

# Forestry and Household Energy - the international context

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Throughout the 1980s, forestry - particularly the protection of humid tropical forests - was at the head of the agenda of international co-operation. However, international co-operation in the forest sector remained focused on technical aspects of forest management and protection at local level, and preoccupied with both forest ownership by the state, and forest management by public agencies.

Over the past decade, forestry as an issue in its own right somehow lost its privileged position on the agenda of international cooperation. This may be attributed to chiefly three reasons: Firstly, interventions in the forest sector take much longer to show measurable effects, than in any other sector. Secondly, while deforestation may be a problem of global occurrence, it is nevertheless brought about by complex and highly specific patterns of interrelated underlying causes, mostly from outside the forest sector. Each case must be examined in terms of its specific framework conditions (political, legal, economic, social), which are mostly out of reach for measures and interventions confined within the relatively narrow boundaries of the forest sector. Thirdly, the focus of international cooperation shifted towards **one common, overarching challenge**: The so-called Millennium Development Goals reflect the international community's paramount **commitment to reduce poverty** (EC 2002).

There is broad agreement that forestry continues to be instrumental in achieving this objective, since forests support rural livelihoods, provide food security, and are regarded as assets in most poverty reduction strategies. Forests therefore warrant a strong, continuing commitment by the national governments (G8 Action Program on Forests, Final Report 2002).

The discussion about **household energy provides a particularly vivid example** for the close **interrelation between poverty and deforestation**: People threatened by poverty often take to haphazard forest exploitation as their last resort. Where most other income opportunities have been taken away by war, domestic turmoil or economic recession, selling firewood or burning charcoal often offer the last remaining chances of survival.

On the other hand, the number of poor people depending on forest resources for a living (at least partly), is currently estimated as 1.6 billion. Of these, about 350 million people almost *entirely* rely on forest resources for obtaining subsistence supplies, and generating supplementary income (WB, 2002). Their number is likely to increase in times of need, when other means of earning one's living or for food production fail (EC, 2002).

Although no binding Forest Convention, according to international law was agreed at the 1992 UNCED-Conference in Rio de Janeiro, the **Non-legally binding Forest Principles**

reflect considerable international agreement about the way in which forests should be managed in the future, and mark a new era of forest co-operation. This kind of "new spirit" conveyed in the forest principles becomes particularly conspicuous in elements

- 1(a): upholding national sovereignty in resource management and exploitation, based on comprehensive national environmental policies;
- 2(d): obliging governments to ensure broad stakeholder participation in the development, planning and implementation of national forest policies;
- 7(a): highlighting the close interrelation between sustainable patterns of production and consumption, poverty alleviation, and food security;
- 8(e): stressing the importance of cross-sectoral, comprehensive approaches.

While these selected examples illustrate the international consensus about principles for the protection, development and sustainable utilization of forest resources, other can be found which **emphasize the cross-cutting nature, and special significance of the discussion about household energy**. These are elements

- 9(b): acknowledging the close interrelation between poverty and deforestation, and highlighting the fundamental dependency of the rural poor on a steady, predictable supply of forest products and services;
- 2(b): enumerating various timber, non-timber, and non-wood forest products essential for maintaining the livelihoods of people in developing countries, particularly those of the rural poor;
- 5(a): underlining the necessity to observe, and protect the rights of indigenous peoples, and other forest dwelling communities dependent on the forest;
- 5(b): calling for full participation of women (which fact is particularly significant for the household energy discussion);
- 6(a): stressing expressly the role of the forests in supplying an adapted, renewable source of energy.

Similar to the forest principles, results of the **various post-Rio processes and initiatives** contain many references to the household energy issue, witness the deliberations of IPF/IFF. Established as ad-hoc expert committees with the task of following up on the international forest political discussion initiated at the UNCED conference, **IPF** and its successor, **IFF**, drafted a set of around 250 **concise proposals for action**, which have since been edited by the Six-Country Initiative (in support of the IFF) in a structured and clustered manner (in the form of the so-called "Practitioners' Guide"). Referring to UNCED, the Agenda 21, and the forest principles; and drawing chiefly on the concept of **national forest programs** (NFP) as the overall, and most important framework for implementation of concrete measures at the national level, IPF/IFF emphasized - among other things - **traditional knowledge** of local forest users and communities, **multiple benefits** accruing from sustainable forest management, **specific needs of developing and sparsely forested countries**, and problems related to **deforestation, land degradation, and desertification**. All of these aspects obviously relate to household energy issues.

Also a number of strategy papers on forest development by different donor organizations cooperation reflect these trends. They invariably focus on increased involvement of the private sector and broad stakeholder participation, policy-, and legal reforms (including administrative decentralization), and innovative financing instruments.

Once again, all of these strategic elements relate to household energy issues:

- Whereas forestry in many developing used to be state-driven, and focused on macro-economic development objectives such as earning export revenues, national forest programs will ensure that the rural population and indigenous peoples will make themselves heard in the future. This means that **non-timber forest products**, such as fuel-wood and charcoal, bark, herbal medicines, fruits and bush-meat will play a far greater role in future management planning in many areas. This process will certainly change management techniques and silvicultural regimes, as these are directly determined by the management objectives.
- In most countries, **fiscal arrangements** for the forest sector include logging fees, fees for timber-transport and/or trade in forest resources. Collection of these fees, however, is generally inadequate. While **investments** in forest protection and sustainable forest management depend on revenues accruing from forest utilization, the actual return very often represents but a fraction of what it could be. Besides, fiscal arrangements in many countries need to be thoroughly revised, since they cannot always be expected to be compatible with SFM. Appropriate **revenue collection** on forest products (stumpage fees, transport fees etc.), correct **valuation** of the forest resources and **pricing** of forest products (reflecting also external effects), and sustainable forest management will eventually result in higher consumer prices on forest products. From the angle of the household energy problem, this development appears a two-edged sword: An **increase in consumer prices** affects poor people most, and will eventually force families to devote an even larger proportion of their income to the purchase of fuel. This trend can be successfully countered by disseminating fuel-efficient stoves among the (poorer) population (SEI, 2002). This way, the overall consumption of biomass-fuels will decrease, production of technically adapted cook-stoves will offer **income opportunities** for local craftsmen, and further desirable side-effects (such as reduced exposure smoke, heat and similar hazards) will be the eventual result.
- Sustainable forest management 'on the ground' can become a reality only as long as civil society, the private sector, indigenous peoples and forest dwellers, and other interested parties join an open, transparent consultation process, together with public agencies representing a variety of sectors (G8 Action Program on Forests, Final Report 2002). This requires some kind of '**institutionalized**' **participation**, such as consultative fora established in the course of a NFP. This way, the importance of fuel-wood and biomass-fuels for the rural population will be addressed almost 'automatically', and will - political and legal framework conditions permitting - be added to the nationally agreed set of forest management objectives. The apparent interdependency of fuel-wood consumption and deforestation can only be broken, if harvesting (and selling) of fuel-wood can be taken out of its still too often illegal/informal niche, and integrated into a comprehensive SFM approach.

Comparing alternative approaches for implementing household energy related projects or project components, three basic strategies can be distinguished:

- **Supply enhancement:** This approach **relates directly to forest sector development** and forest management, as it aims at increasing the supply of biomass fuels. Supply enhancement can be achieved by making logging debris from commercial harvesting operations available to the rural population; but more specifically by managing forests in such a way, as to produce an optimal supply of fuel-wood (establishment of fuel-

wood plantations, special selection of appropriate species, selection of appropriate silvicultural regimes, such as coppice-type management, establishing tree resources outside of closed forest areas by applying agro-forestry systems, etc.). In such, supply enhancement measures at times tend to collide with established economic interests in timber production and timber management as well as with the - still prevalent - state's influence on the forest sector. Less directly related to forest management are improvements of the conversion technology needed for charcoal production. Optimising the efficiency of kilns contributes directly to the goal of supply enhancement.

- **Fuel substitution:** Wherever the consumption of biomass for household energy purposes contributes significantly to deforestation and land degradation problems, provision of alternative sources / technologies (kerosene, butane, solar energy - and the related stoves) can be an (the?) answer. However, these fuels are considerably more expensive than biomass, must be imported and distributed in most cases (the same holds true for the respective technology; that is why modern technologies are available mostly in cities), and / or require substantial investments (as is the case with bio-gas systems).
- **Demand management:** This strategy still relies on biomass fuels, but seeks to increase the efficiency of their use - thereby reducing consumption volumes. The respective approach centres on development, production and dissemination of fuel efficient, socially adapted stove technology. Demand management approaches frequently integrate self-help components, and micro-business opportunities for the rural population (production of stoves by local craftsmen, active participation of women, cooperative arrangements and the like).

Experience shows that **isolated measures offer no patent remedy**. Each of the above strategies alone - while certainly valuable in themselves - cannot overcome household energy related problems (or contribute to overarching goals such as sustainable resource management or poverty alleviation), unless they are combined in an integrated, cross-sectoral approach. But even then, unchecked **population growth** will counter, and possibly offset the impact of development co-operation interventions. The following aspects illustrate, why only carefully balanced composite approaches promise success:

- **Supply enhancement:** Establishment of fuel-wood plantations takes time and requires large areas with appropriate site conditions. Investments are comparatively high, and specific management regimes are required to achieve optimal results. Fuel-wood production is mostly not regarded as economically competitive. Introduction of agro-forestry systems takes time and money, and requires appropriate changes in agricultural production patterns, reliable land tenure, and acceptance by the target group.
- **Fuel substitution:** It is comparatively expensive and, for practical as well as economic and social reasons in most cases limited to an urban setting.
- **Demand management** depends on the active participation of the target group, more specifically: of women. However, as men in most cases determine how their family's income is used, they also must be convinced of the proposed measures' appropriateness and benefits.

Coming back to the question, how forest sector development can be optimised in terms of the forests' fuel-wood supply function, the following **points of departure** come to mind.

- **Collection of information:** Forest sector development, and particularly SFM depend entirely on minute information about a country's forest resources and use-patterns. For this reason, sector reviews rank among the main elements of **national forest programs (NFP)**. The necessary information includes data on the current and potential supply of forest products, utilization and pricing of forest products and services. Particularly from the perspective of the discussion about household energy, due consideration of gender aspects appears indispensable.
- **Shaping conducive framework conditions** for forest sector development: Protection and sustainable management of natural resources, specifically forests, depend on conducive framework conditions in terms of the political, legal and economic setting at the national level. Because fuel-wood and charcoal are (and will remain) the most important source of energy for the rural population in many developing countries, household energy issues need to be addressed in national forest policies, and the respective legislation. The interdependency of shrinking energy supplies, poverty, and environmental degradation calls for **policy coherence - forest policies, energy policies, fiscal policies and land use policies** (to mention but a limited set of examples) need to be streamlined in view of the guiding principle of sustainability. Once again, a NFP provides ample opportunity and appropriate fora to address these issues. Disincentives (fiscal and otherwise), which discourage private investment in forestry (particularly in sustainable fuel-wood production) must be removed. Shaping conducive framework conditions for sustainable forest management does also mean that public agencies in charge of the forest sector need to be reorganized. In many developing countries, forest authorities are not only weak in terms of material supplies, funding and human capacity, but also in terms of their understanding of, and respect for non-governmental stakeholders' rights in the forest sector. While this hinders the establishment of consultative fora and smooth implementation of participatory procedures, it also prevents forest authorities from combating illegal forest exploitation effectively.
- **Implementation of sustainable forest management** at the technical level offers many interfaces for an enhancement also of the supply of biomass fuels, witness the choice of tree species for afforestation. Rapid introduction of sustainable forest management is by far the best way of securing also fuel-wood supplies in a long term perspective. However, while fuel-wood can always be recovered as one of the by-products of commercial timber logging, deliberate optimisation of fuel-wood production depends on **participation and consultation** of the local population. Only if their specific needs and management objectives can be integrated into SFM, forest management practices will address fuel-wood production as an equal goal among others.

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