# Policy Briefing

WAVES
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## Summary

**The findings of forest accounts led to a government inter-ministerial and inter-agency policy dialogue and to studies contributing to the economic health and sustainability of the sector.**

**The new information supported national strategies to protect forests, including restructuring some aspects of the policy framework and an increase in the National Institute of Forests' budget. This all contributed to improved management, particularly around non-controlled logging.**

## Background

This brief is based on the environmental-economic accounts developed through a partnership between several government agencies and a private research institute — the Agriculture, Natural Resources, and Environment Institute (IARNA) from Universidad Rafael Landívar.
The accounts were developed for 2001-2010.

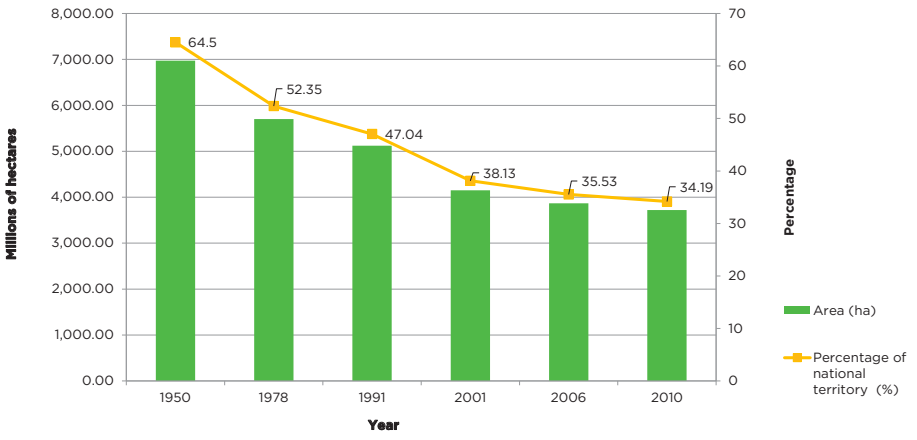
# NCA supports stronger forest policies in Guatemala

**In 60 years to 2010, Guatemala lost almost half its forest cover, equivalent to around 3.3 million hectares of forest. The forest accounts measured the extent of deforestation and identified its main causes: agricultural expansion, urban development, uncontrolled timber harvesting and the use of fuelwood. These findings led government to strengthen the regulatory capacity of public agencies responsible for forests.**

- There is now a better understanding of the different goods and services that are part of the forest economy — besides timber — that are of value to the national economy.
- The forest accounts showed not only the extent of forest loss over 60 years but also that 95 per cent of forest exploitation was done without any institutional or law enforcement oversight.
- The accounts not only revealed the inadequacy of existing regulations to reduce deforestation, but also the lack of capacity to enforce these regulations, as much of the extractions are out of the control of the authorities.

These key findings, plus social demands related to the sustainable use of forests, triggered an open discussion, leading to significant institutional and legal changes that had a positive impact on forest public agencies.

**Figure 1.** Forest loss (ha and %) Years 1950–2010. Source: INE, BANGUAT, IARNA (2013a)



## What did forest accounts aim to measure?

Guatemala began building forest accounts in 2005 to describe, in a systematic and comprehensive manner, the connection between forests and the economy.[1] The accounts show impacts on forests from the economy and households, as well as the contribution of forests to the national economy.

These accounts adopted an earlier version of the framework of the United Nations System of Environmental and Economic Accounts (SEEA), which in 2012 became an international standard.[2]

More particularly, the forest accounts had the objective of measuring, both in physical, as well as in monetary terms, the availability of forest resources and the rate at which they were being used. With the use of standard economic industry classifications the accounts methodology has provided a way to establish which industries or households have been directly and indirectly involved in using the resource.

Additionally, the accounts also record how much public spending was allocated in the institutions responsible to forest management and to forest recovery.

The full set of forest accounts includes:

- Physical and monetary asset accounts, which record forest land area and volume of wood and asset value
- Physical and monetary flow accounts for the supply and use of forest services, including timber forest products and non-timber forest products. Some measurable variables for the state of ecosystem services such as hydrological regulation are also included —the surface area that can potentially provide those services, for example.
- A public expenditure account of institutions responsible for forest management
- A macroeconomic aggregate account, which is intended to adjust indicators such as GDP for depletion of the forests

## What did they reveal?

The forest accounts showed that there were three primary drivers of deforestation. First, conversion of forest land for agricultural expansion and urban development. Second, the uncontrolled use of fuelwood by mostly rural households for cooking purposes since alternative sources are very expensive, and thirdly, the unregistered or uncontrolled production of timber for industry and rural construction. These factors explained 95 per cent of the decrease in forests in 2006,[3] and this tendency continued into 2010.

Guatemalan forest accounts made a distinction between controlled and uncontrolled logging (licensed and unlicensed). Early on, the process of cross-referencing maps and administrative sources allowed this distinction to be made and maintained in the accounting structure. This decision was key to policy dialogue.

*[The account findings] triggered an open discussion that led to ... institutional and legal changes*

By law, forests in non-protected areas are under the control of the National Institute of Forests (known as INAB in Spanish), which may issue a license for logging, whereas the National Protection Council (CONAP, in Spanish) controls forest management in protected areas. It is very unusual for permits for timber extraction to be given to landholders in protected areas.

The bottom line was that 95 per cent of commercial exploitation of forests was done without any institutional or law enforcement oversight. This was a known fact, but the realization that

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| **I. Residential use** | **15,418,234** |
| I.1. Urban | 2,084,326 |
| I.2. Rural | 13,333,908 |
| **II. Industrial demand** | **352,953** |
| II.1. Bakeries | 298,651 |
| II.2. Brickworks | 4,942 |
| II.3. Cardamom | 16,361 |
| II.4. Sugar Mills | 33,000 |
| **III. Direct supply (from forests available for wood supply)** | **10,045,900** |
| III.1 Available for wood supply in natural forests | 8,485,641 |
| III.2 From forest plantations | 1,423,354 |
| III.3 By-product from wood processing industries | 136,905 |
| **IV. (I-II) Supply deficit (from forests not available for wood supply)** | **5,372,333** |

**Table 1.** Demand and supply of fuelwood in Guatemala. Average for the years 2001-2010 (dry-base tons)
Source: WAVES with inputs from INAB et al (2012)

NOTE: Available for wood supply are forests that don't have legal restrictions or natural restrictions for extraction. For this table the classification allows to understand were the fuelwood is coming from, but does not attribute a legality condition. In other words some fuelwood from forests available for wood supply could also be illegal or out of the control of the authorities.

regulations were inadequate and enforcement was weak, triggered a policy discussion within INAB's board. It was clearly necessary to convince representatives of the logging industry that they needed to make changes for the economic health and sustainability of the forest sector.

Before the accounts were constructed, it was believed that household fuelwood collection was carried out mainly through selective branch cutting, which could damage the forest, but would not result in deforestation. However, accounts showed that, while households degrade the forest, they are not necessarily the cause of deforestation. But this is still a very relevant policy problem given that the levels of fuelwood consumption are quite high. In 2010 alone, 79 per cent of the 33.2 million cubic meters of all timber products was fuelwood.[4]

## Evidence-based policymaking

One study undertook an even more detailed analysis of the supply and demand of fuelwood in Guatemala, for instance. It revealed that forests under management and the primary wood processing industry could only supply around 54 per cent of household demand legally.[5] The rest had to come from illegal sources.

Moreover, a study on uncontrolled logging in Guatemala,[6] also using the accounting perspective, but applied to the municipal level, showed that illegal logging competed heavily against licensed logging. Since illegal loggers paid neither taxes nor licenses, nor had to pay to fell natural forests, their prices were significantly lower. This made it unprofitable for legal forests under management to compete, which led them to change land use to more profitable endeavors, such as agriculture, thereby also contributing to forest cover loss.

These findings contributed to the development of four major strategies and policies: the National Strategy for the Control of Illegal Logging, the National Strategy for Production and Efficient use of Fuelwood, the National Strategy for the Restoration of Forest Landscapes, and a new National Forest Policy. Furthermore, INAB made changes to its structure in

order to broaden its reach in the country.

## Policy responses

One of the most important outcomes of this policy discussion was the realization that controls in the forest sector needed to be more effective, and so INAB implemented a new system for timber licensing and the tracking of shipments. This has been operational since 2012. It is expected that the proportion of uncontrolled logging will drop significantly as a result.

The National Strategy for the Production and use of Fuelwood articulated existing government policies that had resources already assigned but which were dispersed and only tackled the problem indirectly, in order to promote sustainable use of fuelwood, sustainable production of fuelwood and efficient alternative energy sources. It also promoted the creation of a market for more efficient technologies for fuelwood burning. Led by INAB, the strategic lines of this effort are:

- Inter-institutional strengthening and coordination
- Research, capacity building, promotion and information
- Sustainable production of fuelwood
- Promotion of efficient fuelwood consumption technologies
- Promotion of sources of financing
- Promotion of alternative sources of energy
- Partial subsidies in exchange for fuel or efficient stoves for families in extreme poverty.

There is now a better understanding of the different aspects of forests that are of value to the economy, besides timber. This is captured in the new Forest Incentives Law (PROBOSQUE.) This bill (as of April 2015) not only extends the period of existing forest incentives from the original 15 years to 30 years, but also creates new forms of incentives, such as forest recovery, agroforestry and energy forests, as well as a trust fund to give landowners a one-time cash payment for implementing reforestation or natural forest management projects. It also recognizes that not all Guatemalans are timber producers with traditional market conditions, so now recipients of the incentives can also have means of proving ownership through alternative land deeds such as being a national landholder, an ancestral land tenant, or tenant on municipal lands and township common lands.

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## Notes

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2. http://unstats.un.org/unsd/envaccounting/White_cover.pdf
3. Ine, Banguat & Iarna-Url, 2013b. Sistema de Contabilidad Ambiental y Económica de Guatemala 2001-2010: Compendio Estadístico (SCAE 2001-2010), Tomo II, Guatemala: Instituto Nacional de Estadística, Banco de Guatemala, Instituto de Agricultura, Recursos Naturales y Ambiente (Iarna) de la Universidad Rafael Landívar (URL).
4. Ine, Banguat & Iarna-Url, 2013a. Sistema de Contabilidad Ambiental y Económica de Guatemala 2001-2010: Compendio Estadístico (SCAE 2001-2010), Tomo I, Guatemala: Instituto Nacional de Estadística, Banco de Guatemala, Instituto de Agricultura, Recursos Naturales y Ambiente (Iarna) de la Universidad Rafael Landívar (URL).
5. Inab, Iarna-Url & FAO, 2012. Oferta y demanda de leña en la República de Guatemala, Guatemala: Instituto Nacional de Bosques, Instituto de Agricultura, Recursos Naturales y Ambiente de la Universidad Rafael Landívar, Organización de las Naciones Unidas para la Alimentación y la Agricultura.
6. Iarna-Url, 2009. La cadena de la tala no controlada: los casos de Tecpán Guatemala, Chimaltenango y San Juan Sacatepéquez, Guatemala, Universidad Rafael Landívar, Instituto de Agricultura, Recursos Naturales y Ambiente.