Royaume du Maroc

Projet d'Aménagement des Bassins Versants - Approche participativie de la planification et de la gestion
(MOR/93/010)

Kingdom of Morocco : Extra budgetary financing for the forestry sector

Royaume du Maroc: financement extra budgetaire du secteur forestier

Rapport de Mission

par

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It was obvious that the debate on the issues under investigation was very much *en train* prior to the commencement of the project - a fact which greatly facilitated its performance. As well, the resource managers and other professionals contacted and working with the consultant during this project demonstrated an informed receptiveness to contemporary forest and environmental resource valuation concepts - without which discussions would have been considerably less fruitful.

This project focused primarily on an analysis of existing data and reports and the presentation of options for improving MCEF financing. The consultant relied heavily upon material produced by earlier projects - in particular; *Programme Forestier National, Phase 1* (ONF et al, 1998); *Plan national D'amenagement des Bassins Versants, Phase II* (Agro Concept, 1994); and *La Filiere Bois au Maroc* (Union Mondial, et al., 1992), (see References Annex for complete citation) - and acknoweldges the original authors' contributions.

Acronyms and abbreviations	
ADB	African Development Bank
BAD	Banque Afrique de Développement
CA	Chiffres d'Affaires
DEFCS	Department des Eaux et Forêts et de la Conservation des Sols
DH	*dirham*
FAO	United Nations Food and Agriculture Organization
FDI	Foreign Direct Invest
FNF	Fond National Forestier
IED	Investissement Exterior Direct
IFN	l'Inventaire Forestier National
MADRPM	Ministère de l'Agriculture, du Development Rural et de la Peche Maritime
MCEF	Ministère Délégué Chargé des Eaux et Forêt
NA	North America
ONG	Organisation Non-Gouvernement
PANE	Plan d'Action National pour l'Environnement
PFN	Programme Forestier National
PIB	Produit Interiure Brut
PNABV	Plan National d'Aménagement des Bassins Versants
PNB	Produit National Brut
SIBE	Site de l'Itneret
TVA	Taxe sur la Valeur Ajoutée
UN	United Nations
VAT	Value Added Tax

Executive Summary

Many of Morocco's natural resource policies and structures are intertwined in ways that prevent dealing with single issues without examining the overall context within which they reside. Problems that appear largely related to inadequate financing of the MCEF and forestry activities can not simply be corrected by increasing funding levels. Issues of resource user rights, fragmented government responsibilities for forest land resources, and the absence of a representative “freely competitive market” for forest raw materials must be examined in concert to achieve workable solutions.

As forest degradation and, therefore, management costs continue to rise, efficiencies in forest management and greater cost recovery (user fees, etc.) are becoming increasingly unreachable targets. Current resource use patterns in Morocco's forests are undeniably unsustainable – and therefore by definition, its management must be subsidised by funds obtained from outside of the forest sector. This is not, of itself, a negative circumstance and can arise because of the many conservation and environmental services forests provide. In Morocco's case, however, the level of unsustainability of current resource use patterns verges on the irreversible in many instances and should be of grave concern.

Ownership of forest land was formally vested in the State in the 10 October 1917 *dahir* on the conservation and use of forests. However, through the provisions of the *dahir* of 1976, the historical Moroccan tradition of communal access to forest land resources ensures local population "user rights" almost equal to those of ownership - except in title. The impact of this is very significant as about 1300 the country's almost 1800 communes lie in rural areas. This was less of a concern when the carrying capacity of the resource far exceeded the needs of local populations - a situation that is manifestly not the case today. Effectively, the state has decreed the country's forests a free *"open access resource"* for rural populations - and there are few signals to these populations to the contrary.

Some of the responsibilities currently assigned to the MCEF cover environmental, agricultural, and community development issues as they relate to forest management. This multi-disciplined structure facilitates developing integrated approaches to what are multi-dimensioned and complex resource management issues. On the other hand, a number of Moroccan ministries, other than the MCEF, have individual responsibilities for forestry related issues (e.g. grazing, rural collectives, hydrology, environment).

There are potential benefits to reduce the current fragmentation of natural resource management responsibilities by consolidating them under fewer portfolios. Consolidation also provides an opportunity to maximise planning, management, implementation, monitoring efficiencies and reduce costs in a number of areas.

Sommaire exécutif

La création d'un MCEF, en 1998, était une condition nécessaire - mais pas suffisante - pour démontrer la priorité accordée au secteur forestier par le gouvernement du Maroc. Presque immédiatement, une contradiction est apparue en relation avec le budget (général et spécial) qui est complètement inadéquat pour la gestion des forêts marocaines. Le problème n'est pas strictement celui de financement, il s'agit plutôt de la hiérarchisation des priorités.

Afin d'améliorer le système de financement du MCEF, il est manifestement impératif que les points essentiels des politiques, des institutions et des instruments législatifs du gouvernement qui sont imposés et qui déterminent les résultats de l'effort du MCEF, soient systématiquement révisés pour les réconcilier avec les objectifs forestiers du gouvernement et de la société. Ce projet constitue aussi une contribution sur cette voie.

L'objectif principal de cette consultation est d'identifier des mécanismes de financement pour le Ministère Chargé des Eaux et Forêts (MCEF). Le terme " extrabudgétaire ", utilisé dans le titre de ce projet, est une appellation totalement arbitraire et qui peut induire le lecteur en erreur. Il est défini seulement à travers ce que le gouvernement a décidé d'affecter ou de ne pas affecter au MCEF. Ce terme est aussi inapproprié dans la mesure où il suggère que le MCEF reçoit déjà un budget adéquat, ce qui est manifestement faux.

Le manque d'appui financier gouvernemental au MCEF a eu comme résultat une détérioration systématique dans le secteur forestier (publique et privé). Les conditions vétustes des unités de transformation et leur faible performance, ainsi que le faible productivité des ressources, ne peuvent améliorées sans:

- la rationalisation des subventions implicites et explicites
- la rationalisation des distorsions fiscales à l'import et à l'exporte
- l'élimination de l'accès libre aux produits et services de la forêt
- l'augmentation significative des budgets du MCEF.

Autrement, il y a peu de raison de prévoir une amélioration dans la performance ni dans le secteur publique ni dans le secteur privé et la situation empirera.

Les forêts marocaines ne sont pas actuellement et le seront jamais dans une position d'autosuffisance financière. Elles doivent toujours faire appel aux fonds générés à l'extérieur du secteur. Cette situation est fréquente dans les pays, comme le Maroc, où les forêts et les ressources forestières offrent un éventail de service, dont notamment la fonction essentielle de la conservation des eaux et des sols. Par ailleurs, là où les forêts ont été utilisées d'une manière non durable et surexploitée, comme c'est manifestement le cas du Maroc, il y a inévitablement des coûts élevés pour:

- arrêter la dégradation continue du capital forestier (ex. 31.000 ha de forêts dégradées par an)
- inverser les tendances dans l'utilisation non durable des ressources forestières et réhabiliter les niveaux de productivité
- remédier aux dommages causés par la dégradation (envasement des barrages, perte de la qualité d'eau, perte de productivité agricole).

Le poids de l'impact du coût de cette dégradation continue, rapide et potentiellement irréversible du patrimoine forestier du pays affecte déjà plusieurs autres secteurs (Agriculture, Hydroélectricité, Développement Rural, Energie) et sera ressenti, de plus en plus, par toute la société marocaine. En pratique, même si ce n'est pas équitable, c'est le MCEF qui est supposé assumé la responsabilité de cette situation.

Les taxes peuvent être des mécanismes flexibles, largement appliqués et équitables pour partager le coût social. Elles peuvent assurer potentiellement deux rôles: i) génération des revenues; et ii) changement des comportements (ex. tendances dans l'utilisation des ressources). L'application de taxes diverses, toutes sous une rubrique environnementale, transmettra des signaux clairs à la société, notamment en ce qui concerne: i) la justification de la taxe; et ii) les actions à financer par cette taxe.

Les exemples de taxes environnementales relativement faciles à justifier sous le principe de la gestion, l'amélioration et la réhabilitation des forêts et de leur environnement, peuvent inclure:

- taxe sur l'eau
- taxe sur les produits pétroliers (surtaxe)
- taxe sur les véhicules (surtaxe)
- taxe (surtaxe) sur l'énergie (électricité, gaz butane, bois de feu).

L'utilisation des financements accordés par les bailleurs de fonds internationaux doit être limitée seulement à l'investissement et doit autant que possible être évitée pour les coûts de fonctionnement. Le progrès rapide du Maroc dans plusieurs domaines montre qu'il est un pays d'une économie émergente capable d'atteindre les standards internationaux dans plusieurs secteurs. Il doit mobiliser les fonds internationaux et les partenaires, spécifiques à ces besoins, comme il l'avait fait avec succès auparavant.

1. Introduction

The focal objective of this project was to propose funding mechanism to meet the budgetary needs of the *Ministère délégué chargé des Eaux et Forêt* (MCEF). In effect, the key activities consisted of examining existing budgetary requirements, analysing existing funding mechanisms, and identifying improvements and new arrangements.

In the course of identifying opportunities for new funding, consideration was also given to increasing the participation (responsibility and accountability) of rural populations - the most immediate of forest resource beneficiaries. This eventually became a key component overriding many other considerations.

Several issues relating directly (and indirectly) to financing have been dealt with within the Ministry in recent years. Because of the above, project activities were able to focus rapidly on critical issues and the identification of new opportunities for financing. This report condenses many of them together in one document. Perhaps more critically, this report also addresses some critical aspects of the overall policy, institutional and governance structures within which the Ministry and the forest sector reside.

This report continues with Chapter 2 on critical structural and policy issues that significantly influence the productivity of and the revenue generating potential of the sector. A brief review of MCEF financial requirements is presented in Chapter 3. The appropriateness of existing forestry financing approaches, accompanied with samples of funding strategies for a number of forestry programmes, is given in Chapter 4.

Chapter 5 analysis a large number of critical factors that impact directly and indirectly upon the success of Morocco's forest revenue generating capabilities.

It should become clear, reading this report - and particularly Chapter 5 - that many aspects of forest land management and forest sector development are currently inadequately or poorly defined and articulated.

Consistent and effective guidance to both policy makers and resource users is missing. Signals to rural users of "open access" resources actually promote resource degradation. Signals to forest sector operators discourage efficiency and innovation amongst existing operators and discourage new investors. And, signals to Ministry professionals and staff demonstrate a questionable commitment by government to forestry in Morocco.

Chapter 6 provides a number of recommendations that could form the bases of developing a renewed approach to workable policies, structures and mechanisms towards sustainable forest land resource use in Morocco. Several relate to factors critical to improving efficiencies in forest management and raw material

transformation - and, therefore, factors critical to maximising the sector's contribution to its own financial self-sufficiency.

2. Critical Structural and Policy Issues

The establishment of the *Ministère délégué chargé des Eaux et Forêt* in 1998 was a necessary, *but not sufficient*, condition for government to demonstrate an increased priority for forestry in Morocco. Almost immediately, a contradiction presents itself with respect to a budget (general and special) that is totally inadequate for managing Morocco's forests. [It is noteworthy that, even as a department under the agriculture ministry, *Eaux et Forêt* budgets for a three year period about ten years ago were larger than they are now.]

Many aspects of Morocco's natural resource and social policies and structures are intimately intertwined - some in ways that are increasingly threatening those resources. For instance, rural populations have legal *free* access to local forest land resources and the products and revenues they yield - remarkably, at the cost of the rest of the country's tax payers. Such "open access" actually stimulates the massive destruction of the Moroccan landscape that users activities cause. With Ministry budget requirements 4 to 5 times higher that what government provides, it is unrealistic to expect this situation to improve - let alone reverse.

As forest degradation and, therefore, management costs continue to rise, efficiencies in forest management and greater cost recovery (user fees, etc.) are becoming increasing unreachable targets. Though financial self sufficiency may have been possible when populations where lower, demographic pressures have long ago removed such options.

The point at which all have now arrived in forest sector financing is to bring about a proportionately more equitable distribution of associated cost and benefits - which unavoidably means a dramatic increase in users fees and taxes as well. Adequate and secure financing is imperative to return the forest sector to more sustainable activities - for the benefit of the country as a whole as well as for the more immediate forest resource users.

As will be demonstrated elsewhere below, current resource use patterns in Morocco's forests are undeniably unsustainable. Therefore, inescapably, and by definition, its management must be subsidised by funds obtained from outside of the forest sector. This is not, of itself, a negative circumstance and, because of the many conservation and environmental services forests provide, is seen in many advanced forestry constituencies as well. In Morocco's case, however, the level of unsustainability of current resource use patterns verges on the irreversible in many instances and should be of grave concern.

2.1. Maximising Revenues

The Ministry, as manager of the state's forest resources, would normally be expected to assume an appropriate fiscal responsibility towards managing these

resources, including an obligation to optimise resource use and revenues. This means that the Ministry should promote mechanisms (governance and markets) that ensure that, amongst other things:

- roundwood and other products are sold at competitive market prices
- products are harvesting to maximise volume recovery (yield)
- transformation (manufacturing) facilities maximise raw material utilisation and end product value-added.

The Ministry must also ensure the creation and maintenance of a commercial and resource environment conducive to forest sector stability and profitable performance. Key success factors in this regard are:

- minimising / eliminating market distorting influences (subsidies, inappropriate taxation, free "open access" resource use
- maximising biological productivity through appropriate investment in forest land "capital" (to demonstrate the ability to provide reasonably uniform annual raw material sales)
- sustainable development of the country's forest land and environmental resources.

In many other forest constituencies, fiduciary and financial management legislation prescribes penalties for derogation from practices, instruments and structures designed and implemented to achieve the above.

2.1.1. Ministry revenues

Previous reports have suggested that, overall, the forest sector is plagued by performance that does not meet the full potential of the country's forest land resources. Biological and transformation productivity is sub-optimal. Forest land capital is being irreparably threatened and degraded - threatening its soil and water conservation and other environmental services. The extent of the damage is measurable in the billions *(milliards)* of *dirhams* and is reflected in the following:

- programmes to combat forest degradation, erosion and desertification
- reduced hydroelectric dam capacity through siltation
- removing sand from rail and road transportation routes
- loss of top soil and its productivity for rangeland and agriculture crops.

Relative to Ministry (and earlier DEFCS) financial requirements, past budgets have shown a consistent absence of progress of being at all capable of meeting MCEF needs. Ministry budgets have, throughout the last decade, experienced fluctuations sufficient to regularly cause disruptions to planned recurrent expenditures and investments. Total Ministry receipts for recent years are shown in Table 2.1.1.1 immediately below.

Table 2.1.1.1: Forest budgets (recent years) [1/]					
year	***DH***	***year***	***DH***	***year***	***DH***
		1990	352 190 000	*1995*	290 760 000
		1991	356 021 000	*1996*	306 200 000
1987	350 000 000	*1992*	275 500 000	*1997*	194 936 000
1988	240 000 000	*1993*	349 220 000	*1998*	259 000 000
1989	230 000 000	*1994*	330 000 000	*1999*	317 392 000
[1/] 1st quarter transition budget during changing of fiscal year at 1996 not shown [**9.65 DH equals approximately US$ 1, at the time of this study**]					

[Further details of Ministry budgets is presented in Section 3 of this report.]

Lack of government financial support to the Ministry has produced systematically deteriorating results - throughout the public and private forest sector. The dilapidated condition of processing plants and their poor performance can not be improved without major private sector investments and without a rationalisation of explicit and implicit subsidies that are now in place. There is otherwise little reason to anticipate increases in profitability or revenues of the commercial forest sector.

Experience also suggests that, to preserve, let alone improve, the capacity of the Morocco's forest land to maintain its soil and water conservation functions, increasingly higher MCEF investments and management interventions will be necessary. Though, in fact, urban populations are increasing relative to rural populations, both are experiencing absolute increases - with rural growth rates reaching 4.8% in some areas. Increasing population pressures and the non-sustainable conversion of forest land to agriculture uses consumes over 31,000 hectares annually. The eventual consequences affect all of Moroccan society.

Within the Ministry, and elsewhere in government, it is recognised that it is not uncommon for well managed and operated forest sectors to be "subsidised" (net recipients) from state budgets. The challenge has become one of identifying further potential revenue sources within and beyond the forest sector to supply such funds. Levying user fees on goods and services provided by forest land resources (such as water, carbon monoxide sequestration, grazing, etc.) is being increasingly discussed in many areas of the world and may be unavoidable in Morocco as well.

Elements of the current structure of fees and taxes and their distribution were established in Moroccan forestry legislation enacted as long ago as 1917 (first amended in 1918 and dozens of times since the most recent amended in 1962). A significant example, also discussed later in this report, is the 1976 *dahir* specifying that receipts of forest products auction sales accrues to rural commune accounts. This same legislation, however, requires that a minimum of 20% of these receipts is to be invested by communes in forest capital (also discussed further below).

2.1.2. Communal revenues

It is not difficult to quickly establish whether the commune forest revenue retention scheme is an opportunity for - or a threat to - the country's goal of improving forestry sector financial self-sufficiency. The financial benefits accrue only to tributary rural populations - yet Ministry budgets are expected to cover the management of these same resources.

Ownership of forest land was formally vested in the State in the 10 October 1917 *dahir* on the conservation and use of forests. However, through the provisions of the *dahir* of 1976, the historical Moroccan tradition of communal access to forest land resources ensures local population "user rights" almost equal to those of ownership - except in title. This extends not only to the direct access to forest products and services (particularly fuelwood and grazing) - but also to the legally prescribed retention of forest products selling prices. The impact of this is very significant as about 1300 the country's almost 1800 communes lie in rural areas.

This was less of a concern when the carrying capacity of the resource far exceeded the needs of local populations - a situation that is manifestly not the case today.

Effectively, the state has decreed the country's forests a free *"open access resource"* for rural populations - and there are few signals to these populations to the contrary. Nevertheless, the rest of Moroccan society is expected to pay the bill for this practice - that is:

i) the direct cost to manage the resource, and
ii) the cost of the damage that unsustainable use by rural populations causes!

It is little surprise that MCEF budgets are inadequate. Such usage severely constrains the ability of the Ministry to assume certain positive or remedial management roles on State forest lands mismanaged by local users.

The communal selling price retention scheme and communal "open access" to forest resources clearly violates the notion that the nation's forest *"patrimoine"* should be managed *"equitably"* for the benefit of all of Moroccan society.

Unfortunately, the very people who benefit most from these resources are expected to reinvest a *minimum* of 20% of the forest product selling prices they earn back into the improvements to forests capital. Not unexpectedly, 20% has become the de facto *maximum* instead. In fact, though the Ministry responsible provides assurances that, technically, the letter of the law has been adhered to - there is the conviction elsewhere that investments actually relevant to "forest capital improvements" have totalled less than *1.5%* of communal forestry receipts.

The level of communal forest revenue receipts for the last decade and their distribution in more recent years is shown in Tables 2.1.2.1 and Table 2.1.2.2 below.

The highest average annual communal revenue, for the year sampled, was 6,751,368 DH for *Sidi Abderrazak* commune in Khemisset province, and the lowest 859,963 DH for *Sidi Boukhalhal* commune in the same province.

Table 2.1.2.1: Distribution of Communal Forestry Revenues		
	number of communes	
Average Revenue level	***1987-1991***	***1992-1997***
> 10,000,000 DH	3	0
10,000,000 DH to 5,000,000 DH	4	4
5,000,000 DH to 2,000,000 DH	16	15
2,000,000 DH to 1,000,000 DH	18	20
1,000,000 DH to .500,000 DH	25	24
.500,000 DH to .250,000 DH	41	32
< .250,000 DH	428	791
[1/] Source: ---		

The distribution of retained forest receipts amongst Moroccan provinces - even amongst those that have ample forests - is very uneven. The three provinces - Kenitra, Khemisser and Khenifra - containing the top 50 forest revenue communes represent 66% of such revenues for the period sampled. [Of course, one source of new taxes would be to apply an "income tax" to these revenues.]

Table 2.1.2.2: Communal Revenues (*total,* recent years)	
year	***revenue (DH)***
1986	130,000,000
1987	135,600,000
1988	164,400,,000
1989	216,924,000
1990	218,300,000
1991	210,900,000
1992	194,500,000
1993	202,700,000
1994	227,300,000
1995	162,500,000
1996/97	180,500,000

In spite of the 1976 *dahir* of 1976 - by some reported estimates, from 1977 to 1986 communal investment has averaged less than 13% of receipts. Again by reported estimates, the situation appears to be worsening as the rate of investment for the more recent period 1988 to 1992 has dropped below 8%. The remaining 12% of communal forestry receipts that were not invested represent an average during this period of 25,000,000 *dirham* annually!

The 1.5% of communal forestry receipts that have been invested in projects that have any meaningful relationship to forestry would then amount annually to about *3.1 million dirham - for all of Morocco.*

It is meaningful to seek explanations as to why this situation is allowed to prevail. The inequity is dramatic.

2.1.3. Auctions (adjudications)

As the steward of the States public forests, the MCEF has basically two ways to provide users with access to forest land resources.

Firstly, user access can be sold (auctioned, licensed, leased, etc.) to interested entrepreneurs who can then undertake all the necessary road and trail construction and harvesting activities themselves. The harvesters' activities would be managed by strict guidelines and regulations to ensure that all activities undertake by the user are carried out on a sustainable basis according to prescribed national forest practices and standards.

Secondly, the ministry could also engage and manage contractors to do the harvesting on its behalf. The harvested products would then be sold at Ministry auctions. Direct ministry supervision is particularly suited to:

- areas where there are multiple resource values under consideration, or development requiring a more permanent Ministry presence
- situations where the quality of work and infrastructure must necessarily be of a higher standard (e.g. in National Parks, SIBEs, etc.)
- to areas that have not before been under development
- in pilot or research projects or where other new techniques are being implemented.

This second approach is similar to what the state is currently doing with its continued *valorisation* of its cork *(liege)* sales.

MCEF intervention can make a difference where local capacity or commitment is insufficient to meet resource management objectives. The *valorisation* of cork in Morocco represents one instance where Ministry controlled production and marketing operations were introduced to replace unacceptable local performance and practices in cork harvesting. A resource (cork oak forests) was being degraded (killed), harvest yields where decreasing, product values were markedly reduced and the cork industry was under threat of total disruption - *a circumstance almost identical to the existing and threatened forest degradation arising from fuelwood and grazing by rural populations*.

The Ministry now assumes management and administration roles for cork production, and - through the use of contractors - it also manages harvesting and other production and sales activities. The proceeds of the sale of cork go to the respective communes. The state retains an amount equal to only the cost of production and marketing. This approach may serve as a model for improving other forest resource use and development. Advisedly, once a sector reaches an acceptable level of performance and stability, the Ministry should devolve its role to private sector operators under mechanisms suitable to the continued achievement of overall Ministry and social objectives.

2.2. Taxation

The structure of a constituency's taxation policy provides important signals to investors. It impacts directly on their profits and investment decisions. Taxation policy should be flexible and realistic. It should be consistent with other aspects of government's commercial development strategy. It should demonstrate an equitable distribution of *rentes* amongst legitimate stakeholders. Taxation policy and practices that are reasonably equitable and predictable contribute to social and commercial stability. Flawed taxation policy frustrates economic development efforts.

In Morocco, there is evidence to suggest that there is scope for elaboration and consolidation of aspects of the nation taxation regime. Taxes affecting the forestry sector are not sufficiently consistent to promote efficient sectoral development. Some concerns over tax evasion appear to have merit.

2.2.1. Domestic taxes

Integrating and rationalising taxation policies and instruments in Morocco is necessary to increase both the perception and the implementation of equitable taxation, and to increase the overall amounts collected.

An MCEF schedule of taxes and laws applicable to local forest products - sold at auctions by the Ministry - is reproduced in Table 2.2.1.1 below.

Table 2.2.1.1: Taxes et droits appliqués aux produits forestier locaux

nature de la taxe	***base légal***	***destination***	***taux*** [2/]	***utilisation des recettes***
Taxe FNF	Article 24 et 50 de la loi de finances 1993 B.O. 4183 du 30/12/93	Compte d'affectation spéciale FNF	20%	Financement de la recherche, production de plants, reboisement, sylviculture, mise an valeur du domain forestier
Taxe de mis en charge pour la réflection des chemins forestier	Loi de finance n° 1-61 du 3/4/1964 Article 28 et cahier des Charge Génerales, relatif à la vente de coupes dans les forêts de l'Etat	Compte d'affectation spéciale	2 à 4 DH/m^3	Financement de l'entretien et de la réhabilitation des pistes d'expoitation et de vidange des produits forestiers
Taxe d'adjudication	Cahier des Charges Générales du 3/5/1957	Budget général	1.6%	En princip, destinées à la préparation des assiettes des coupes et des dossiers des adjudications. Cependant, versées au budget générale les activitries forestièrs n'en disposent pas.
Taxe provinciale sur la vente des produits forestier	Loi n° 30-89 relative à la fiscalité des collectives locales	Consiels provinciaus	10%	Recouvrée au profit des conseils provinciaux.
Droits d'enregistrement	Lois de finances	Budget Général		Recouvrée directement par les percepteurs et la trésorerie au profit de l'Etat, sur la base du prix principal majoré de la taxe d'adjudication.

[1/] Source: MCEF, [2/] Taux calculé sur la base du prix de chaque coupe, arrêté par l'adjudication, sauf pour de Droit d'enregistrement où le taux calculé sur la base du prix principal majoré de la taxe d'adjudication.

Trade related taxation is also in need of review - primarily because of distortions it causes in investors decisions - one of the major reasons for the poor physical condition of Morocco's transformations sector. [This relates to the low rate of revenue government can therefor generate from it - directly (through low corporate income taxes) and indirectly (through low employee income taxes, VAT, etc.).]

Domestic demand for certain forest products (e.g. sawn wood and veneer) exceeds supply. For example, domestic supply covers less than half the demand for sawn wood and a quarter of that of mine timbers. In contrast, "short fibre" pulp, industrial wood and cork are exported. Overall there is a strong and growing dependence upon imports to satisfy domestic demand for wood and wood products - though current taxation policy has an influence on the balance. Imports have exceeded their 1990 value of 2,135,000 *dirham* in each year of the current decade - and have exceeded exports by a factor of at least 3 to 1 in each of those years.

The taxes levied on exports and imports are presented in Table 2.2.1.2 that follows.

Table 2.2.1.2: Taxes on Wood Products

Tax	***rate***
Port tax *(acconage, portuaire, débarquement)*	6%
Import tax *(PFI, pélèvements fiscaux à l'importation))*	15%
Value-added tax *(TVA)*	20%
Import tax *(TPI, taxe parafiscale d'importation)*	.25% *ad-valorem*
Special tax (*FNF, Fond National Forestier*)	
Customs Duties	
Okume spp (rough)	6%
other species and qualities	12%
Customs duties *(droits de douanes)*	
roundwood, sawnwood, mine timbers, firewood, charcoal	10%
unfinished plywood	17.5%
finished plywood, resinous plywood, fibreboard	25%
tropical plywood, particle board	35%

[1/] Source: MCEF

2.2.2. Import taxes

Decision-makers must balance the objective of stimulating the development of an internationally competitive industry against its continued "subsidised" operation under the protection of import taxes. A sound application of the "infant industry" justification for import taxes clearly establishes a term over which such protection is phased out. And, if the import tax is imposed solely to collect revenue, this should be examined in the context of the long-term benefits of rationalising taxation so as to support the development of a self-sufficient forest sector. A rate of tax collection that captures "economic rents" that do not permit the operator to earn a "normal profit" depresses and distorts private commercial sector investment and development.

For example, the price of a locally produced roundwood species will quickly rise to match the price of higher priced imported (taxed) substitutes - an event that would not have otherwise occurred and that will have unplanned negative consequences for the rest of the sector. Demand for roundwood - harvested legally and illegally - increases, as does its selling. Local manufacturers may be driven out of their activities because the prices of their raw materials have become excessive.

2.2.3. Export taxes

Export taxes effectively subsidise local consumption and distorts the rational efficient flow of raw materials and investments that would otherwise take place. Such taxes can remove opportunities for the development of an internationally competitive sector. Instead of contributing to foreign exchange balances, the "economic rents" are being consumed at a wasteful rate that would not otherwise take place. Export taxes remove any incentive to optimise / maximise domestic consumption. The government policy to tax forest products exports can; i) decreases value added, ii) increases consumption, and, iii) potentially increase the rate of harvest - legal and illegal - that would otherwise have taken place.

A consequence of the above is an overall decrease in the level of domestic taxes collected. Distorting "border" taxes (import and export) also discourage foreign direct investment - which might otherwise constitute an effective means of upgrading "fixed capital" and raw material utilisation and product recovery rates and, therefore, sector profits and government tax revenues.

A summary of the impact of trade taxes is presented in Table 2.2.3.1 immediately following.

Table 2.2.3.1: Import - Export Balance for forest products (recent years)							
year >>>	***1990***	***1991***	***1992***	***1993***	***1994***	***1995***	***1996***
	' 000 DH , (negative)						
Exports	703	430	689	853	985	1 044	748
Imports	2 000	1 728	1 978	1 553	2 086	4 006	3 345
Net Trade							
balance	*(1 297)*	*(1 298)*	*(1 278)*	*(700)*	*(1 100)*	*(2 962)*	*(2 597)*
import/export	.35	.25	.34	.55	.47	.26	.22

2.3. Resource pricing and allocation

The allocation of Morocco's timber and other forest products is implemented through auctions *(adjudications)*. The Ministry uses a reverse *(au rabais)* or "Dutch" auction wherein the price at which the sale is actually executed is approached from above a pre-determined "reserve price" and the successful bidder is actually the only bid. Previous experience with conventional verbal public auctions resulted in what are sometimes called "bidding frenzies" prompting irrationally high bids. The consequences included:

- non-performance by the successful bidder whose auction bid price (DH/m^3) was often above the selling price of his finished products - therefore leading to losses and business failure when the coupe was actually harvested.
- retention of the bidders security deposits
- extra cost and time spent on subsequent re-advertising of the *appel d'offre* and of holding a second auction
- delays in achieving the Ministry's "annual allowable cut" *(possibilité réalisable)* targets
- loss of supply of both raw materials and finished products to intermediate and end-product markets.

The switch to reverse auctions effectively introduced a discipline to the auction process which observers suggest overcomes a regional cultural reflexive response to "bargaining" situations.

During this project, most aspects of the Ministry's approach to and implementation of auction sales and their post-sale administration were reviewed in detail. In most respects, Morocco's roundwood sales system is identical, in principal and application, to those of major forest producing countries of North America and Europe. There are, however, aspects of the allocation system that most observers recognise as problematic and beyond simple resolution.

2.3.1. Forest resource environmental values

Morocco's forests feature both consumptive and non-consumptive (e.g. conservation and environmental) values. Soil and water conservation, aesthetic or recreation experiences and biodiversity are examples of non-consumptive values. Biodiversity values have particularly relevance in Morocco due to the high number of endemic species found here.

Environmental services generally:

- do not have market prices
- are not "traded" and
- do not appear in national accounts,

which frustrates their routine incorporation into economic analysis. In fact, the UN SNA (System of National Accounts) established over 50 years ago has no means to actually deal with such "intangible" environmental resources values.[1] The consequence of this is that natural asset "depreciation" costs, (i.e. the cost of maintaining the income producing natural capital) are not included in financial calculations and GDP *(PIB)* is overstated.

The order of magnitude of the "missing" accounts for Morocco is reflected in the discussion that follows.

Statistically the "official" contribution of the forest sector to agricultural GDP is given as 2% (therefore, .4% of overall GDP). More inclusive approaches suggest that the figure is closer to 10% (therefore 2% of overall GDP).

Some estimates suggest as much as 18% of agricultural is directly and indirectly dependent upon forest land services and outputs. This is not surprising given that a full 17% of livestock nutrient requirements are produced by forest land - equal to 15,000,000 *quintaux* or 1 500 000 000 animal unit months *(unites de fourrage)* annually.[2] *Based upon the barley (orge) equivalent of this forage, forest capital is here providing forage worth over 2 million dirham annually*.

If forest soil conservation services prevent dam sedimentation then one measure of their loss to Morocco is the cost of the 800,000,000 m^3 of sediments now deposited behind Morocco's dams. Current rates of sedimentation are of 50 000 000 m^3/an - translating into 500 tonnes/km^2/an for the 200 000 km^2 affected. This rate is anticipated to reach 100 000 000 m^3/an within the next twenty years.

[1] A number of countries maintain "satellite" accounts along with their SNA to track changes in their natural resource capital assets. New approaches to deal with environmental values were introduced in 1993 by the UNSTAT.

[2] Forests in Morocco are occuppied from 6 to 12 months of the year by over 10 million head of livestock. By some estimates, total domestic livestock heards now exceeded 18 million animals.

Siltation has already reduced dam capacity by more than 10% to date and will result in significantly reducing their overall useful live. To the extent that the number and timing of new dam construction must be increased and advanced, these costs represent the cost of the loss of the forest land's soil conservation services. *Based upon the costs that proper forest management could have avoided, forest capital is here producing over 700 million dirham annually*.

Increasingly, governments are budgeting for the protection, management and improvement of environmental services provide by natural resources - recognising that in the long-term - their costs will be relatively smaller compared to the cost of replacing such services. The services provided by the environment in many cases have exceedingly high replacement values - if in fact they can be replaced. Degradation is frequently irreversible - except over a geological time horizon.

It is clear that the economic relevance and contributions of Morocco's forests to its actual GDP is far greater than official figures suggest. Effective and realistic development planning depends upon realistic and accurate sectoral capitalisation and performance figures. Without producing a more comprehensive model - which includes the impact of the current levels of forest capital depreciation - effective forest resource management and sectoral development is constrained by lack of credible analysis and achievable objectives.

2.3.2. Forest resource pricing mechanisms

As virtually the only seller in the "market place" for forest raw materials in Morocco, the Ministry must administratively determine how much of its products it can actually sell and also the resource *"rentes"* it should be receiving. The maximum that it should sell is established by the "sustainable" harvest or "allowable annual cut" *(possibilité réalisable)*. Beyond this, the goal is to, as much as possible, create a raw material allocation / auction mechanism that uses and produces realistic selling pricing signals reflective of existing competitive influences. Some of the factors influencing this outcome are discussed below and in sections 2.3.3 and 2.3.4.

Most government schemes based on a role for government in natural monopolies would suggest that the resource be offered at "fair market value". The emphasis is on creating an administrative mechanism - auction, tender, competitive bidding - or other approach that simulates the economic outcome of the competitive environment (many buyers and sellers). The socially optimum quantity to offer is when marginal benefits equal the marginal costs. Since we can seldom estimate well either the value or the marginal benefits or the marginal costs, the fallback position is to offer the resource in sizes, qualities and locations that will attract competition. Set a reserve price that at least covers administration costs but could be as high as the last selling price minus 10-15%. Establish terms and conditions of payment. Post publicly the characteristics of the commodity to be sold, the terms and conditions of payment and announce the reserve price. Avoid collusion among bidders by insisting on the receipt of more than one active bid. After the sale is awarded, publish again the bids, the winning bid and the final terms and conditions of payment.

The Ministry's revenues from its forest products derive from the conversion of raw materials into marketable products. All of the costs of manufacturing, transport and marketing are paid for from product selling prices. In this respect exploitation and transformation are "value-adding" activities to the raw material. Without such activities the inherent resource values ("economic rents") can not be realised.

An operator's profit also derives from economic rents - eventually realised through product selling prices. Annex C provides detail on the approach used to establish and maintain "administratively" determined forestry fees. In summary, however, if profits are too low the operator will invest his money in something else. A profit that is just adequate (but no more than that) to ensure operators remain interested in continued participation in the sector is termed a "normal profit".

Of course, efficient operators in any established industry make the highest profits because their product recovery, and therefore their sales, are higher - and their costs are equal to or often lower than industry averages cost. The costs used to calculate "normal profits" are, therefore, those of the *"operator of average efficiency"* for the activity under consideration. Such operators are realising "above normal profits" which are considered acceptable under such circumstances. Normal market forces tend to ensure that above average efficiencies eventually become the industry average and, similarly, that "above normal profits" eventually become the industry averages.

By contrast, these same forces ensure that operators experiencing cost above industry averages and experiencing "below normal profits" would normally not survive. One of the attractions of such a mechanism is that, once the market and governance parameters of the sector have been established, the levels of Ministry intervention to maintain the mechanism is lower than under more "governed" mechanisms.

To reiterate, the goal of the Ministry is to maximise its capture of the forest resources' "economic rents". This is done by selling forest products at prices at which buyers earn only "normal profits". This concept is reflected in the Ministry's practice of suspending an auction where offers fall below a "reserve price". The Ministry recognises that if it sells its forest products at below the reserve price, the buyer is making a profit at the expense of the Ministry.

Where there is insufficient "market" price data upon which to base the sale of their forest products, "administrative" prices must be used to establish the minimum price at which the owner will sell. The Ministry calculates its reserve price using the buyers "market" input costs to determine the buyers' profit margins (see Annex C).

In reality, "rational" buyers calculate their bid prices in exactly the same way. This is reflected in the fact that buyers bids usually range within plus or minus 20% or the Ministry's reserve price - even though the results of the Ministry's calculations are not made public.

The "reserve" price is dependent upon many input charges (fuel, labour, etc.) that change over time. Payments are generally due in four instalments distributed over the duration of the buyer's contract (usually from 8 to 18 months).

It becomes evident, upon understanding the above mechanisms, that, how the Ministry calculates its raw material selling prices has a very direct influence upon its revenues.

2.3.3. Security of supply to raw materials

The "single seller" status held by the State must be deliberately managed to ensure that an equitable equilibrium selling price prevails. Market inefficiencies can arise where the volume of forest products offered for sale is either too high or too low - with respect to market demand. Morocco's experience of the last two decades shows the confusion that can be imposed upon the forest sector through fluctuating quantities and qualities of forest products offered for sale in conjunction with the distorting influences of both import and export taxes.

The principles of sustainable development should be applied to determining the annual exploitation rate for all forest products. The harvest of any forest product should be equal to (or, conservatively slightly less than) a volume that the forest can actually sustainably produce from year to year. Once this volume is determined, it should actually be made available on a yearly basis - or some other appropriately periodic period. If this is not done there will be little incentive for the commercial sector to invest in technology and training capable of maximising their product recovery and their profits - both of which are necessary for the state to maximise its revenues.

The confidence of the forest sector in the Ministry's ability to provide reasonably uniform volumes and quantities of forest products at auctions has been tested in the past. Routinely, the single most critical element in attracting investment is a reasonable assured supply of raw materials under reasonably competitive arrangements. Except in some specially created favourable circumstances - which do not reflect normal competitive market mechanisms - there has been reluctance by industry to invest.

Where profits are not particularly high and where payback periods are relatively long - as in the forest sector - it is a demonstration of common business sense to limit investments where severe problems with access to raw material supply and distorted pricing has been demonstrated.

Imposing equipment and employment (*main d'œuvre)* requirements on prospective bidders/ operators, though not totally proscribed, should be done cautiously. The risks are that; i) the state's sanction of preferred bidding rights to modern facility owners translates into a commitment by the state to ensure their success - which is a risk the state should never assume (as evidenced by the example

of Morocco's pulp mill), and ii) other legitimate and potentially successful investors are excluded.

The state's role in the forest sector is to create a "level playing field" for all potential investors. This can translate into a number of mechanisms with respect to tenures and licenses including:

- Prescribing reasonable pre-qualification requirements for bidders. For sales of a given level, demonstration of involvement in (or partners with) previous experience is reasonable. For larger long-term sales the Ministry may specify access to transformation facilities may be required.
- Structuring the size (volumes) of the auctions and the number of each size to flexibly match the "configuration" of industry operators (i.e. annually providing many relatively small sales and very few relatively large sales. Segmenting the market in this way ensures access to raw material for a wide range of operators - small to large.
- Cancelling auctions sales if the number of bidders in attendance is inadequate, or if the bids do not exceed an economically calculated "reserve price", or if "collusion" practices are suspected. Too few bidders will not constitute a normal "market" - with the obvious consequence of below market bid prices.

2.3.4. Subsidies

Subsidies can mask the poor performance of inefficient unprofitable operators. The risks of prolonged use of subsidises includes raw material and energy waste, unrealised product and market development, and below maximum profits and, therefore, tax revenues for government.

The effect of the subsidies provided to Morocco's cellulose producer at least in part provides an example of some of the negative consequences of such a measure (see section 5.1.2). Subsidies provide protection to inefficient operators by contributing directly to their profits - where there might not otherwise be any. If unavailable to other operators, this signal, like some taxes and tax policy, discourages investment by other more efficient operators interested in the same activities. It can also discourage a wide range of investments in other activities that might otherwise effectively compete for the same raw materials, labour and other production inputs. In this respect subsides can delay or permanently discourage the development of an efficient internationally competitive forest sector.

Morocco's ability to produce cellulose that can compete effectively with imports can be determined by detailed economic analyses. The overall decision to continue to subsidise this operation should be reviewed in the context of the results of such an economic review and of the political, developmental, sectoral and financing issues that, unavoidably, also form part of that context.

2.4. Other policy issues

Overall, ministry and sectoral financial issues can not be comprehensively examined without reference to the policy, institutional and structural context within which these reside. Many structural issues have been discussed above in this section. Morocco's scope to change the circumstances surrounding the financing of its forest ministry and the development of its forest resources and forest sector is also unavoidably affected by:

- political will and commitment
- national legislation and regulatory issues
- administration and governance structures
- social development targets
- national economic development strategies.

As a minimum, these issues should be reassessed to determine how they dominate Ministry mandates and objectives, and the achievement of sustainable forest management and development, and the reversal of forest land degradation. Optimally, forest resource management and development decisions should be routinely integrated to accommodate consideration of each of the above issues according to their current relevance.

In the past the MCEF has frequently had to deal in a reactive way to unforeseen events affecting its management of forest land resources. For example, three times this decade droughts have had a dramatic impact on the priorities for forest land use and, therefore, on where the Ministry's already inadequate budget must necessarily be expended to react to such unplanned events. In general, the Ministry undertakes programme and activity planning pursuant to existing policies, with the intention of seeking an adequate level of government financing to implement them.

Policies having a direct and major impact upon the biophysical and economic viability Morocco's forest sector include (and therefore on the sector's own potential contribution to financial self-sufficiency) include:

- state ownership of national forests (that is, the significance of the state as the only seller of forest resource)
- treatment of forest land as an "open access resources" for rural communes
- communal "forest selling price" retention scheme
- an explicit subsidy to the country's cellulose producer
- the use of "special accounts" rather than general budget allocations
- taxation policy distortions
- fragmented "forestry" responsibilities amongst different Ministries
- external deficit financing (e.g. IBRD, ADB)
- reluctance to enforce penalties for violations of resource use practices
- reluctance to collect unpaid (but payable) user fees

- inflexible and incomplete regime of *"droit d'usage"* and *"droit foncier"*

Significantly, import and export taxation policies, raw material subsidies, and limited tenure *(droit d'usage)* arrangements - *constitute a fundamental barrier preventing efficient market prices to develop for forest products*. The barrier is situated visibly between the private sector investor and the public sector forests - *and effectively discourages (if not entirely eliminating) FID (IED) investment in Morocco's forest sector*. This situation is further aggravated by the fact that the state is the only seller of forest raw materials. All of the above conspire to exclude the establishment of a "competitive market" within Morocco's forest sector.

The issues listed above are evident in a complex relationship with each other and often demand the least government intervention where effective and efficient freely competitive open market mechanisms prevail. As stated earlier, ideally, government's intervention should be limited to the usual task of maintaining the "level playing field" necessary to stabilise the operation of any commercial sector.

In Morocco, there is considerable scope for realigning and consolidating approaches and programmes - within MCEF and other ministries - to improve forest land and environmental management. This may be unavoidable if it is to successfully implement many of its own national strategies for these resources. It would also be consistent with the commitments demonstrated by government's ratification of the following international environmental agreements:

- Convention on Biological Diversity (UNCED, 1992)
- Convention to Combat Desertification Those Countries Experiencing Drought and/or Desertification, Particularly in Africa (Paris, 1994)
- UN Framework Convention on Climate Change (UNCED, 1992)
- Convention for the Protection of the Ozone (Vienna, 1985)
- Convention on International Trade in Endangered Species of Wild Flora and Fauna (Washington, 1973)
- Convention on Wetlands of International Importance (Ramsar, 1971)

The sustainable development and management of its forest land and environment does feature in the implementation of many of the above treaties.

As stated earlier, an analysis of the correspondence between Ministry budget requests and *général* and *spéciale* budget allocations reveals a huge discrepancy. To address its national forest sector deficiencies and support its international commitments to the environment will require government to:

- reorder, to a much higher priority, its financial support for its *Ministère délégué chargé des Eaux et Forêt*
- introduce a number of other effective and integrated policy initiatives to rationalise and stabilise the sector.

Measures that do not address many of the above issues will be inadequate to prevent continued poor sectoral performance and resource degradation - let alone to reverse damage that has already occurred.

3. Ministry Financial Requirements

Total forestry budgets since 1990 have averaged 322 million *dirham* with a standard deviation for this period of about 32 million *dirham*. Funding levels in this decade represent a drop from the total budget of 350 million *dirham* available in 1987.

For the *budget général* the average has been just over 181 million *dirham* since 1990 with a standard deviation of just over 30 million *dirham*. The maximum annual contributions from the general budget during this period reached 241 million *dirham* in 1993 with the minimum of 147 million *dirham* occurring in 1995. For the *comptes spéciale* the average, since 1990, has been about 141 million *dirham* with a standard deviation of about 29 million *dirham*, a maximum of 178 million *dirham* occurring in 1990 and a minimum of 43 million *dirham* in 1995.

There is a perception by some observers that recent funding levels constitute a "stabilisation" of Ministry budgets. The year to year fluctuation for budgets is obvious in the statistics presented in the previous paragraph. Analysis conducted for budgets for the slightly longer period 1987 to 1999 showed higher levels of fluctuation, with standard deviations higher by *75%* or more. Additionally, the discrepancy between Ministry needs and actual budget allocations is extreme. Both observations bring into question the suggestion that budgets have stabilised.

Table 3.1 presents details of MCEF budgets since 1990.

Table 3.1: Annual MCEF budgets since 1990

	Annual budget contributions ('000 000 DH)									
Source	***1990***	***1991***	***1992***	***1993***	***1994***	***1995***	***1996***	***1997***	***1988***	***av.***
general budget	173.85	179.83	169.98	241.32	195.95	147.42	161.63	194.94	199.99	*183.00*
of which IBRD	56.04	67.51	102.06	140.59	114.49	76.09	69.84	48.45		*84.38*
of which ADB	1.70	30.71	36.36	39.66	29.62	31.84	40.18	26.02		*29.51*
(total external)										
special account	174.34	176.19	105.52	107.90	134.04	43.33	144.57			*141.41*
Total	352.19	356.02	275.50	349.22	330.00	290.76	140.65	306.20		*324.41*

Of significance is the extent of external financing upon which forest financing in Morocco depends. Since 1990, contributions from a World Bank loan have averaged 46% of the MCEF budget (ranging from 32% to 60%). An ADB loan has ranged from about 10% to 26% and averaged about 16% over this same period.

The distribution of the expenditures of MCEF budgets since 1990 is shown in Table 3.2 immediately following.

Table 3.2: MCEF budget expense distribution since 1990

item	***%***
Budget d'Investissement	
actions de mise en valeur du domaine forestier (PFN II)	60
actions de conservation de ressources naturelles	15
actions de développement et de conservation	25

Table 3.2: MCEF budget expense distribution since 1990	
Budget des comptes spéciale	
acquisition de terrains construction de maisons forestiéres et de bâtiment administrative, aménagement et rénovations, informatisation	12.3
domaine forestier: overture de chemins, délimitations, inentaites, protections	14.1
economie forestiére, aménagement de forêts, régénération, conduite des peuplements, améliorations de parcoures, études	24
reboisement, DRS, conservation des sols	42
chasse, pêche et protection de la nature	5.2
recherche forestiére, formation continue et appui scientifique	2.4

The current MCEF funding initiative is presented within the *quinquennium 1999-2003*, which proposes an annual requirement of 1,066 million *dirham*. Using the annual average of 322 million *dirham* calculated above, this represents roughly 850 million *dirham* above current annual funding levels.

Also of interest is the observation that a number of forestry responsibilities are currently being assumed by ministries other than the MCEF (see section 5.1.12). The above budget shortage therefore even further understates actual Ministry requirements if it were to properly assume these responsibilities as well.

4. Appropriateness of Existing Forestry Financing Approaches

It is not a coincidence that project documents for projects dealing with *du Haut Atlas*, *Plan Directeur de Reboisement*, *PNABV*, *Aires Protégées*, and others present similar strategies for their funding. Most invariably resort to a combination of similar approaches for prospective financing, including:

- self-financing to some extent (invariably small) by local beneficiaries
- increased financial support from existing user groups
- new domestic (private and public sector) partners and their financing
- new bilateral and international donor assistance
- new taxes.

4.1. Programme Funding Approaches

A brief summary of the financial requirements for a sample of programmes and their proposed funding sources is presented in tables immediately following.

Table 4.1: Plan Directeur de Reboisement - proposed financing

Coût total	700 M DH/*an*		
		Etat:	
		coût total sur buget des forêt:	
		600 MDH/*an*	
Réparation	*collectivetés et secteur privé:*	*"fonds propres" du Maroc:*	*financements internationaux:*	*autres administrations:*
Somme	70 MDH/*an*	180 M à 240 M DH/*an*	360 M à 420 M DH/*an*	60 M DH/*an*

Source: Plan Directeur de Reboisement, AEFCS 1997 (p 99)

Table 4.2: Stratégie Nationale - Aires Protégées Interventions

project	***bailleur de fonds***	***site***	***montants '000 000 USD***
Gestion des Resources Naturelles	GTZ/BMZ Allemange	PN Souss Massa, Toubkal, Tazekka	1,2
Development participatif des zones forestiéres de la Prov de Chaouen	Unione Européenne	PN Talassemtane	3,0
Development participatif des zones forestiéres de la Prov d'Ifrane	Agence Française de Dévelopment / FFEM	PN Ifrane	2,0
Conservation de la diversité bilogoique du versant sud de Haut-Atlas	PNUD / FEM	SIBE du Jbel Sagho	2,2
Gestion des Resources Naturelles dans la Province de Taza	Coopérations italienne / FAO	PN Tazekka	1,0
Project de Gestion des aires protégées au Maroc	Banque Mondiale / FEM	PN Toubkal, Haut Atlas Oriental, Al Hociema, 13 SIBES Réserves	18,8
		total	28,20

Source: Synthese (*provisoire)*, Project de Gestion des Aires Protégées, MCEF, Février 1999 (p 8)

Table 4.3: Project Gestion AP, Reparation de financement

	Gouvernment		***FEM***		***Bénéficiares***		***total***	
Composante	*M USD*	*%*	*M USD*	*%*	*M USD*	*%*	*M USD*	*%*
Renforcement de capacités	1,304	30	3,091	70	--	--	4,395	23
Gestion des SIBE et PN	3,506	15	4,598	35	754	9	8,859	47
Aménagement des SIBE RV	2,091	45	2,376	51	161	3	4,628	25
Sensibilisation et Communication	224	25	687	75	--	--	911	5

Source: Synthese (*provisoire)*, Project de Gestion des Aires Protégées, MCEF, Février 1999 (p 25)

The basic approach to funding programmes according to the above schemes is not unsound. However, the practical issues surrounding the application of this approach warrants review. The issues surrounding the distribution of cost amongst beneficiaries and stakeholders are discussed in sections 3 and 5 of this report and must be considered in respect of each of the Ministry's programmes - *as well as those of other ministries where such programmes are in any way related to, overlapping with, or otherwise influencing forest land and environmental management and development.*

Three key areas of concern with respect to all programme funding are:

- maximising the efficiency, for Morocco as a nation, of all programmes combined
- maximising overall programme benefits
- minimising overall programme administrative, management, implementation, infrastructure and monitoring, etc., costs

The Programme funding factors requiring the most immediate attention in respect of assigning user costs and funding responsibilities deal fundamentally with:

- establishing the distribution of the benefits amongst social partners - within the context of all of Moroccan society
- assigning user costs in an equitable manner in recognition of both direct (e.g. grazing fees) indirect (e.g. soil and water conservation taxes) resource consumption and use patterns
- limiting resource development and use where the net results are negative and unsustainable (e.g. degrading of the environment, wasteful of resources, etc.); inadequate funding cannot be used as a reason to justify continued unsustainable practices
- leveraging donor funding as much as possible through the use of "high internal inputs" and "low external inputs" approaches (e.g. local labour and other inputs and techniques and technology)
- monitoring the performance of all of Morocco's forest land and environment Programmes to adjust their implementation, as required, to maximise overall benefits consistent with the above factors.

5. Critical revenue scenario factors

The use of the term *Extra Budgétaire* is an arbitrary designation. For the purpose of this project it is deemed to simply mean sources of funding not currently identified or available to the Ministry. This could include:

- revenues potentially (directly or indirectly) available from the sector but not currently produced
- revenues that may be generated but not currently taxed or collected
- revenues originating outside of the sector.

As stated earlier, forest land and environmental resources and services often can not produce the revenues needed to wholly finance their own management and development. This is especially so where the range of cost to society (as in the case of Morocco) include those related to:

- "open access" resources consumption (e.g. free fuelwood and grazing)
- non-marketed unpriced services (soil and water conservation)
- excessive capital depreciation (degradation, loss of productivity).

The definition of *extra budgétaire* is effectively only defined by what government decides to allocate or not to allocate to the Ministry.

The sections that follow discuss approaches to increasing the efficiency and range of mechanisms for improving and maximising the rate of forest revenue from Morocco's forest land resources. It remains largely unquestionable that this challenge must be met and that failure to do so will lead increasingly to situations already verging upon the irreversible.

An accurate and farsighted justification for improving forestry financing is found in the *Plan Directeur de Reboisement*. This simple statement very accurately reflects the broad and inescapable objectives for forest management in Morocco. It is instructive to note that preventing the conditions that the PDR is attempting to reverse is far less costly than the actual reversal process.

Quatre priorité stratigique articuler par la Plan Directeur de Reboisement

- ✔ *le contrôle du régime des eaux et de l'erosion dans les principaux bassins versants, et la lutte contre l'envasement des barrage et contre ensablement*
- ✔ *l'établissement d'un équilibre sylvopastoral durable, favorable à la forêt et bénéfique aux populations, dans les zones de parcours*
- ✔ *la consolidation et la développement du potentiel de production forestière, en quantité et en qualité, en vue d'accroître la valeur ajoutée de la filière bois de Royaume et de mieux maîtriser l'économie du bois énergie*
- ✔ *la prise en compte des espaces boisés comme facteur d'équilibre social et culturel dans développement de l'urbanisme et des infrastructures au Maroc. (PDR, 1997, p6)*

En effet, le PDR et les programmes provinciaux ***ne peuvent, et ne doivent pas*** *être une norme statique. Ils constituent un outil évolutif qui ne trouvera sa valeur que dans la mesure où les services provinciaux sauront l'adapter avec pragmatisme aux évolutions rapides du contexte socio-économique et budgétaire, à leurs expérience, et à leurs priorités. (PDR, 1997, p7)*

The PDR goes on to suggest conditions necessary to achieve the above objectives. These same conditions (*see text immediately below)* are also directly applicable to achieving sustainable forest management and development which, itself, is a direct requirement for achieving sustainable forest productivity, sectoral stability and optimal revenues.

Pour atteindre cet objectif de relance de la politique de reboisement, une nouvelle stratégie d'intervention est nécessaire, dans la continuité et dans la durée. ***Elle suppose l'adhésion et la volont de chacun****. Elle implique:*

- ✔ *la coordination des autorités administratives (Forêts, Agriculture, Intérieur, Hydaulique, Environnement …)*
- ✔ *l'intervention progressive des collectivités, et du secteur industriel et privé dans le reboisement*
- ✔ *la conception du reboisement comme un élément du développement rural, ce qui suppose une démarche participative, l'intéressement des populations et des usagers, ansi que des mesures d'accompangement significatives*
- ✔ *la formation des hommes (références techniques, négociation, communication) et la modernisation des moyens (logistique, pépinières, entreprise de reboisement). PDR, 1997, p6)*

An equally noteworthy and valid verdict was presented in the *Programme Forestier National,* Phase 1, *Situation du Secteur Problematique-Defis* (ONFI, Agroforest, CIRAD Forêt, 1998) and is also repeated immediately below.

Le bilan de la situation actuelle du secteur forestier vient de mettre en évidence de multiples raisons de s'inquiéter de l'avenir de la forêt marocaine.

Certes, l'état général n'est pas encore dramatique, mais l'hétérogénéité des contextes régionaux et socio-économiques montrent qu'il existe déja des situations alarmantes et que parfois même des points de non retour sont atteints.

La gestion actuelle et future des ressources forestières consiste donc à surmonter un certain nombre de défis afin d'assurer la durabilité du patrimoine avec tous ses services. (ONFI, et al., 1998, p132)

The significance of several factors related to forest sector funding is discussed in detail below. These fall broadly under the following headings:

- renewing fiscal and administrative structures and mechanisms
- capitalizing on new products and services
- developing new partnerships and cost sharing arrangements
- enacting new taxes

Unsustainable resource use, by definition, provides no scope for a sector to be self-sufficient. Funding for the management and development of a sector that is "living beyond its means" or "liquidating its capital" must be provided from sources external to the sector. The long-term goals of the Ministry should include imposing sustainable development principles upon the country's forest land resources.

5.1. Renew fiscal and administrative structures and mechanisms

Where administrative and transformation efficiencies can be improved, costs drop and yields increase. This can result in improvements to both the Ministry and the sector's expenditures and the sector's ability to generate revenues and contribute to its own financial self-sufficiency.

5.1.1. Increase General Budget allocations

The premise for increasing MCEF funding through general budget allocations is a re-ordering of government spending priorities to reflect a greater recognition of the value of forest land and its resources (tangible and non-tangible) to Moroccan society.

By many measures, presented in this report and in several others that have been undertaken in recent years, there is a huge discrepancy between the value of the actual services and products Morocco's forest *patrimoine* provides to society and the funding available to maintain this natural capital. The consequences are; i) almost

everywhere visible in the country, ii) have huge remedial costs associated with them, and iii) are increasing rapidly.

Budgets can be influenced by:

- demonstrable social needs
- pressure from interest groups (commercial, environmental, ideological, professional, etc.)
- unplanned circumstances (natural or human disasters, war, etc.)
- external influences such as changes in oil prices or other commodities, and
- directly by political objectives.

Because budget funds are scarce (in limited supply) the consequence of attempting to re-order spending priorities is that considerable support from many avenues must be rallied to succeed.

From both public forest management and commercial perspectives, there are many justifications for increasing the Ministry's budget directly through General Budget allocations, including:

- the inadequacy of current Ministry budgets to fund Ministry programmes
- the inadequacy of current funding to manage other tasks imposed upon the Ministry for activities beyond its mandate
- an inability to attract investments to the commercial forest sector - perhaps due to the instability resulting from the many unaddressed problems it faces
- improving Ministry capacity to prevent and reverse the estimated 31,000 ha of annual forest land degradation
- increasing potential revenue from currently non-productive forest land
- inflation

There are, in fact, many other forest development related activities also worthy of increased funding including:

- increasing product and market development activities into uniquely Moroccan forest resources (e.g. *Argania spinoza, liège, alfatière)*
- creating eco-tourism pilot projects highlighting Morocco's high localised rate of endemism
- incorporating the outputs of successful external donor projects into mainstream forest management programmes.

5.1.2. Improved resource valuation

For the MCEF resource valuation consists principally of calculating adjudication (auction) reserve prices - though this should not be assumed to be a

simple task. Such calculations form the bases of Ministry auctions of state forest resources - and directly influence state revenues.

Accuracy in resource valuation depends upon using representative market prices when calculating a range of microeconomic and macroeconomic variables - such as operator profit levels, payments to fixed capital, incomes, and government tax revenues. Because of the influence of government interventions forest products prices and product flows in Morocco represent an "imperfect" market and do not reflect the outcomes of conventional efficient freely competitive open market transactions.

Government's interventions include implicit and explicit subsidies through inadequately integrated taxation policies (import and export taxes) and direct allocation of forest resources. (e.g. eucalyptus roundwood for pulp production and fuelwood to rural populations). For example, because of concessionary allocations to the only cellulose plant in the country, eucalyptus roundwood prices should not be considered realistic "market" prices. Similarly, because "informal" fuelwood harvests are *"gratis"* and equal to 3 to 4 times what is legitimately harvested" - fuelwood roundwood prices cannot provide an accurate assessment of this products value.

The outcome for the Ministry is that it must use "shadow" prices to more accurately establish resource values. Accurate shadow pricing can also influence the distribution of the resource (economic) *rentes* upon their conversion to incomes, capital expenditures and profits. For instance, any calculations involving the input price of the subsidised eucalyptus roundwood used in pulp production should use the price that would prevail without the subsidy.

5.1.3. Quarterly Market Price Adjustments

Reserve prices [3] constitute a key component of the Ministry's "administratively" determined value of the roundwood it sells at auctions *(adjudication).* Exploiters' operating costs form the basis of "reserve price" calculations. Where such input prices change frequently, valuation calculations should be updated accordingly.

To be consistent with the principle upon which the Ministry calculates "reserve prices" it should further introduce a mechanism to ensure that, on a regular basis (at least quarterly or *trimestriellement)* the level of forestry fees paid by the buyer is recalculated and adjusted accordingly to reflect changes in operators "input costs" and in "end product selling prices". The frequency of recalculation should reflect the frequency with which the prices under consideration change and the magnitude of such changes.

[3] Reference to Annex C provides background to principles discussed in this section.

5.1.4. Maximising forest land productivity

Forest land productivity of sustainable consumption levels for roundwood, grazing, water conservation, etc., can be increased by a wide range of measures including:

- selection of superior planting stock for reforestation
- effective disease, pest, and fire protection programmes
- replacing non-commercial forest with commercial species
- improved and broadened silviculture programmes and prescriptions
- fertilising in plantations and appropriate natural stands
- banning livestock grazing in newly established stands
- curtailing and/or banning ploughing and introducing low tillage methods
- curtailing or banning livestock grazing in all stands
- establishing fuelwood plantations to reduce/eliminate pressure on other forests
- introducing alternate fuels
- introducing alternate improved stoves requiring less fuelwood
- using alternate farming systems (agroforestry, sylvo-pastoral, etc.)
- increasing the existing value of forest raw material to promote their protection until mature
- improving water management programmes (storage and distribution structures, co-operative organisation, water schedules, "drip" and other irrigation techniques)
- broadening anti-desertification programmes
- improving the exclusivity (ownership) of user rights
- effective overall enforcement of laws (policing, penalties, detention)

Productivity can also be increased by "commercialising" tree species and other forest products for which markets may be developed (but may not now exist). Private sector interest is already evident for some less conventional forest resources (e.g. aromatic/ medicinal plants, arganier and alfatières) and warrants efforts to fully examine their potential.

Studies have shown that few of the species growing in Morocco have annual incremental growth rates equal to their full potential. In fact, it has been pointed out that, though the PDR projections for plantation volumes are based upon an average annual growth rate of $5m^3$/an, actual growth rates - *in the most intensively managed forest crops in the country* - are $1m^3$/ha ($1/5^{th}$ of their potential).

Similarly, studies have estimated the potential *unité fourrages* to be around 1,500 million annually. Current consumption is estimated to be around 600 million - *though at the level of intensity that grazing is currently practised, this is not sustainable*.

The potential significance of increased forest productivity upon revenue stems directly from the increase volume of sales that may arise and from the reduced costs of rehabilitation costs resulting from current levels of degradation.

5.1.5. Maximising harvest recovery

Besides the removal and transport of the commercial logs (*grumes)* - roundwood harvests in Morocco are generally associated with the complete removal of virtually all combustible or consumable (fodder) biomass. In those instances where this may not be the case, penalties should be applied (as in many countries) for what are described as "avoidable harvesting wastes".

Penalties would apply to, i) waste volumes that have been felled *(abbatagé)* but not harvested *(recolté),* and ii) volumes that have been used for road, bridge, or other operations structures prior to the payment of forestry fees. The level of the prescribed penalties in some jurisdictions is equal to three times the normal forestry fees (auction selling price) payable for that particular product.

Because already existing high levels of recovery, realistically it is not likely there is much scope for increasing that rate in Morocco.

5.1.6. Maximising transformation efficiencies

The transformation units in the forest sector in Morocco have been unflatteringly described in previous reports as *vétuste*, undercapitalised, using poorly trained personnel and suffering from poor management. Sawmills have low yields and produce high volumes of low valued waste and residues - an unfortunate circumstance as taxes attributable to the transformation sector are directly proportional to its yield and the value of those outputs.

The same raw material supply - used by a modern mill - could in some cases achieve twice the output. The maximum recovery rate realised in Morocco is for sawmills cutting *cedre* - which sometimes reaches 45% for exceptionally large logs.

As stated earlier, however, investments in modern transformation technologies (sawmills, fibreboard, etc.) will be predicated upon the creation of a credibly stable and well managed forest resources and commercial sector.

There is scope in Morocco to increase forest revenues by penalising sawmills and other transformation facilities for using wood material in a process that does not maximise its value. A strategy can be applied to ensure that all wood raw materials are directed to transformation facilities that transform them into their highest potential value-added. Under such a regime, using a roundwood log *(grume)* of sawnwood quality for construction poles *(perches)* instead would attract a penalty, as also would using a pole quality log for fuelwood. Penalties applied in such cases could consist of: i) a cost component to recover the value-added tax that would have otherwise been

payable on the higher valued product and, ii) a punitive component adequately high enough to discourage wasteful practices.

5.1.7. Increase recovery of uncollected revenues

The scope for collecting taxes that are payable - but not currently paid - seems small, though the amounts that remain uncollected are not trivial. The principal reasons for uncollected taxes are:

- low or subsistence level incomes
- deliberate evasion of payment
- insufficient tax collection facilities and personnel
- low probability of being caught - if not paying taxes
- low probability of receiving penalties - if caught

The short-term to medium-term opportunities for increasing the collection of unpaid taxes are few. A number of conditions would have to be met that can only be effectively put in place over a medium-term to long-term period.

There is, admittedly, a point at which the cost of employing more tax collectors *(percepteurs)* exceeds the additional revenue they collect.

A dramatic example of uncollected revenue is associated with about ¾ of the 10,000,000 m^3 bois *de feu* that is collected in Morocco which World Bank estimates even 10 years ago suggested having a value of 1.5 *milliard dirham* - at that time equal to ¾ of the official PIB of the forest sector. A recent report (in an analysis of the economic efficiencies of alternate energy sources) gave a fuelwood selling price of 0.40 DH/kg to 0.60 DH/kg - which translates into 250 DH/m^3 to 400 DH/m^3. The impact of collecting even a 1% tax on these 7,500,000 m^3 of "direct" harvests by rural populations is roughly 19 to 30 million *dirhams*. Aside from revenue objectives, the application of a tax on the direct harvest may also be used to manipulate the rate of harvest - which is currently equal to 3 to 4 times the *possibilité realisée* and is clearly unsustainable.

An second equally dramatic example of uncollected revenue is attributable to the 1,500,000,000 *unités fourragéres* - equivalent to 15,000,000 *quintaux d'orge/an* (1.5 million tonnes of barley annually). At a price of 2 *dirham*/kg), the value of these *UF* is equal to 3 *milliard dirham annually!* Here again, a 1% tax would generate *30 million dirham annually!* And, as with the fuelwood tax, there is a further opportunity to modify grazing behaviour through taxation rates.

Thirdly, estimates of annual forest land conversion to agriculture *(defrichement)* range up to 31,000 ha *annually!* There can be very little justification for not applying at least a minimal (if not more) land rent or production tax to the use of this land. More importantly perhaps, to control unwanted or unmanaged land conversions, such a tax (or penalties) may necessarily be at a higher level to curtail

this practice. *Defrichement* has severe negative consequences and may eventually become (if not already) even more excessive and irreversible.

There are a number of other products harvested from forest land, principally by rural populations, also not subject to user fees or some form of tax (value-added, etc.). These as well may be subject to review to determine the level of taxation they may be subject to. If not already enacted, the general value-added taxation strategy of the state can also be applied to the secondary and further value-added products originating from forest land resources.

5.1.8. Eliminating "communal retention" of forestry receipts

A discussion on the policy of communities retaining forest selling price receipts was initiated in Section 2.1.2 of this report - which demonstrated the rational for a single agency being responsible for all state revenue collection and discouraged all other practices.

Further arguments against communal retention of state forest revenues are based primarily upon the inescapably irrational (and perhaps absurd) cost/benefit ratio of communal forest resource use.

If a balance were compiled of the benefits and cost of the communes' use of forest resources it would appear as below:

Table 5.1.8.1: Commune *benefit/cost* of forest resource use

Benefits to communes - annually	
fuelwood collection [1/]	*1,100,000,000 dirham*
livestock grazing [2/]	*600,000,000 dirhams*
forestry receipts [3/]	*180,000,000 dirhams*
Cost to communes - annually	
user fees or selling price [4/]	*0 dirham*
taxes [5/]	*0 dirham*
legally required "forestry" investments [6/]	*36,000 000 dirhams*
forest degradation, 31,000 ha/an [7/]	*18,600,000 dirhams*
rangeland degradation, 4.8 Million *UF* [8/]	*5,000,000 dirhams*
Balance	*2,750,400,000 dirhams*
benefit / cost = 46.61	

[1/] World Bank, 1988, [2/] WB, 1988, 600 million UF = .6 million tonnes of barley (*orge).* [3/] Min Int, 1999, [4/] no fees collected, [5/] no taxes collected [6/] Min Int, 1999, [7/] 1 tonne/ha x 600 *dirham*/tonne, [8/] 4.8 million *UF* x 1.8 *dirham*/*UF*

Admittedly, the figures are rough estimates, and do not account for Morocco's overall social benefits regime - there is however, no argument as to the order of magnitudes involved.

The analysis in Table 5.1.8.1 above may be compared with a similar exercise prepared for the *"Stratégie nationale pour la protection de l'environnement et le développement durable (1995)"* conservatively calculates the forestry and environmental degradation cost to society.

The claim is made that some of the benefits that arise from rural communes' activities actually benefit the rest of Moroccan society through the provision of meat, wood products and other non-wood forest products. This, then, justifies treating the communal operators that provide such goods. Certainly, no other commercial sector in Morocco received a level of "subsidies" measured in the *milliards of dirham*.

Others claim that taxes and forestry fees can not be applied to communes because of their subsistence incomes, etc. - which to some extent is undeniable. Again, it is inconceivable that if urban populations were facing a similar level of subsistence that Moroccan society would tolerate a similar scale of disregard for social and economic equity and environmental principles.

The signals that are being sent to rural commune populations in respect of their use of forest resources effectively constitute an approval of their unqualified treatment as an "open access" resource.

Regardless of the overall intent of government in enacting the *1976 dahir*, its implementation for over twenty years can only suggest to communes that they are not responsible for their actions in respect of the damage they cause or the costs they impose on the rest of Moroccan society.

Current practices - in regard to the government’s treatment of rural communes and in regard to the commune's treatment of forest land and other resources - are demonstrably inconsistent with the development of self reliance, and the development of economically and environmentally sustainable resource use. Rational governance demands that this situation be changed - *perhaps commencing with the repeal of relevant articles of the 1976 dahir*.

5.1.9. Rationalising import and export taxes

Import and export taxes can be used to protect domestic producers and consumers. (The general principles are commonly understood and will not be discussed here.) A rational application of border (import and export) taxes can be effectively used to support the establishment of a competitive industry. However, if used imprudently, such taxes actually constitute an incentive for the continued operation of inefficient operators who - because of the price protection provided by the border taxes - will make profits anyway. The complexion of Morocco's forest sector is the predictable outcome of such taxation practices - and is featured by under capitalisation, outdated, dilapidated transformations plants with low product volume yields, low quality products, and improbable prospects for improvement.

5.1.10. Redistributing resource revenues

The communal forest revenue retention scheme has been discussed in detail in a previous section. This report suggests that it is timely to revisit the legislation, and certainly the rationale (irrationality) surrounding this practice. The untenable dimensions of this scheme suggest that it seeks its justification upon principles outside of rigorous logical debate.

Admittedly, the relative state of economic development of rural populations is not in question. It is far lower than that of urban areas and has fewer opportunities for rapid advancement. There is a justification for exceptional treatment to address these circumstances.

There is, nonetheless, also a justification for addressing rural development within the context of the Ministry's objectives for the preservation, management and restoration of a wide range of forest land benefits for all Moroccans.

Substantial benefits are to be gained by depositing forest auction receipts directly to MCEF accounts to be managed in the scope of its overall plan for the development of forest land and rural populations. It can certainly be argued that both the level and efficiency of planning and implementation of forest management activities on rural commune lands would increase very significantly - if they were included in MCEF programmes. Currently *92%* of the forest revenues retained by communes is not currently directed to forestry activities - even though:

- communal harvesting and grazing practices contribute directly and dramatically to forest degradation through, principally, fuelwood harvesting *(bois de feu)*, land conversion *(defrichement)* and, grazing *(l'élevage)*
- communal planning demonstrably does not provide for the proper management of forest land resources; *(levels of communal investment in forest capital are less than 40% of what is legislatively required), and*
- communal populations demonstrably benefit most directly from forest land resources; *(rural populations consume 1.5 milliard UF* ***annually****, 10,000,000 m^3 of fuelwood* ***annually*** *as well as a large number of other fruit, construction, and medicinal and aromatic products).*

5.1.11. Decreasing Ministry responsibilities

It is undeniable that some of the responsibilities currently assigned to the MCEF cover environmental, agricultural, and developmental (e.g. communal) issues as they relate to forest management. This multi-disciplined structure facilitates developing integrated approaches to what are multi-dimensioned and complex resource management issues. In a similar fashion other ministries cover forestry issues

as they relate to hydro-electric dams, irrigation, rangeland and grazing, anti-desertification, parks and recreation, and biodiversity conservation (floral and faunal).

If funding inadequacies limit the MCEF's ability to adequately manage and implement peripheral resource management programmes components (e.g. environmental, agricultural, or development) there may be a logic to assigning certain responsibilities for these components to other ministries.

Morocco has a questionably large number of *Ministères* and *Ministères Délégué Chargé*. Parliamentary reform is a familiar topic and has advanced rapidly in Morocco in recent years. There are potential benefits to continuing this process to reduce the current fragmentation of natural resource management responsibilities by consolidating them under fewer portfolios. Consolidation also provides an opportunity to maximise planning, management, implementation, monitoring efficiencies and reduce costs in a number of areas.

More specifically, a similar rationale could be applied to removing from the Ministry the responsibility for a number of forest management responsibilities on communal forest. Communal receipts from forest products sales do not differ much from the MCEF budget - which has to be applied to the management all of Morocco's forest lands - 9,000,000 hectares.

5.1.12. Increasing Ministry responsibilities

It is not unrealistic to envisage the MCEF with a much broadened mandate and an appropriately much larger budget. This would result from the consolidation within a single ministry of all state programmes and activities related in any way to forest resource management and development. Table 5.1.12.1 shows Ministries that have some responsibilities for activities that, in reality, are essentially forest land management activities.

Table 5.1.12.1: Ministries with forestry responsibilities

ministry / direction
Ministère Délégué Chargé des Eaux et Forêt
Direction de la Conservation
Direction du Development
Ministère d'Agriculture, du Developpement, et des Peches Maritimes
Direction de l'Elevagee
Direction Genie Rurale
Ministère d'Etat a l'Interieur
Direction des Collectivite Locals
Ministère de l'Equipment
Direction Hydraulique
Ministère d'Environnement

A negative aspect of having so many forestry related responsibilities and activities scattered amongst such a large number of agencies is the inevitable inefficiencies and stalled progress that result from:

- a fragmented and uncoordinated approach to the management of all of Morocco's forest land, forest resources and forest environmental services
- uncoordinated financial planning resulting in an inability to actually identify the most cost effective approaches, let alone implement them
- a potential crisis regarding the governments management "credibility" in the view of its own public service, its citizens, the private sector and prospective international investors (donor and private sector)
- inability to effectively monitor and audit the performance of Morocco's forest land, forest resources and its forest environmental services
- ministries assuming responsibilities for which they do not have enough (if any) adequately trained forestry personnel
- duplication of administrative services, infrastructure
- overlapping jurisdictions, planning, programmes, and activities
- an inability of the MCEF to identify and implement "best practices" in forest management throughout the country.

Responsibilities for most forestry related activities - regardless of their intent - should be delegated to the MCEF. Admittedly, there are non-forestry government agencies that have legitimate claims to make in respect of the direct and indirect impact of forestry issues on their broader non-forestry responsibilities. There are many mechanisms that could be instigated to ensure for them an "appropriate" level of participation and influence, including:

- steering committees
- interministerial advisory panels
- professional/technical committees.

The MCEF should be broadened to absorb all other ministries' forestry roles and to then represent the single identifiable Ministry serving all of government's forest interests. Ultimately, government agencies currently attempting to "manage" forestry issues, in respect of their other "primary responsibilities", will be better served by a properly funded comprehensive MCEF than through their own imperfect efforts.

5.2. Capitalise on new products and services

Forest resources constitute an asset base or "capital" from which revenues can be earned. Those earnings depend upon value-added (wages, payments to capital, and profits and *"rentes")* realised upon the resource's conversion through various transformation processes. Contributions to overall sectoral self-sufficiency are

increased wherever new product and markets can be developed - and therefore have a direct impact upon Ministry financing requirements.

5.2.1. Wood products development

The range of topics that could potentially be discussed under this heading is extensive and should, of themselves, form the basis of a study - as, indeed, some of them already have or are under investigation. The following discussion addressed some key principals.

A large number of wood products are essentially sold as "commodities". As with other commodities (e.g. oil, cotton, coffee, copper), the ability to compete is basically only dependent upon being able to meet internationally accepted standards for product quality and delivery. Prices fluctuate with market forces but are primarily determined by the sales of the largest volume producers who generally have the lowest production costs and, therefore, the best prices (unless a workable "cartel" is in place).

For any "commodity-like" forest product that Morocco intends to produce, it must recognise that there are at least two important consequences of not being able to match international standards, namely;

- sellers will be forced to "discount" their export selling prices - to the extent that their products do not meet international standards
- higher quality imports of the "same" product may become available in Morocco at below the domestic cost of production.

The ultimate consequence, of course, is that value-added (wages, payments to capital, and profits and *rentes*) are less than what they could be.

Value-added can be affected by any factor that impedes (directly or indirectly) maximising productivity or efficiency or the equitable distribution of economic rents. This can cover a very wide range of issues, including:

- Resource valuation (appraisal methodology)
- Resource information management systems
- Inventory (sampling plots and strategies, field measurements, growth & yield modelling and research)
- Silviculture (species selection, planting spacing, thinning)
- Harvesting (rotation age, volume recovery, removal strategy)
- Tenure (stumpage, allowable costs, profit margins, risk allowances)
- Processing (unprocessed log exports, lumber recovery, residue markets, product and market development, capital efficiency)
- Governance (laws, regulations, practices, procedures, enforcement, sanctions).

Each of the above can affect the quality of decisions made to optimise forest sector productivity and efficiency - and, ultimately, governments revenue from the relevant forest sector activities.

In sharp contrast to "commodity" markets are the markets for "niche" wood products. Success in these markets is dependent upon a very different range of producer and product issues, usually including

- developing a highly specialised production capability
- placing a very high priority upon "service" to the client
- meeting each buyer's own product quality specifications
- staying current with modern production technologies
- anticipating market trends and developing products accordingly

An example of a potential for developing "niche" markets is seen in Morocco's own *cèdre* sector. Morocco's own perception of *cèdre* as a highly valued species is seen in other countries as well. International niche markets exist for clear high grade fine grained sawnwood and products of cedre, particularly in Asian (probably most noticeable in Japan). Low grade sawnwood of *cèdre*-like species from North America have reasonably well established export markets which could also be served by Moroccan *cèdre*.

In cedar markets the unmet demand for the higher grade products translates into export selling prices routinely higher than can be realised domestically. Unfortunately, Morocco's *cèdre* sector suffers from a number of inadequacies, principally low productivity, poor quality products and dilapidated sawmills. In 1997 the unrealised potential in the *cèdre* sector was manifest by; i) over half of the raw material available at auctions remaining unsold, ii) less than half of the raw material purchased at auctions being exploited, and iii) half (43) of the *cèdre* sawmills provisionally or permanently ceased activities.

The current state of Morocco's wood products sector is unflatteringly dismal. As a direct consequence, the resource is being under-utilised and wasted and potential value-added and revenues are being lost. It is undeniable that many existing government policies (forestry and non-forestry) have largely influences this outcome. Addressing these, and other relevant structural and institutional items discussed elsewhere in this report, is necessary to improve the production and revenue performance for this sector.

5.2.2. Alfatière pulp and board products

The use of *"Alfa"* as a raw material for pulp production is already being examined and should be vigorously pursued. Morocco should examine innovative land tenure and stakeholder participation mechanism to maximise the benefits to the entrepreneur, local job-seekers, and to value-added, and state revenues. A detailed

benefit-cost analysis will determine the overall economic sustainability of such a venture.

Because of the large land areas involved, the context in which the development of *alfatière* is undertaken includes short-term and long-term impacts. If such lands are, in any event, considered available for development, the *alfatière* proposals should be compared to the current disposition and status of such lands and also to other potential development activities (e.g. feed lots, fodder production, etc.)

5.2.3. Cork product development

The Ministry's recognition of the importance of the country's cork oaks resulted in a return to a more direct involvement by the *Service de la Valorisation de Produits Forestière*. This measure was taken to prevent further loss of quality and value of cork production under more private sector control. Morocco's own cork oak forest stands are comprised of about 350,000 hectares and constitute an asset that warrants a high level of protection and development consideration.

Though they have been reasonably stable in past years, currently cork markets are experiencing relatively vigorous growth. Demand is expected to continue, and prices are expected to increase, due to trends to increased wine consumption and due to productivity issued in other traditional cork production areas.

The full scope for further manufacturing of cork into end-products should be examined to maximise local value added.

5.2.4. Arganier product development

As an export product, derivatives of *arganier* are attractive because of their potentially relatively high price/volume or price/weight ratio. The oil of *arganier* is used by such companies as Colgate Palmolive, Galenic and Yves Rocher in cosmetic products. The exclusiveness of *arganier* attributes to it a *cachet* that can translate into its commercialisation into similarly exclusive and expensive end products.

Arganier spinoza occupies about 830,000 hectares within a very limited distribution in Morocco. Its presence is exclusive to Morocco - except for some minor representation in islands off of its coast. This endemic species is long lived and can exceed 300 years in age. The species features a unique sylvo-agro-pastoral character providing fruits, nuts, oil, fodder and fuelwood.

The further development of *arganier* will require a close level of direct co-operation with an end user. One reference indicated an annual oil production of 128,000 tonnes. The silviculture of *arganier* is well understood and the potential for establishing plantations may exist. An existing GTZ project already serves to heighten the value of *arganier* oil in the export market, and a steady supply of increased volume is likely to stimulate further development.

5.2.5. Aromatic, medicinal and other non wood products

The total export of non-wood forest products for the middle of this decade has been described as "not negligible" and in 1994 reached 315,000,000 *dirham*. Non-wood products include carob (seeds, flour and pulp), myrtle, essential oils and other aromatic and medicinal compounds. Examples of annual production of such products are seen in Table 5.2.5.1 following.

Table 5.2.5.1: Production des Produit *non-ligneux*

produit	***tonnes***
caroube	900
glands de liege	500
lichen	245
romain	7
miel	400
champignons	770
ecorce à tannin	3000
myrtes	30
Source: PFN, September 1998	

Internationally, "biodiversity prospecting" has broadened the perception that geographic areas with high rates of endemism may be sources of pharmaceutically important chemicals. As with all "prospecting" activities, target countries that become the "hosts" of such prospecting must carefully monitor such activities. Similarly, because of the international treatment of "intellectual property" it is also critical that countries retain an effective control over the benefits that can arise from the development of such compounds.

Consistent with principles of biogeography, Morocco's endemism is attributed to its "isolation" from surrounding areas by, the Mediterranean sea (to the north), the Sahara desert (to the south), the Atlantic Ocean (to the west) and the Atlas mountain chains, some of which exceed 4,000 metres in elevation, (to the east). This broad juxtaposition of climatic influences also imparts to Morocco an exceptional range of biogeoclimatic zones - including, Saharan, arid, semi-arid, subhumid and montane. The range of endemism in floral and faunal species is seen in Table 5.2.5.2 below.

Table 5.2.5.2: Endemism in Morocco

phylum	***# represented***	***# endemic***	***% endemic***
mammifères	550	106	6.3% [1/]
d'oiseaux		326	
végétales	4,700	537	20% [2/]
reptiles			79%
amphibiens			
[1/] terrestrial vertebrates, [2/] vascular plants			

Morocco does face considerable threats to many of its species. Of its plant species, 1600 taxa are threatened and amongst mammals and birds, 19 species may no

longer exist. Programmes to reintroduce, or eliminate the threats of extinction, are in place for le Cerf de Berbérie *(Cervus elaphus barbarus)*, la gazelle Dama, l'antilope Addax *(Addax nasomaculatus),* and *l'Oryx* alagazelle. These are clearly representatives of "charismatic" species (*c.f. Panda bear, Golden Lion Tamarin and Siberian Tiger)* which attract considerable international attention and funding assistance.

Overall, Morocco's endemic floral species warrant further research to establish their full commercial potential. The development of their derivative products should not be realised solely through their export and further transformation in foreign production facilities.

The full potential of the country's own skills and technologies in medicinal, aromatic and other products should be examined for opportunities to increase the level of domestic processing and of value-added - for both local and export consumption. Partnership arrangements (with due regard for the protection to Morocco's "intellectual property") may be useful in both the short and long term.

5.2.6. Tourist development

Its rich culture, its history and, generally, its mostly favourable climate, has earned Morocco an international reputation as a tourist destination. The country attracts more than 2,000,000 foreign tourist annually and an additional 1,000,000 expatriates.

Unlike for many other countries for which "ecotourism", for instance, is suggested, it is very realistic to suggest that there is room to further develop its potential here. However, because of ongoing degradation, and threats to species extinction, (as discussed in the previous section) it is more important to recognise that the reputation that Morocco now enjoys may be wane. [It is illustrative to note that Majorca, once acclaimed as an incomparable tourist destination, has suffered significant decline in past years in large part because of a degradation of its environmental amenities.]

5.3. Develop new partnerships and cost sharing arrangements

Morocco's traditions, legislation and development strategies appear to capture the notion of a national solidarity towards social development. This concept has been referred to in earlier reports in their sections dealing with socio-economic issues. Prevailing circumstances now warrant that this concept is revisited and that socio-political priorities be reordered to more equitably and effectively distribute the costs and benefits arising from Morocco's forest land and environmental resources.

5.3.1. Rural users

Rural populations and community groups that are not deliberately made part of the solution to forestry problems will remain very much part of the problem instead - a problem that this report has done much to deliberately emphasis. Rural participation is necessary:

- to recruit local, cost effective, management and field workers
- to promote local "ownership" and "commitment" to sustainable results
- to change land use patterns to eliminate degradation, etc.
- to justify local investment in forest land productivity and development

There are limits to the pace of adjustment that rural populations are capable of. These limits will relate, in part, to government's ability to:

- provide an alternative to fuelwood consumption through electrification, or other energy sources.
- provide alternatives to grazing (e.g. stall feeding of livestock, forage crops, alternate species, etc.)
- demonstrate a social solidarity - including cost-sharing through taxation - amongst both urban and rural populations in combating forest degradation practices and their many consequences
- demonstrate an effective co-ordinated approach to the management of all forest land and its environmental services
- provided programmes - including training, extension and access to credits - to develop alternate employment and income generating opportunities

Without very significant changes, rural populations, through their unsustainable and destructive activities, will undoubtedly continue to contribute an enormous "net costs" to MCEF budgets. They simply must be very meaningfully and effectively fully integrated into the Ministry's activities to bring such changes about.

5.3.2. Urban users

Urban populations are "users" of forest land resources in that they consume:

- potable water from *"bassins versants"*
- electrical energy generated from water captured as *"stockage"*
- wood products for industrial, construction, and *"menuiserie"* purposes
- 11% of the countries fuelwood
- domestic and "game" meat, and a wide range of other *produit non-ligneux*

as well as the benefits that derive from recreation and leisure experiences. All of Morocco's citizens also benefit from the mere "existence" value of the forests within its territory, the provision of habitat for its wildlife, and its capacity as a "sink" for the purposes of carbon sequestration.

Significantly, from a financial perspective, many of these services are not "traded" in a market place and are generally available to all for "free". The actual selling prices of those that are "purchased" almost all fail to "internalise" the social costs resulting from their consumption.

5.3.3. Domestic and international private forest sector operators

The extent of the private forest sector's ability to contribute to domestic forest revenues is only related to how commercially successful they themselves become. In other sections of this report many issues have been discussed which relate directly to the potential for attracting private sector investments. Morocco's should develop a private sector development model unique to its own circumstances.

The national forestry advisory council, and provincial and communal councils should be invited by the MCEF to participate in a "round table" process to identify their respective needs and how to integrate them into a workable model for private sector participation. Critical issues on the agenda for such a dialogue include:

- increased Ministry investment in reforestation and resource development
- tenure/concession reform and "security" of timber supply
- comprehensive resource inventory, valuation and development planning
- "normal profit" selling price mechanism
- taxation rationalisation
- communal participation in sustainable resource use
- "internalising" society's user costs through "environmental taxation".

International investors should, as much as is practical, be given opportunities equal to those of domestic investors - that is, the opportunity for "normal profits". [4] In the case of international investors this translates into, either reducing the perception of "risk" involved in investing in Morocco's forest sector, or conceding an appropriate "risk premium" (likely in excess of the risk premium for domestic investors).

A comprehensive analysis of the benefits to Morocco of attracting international "know-how" to its forest sector may reveal that long term benefits may warrant further incentives to attract international investors. The potential positive impact upon the sector and the country (in terms of fixed capital, employment generated, taxation base) may justify consideration of an appropriately limited period during which international investors are also potentially eligible for:

- remission/ reduction of profit/ income taxes
- remission/ reduction of import duties

However, these and other potential measures should be very prudently used. They should be negotiated on clear and largely irrevocable terms to avoid subsequent non-performance by either party. They should be withdrawn at staged intervals to ensure

[4] Normal profits consist of a "payment to capital" and and "allowance for risk".

that clear and timely signals are provided to demonstrate compliance. And they should be largely consistent in all other respects with the conditions under which the domestic private sector must operate.

5.3.4. International organisations and donors

A number of international "official aid" donors have demonstrated preparedness in the past to assist Morocco with favourable loans appropriate to its circumstances. However, there are indications that some donors consider Morocco to belong the "graduate" class of recipients - reducing, if not eliminating, the "favourableness" of loan parameters (interest rate, duration, conditionally). It is decidedly premature to limit such options for Morocco.

Morocco's goals with respect to external donors should be to maximise the visibility of those areas in which international donors are prepared to participate and to maximise the efficiency with which it deploys the loans and grants it eventually does receive.

Donors are particularly keen on being able to demonstrate an acceptable level of benefits to recipients through the provision of the donor's funding. Where Morocco can create the circumstances for "synergistic" effects and cross-sectoral benefits amongst participants, donor funding will demonstrate higher social or economic "returns" than where this is not the case. Obviously, from a Ministry perspective, overall resource management costs and performance are also optimised where this can be achieved.

5.4. Enact new taxes

5.4.1. New forestry taxes

Introducing new forest sector taxes will be most successful when:

1. productivity increases (biological, harvesting and transformation) referred to in the above section lead to a higher volume of higher valued outputs than is now the case
2. overall increases in sectoral value-added leads to higher "economic rents" being realised from forest resources
3. state forest sector taxation has been rationalised and made more socially and economically equitable
4. forest land resource management responsibilities are more directly managed, or at least under the overall review of a single ministry; [parts are now fragmented and, effectively, delegated to diverse ministries]
5. authority / legislation relevant to all aspects of forest land management and use is seen by the public to actually be more effective in terms of policing and sanctions [estimates of forest related offences *(delits)* reach 26 000 annually].

Until such time as some of the above issues are addressed, the overall level of economic rents capable of being captured as taxes remains low or will simply evade collection.

5.4.2. New non-forestry taxes

Aside from collecting taxes "payable" (but "unpaid") there exists also the option of creating new non-forestry user fees and taxes. The principles upon which new taxes are based should include the same consideration of social and economic equity discussed elsewhere in this report. For example, items 3 and 5, listed above, are generally applicable across other commercial sectors to improve potential taxation revenues.

The concept of non-forestry taxes is already under discussion in Morocco and candidate targets for new taxes already fall into the broad categories of:

- water taxes (either for water consumed or for water disposal)
- environmental taxes
- energy taxes (fuelwood, electrical,
- forest capital depreciation taxes
- pollution taxes (e.g. vehicle pollution tax based upon engine size and vehicle weight)

How a tax is actually "named" may have a direct bearing on, i) how it is perceived by the public, ii) how it might change behaviour patterns, and iii) the resistance to pay the tax.

A public awareness and taxation programme to combat the severe consequences of "forest degradation" could similarly be launched under the heading of "environmental degradation". Survey and "focus group" techniques can be used to establish such responses and maximise programme effectiveness.

6. Recommended Support and Project Follow-up

6.1. Resource Valuation

Routine and strategic decisions on resource fees and taxes and forest sector development must be supported by accurate and regularly updated valuations of the country's forest land and environmental resources.

Updated inventories on the quantity, quality and distribution, etc. of those resources forms the physical bases of resource valuations. The economic basis of resource valuation requires cost and productivity data on infrastructure development, harvest, transformation, distribution and related activities.

Recommendation: The infrastructure and human resource capacity of the MCEF to conduct regular and timely resource valuation must be broadened.

Recommendation: The MCEF valorisation service must be broadened to include all of Morocco's forest land environmental services.

Recommendation: Forest and forest environment products and service fees and taxes, and the mechanisms for their calculation, should be authorised through "schedules" to relevant acts and *dahirs*.

Recommendations: A mechanism to incorporate timely adjustments to fees and taxes should be developed and appended to all relevant MCEF contracts.

6.2. Policy and Governance Instruments

6.2.1. Consolidation of delegated forest responsibilities

It is easy to demonstrate that the fragmentation of forestry responsibilities amongst a number of ministries damages government’s ability for sound fiscal management of Morocco's forest land and environmental resources. Compromises occur that expose government to criticisms of:

- lack of commitment to its MCEF
- unaccountability through diluted scattered responsibility
- poor design and implementation of resource development strategies
- wasted financial and physical resources
- unresponsiveness and delays in addressing critical environmental degradation

Forest sector development strategies - including resource transformation and revenue generation targets - depend upon the input from a number of non-forest sector actors (ministerial, industrial, transportation, financial, etc.). Each of these actors must be consulted or be part of the country's overall effort at defining forest sector development targets and timetables. Each should also be involved in monitoring the progress towards reaching promulgated strategies.

Recommendation: Government should consolidate within the MCEF direct responsibility for all of Morocco's forest land and environmental resources.

Recommendation: Intra-agency mechanisms should be implemented to facilitate co-ordination of individual ministry objectives with respect to forest land and environmental resources.

6.2.2. Land use / property rights

Inappropriate user access is a critical factor leading to the degradation of Morocco's forest land and environmental resources - which appear very clearly unmanageable under existing land tenure and property rights regimes.

Forest capital depletion is resulting from individuals' efforts to "privatise" the benefits of an "open access resource". The introduction of appropriate "exclusive" individual or collective property rights must be attempted to reverse consumption patterns and promote sustainable use and forest capital enhancement.

Physical capital investments in the forest sector will remain unattractive until Morocco can provide operators a reasonably secure access to a raw material supply (through appropriate market mechanisms). Current resource and sectoral management practices place this in question.

Overall financial performance and contributions to government revenues will remain sub-optimal until land use and property rights are rectified.

Recommendation: The MCEF should calculate the loss of revenues resulting from current "open access resource" - (using the MCEF's "resource valuation" service and approaches recommended above). This information must be used to direct land tenure reform.

Recommendation: Government and MCEF should develop land tenure pilot projects to develop and assess the appropriateness of alternative tenure arrangements for access to Morocco's forest land resources.

Recommendation: To meet the needs of a variety of potential forest sector operators, new forestry tenure arrangements (licenses, leases,

etc.) should provide for short-term, long-term, and large and small volumes of raw material.

Recommendation: New tenure arrangements should include provisions for performance assessments and for revocation of user rights or renewal of user rights dependent upon compliance with tenure conditions.

6.2.3. Subsidies

Subsidies constitute a transfer of national resource *rentes* from the country's forest patrimoine to private sector operators. Forest revenues are diminished as a result of subsidies because of:

- direct payments to the operator
- discounts or otherwise lower cost access to raw materials (logs, electricity, tax relief, etc.)
- loss of investment because of the distinct competitive advantage of the subsidised operator

Granting subsidies should be subject to a rigorous, transparent and accountable process - if they are used at all. They should be made available through competitive mechanisms and awarded to proponents delivering the best proposal.

Subsidies should be permitted only for very limited periods and only while certain precipitating circumstances prevail. In any event, beyond the specified term, subsidies should normally be discontinued. The continuation of the precipitating circumstances under which the subsidies were justified should not constitute a reason for extending the term of the subsidy. The above stipulation should constitute a condition of the subsidy - before it is granted.

Recommendation: The use of subsidies to encourage the development of the Moroccan forest sector should be reviewed - (using the MCEF's "resource valuation" service and approaches recommended above).

Recommendation: Subsidies should be awarded through competitive processes, should be limited in duration and should not be extended. Subsidies should be introduced on a pilot project basis to assess their suitability for meeting their intended objectives.

Recommendation: As much as possible, the use of subsidies should be discouraged.

6.2.4. Taxation

Morocco's forest taxation should be "rationalised" to ensure that its various components are consistent and direct sector developers and resource users towards predictable desirable behaviour and outcomes.

Many forest land resource "users" currently escape being assessed "user fees" or taxes. The scale of the value of such "open access" resource use dwarfs the amounts that are actually collected for legitimate uses. This constitutes an enormous loss of revenue for government.

Similarly, many forest land and environment resource "uses" are currently provided - or appropriated - without any fees or taxes actually being prescribed by law.

The costs for user damages - forest land and environmental degradation, dam sedimentation, loss of agriculture productivity, loss of water quality, etc. - caused by sanctioned and unsanctioned resources use remains virtually totally unrecovered.

Recommendation: Morocco should "internalise" the cost of user damages by properly attributing the damages - directly and indirectly - to a specific user group(s).

Recommendation: Morocco should introduce the notion of "environmental" taxes to assign user costs for the services provided by the nations forest land and environmental services - and - too induce changes to resource use patterns to mitigate damages.

Recommendation: Under the heading of the above mentioned "environmental taxes", government should give consideration to taxing consumption of water, fossil fuels and electricity.

Recommendation: Under the heading of the above mentioned "environmental taxes", government should give consideration to directly taxing "open access" resource users.

The justification and objective of the two taxation regimes mentioned in the last two recommendations above is:

- to recover the cost of repairing damage to and maintaining and improving forest land's soil and water conservation services, and
- to induce resource use behaviour changes towards more sustainable patterns.

6.3. Partnership and participation

Though Morocco is a country in transition, it demonstrates a considerable capacity in many areas. In respect of forests and forestry, Morocco and the MCEF has a solid cadre of professional managers and planners. To a large extent, with some fundamental changes to relevant structures and mechanisms, Morocco could rely on its own public and private sector resources to achieve the sustainable development of its forest resources.

6.3.1. International Organisations and Donors

Morocco has successfully attracted the participation and assistance of international organisations in the past and has plans in place to do so in the future. The broad experience of such organisations brings considerable benefits and can hasten the rate at which capacity is enhanced and sustainable processes are implemented.

Recommendation: Programmes and projects that develop structures, mechanisms or operations that contribute to improving government forest sector revenues or lowering related costs should receive a high priority for donor funding.

Recommendation: Donor assistance should, as much as possible, be leveraged by integrating and co-ordinating programmes to maximise benefits, avoid duplication of infrastructure and administration, maximise technology and know-how transfer, and build upon previous efforts in a progressive way.

Recommendation: The use of donor assistance should be limited to those areas of specialisation where socio-economic benefit /cost performance is highest and where Morocco may otherwise experience delays that jeopardise maximising resource benefits and revenues.

Recommendation: As much as possible donor assistance should be applied to "investment" expenses that demonstrate an acceptable rate of social and economic return. The application of donor funds to "recurrent" *(fonctionnement)* costs should be avoided.

Recommendation: Only programmes and projects that can demonstrate sustainable outcomes should be implemented. The consequence of supporting unsustainable activities includes 1) loss of funding support for other projects that can demonstrate sustainable benefits, and, 2) incurring debts that have produced no benefits themselves.

6.3.2. Private sector

The discipline imposed by private sector partners routinely exceeds that seen in public sector operations. Many aspects of government's objectives can be advanced by simply creating circumstances conducive to competitive private sector activities.

Recommendation: Morocco should actively recruit the participation of and work closely with the private forest sector to establish a comprehensive approach (policies, roles, structures, strategies) to developing its forest land resources.

Recommendation: As much as possible, government should limit its role in the forest sector to ensuring:

- competitive access for operators
- normal profits for the private sector
- surplus [5] "rent capture" for the owners of Morocco's forest *patrimoine.*

Recommendation: Government, MCEF and the private sector should work closely together to rebuild Morocco's relevant taxation regime to support all of the country's forest land development strategies.

6.3.3. Rural resource users

Throughout Morocco there are areas where "high internal input" approaches are, in fact, the only practical and affordable way of managing and developing local forest resources. Local labour, for instance, can be recruited at local wage rates and, for several reasons, with appropriate supervision can often be noticeably more efficient.

Rural populations benefit most directly from Morocco's forest land resources. Some estimates of the value of their "privatised" grazing and fuelwood consumption exceed 3 milliard *dirhams*. These beneficiaries should be made very directly responsible 1) for the production of these services at sustainable levels only and, much more critically, 2) for the protection of the forest land from which they are produced.

Recommendation: Rural populations, in conjunction with MCEF staff, must develop Programmes to base fuelwood harvesting and livestock grazing to sustainable levels.

Recommendation: Rural populations must be made accountable for the damage they cause by establishing and implementing "resource

[5] "Surplus rents" are what remain after investors/operators have been paid their "normal profits", (see Annex C)

practices codes", enforcing such codes, and imposing sanctions where infractions occur.

Recommendation: Programmes to serve rural populations' needs for 1) access to credits, 2) forest and agriculture extension services, 3) environmental assessments, 4) and local forest industry development must be designed and implemented.

Recommendation: The provision of the 1976 *dahir* granting forestry receipts to rural communes, should be repealed. All forestry investment on "public" forest land in Morocco should be under the direct supervision or management of the MCEF.

Annex A: Contacts in-country (alphabetically)

Ministère Délégué Charge des Eaux et Forêt	
ABDELAZIZ, Hammoudi	Chef du Service de la Valorisation des Produit Forestier
AHIZOUNE, Abdel	Chef de la Division de Reboisement
AMELLAL, El Hachemi	Assistant Admin, Fin: *MOR/93/010*
ASKARN, Omar	Chef de la Division des Bassins Versant et de la Lutte Contre la Desertification
CHBAATOU, Saïd	Ministre Ministère Délégué Chargé des Eaux et Forêts Royaume de Maroc
EL IDRISSI, M'Hammed	Chef de la Division de l'Exploitation Forestier
JADER, Hammod	Directeur du Développement Forestier (désigné)
M'HIRIT, Omar (Doctor)	Directeur du Development Forestier (sortant)
ZITAN, Abdellah	Directeur National du Projet *MOR/93/010*
FAO	
BOUCANINE, A.	Chargé de Programme, Morocco, Rabat
PAVLOVIC, Radisav	Project Operations Officer, RNER, Cairo
Ministère de l'Economie et des Finances	
CHAIBA, Hamid	Chef de la Division du Secteur Agricole et de la Compensation
Ministère d'Agriculture, du Développement Rural et des Pêches Maritime	
El GHARBAOUI, Abdelouahed	Chef de la Division de la Inse en Valeur Pastoral, Directeur de l'Elevage
Ministère de l'Equipement, Direction de l'Hydaulique	
ELAFTA, Touria	Chef du Service, Plans Directeurs des Resources en Eau
EL BADRAOUI, Moulay Hassan	Chef de la Division de Planification et Gestion de l'Eau
Ministère d'Etat a l'Interieure	
OUAHDE, Mnsr.	DG des Collectivite Locals / Directeur de Finance Locals

Annex B: Forest Sector Statistics

Forest land distribution			
description	***area (ha)***	***% of forest land***	***% of Morocco***
productive forest land	3 107 500	36	
natural forests	2 577 500	--	
plantations	530 000	--	
non-productive forest land	1 894 800	21	
legally protected areas	422 750	4	
fallow forest land	378 950	4	
shrubland	3 186 000	35	
total national forests (forests, alfatière plantations)	9 000 000	100%	
cultivated and arable land	7 438 000		10.4
other land: rangeland, desert, mountains, etc.	55 345 030		77.4

Forest species distribution		
Deciduous		
species	***area (ha)***	***%***
Q. *(chêne liège)*	350 000	7
Q. *(chêne à feuilles cadauques)*	126 000	3
Q. *(chêne vert)*	1 360 000	29
Arganier spinozo *(aganier)*	830 000	17
Acacia spp. *(acacias sahariens)*	1 128 000	24
secondary species	958 000	20
total deciduous	4 752 000	***82%***
Coniferous (resinous)		
C. *(cèdre de l'Atlas)*	132 000	12
Pinus spp. *(pin maratime et d'Alpen)*	80 000	8
Thuja *(thuya de Berberie)*	600 000	58
other *(genévriers, thurifère, Cyprès, Sapin)*	240 000	22
	16 000	2
total coniferous	1 062 000	***18%***

Forest Product Annual Yields		
	yield	
specie	***m^3/ha/an***	***m^3/an***
Cèdre (132 000 ha)	.4	52,000
Pin d'Alpen naturel	.67	50,000
Pin maritime naturel	.35	
Thuya (600,000 ha)	.45	270 000
Chêne vert (1 360 000 ha)	1.2	1 632 000
Chêne liège (350 000 ha)	.3	105 000
Eucalyptus	4.5 (zone Cellulose)	549 000
	2.5 (hors zone Cellulose)	150 000
Pins de plantations	1	200 000
Liège	80 kg/ha/an	20,000 tonnes
Ecorce à tan de l'*Accacia mearnsii*	.3 tonnes/ha/an	1 800 tonnes

Annex C: Forestry Fee Calculations

In an open freely competitive non-interventionist commercial market, prices are determined through the establishment of an equilibrium, arbitraged through the transactions of many buyers and sellers. Most markets have some form of regulatory mechanisms to ensure the "level playing field" to needed to bring this about. Monopolies, which can legitimately exist, tend to attract a greater degree of regulation. Public utilities, such as electric power or water providers, generally have administratively controlled mechanisms to establish their pricing levels. Where the nation's forests are totally managed through state managers, there may exist a number of reasons to also employ "administratively" determined "reserve prices" in selling such resources.

Amongst the information needed by entrepreneurs to develop their forest sector strategies is:

- a reasonable accurate estimate of the quantities and quality of raw materials that will be sold in a given year
- the number and size of competing buyers
- the geographic distribution of the volumes that will be sold

In a competitive market, entrepreneurs accept that there are risks and are only attracted to those commercial sectors that demonstrate a potential profitability commensurate with their perceived risks.

Where the state is the sole seller of roundwood entrepreneurs recognise the potential of states to intervene in domestic "markets" to meet political, industrial, employment, taxation, conservation and international treaty objectives. A demonstrable level of instability is often present in sectors manifesting a combination of, i) cautious operators (investors) trying to minimise their risk within "government managed" "markets" and ii) opportunistic governments trying to maximise their longevity.

Ordinarily, the ministry responsible for forests, as managers of the state’s (public’s) forests, authorises the sale of forest stands to timber developers, (operators, loggers, contractors, etc.) - for a fee. [In North America, forestry fees have been called "stumpage" - after the fact that they were once determined by merely counting the "stumps" remaining after timber harvesting. In Europe and North America, these fees have also been called a "royalty" reflecting the fact that, at one time they were a payment to the king in return for being granted permission to harvest.]

The fee is frequently related to – and often equal to – an “economic surplus” or “residual value” accruing to the transformation process (tree to log to sawnwood, etc). The surplus is generally determined by the following formula:

State Royalty = Selling Price - [Operating Costs + Normal Profit]

Fees for the use or harvest of any forest product - wood or non-wood - can be calculated on similar principles.

Royalty collections usually become part of general revenues and are managed for the state by their financial ministries. They are generally not “earmarked” for specific forestry purposes - as governments tend to reserve the right and flexibility to redirect budget allocations as they see fit. Social, political and economic priorities will determine the ultimate redistribution of all government revenue collections - and the amount that eventually returns to the Ministry of Forests. In Morocco, however, the use of the *comptes spécial* has been very effective in providing a reasonable stable budget to the MCEF.

Redistribution of revenues arising from the inherent economic values (economic rents) present in forest resources can take many forms. Fundamentally, an efficient and equitable approach to collecting and redistributing forestry fees recognises that many stakeholders may have legitimate claims to a share of the benefits of the republic’s forest resources – and should therefore be funded out of collected surpluses. In Morocco the retention of forest revenues by the communes to whom the forests are tributary is basically inequitable and can be demonstrated to violate this principle.

Stumpage adjustments

Where administratively determined reserve prices are used, there is a justification to periodically (monthly or quarterly) adjust them to reflect changes in the cost of many input charges (fuel, labour, etc.) that change over time. The goal of such adjustments is twofold. It provides a stabilising mechanism within a sector where prices are known to change frequently. It maintains a reasonable distribution of the cost and benefits generated by the sector.

Forest sector operators - public and private - are routinely subject to changing prices. Commodity selling prices, including roundwood and sawnwood, tend to change frequently - many times due to influences beyond national borders. For instance, partial or complete ban on logging in a country (e.g. Thailand, China) can drive both local and international prices upwards. Removal of log export restrictions clearly increases the volumes available in international markets and can dramatically drive prices downward.

Additionally, a change in selling price of a commodity sold in large volumes can affect the price of many other complementary, substitute and competing goods. An increase in the price of newsprint, for instance, can affect the price of low grade

logs that might otherwise have been used for packing crate construction but will now be sold as pulpwood.

Because forestry activities tend to be labour and energy intensive, operations input prices are also subject to unexpected incremental change (e.g. oil price shocks, labour unionisation and transportation costs). The impact here can be as significant as for selling price changes.

To summarise, the consequence of changing input and end-product selling prices can include:

- ✔ in cases where end product selling prices fall
  i) above normal state revenues at the cost of producers / sellers
  ii) below “normal” profits for producers / sellers

- ✔ in cases where end product selling prices fall
  i) below normal state revenues in favour of producers / sellers
  ii) above "normal" profits for producers / sellers.

Forestry fee adjustment mechanisms function by maintaining the difference between the reserve price and the product selling price. This is particularly necessary for long term contracts - during which both types of price changes are inevitable. This can protect both the owner (the state) and the buyer (operator/exploiter) from.

If fuel expenses increase excessively by the time the harvest is completed and the forestry fee payments are, the operator may experience business failure which is neither in his interests nor that of the state. Similarly, if a new technology is applied and fuel prices are much reduced, the "reserve price" no longer reflects the operator's real costs - which would now have dropped considerably. Such an operator would be experiencing "above normal which" - which the Ministry's stumpage calculation system should be designed to capture for the state. Recalculating the "reserve price" returns the operator to the profit levels his bidding had originally anticipated.

The above system is not without its inherent complexity and controversy. However, it is an inherently fair system that is in place in several jurisdictions where the state is the single or very dominant seller of forest products. Unless Morocco introduces such a system of one that in many respects produces the same results, it can not know if it is maximising its forest revenues.

Annex D: Référence

Agro Concept	Plan National D'Amenagement Des bassins Versants. Phase I. Volume 6: Annexe 2. *Problèmes d'envasement des retenues du Maroc.* (pp10 + Tables +Graphs). 1991
Agro Concept	Plan National D'Amenagement Des bassins Versants. Phase II. Volume 3: *Financement du PNABV.* (pp22). 1994
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