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The Forests Dialogue

ENGAGE! EXPLORE! CHANGE!

Field Dialogue on Food, Fuel, Fiber and Forests

Co-chairs' Summary Report

11-14 November 2012 | Capão Bonito, Brazil

By James Griffiths, Caio Luiz Carneiro Magri, Miriam Prochnow, Carlos Roxo, and Rod Taylor

Introduction

Over the next 30-40 years, food, fibre, and fuel production will compete even more intensively for limited land and water resources. Maintaining natural forests requires forestry and farming practices that produce more with less land, water and pollution, and new consumption patterns that meet the needs of the poor while eliminating waste and over-consumption by the affluent. For the world to feed and house its growing populations, without destroying or overtaxing natural systems, decisions about land-use need to be made carefully, with the participation of all key stakeholders, and soon.

In this light, TFD worked with its partners in 2011 to build a partnership that fosters fairer and more sustainable land use decision- making through its "Changing Outlooks on Food, Fuel, Fibre and Forests" (4Fs) Initiative. This 4Fs initiative is founded on shared belief that effective dialogue, policy change and practical action can be mustered to help bridge forestry and agriculture sectors and provide more holistic insight into the challenges of land and water use, intensification of forestry and farming, poverty alleviation and expanding patterns of mass consumption.

A first scoping dialogue was held in Washington D.C. in June 201 . Building on the outcomes of the scoping dialogue, The Forests Dialogue (TFD) organized a four-day field dialogue on Food, Fuel, Fiber and Forests (4Fs) in Capão Bonito, Brazil on 11-14 November 2012.

30 Brazilian and 14 foreign participants representing a wide spectrum of stakeholder groups (see Annex II for participant list) joined a two-day field trip and two-day discussions in plenary and small group settings with the aims to:

- Bridge the forest and agriculture sectors, large- through to small-scale, local through to international, and develop insights into the challenges of land and water use, intensification of forestry and farming and conserving forest values and safeguarding ecosystem services in the context of the needs of growing populations;
- Establish specific and practical ways forward on key issues, and preparedness to pursue them, amongst stakeholders in Brazil. Identify ways forward on key issues internationally, including how partners can work with the 4Fs initiative.

This report summarizes dialogue discussions on key challenges and potential next steps on 4Fs issues in Brazil and internationally. Information on field trip learning can be found in Annex I and a full participant list in Annex II.

The Forests Dialogue, Yale University, 360 Prospect Street, New Haven, Connecticut, 06511, USA
O: +1 203 432 5966; F: +1 203 432 3809; W: www.theforestsdialogue.org; E: tfd@yale.edu


Co-chair Miriam Prochnow


Co-chair Rod Taylor


Co-chair James Griffiths


Co-chair Carlos Roxo


Co-chair Caio Luiz Carneiro Magri

Key Challenges

How can land use intensification be done without causing environmental or social harms?

Land intensification refers to changes in land-use practices that lead to higher outputs per area of land. Land use intensification is identified as one of the key strategies to meet the 4Fs challenge in Brazil. The forest products industry claims that it lacks forest raw materials and also the space to establish plantations. A significant portion of the agricultural land is either underutilized or of low productivity, especially pastures land. Brazil is today the world's largest exporter and producer of beef. Much pasture land expansion has taken place in the Amazon region, which currently has more than 80 million head of cattle, up from 26.6 million in 1990 and equivalent to more than 85 percent of the total U.S. herd. The Brazilian Amazon has more than 55,425,000 hectares of pasture, an open space larger than France. Around 40% of the current pasture land is below average global productivity. 6 It is clear that land use decision making in Brazil has been historically sub-optimal but there is great potential in increasing productivity on existing pasture land thus sparing more land for forest plantations and other agriculture uses.

The need to strengthen the role and impact of forest conservation was also evident. Maintaining and restoring ecosystem functionality can provide the critical provisioning and regulating services that enable food, fuel production e.g. fresh water, nutrient recycling, pollination, pest and disease control.

But challenges still remain concerning the implementation and implications of intensification:

- How can intensification also ensure the "quality of outputs" from the land?
- How to incentivize private land owners to invest in both intensification technology (enhanced productivity) and diversified production systems (food and fuel and fiber)?
- Will intensification on current productive land translate to avoided deforestation and restoration? If it will, how to guarantee that land spared by intensification are put to the best use?
- Does intensification on productive land mean mono-culture and more inputs of technology and chemicals?
- How can current fiber and food production standard setting and certification schemes help to promote sustainable production systems and supply chains, including avoiding or reducing forest conversion?
- How to mobilize and build the capacity of small land owners to participate in these food, fuel and fiber opportunities on a sustainable basis e.g. efficient, equitable and profitable?
- How to design appropriate technology for intensification that can benefit small scale producers and cater to local conditions (soil, biodiversity etc.)?
- What indicators and safeguards should be utilized to evaluate intensification measure in terms of its social and environmental impacts?

How to conduct integrated and participatory land-use planning?

Land use decisions are currently made in silos within each sector without much cross-sectoral coordination. There are few platforms for cross-sectoral discussions in the private sector. Government agencies in charge of different land uses are rarely in

communication with each other. This results in the creation of perverse incentives and contradictory land use policies: e.g. capped petroleum prices that slows the development of bio-energy; centralized tax system that hinders local land-use planning, e.g. revenues from forestry industry are mostly paid to districts where timber processing is done rather than where primary production occurs thus making hard for local governments to support tree plantations and restoration efforts where appropriate.

Land use decisions at large scale made by the government or private sector are often done in a non-participatory manner. Regulatory processes are often poorly implemented, e.g. environmental impact assessments are conducted without much transparency or participation from the civil society.

An integrated land-use approach calls for coordination among different sectors. And participatory land-use planning is more likely to include economic, social and environmental aspects in decision-making. Participatory approaches can also give the final decisions more legitimacy. The civil society can also participate in monitoring the implementation of land-use policies, lowering the burden on the government.

Compared to the status-quo, integrated and participatory land-use decision-making is more complex and dynamic with more variables and more interactions over a longer time frame. It requires quality information on different land-uses, effective and efficient dissemination of such information to all stakeholders, tools and capacity to use the information to make sensible land use plans. Whether there is enough political will and resources to support the creation of the above conditions is uncertain.

Other issues to consider include:

- Reconciling different land use priorities: Different stakeholders in different sectors have different priorities for land use. Can an integrated and participatory approach accommodate all different priorities and demands for different land-uses (food, fuel, fiber and forests)? Or is compromise inevitable? If there are compromises, how can different priorities be reconciled while avoiding capture of the process by the elite and the exclusion of small-scale stakeholders and marginalized groups?
- Governance: Can the current governance system support the implementation of integrated and democratic processes at different spatial scales? Or will integrated and participatory land-use planning require a new paradigm and governance structure? If so, what governance structure or practices are most conducive to integrated and democratic process? Who should be the leading force in such a process? (Government? Certification bodies? Commodity round-tables? A combination of all above?)
- Capacity of small-scale stakeholders: How to build the capacity and incentives for local small-scale producers to participate in land-use planning process?
- Engagement of the agricultural and forest sector: In comparison with the forest sector, there is a relatively weak culture of dialogue in the agricultural sector. How can such sectoral silos be broken down to realize cross-sectoral engagement?

How can ecosystem services (biodiversity, water, culture etc.) be valued when making land-use decisions?

Approximately 20% of the planet's biodiversity is distributed among six terrestrial biomes in Brazil- the Amazon, Atlantic Forest, Cerrado, Pantanal, Caatinga and Pampa- and along a costal and maritime zone extending 8,500 km from north to south. The vast and diverse Brazilian biomes also offer a variety of vital ecosystem services to the country and the planet. For example, the Amazon Rainforest holds 90 billion tons of carbon, roughly one fifth of all the carbon contained in the world's tropical forests; the rivers of the Amazon region contain 12% of all world's surface freshwater; the Atlantic Forest shelters around 800 endemic species; the Cerrado contains the sources of South America's three largest water basins; the Pampa plays a very important role in the


Participants at Fibria's Conservation Area


Plenary Discussion


Participants in the Field


Agreecological Project at Mr Amilton's Farm


JFI Produtor Rural Site

southern people's culture, notably in lifestyle and dressing. 5

Currently there is a lack of public awareness about the importance of ecosystem services and their role in enhancing farming productivity, environmental integrity and climatic stability. There are also some prevalent misconceptions about ecosystem services: for example, that technology can replace ecosystem functions; and that decreasing the area of and fragmenting natural habitats will not impact the level of ecosystem services being provided. The lack of understanding and appreciation of ecosystem services have given birth to land use patterns that squander limited natural resources and destroy vital natural habitats. A case in point is the water consumption and contamination in Brazil: irrigation for agricultural accounted for 69% of Brazil's entire water consumption and livestock alone accounted for 12% of the total consumption according to 2006 farming census.5 The use and contamination of freshwater by agricultural activities have direct impacts on biodiversity and the availability of water for other uses. But those impacts are not systematically studied or accounted for in the production costs of agricultural products.

It is thus imperative to establish a system to value the ecosystem services in economic and financial terms and provide incentives to protect and restore ecosystems in critical areas for provision of environmental services and mitigation of climate change. The challenge is how to create incentives and institutions that will guide wise investments in natural capital on a large scale while taking into consideration the complexity of the ecosystems in different geographical contexts and its relationship to marginalized and vulnerable groups including Indigenous Peoples.

How can family farming be supported to contribute towards more integrated and sustainable land use?

The 2006 farming census, released in 2009, found that in Brazil family farming occupies 24.3% total agricultural area accounting for 70% production of the food consumed in the country. Banco do Brasil estimates that family farming contributes to 10% of Brazil's Gross Domestic Product (GDP), playing a crucial role in the economy of many municipalities and indispensable to Brazilian development. 5In Brazil, family farming is vital in meeting the food demand and provides a strong basisfor agro-biodiversity. Family farming also addresses the relations between human societies, cultivated plants and natural environments in a more holistic way. It is the best space to advance social inclusion, poverty reduction and sustainable local development.

There are some current public mechanisms deployed to support family farming including 1) providing more access to land through agrarian reform and land credit, 2) government investments in and loans for infrastructural, machinery, production and small-scale industrial processes, 3) technical assistance provided by government, 4) food acquisition programs i.e. whereby the government purchases a certain amount of production from family farming for schools, an example of this is the PAA (Food Acquisition Program). There are also several private initiatives including Forestry Farmers Program and programs between food production companies and farmers for their supply which build partnership between forest companies and small farmers.

But family farming is still struggling to compete with large-scale agriculture. The main problems include: land tenure rights, the lack of rural extension services; the lack of intensification technology that is appropriate for family farming; weak association and cooperative culture; the lack of direct market access; the migration of young people to urban areas in search of a different lifestyle and better pay.

While all believe that more support should be provided to family farmers to increase

the productivity on their land, there are different views on how intensification can be done. Some argue that technology like advanced chemicals and GMOs are inevitable in Brazil's climate, others believe that family farming can rely on less inputs that may be harmful to the environment and compete in niche markets, e.g. organic farming, and increase productivity by having more integrated land-use model, e.g. agroforestry and integration of silviculture with livestock farming (as illustrated by JFI Produtor Rural's model in the field visit9).

How to develop a rights-based approach towards land-use planning in Brazil?

Many Brazilian municipalities have a larger area of rural properties registered than its own total territorial area, which is a clear indication of the illegal appropriation of property. 5 Brazil also has 230 different indigenous peoples which occupy and area equivalent to 13.3% of the country's territory. On top of this, many other traditional communities are spread thorough the country and several of them are dependent on forest resources. 7 But except in the Amazon biome, recognition of Indigenous People is implicit at best.

Unclear land ownership fuels land use conflicts and induces short-term thinking to maximize profit in the shortest possible time. Land use modeling and planning tools that do not take into consideration of the complexity of land ownership can lead to land grabbing and marginalization of small landowners and communities that lack secure land rights.

How to change consumption patterns for sustainable land use?

Brazil, United States, Russia, China and India, are the five largest farming and livestock production countries in the world. And among the five countries, Brazil is the country with the greatest possibility of increasing its production in response to increased local and international demand. Consumption patterns at local and global levels are likely to have a strong impact on Brazil's land use regime: e.g. the growing global demand for meat has been an important driver of deforestation in Brazil, where forested areas are being cleared to make space for soybean cultivation as animal food. 5

There is still a lack of understanding around the following issues:

- What shapes consumption patterns? Whether and how consumption patterns can be influenced?
- How to translate the reduction of over-consumption by the affluent to more availability of food for the poor?
- How to provide consumers with sufficient, quality information and tools to make choices that are more sustainable?
- How to influence China to play a more responsible role as a key producer and consumer of fiber and food? And how it will impact Brazil's land uses?
- How to change certain consumer preferences that are causing unnecessary waste in the food production system?

How can international standards and policies positively impact land uses in Brazil?

Brazil is a signatory of international commitments such as the Convention on Biological Diversity (CBD) and the Convention on Wetlands (RAMSAR). Under CBD, Brazil is committed to fully preserving 17% of the Amazon forest and 10% of the other biomes. Under the terms of the United Nations Framework Convention on Climate Change (UNFCCC), it has also committed to cutting by 38% its greenhouse gas emissions by the year 2020. But to date, Brazil is still a long way from meeting the committed targets. 5Questions remain on how international commitments without legally binding power can lead to real changes on the ground? And in a globalized economy, how can "the race to the bottom" and leakage be avoided if big economies like China and U.S. are showing little commitment to sustainable land uses and consumption domestically and globally? Given the limitations on what the current international agreements can deliver, would regional, national and subnational approaches offer better prospects to affect changes? How to mobilize international development funding to identify and support actions towards sustainable land uses tailored to Brazil's national and local context? What are the roles of global companies?

In the private sector, many Brazilian companies are also influenced by voluntary international standards like forest certification schemes and sustainable biofuel standards. But those voluntary schemes are largely sectoral and do not cater to a more integrated land-use model. There are also little incentives to innovate and do more than what the standards set by those schemes.

Ways Forward:

Integrated land use planning:

At a national level, land-use planning should include all sectors including bio-energy. At sub-national level, information should be provided to urban dwellers to understand how their purchasing decisions are affecting land-uses in rural area. At a local level, landowners can simply start by understanding what neighbors are doing on their land and how they can work together to better use the land.

Breakoutgroup at work

More research is needed to understand what tools can be used for land use decision-making and what land management models are suitable at different levels and different scales.

Based on existing land use models and information, efforts should be made to further map out degraded areas and determine their characteristics. This can help identify where land needs to be restored, where there are great possibilities for productivity increase and integrated land uses. Then appropriate infrastructure support, technology and management techniques can be deployed based on local context to restore degraded land or increase productivity.

Instead of a top-down land-use planning approach, there should be more planning driven from the bottom-up. Land-use planning at national and regional levels should examine opportunities and consumption characteristics of each area to ensure that action is planned in a way that is most suitable to the local context. Regional or territorial planning should play a central role supported by national policy framework and rooted in local reality. A holistic regional/territorial planning should take into consideration the dynamics of agrarian systems, the interrelationships between rural and urban areas, market dynamics, technology, new information systems and the resulting changes in environmental, social, economic and cultural dimensions. Some tools that can be used include ecological-economic zoning and development of municipal land-use master plans.

Some steps that can be taken immediately include: more integration and communication among different land use experts and departments not only within the government but also in research institutions and environment and social NGOs; bring issues discussed in the dialogue to local councils, regional and national planning meetings; map out existing ecological tools for private sector to exercise sustainable land-use practices.

Participatory land use planning:

It is crucial to include 4Fs issues in existing multi-stakeholder and sectoral forums and establish new multi-stakeholder platforms for cross-sectoral discussions on land use at regional and national level. There should also be channels and platforms to exchange learning and best practices on integrated land-use among different countries, different regions, and different sectors.

Field trip participants

The forest sector is more experienced in multi-stakeholder engagement and land-use mosaics that balance production and maintenance/restoration of natural ecosystems (e.g. The Brazilian Forest Dialogue and WWF's New Generation Plantations Project\8) and should be more proactive in reaching out to other sectors and share their experiences.

Information technologies should be introduced in rural areas to enable quick access to information and allow farmers to intervene and participate in land-use decision-

making directly, on behalf of rural interests in the processes of territorial governance.

Some immediate steps include: establish a national 4Fs platform in Brazil to continue cross-sectoral discussions and raise awareness on the 4Fs issues. As part of the continued dialoging process, form a multi-sectoral roundtable with participation from financial agents, agencies for rural outreach and research; some forest companies have committed to reaching out to other commodity roundtables to share experiences on participatory approaches.

Family Farming Support:

Government should enhance rural extension services to provide education and technology for small scale farmer. Farming education should especially target young generation. Technologies introduced should be tailored to local cultural and aptitudes with emphasis on more diversification rather than mechanical use.

On one hand, incentives should be provided to encourage that talented young generation of farmers stay in family farming business; on the other hand, family farming can be promoted as a lifestyle to attract more urban dwellers back to subsistence farming life styles.

Investment should be made in developing local market for family farmers and diversifying family farmers' products to cater to the local market. Government should also introduce food procurement policies based on a nutrition security strategy developed at a regional scale. This can help establish regional markets so that small-scale producers don't have to fight for market share against the large producers or find themselves dependent on wholesalers. This can also reduce transportation costs, risks and wastes in the distribution systems.

Large scale businesses including producers and retailers can also take the initiative to form partnerships with small farmers. Certification bodies can also set criteria to protect family farming and foster strategic partnerships between big and small scale businesses.

In order to increase the competitiveness of family farming products, programs should be put into place to foster rural entrepreneurship, develop production chains to provide added value to family farming product, establish direct access to the market, and support associations and cooperatives based on local cultural.

Research institutions should be supported to conduct more research on family farming to provide more intensification and diversification technologies appropriate for small scale farming, to understand how to best scale up family farming in Brazil as well as how to establish and incentivize partnerships between small and big producers.

The UN declared 2014 the international year of family farming10. The international attention on family farming that year may help to spur more actions that can scale up family farming in Brazil.

Improved Governance:

Existing public policy conducive to integrated land use should be properly implemented. For example, monitoring tools such as the recently enacted CAR (Rural Environmental Register) can be an important tool to assist in integrated landscape planning for both the public sector and private enterprise.

Perverse or contradictory policies should be amended. For example, there should be clearer land ownership framework that eradicate overlapping land claims and respect Indigenous Peoples' rights and the traditional use of forests. Tax system should be reformed to give more incentives to integrated land-uses and rural development. Taxes on natural resource extractions can be returned to support Payment for Ecosystem Schemes for restoration and conservation.

There is need for effective law enforcement in Brazil, such as the ones aimed at halting deforestation. Without effective enforcement, it is very difficult to legal activities to compete with the illegal ones on price. Existing satellite imaging and land use information systems can be leveraged to monitor policy implementation including the Forest Code.

Supply chain management:

Existing supply chain management tools can be utilized to promote integrated and participatory


Beto Mesquita

land use practices, to engage small producers and to influence and educate consumers. Large retailers have substantial influence across supply chains. They should be engaged in the 4Fs discussions with the aim to leverage their power to change business practices towards fairer and more sustainable land uses. Consumer Goods Forum may be a good channel to engage those big retailers.

A cross-sectoral partnership on supply chain management can also be established. For example, buyers in different sectors can set up networks for their buyers to explore collaboration opportunities and help each other optimize land uses learning from others' expertise. Certification bodies can also help foster such cross-sectoral partnership.

Kai Lintunen

Coordinated international guidance on land use:

Map existing international guidelines and frameworks on different land uses with the aim to understand what are the existing overlaps and gaps, as well as to align principles and methodologies. Based on the results of the mapping exercise, opportunities of harmonization among guidelines on principles and methodologies can be identified. Guidance for landscape management could be synthesized from this exercise including cross-cutting issues for all land uses (e.g. social issues, climate change).

Conduct more research on integrated land-use models and run trials/pilot projects to better understand the dynamics among different land uses. Create an easily accessible international database for best practices of integrated and participatory land use planning and management models.

Waste reduction:

While consumption patterns can not be changed overnight, actions can be taken to identify and reduce waste in the agricultural systems that are caused by consumer choices. For example, while potatoes with imperfect skin but good taste are left behind by individual consumers, big processing companies who produce potato chips are less likely to care about skin perfection and can be the target consumer for those utilized by individual consumers. Improve storage facilities and packaging can reduce the percentage of food waste in storage and transportation. Reduce excessive packaging and advertising can reduce paper waste.

Within an integrated land-use system, there should be systematic analysis on how to reutilize and recycle materials within the production system and among different production units within vicinity.


Lila Santos

Conclusions and Next Steps

Given the global and national context, Brazil has major challenges ahead but also immense possibilities in moving towards fairer and more sustainable land uses. There is consensus among all dialogue participants that the 4Fs dialogue has provided a great forum to discuss pressing issues and exchange experiences with other sectors and stakeholders. Such a unique cross-sectoral platform is fundamental for Brazil and other countries to navigate a right path towards solving some of the most pressing, complex and dynamic issues of the 21st century. The Forests Dialogue with its partners aims to build a partnership with strong convening power amongst stakeholders and experts in agriculture, forestry, bioenergy, ecosystem services and food security. The goal of the 4Fs initiative is fairer, more sustainable land use choices, which could be catalyzed by achieving more specific objectives including better information and best practice examples to support land-use decision making and enabling policy at local, national and international levels; stronger evidence–based cross-sector stakeholder engagement platforms, understanding and capacity at national and international levels and improved decisions in specific jurisdictions and along value chains that enable fairer and more sustainable land-uses and consumption patterns. Existing partners include World Wide Fund for Nature (WWF), World Resource Institute (WRI), International Institute for


Paulo Kageyama

Environment and Development (IIED), The World Bank, World Business Council for Sustainable Development (WBCSD) and the CGIAR research program on Climate Change, Agriculture and Food Security (CCAFS).

In Brazil, Instituto Ethos and its partners including Conservation International-Brazil, the Brazilian Forests Dialogue, Bracelpa and WWF-Brazil, plan to coordinate a national cross-sectoral 4Fs Dialogue process that will keep on engaging stakeholders from different sectors, raising public awareness of the 4Fs issues and catalyzing actions among all stakeholders. Ethos and its partners will share the outcomes of this dialogue with a boarder audience through a press release and among their networks. They will also provide support to and conduct follow-up work with dialogue participants who have committed to carrying out various activities either as an individual or within their institutions. In addition, Farmers in the region of Capão Bonito, Itapeva and others have declared their commitment and willingness to enter into dialogue with local NGOs in order to achieve sustainable outcomes.

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Annex I: Learning from Field Trip

The southwestern region of the state of Sao Paulo is the poorest region of the state. In this region, there are 325,493 inhabitants in 15 municipalities including Capão Bonito, where the dialogue took place. The average GDP per capita is around R$ 12,000 (6,000 USD). Pine and eucalyptus plantations have been expanding in this region. The timber is utilized mainly for production of pulp, furniture, construction and a small amount is used for heating and cooking at household level. Agriculture contributes to 23% GDP in this region: grain, soybeans, beans, maize, citrus

fruits and cattle are the main agriculture activities. Family farming represents almost half of all farms in the region. The topography of the land strongly influences the land ownership: areas with flatter topography, conductive to the use of machines, are often occupied by medium and large-scale companies; areas with more rugged terrain are owned mostly by family farmers. Under the Brazilian forest code, Permanent Preservation Areas (APPs) require protection for areas around bodies of water, on hill tops, steep hillsides, and others. Legal Reserves (RL) require a percentage of rural properties that must retain its native vegetation. In São Paulo state, required RL is 20% (in the Amazon Rainforest, the percentage is 80%; in the Cerrado, 35%).

During the two-day field visit, participants discussed land use trends and policies in the region with local authorities and researchers. They also visited four different sites with different scales of production and discussed the different land management models with local landowners, land managers and NGO representatives.

Agroecological Project - Mr. Amilton S. Carvalho's farm

Scale & Main Activities: 11 ha of crops, pastures, fruit trees and eucalyptus.

History: Based on a socio-environmental analysis within the Almas River Basin, the agroecological project is implemented by IDEAS to recover 411 ha of Permanent Preservation Area (APPs) and Legal Reserve (RLs) required to offset environmental impacts of a cement factory in the region. The recovery is done through conventional planting or agroforestry systems. Mr. Amilton S. Carvalho has been a landowner in the region for 30 years and he joined the project four years ago. IDEAS has provided him with technical advice and free labor.

Land management model:

- Majority of production is for subsistence with small surpluses for local consumption (e.g. .cachaça and organic soil);
- Land use decisions not driven by profits but personal values and lifestyle
- Closed loop production system with a wide diversity of products;
- Intensive use of land without any chemical inputs or machinery;
- Wide variety of indigenous species restored for food production.

JFI Produtor Rural

Scale and activities: A total area of 1526 ha available farm land with 830 ha of actual planting. The area is divided into six farms located in the municipalities of Capão Bonito and Itapetininga. These farms grow Eucalyptus, beans, corn and cattle ranching for meat.

History: JFI started off as a service provider to large forest-based companies in 1991. Today it has operations in both São Paulo and Mato Grosso do Sul states. In recent years, JFI has purchased its own land. It manages the land for Eucalyptus and some agricultural activities under the company JFI Produtor Rural.

Land Management Model:

- Seeking profit maximization: fiber and timber provides main income with agricultural activities supplementing the cash flow;
- Intensified land-use model with more inputs (mechanics, herbicides etc.);
- Maximize production area within legal requirements: where agriculture is not possible because topography of the land, forest plantations is used to increase productivity and profitability of the area and also control erosion.
- Diversified products spreading risks across fiber and food;
- Management decisions made based on scientific evidence: data collected and analyzed from different experiments ran on the integration of Eucalyptus with rotations of beans, corn and cattle.

Fujivara

Scale and activities: 1,600 ha divided into 14 farms within a radius of 30 km. There are two cultures in a year. They plant beans, corn, soybeans and wheat.

History: The current owners Sidney and Sergio Fujivara are the third generation to manage the family business. Their grandparents arrived in Brazil from Japan in 1929 to work in coffee plantations in the region of Alta Paulista. In 1949, the family moved to Capão Bonito to start planting of rice, corn and bean. In 1959, the business shifted towards potato, tomato and onion. Since then the family has invested heavily on technologies and expansion. From 12 ha of farm land in 1949, the farm has grown to 1600 ha today.

Land Management Model:

- Family business seeking food "hyper-productivity" based on technology and best commercial practice in the global market;
- Intensive use of land with highest inputs e.g. chemicals, energy, machinery;
- Not seeking to expand area anymore but only enhance productivity of existing holdings;
- Rapid uptake of intensification technologies to maximize productivity e.g. GMO, no tillage, crop & livestock integration, double cropping etc.

Fibria - Capão Bonito Forestry Unit

Scale and activities: Fibria is a Brazilian pulp and paper company with a strong presence in the global forest products market. In the southwestern São Paulo region, Fibria has 76,500 ha of Eucalyptus plantation, among which, 26,700 are dedicated to APPs and RLs. In Capão Bonito, the forest base occupies 30,300 ha, of which approximately 30% is for preservation.

Land Management Model:

- Active restoration and management of significant natural forest in appliance with law;
- Intensive restoration to kick-start natural regeneration in conservation area;
- Actively engage local stakeholders with its restoration projects and provide environmental education to local communities;
- Natural forest as biodiversity buffer around plantation and contributes to pest controls.

Based on the visits to all four sites, some key observations include:

- Government's regulation (in this case, requirement for APPs and RLs under the Forest Code) sets a good framework for land use models that take into considerations of conservation and protection of water resources.
- Despite different histories, scales and management objectives, all sites have varied levels of integration between food, fiber, forest, and to a lesser extent, fuel. Integrated land-use models have proven to make business sense as it maximize the land use and profits or in Mr. Amilton's case, personal pleasure generated from the land. Forest and agriculture integration also helps diversity risks and provide stable income (Agriculture provides short-term cash while forest generates greater income in the long term).

Annex II Participant List

Luiz Fernando do Amaral	Única
George Asher	Lake Taupo Forest Trust
Giovana Baggio	The Nature Conservancy (TNC)
Fausto Camargo	Fibria
Karla Camargo	Sygenta
Natália Canova	Bracelpa
Fátima Cardoso	Solidaridad - Brazil
Ricardo CamargoCardoso	Imaflora
Arnaldo Carneiro Filho	Secretaria de Assuntos Estratégicos - Presidência da República
Dalcio Caron	ESALQ - São Paulo University (USP)
Avery Cohn	University of California, Berkely
José Gilberg da Cunha	Ideas
Peter Dewees	The World Bank
Gary Dunning	The Forests Dialogue
Sidney Fujivara	SF Agronegócios
Peter Gardiner	Mondi
James Griffiths	World Business Council for Sustainable Development (WBCSD)
ManuelGuariguata	CIFOR
Roberta Holmes	Secretary of Biodiversity and Forestry, Brazilian Ministry of Environment / Secretaria de Biodiversidade e Florestas, Ministério do Meio Ambiente (MMA)
Uta Jungermann	World Business Council for Sustainable Development (WBCSD)
Paulo Kageyama	ESALQ - São Paulo University (USP)
Ed (Skip)Krasny	Kimberly-Clark
Timo Lehesvirta	UPM-Kymmene Corporation
Kai Lintunen	Finnish Forest Association
Caio Magri	Instituto Ethos
Eduardo Mansur	Food and Agricultuture Organization (FAO)
Bazileu Alves Margarido	Instituto Democracia e Sustentabilidade - IDS
James Mayers	International Institute for Environment and Development (IIED)
Paulo Dimas Menezes	Diálogo Florestal Brasileiro / Ibio
Carlos Alberto Mesquita	Conservação Internacional (CI)
Egidio Moniz	Fair Labor Association
Orlando Souto Montenegro	Secretaria Municipal de Turismo
Cassio Franco Moreira	WWF-Brazil
Peter Newton	Climate Change, Agriculture and Food Security (CCAFS CGIAR), CGIAR CCAFS
Cassiano Tóffoli de Oliveira	Secretário Municipal de Agricultura e Amastecimento - Itapeva
Miriam Prochnow	Apremavi
Maria Dalce Ricas	Associação Mineira de Defesa Ambiental - Amda
Carlos Alberto Roxo	Fibria
João Dagoberto Santos	ESALQ - São Paulo University (USP)
Lila Santos	Arkhé
Wigold Schaffer	Apremavi
Roberto Smeraldi	Amigos da Terra
Gerd Sparovek	ESALQ - São Paulo University (USP)
Rodney (Rod) Taylor	WWF-International
Mariana Zanetti	Amata