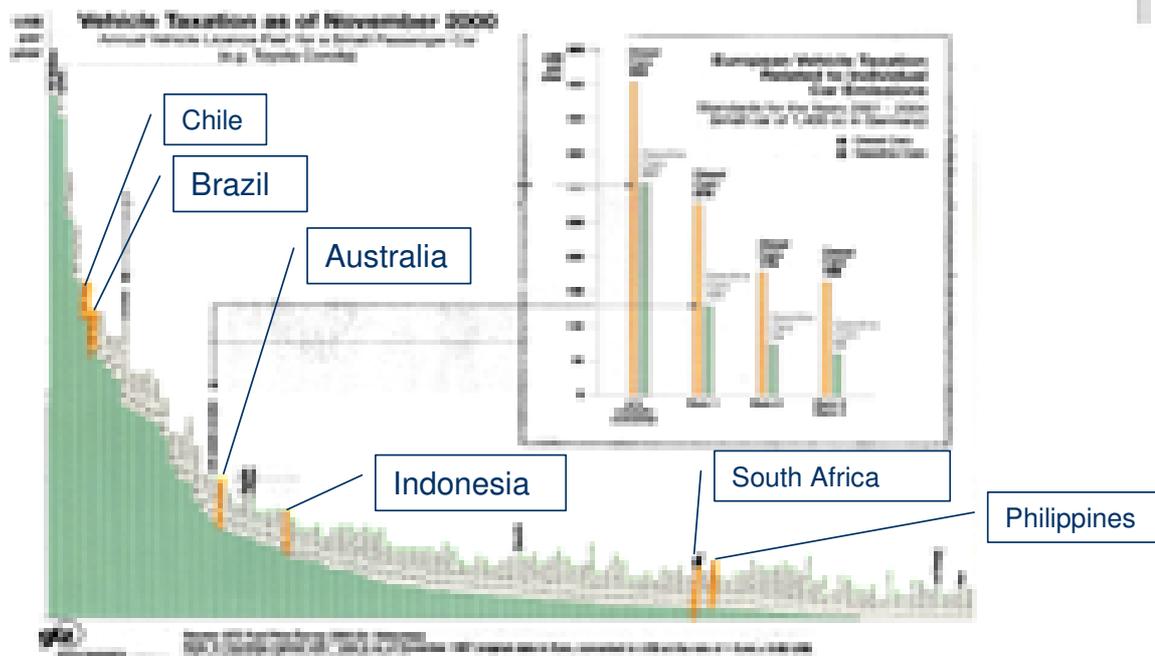
The modelling exercise suggests that the two instruments would have the following results:

1. A fuel input tax would lead to a reduction in electricity use estimated at 2.8 to 3.6 per cent under the lower tax scenario (dependent on the price elasticity of demand assumed) and a reduction of 4.6 to 6 per cent under a higher tax scenario;
2. An electricity consumption tax would lead to a reduction in electricity use estimated at 2.3 to 3.0 per cent under the lower tax scenario (dependent on the price elasticity of demand assumed) and a reduction of 3.9 to 5.1 per cent under a higher tax scenario;
3. For the fuel input tax the environmental benefits generated are of the order R306 to R871 million in the low tax case, to R655 to R1 451 million in the high tax rate case. It should be noted that this is only a subset of the externalities which are effectively reduced;
4. For the electricity consumption tax the environmental benefits generated are of the order R251 to R725 million in the low tax case, to R426 to R1 233 million in the high tax rate case. It should be noted that this is only a subset of the externalities which are effectively reduced;
5. For both instruments the impact on low income households appears to be of the order 1 per cent of household income – assuming no additional relieve mechanisms;
6. At levels investigated (Rand per tonne or cents per kWh), the analysis suggests no major problems for the South African economy. Some sectors may merit transitional assistance, or alternatively, they could be set targets for improved energy efficiency which, if met, could trigger a reduced tax rate;
7. For the fuel input tax, revenues of the order R3.6 billion in the low tax case, and R6.1 billion in the high tax case would be generated and in the case of the electricity consumption tax, revenues of the order R3.0 billion in the low tax case, and R5.1 billion in the high tax case would be generated;
8. The loss in sales revenue to Eskom is approximated by the part of the tax incident upon them (the deadweight loss of this type of tax is expected to be quite low given the expected form of the demand curves). For the fuel input tax, in the short-term, these are estimated to be of the order R0.8 to R1.0 billion at the low tax rate and R1.4 to R1.7 billion at the high tax rate. In the case of the electricity consumption tax, in the short-term, loss in sales revenue are estimated to be of the order R0.7 to R0.8 billion at the low tax rate and R1.2 to R1.4 billion at the high tax rate. As a fraction of total revenues, these estimates are in line with reduction in sales estimated above;
9. The revenue raised could be used for a variety of different purposes including:
 - a. Allocation to municipalities to replace the existing *implicit* levy as part of the electricity distribution industry (EDI) restructuring. Either the input tax or the consumption tax are better options from a fiscal and environmental perspective than proposals for the current *implicit* levy to be formalised into a local government tax instrument that would exclude 40 to 50 per cent of electricity consumed;
 - b. As part of a tax shifting exercise;
 - c. Transitional assistance for affected sectors;
 - d. Projects to improve household energy efficiency; and / or
 - e. New projects, both smaller and larger-scale, promoting the development of renewable energy technologies.
10. Potential benefits of the fuel input tax which have not been quantified include:
 - Potential improvements, at the margin, in efficiency of generation. The scope for this is difficult to gauge in the absence of improved information concerning specific power producing plants; and for both the fuel input tax and electricity consumption tax; and
 - Potential gains in competitiveness through improvements in energy efficiency in industry and commerce. Whilst the magnitude of these is difficult to gauge, the scope for such changes is likely to be significant (given the currently low price, and weak inducements of any other form, to improve efficiency in the use of electricity).

Changes to Ad Valorem Vehicle Excise Duty and License Fees

A review of vehicle excise duties and license fees across countries shows that in South Africa, these duties are low relative to those in place in other nations. Several countries at a similar level of economic development have much higher duties (see below).

Figure 3: International Comparison of Vehicle License Fees (Annual Payments in \$US)



Source: GTZ Fuel Price Survey 2000.

The relatively low level of vehicle taxes raises possibilities of generating additional revenue from this source and at the same time address concerns in the transport sector, which the review of externalities suggests is responsible for considerable environmental damage. Rather than the current system of duties, which relates principally to the value of the vehicle, it would be more appropriate to base vehicle taxation in general on environmental criteria.

Based on a preliminary analysis it is suggested to increase the existing *ad valorem* duty on vehicles by a factor related to fuel consumption and to include all vehicles (also medium and heavy vehicles) in the *ad valorem* net. This would require the rationale of the *ad valorem* duties on vehicles to be expanded from being a "luxury" tax only to include environmental considerations. The implied fuel consumption weightings used in this basic analysis are shown in the Table 3.

The results suggest that by including medium and heavy commercial vehicles into the *ad valorem* customs and excise net, an additional R0.71 to R1.1 billion could be raised. This additional revenue could be increased to between R1.79 to R2.1 billion if fuel consumption factors are taken into account. This is the most basic re-design option. Other possible designs might include consideration of the performance of the car in terms of vehicle emissions standards. Germany, for example, levies an annual vehicle tax which is differentiated by 'Euro class', i.e. the degree to which the car meets emissions standards. In Sweden, for example, the cleanest vehicles are given a 5 year exemption from the annual vehicle tax. Another possibility would be to use engine size as a proxy for fuel consumption.

Table 3: Relative Fuel Consumption and Associated Weighting Factors Used in Modelling

	Litres per 100 km	Weighting Factor
Passenger cars	10	1
Light commercial vehicle	12	1.2
Medium commercial vehicle	18	1.8
Heavy commercial vehicle	30	3

Waste Water Discharge Charge System

In principle, National Treasury supports the development of DWAFs WDCS. Water pollution is an example of a negative externality suitable for internalisation through the use of instruments such as taxes and charges. There are a number of different ways to approach the issue. DWAF has proposed the following four tier charge structure:

- Tier 1 – a flat rate volumetric based administrative charge per unit of effluent;
- Tier 2 – a similar flat rate charge per unit of effluent linked to the achievement of regional water quality objectives;
- Tier 3 – when a discharger exceeded the maximum allowable effluent concentration, a supplementary per unit charge will be imposed to encourage the discharger to reduce waste loads in line with water quality targets; and
- Tiers 4 – linked closely to tier 3, this supplementary charge would be imposed when a discharger exceeded inhibitory or toxic effluent levels. The charge will be based on a sliding scale according to waste load.

Although the disposal of waste water is determined as *water use* under the National Water Act (Act 36 of 1998) and forms the final component of the water pricing strategy, it is difficult to argue, from a theoretical perspective, that all four proposed tiers of the WDCS be considered as *user charges*. It could be convincingly argued that tiers 1 and 2 constitute direct payments for the service of using the assimilative capacity of the water resource and are, therefore, user charges. However, tier 3 and 4 constitute *non-compliance fees* and should strictly be thought of as compulsory taxes. Payments made in this respect are not necessarily proportional to the service rendered (see section 2 on definitions). Care should be taken how these (charges) levies are implemented and how the revenues derived from them are administered. It seems appropriate to follow procedures specified in the Public Financial Management Act and for National Treasury to have some say in revenue allocation.

One point of particular concern relates to the institutional capacity to monitor and administer the proposed system. It is envisaged that the primary responsibility will fall on the newly formed Catchment Management Agencies and will be based largely on a system of industry self-reporting. For the system to function effectively, it is important that sufficient distance is maintained between the regulator and those being regulated and that the system of self-regulation is supported by sufficient independent monitoring and enforcement. Such aspects must be adequately addressed.

Instruments in the Waste Sector

The diversity of issues in the waste management sector presents opportunities for the use of a number of different kinds of fiscal instruments. Deposit-refund systems, product levies, differential charging and disposal taxes are all internationally proven ways, when implemented correctly, of reducing the environmental costs associated with waste and creating a more “resource efficient” economy. All are very flexible instruments and appear potentially applicable to South Africa in the short to medium term. Indeed DEAT, in the “*Municipal Solid Waste Management Tariff Strategy*” indicates that one of the strategy’s key objectives is to lay a platform for the development of such instruments.

Broadly speaking, the main objective behind all such instruments in the waste sector is two-fold: to encourage waste reduction and / or to increase recycling or reuse of certain materials. These very broad

objectives need to take account of social and economic aspects of the industry, particularly the potential for job creation in materials collection, separation, reprocessing, recycling, re-use and re-manufacture. It should be noted that South Africa has a good record in recycling for certain products, especially steel beverage cans with paper / card recovery rates also rapidly increasing over the last 10 years (see IWMSA). “Collect-a-Can” estimates that over 37,000 people are employed directly or indirectly just in can collection and recycling schemes alone.

With respect to plastic waste, DEAT has recently signed an MoA with labour and business organisations to develop a levy on plastic bags. Plans also exist to set-up a specific recycling company in this respect. Some general principles underpinning the development of the levy are:

- Unlike the Irish “Plastax”, the tax administration systems in South Africa is not suited to an impost at the consumption stage. Instead, a plastic bag tax should instead be imposed on the manufacturers with supporting boarder tax adjustments;
- Legislation stipulating compulsory charging by retailers of plastic bags is ill-conceived, least because it can not be adequately enforced. Also, in line with economic principles, excessive rigidities around prices should be avoided. A proportion of the tax burden will be passed onto the consumer irrespective of the tax event and, in this way, incentives will be provided from a reduction in the consumption of plastic bags; and
- The tax rate should *not* be determined by the anticipated costs incurred by the recycling company. The two aspects should not be related in any way. The tax rate should be determined by the Minister of Finance (in consultation with other role-players) according to a range of different criteria. Funding for a publicly owned recycling company should be provided “on-budget” through the normal national budgetary process.

Conclusions and Recommendations

At present, different Government Departments are in the process of developing various strategies in respect of environmental issues and a number of different proposals for the introduction of environmentally-related taxes and charges have been made. From a public finance perspective, an unplanned proliferation of such instruments is of concern and could create difficulties with respect to effectively managing the economy. Having a coherent framework in this regard is, therefore, important. The proliferation of levies (large or small) on an *ad hoc* or poorly conceived basis, at any level of government, needs to be avoided. Environmentally-related taxes, like any other tax instrument, must be used in such a way that will maintain and / or enhance the integrity of fiscal policy rather than undermine it. Given these points, a greater level of inter-departmental co-operation on these issues would seem warranted. Indeed, it is intended for this study to be the first step in that process.

Principles Underpinning a Framework for Environmentally-Related Taxes and Charges

- MBIs are not a substitute for command-and-control (CAC) measures. To ensure proper environmental management (to the extent that it is a precondition for the development of environmentally-related fiscal instrument) it is essential that the current system of regulation be re-conceived. At present it is simply inadequate to support the effective operation of select instruments;
- Consideration should be given to the establishment of appropriate institutions with responsibility for monitoring, regulation and enforcement in the environmental sphere. These should be suitably independent of the entities they are charged with regulating; and

Some consideration should be given to the degree to which constitutional issues affect the introduction of new levy-based instruments with environmental objectives. In particular, the different spheres of competence may affect the room for manoeuvre in specific areas.

Policy Development and Procedural Issues

- Where environmentally-related tax instruments are selected for implementation, international experience suggests they be applied gradually along with a relatively long period of “pre-announcement”. This would give all potential tax payers as much time as possible to make sufficient adjustments before having to make tax payments;
- Aiming for the best design is an important aspect of policy development. Instruments should be, as far as possible, transparent, easy to administer, and with the number of exemptions kept as low as possible. If exemptions are granted, these should not take the form of complete exemptions, but should be agreed in the form of mechanisms aimed at providing incentives to reduce external costs, and regularly checked for their usefulness and necessity;
- It must be remembered that environmentally-related fiscal instruments are but a sub-set of a range of different MBIs. Their use, therefore, needs to be considered in this context and it may be that other instruments may perform better in any particular situation (including traditional CAC measures).

See Figure 5 and Table 4 for an overview of a suggested procedure for assessing environmentally-related taxes and charges and a series of questions integral to this process.

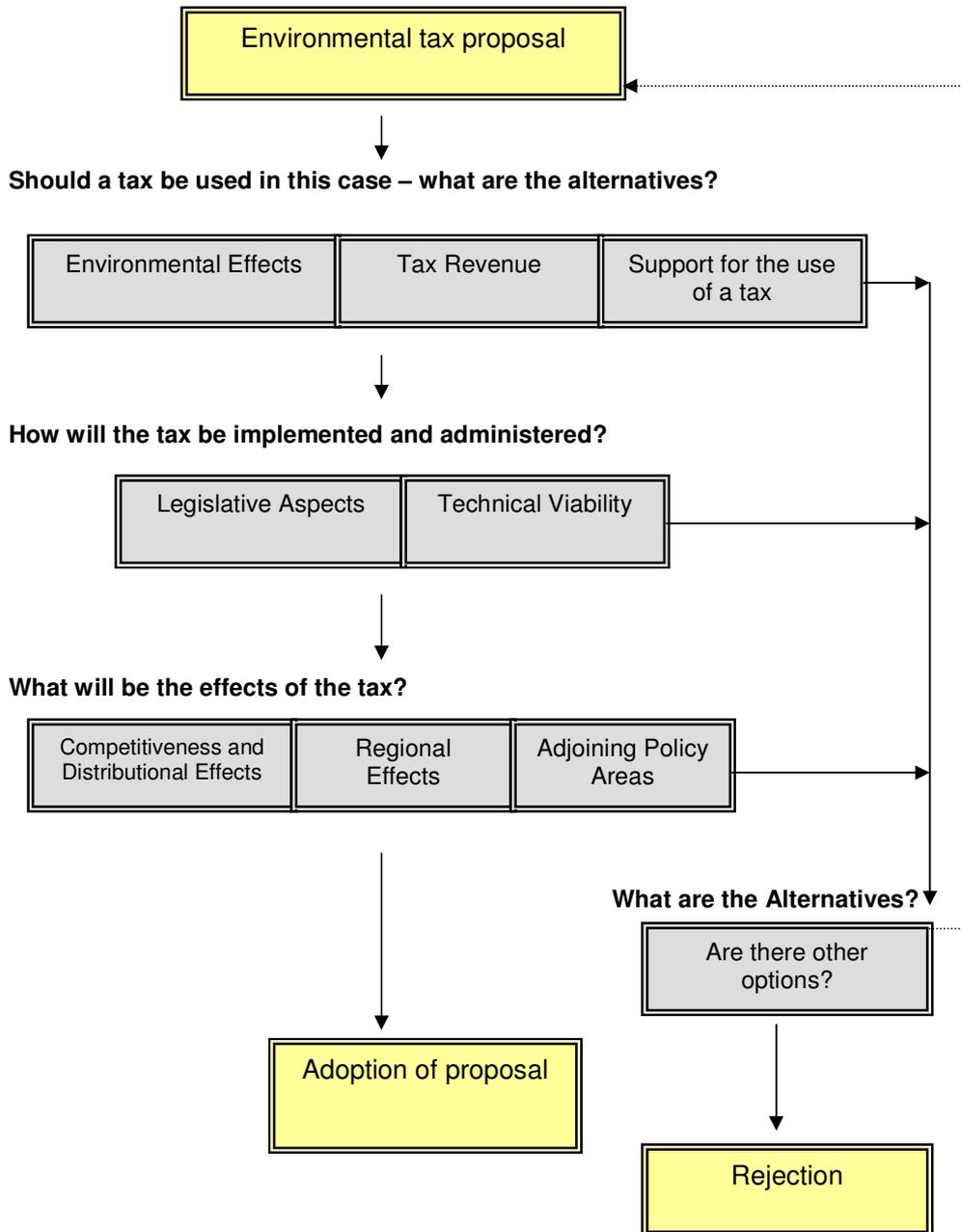
Ex Ante and Ex Post Evaluation

Both predictive exercises seeking to understand the *expected* effects of a specific tax instrument and follow-up assessments seeking to understand what the effects have actually been are important steps in wider evaluation processes.

Criteria identified in section 7 should be used as a basis for such assessments. Further aspects to be aware of concerning *ex ante* appraisals include:

- Firms do not always routinely track the costs of environmental goods and services and should not always be considered profit maxi-misers in the strict sense. By making this assumption, costs can be overstated, benefits understated and responses strategies incorrectly anticipated. Often, it is only possible to model worst case scenarios;
- Data availability and reliability is often very poor and models become excessively dependent on assumptions; and
- Environmental costs and benefits do not always lend themselves to valuation in monetary terms.

Figure 5: Suggested Procedure for Assessing Environmentally-Related Taxes ²⁸



²⁸ HMCE (2002) "Appraising Environmental Taxes: A tool for Assessing New Proposals", Environmental Taxation Department, Her Majesty's Customs and Excise, UK.

Table 4: Criteria for Assessing Environmentally-Related Tax Proposals²⁹

Should a Tax be used in this case – what are the alternatives?	
Environmental Effectiveness	<ul style="list-style-type: none"> • What specific environmental externality is being addressed? • What are the economic and social impacts of the external costs? • Are the external costs quantifiable in monetary terms? • Will a tax create the right kind of incentives to stimulate behavioural change? • Does reducing the environmental externality help meet other social, economic and political goals?
Revenues	<ul style="list-style-type: none"> • What will the revenues be in the short and long-term? • How will the tax revenues be used (in the short and long-term)?
Wider support for use of a tax	<ul style="list-style-type: none"> • Is there general acceptance that a tax is the most suitable mechanism to reduce the external costs? • Do those paying the tax accept the need for it? • Do similar taxes exist internationally, both in developed and other developing countries?
How will the tax be implemented and administered?	
Legislative Aspects	<ul style="list-style-type: none"> • Is the tax compatible with WTO rules and other trade agreements (eg. SACU, SADC)? • Is the tax constitutionally acceptable?
Technical Viability	<ul style="list-style-type: none"> • Is the tax the most appropriate instruments to reduce external costs in this case whilst meeting other economic and social objectives? • How can the tax rate(s) be set and justified? • At what level of government should the tax be administered? • Who will collect the tax? • Is the tax open to compliance problems? • Is there a sufficiently well-developed supporting regulatory infrastructure? • Does the tax fit well with international practices? • Will compliance costs be acceptable to tax payees? • What are the anticipated administrative costs with regards to capital, personnel and available expertise.
What will be the effects of the tax?	
Competitiveness and Distributional Effects	<ul style="list-style-type: none"> • Where will the economic burden of the tax fall? • Who are the winners and losers? • What will be the impact on those firms exposed to international competition? <ul style="list-style-type: none"> ▪ Will there be any distortion in competition between domestic firms? ▪ What will be the impacts on employment and other key macroeconomic variables (eg. inflation)? ▪ How will the tax interact with the operation of other tax instruments and what implications will this have for revenue collection? ▪ What will be the distributional effects across different income groups in society? ▪ What will be the impact on the poor?
Regional Effects	<ul style="list-style-type: none"> ▪ Will there be any discernable regional impact?
Adjoining Policy Areas	<ul style="list-style-type: none"> ▪ How will the tax fit with broader environmental policy objectives? ▪ Why is this particular set of environmental externalities a priority?

²⁹ See HMCE (2002) "Appraising Environmental Taxes: A tool for Assessing New Proposals", Environmental Taxation Department, Her Majesty's Customs and Excise, UK; and DEAT (1996) "An Assessment of Market Based Instruments: Suitability for Environmental Management in South Africa", Research Report 11, Environmental Resource Economics, Pretoria.

How Should Environmentally-Related Tax Revenues Be Used?

- Like other tax revenues, environmentally-related tax revenues should, in the default case, accrue to the national fiscus and be allocated to priority spending needs through the normal budgetary process. This is particularly so where the revenues from the tax are expected to be significant (such as the electricity and vehicle taxes outlined above);
- Tax shifting – with particular reference to a revised fiscal framework for local government and the possible abolition of the RSC levy;
- Increased financial support needs to be given to the institutional framework within which environmentally-related taxes and charges operate. Where there seems to be a very clear case for earmarking revenue, this form of support should be considered further. In general, however, it would appear that much of the necessary financing could be done “on-budget”; and
- Depending on the specific environmentally-related tax instrument, earmarking or “quasi-earmarking” revenues through “on-budget” support (or relief) for investments in abatement technologies may be appropriate where specific industries are deemed as being “unduly” burdened by the tax. In this instance, support must be strictly *time-bound* with a clear end date.

Priority Actions and Next Steps

Given the existing regulatory infrastructure, current environmentally-related taxes and charges applied in some of the major sectors, international experience and future proposals for reform, a selection of key instruments have been identified as priority work areas. These include:

- In the waste water sector, National Treasury is broadly supportive of the development of DWAF’s WDCS and is keen to ensure the system is operationalised and able to function effectively;
- In the power generation sector, the possibility of introducing either a fossil fuel input tax or a per unit electricity consumption tax should be explored further. Although the tax would be based on environmental criteria, due to the nature of electricity supply and demand, significant tax revenues could be generated, some of which could be used in a tax shifting exercise. In the context of EDI restructuring, either of these instruments appear preferable to an ad valorem levy on electricity consumption primarily targeted towards the domestic and commercial sectors.
- In the transport sector, given the prevalence of considerable environmental externalities, further work into the revision of or development of new fiscal instruments should be undertaken. Specifically, ways of “environmentally informing” current vehicle excise duties (and possibly vehicle license fees) should be explored. The general fuel levy performs a similar function and National Treasury has proposed measures to re-focus this aspect of the levy;
- In the waste sector, there appears to be significant potential for the effective use of environmentally-related taxes and charges. In this respect, a coherent and well-informed strategy must be developed in conjunction with DEAT and municipalities to ensure that the right instruments for the job are chosen and that the employment potential offered by this sector is effectively seized; and
- Local Air pollution is a key area of outstanding concern. The regulatory infrastructure is, at present, not strong enough to support the effective use of environmentally-related fiscal instruments. Although, DEAT is currently developing new legally enforceable standards, these also will perform poorly unless sufficient independent monitoring and enforcement procedures are put in place.

Concerns over possible adverse impacts on competitiveness and income distribution (regressivity) must be discussed in context. Preliminary *ex ante* assessments in the energy sector have taken a “*worst case scenario approach*” and suggest that the impacts on competitiveness are unlikely to be “excessive”. Where specific sectors have been identified as being “unduly” affected (and these appear to be few in number), mitigation measures can be introduced both for specific industrial sectors and / or low-income groups without undue administrative complications.

The report will provide the basis for further discussion and a forum will be created which enables all stakeholders to comment on its contents. A multi-stakeholder workshop, facilitated by an independent expert, will be hosted to critically evaluate and refine the report.