Green economy in Amapá State, Brazil

Progress and perspectives

Virgilio Viana, Cecilia Viana, Ana Euler, Maryanne Grieg-Gran and Steve Bass

Country Report
June 2014

Green economy

Keywords:
green growth; green economy policy; environmental economics; participation; payments for environmental services

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Acknowledgements

We would like to thank the many participants at the two seminars on green economy in Amapá held in Macapá in March 2012 and March 2013, for their ideas and enthusiasm; the staff of the Fundação Amazonas Sustentável for organising the trip of Amapá government staff to Amazonas; and Laura Jenks of IIED for editorial and project management assistance. The work was made possible by financial support to IIED from UK Aid; however the opinions in this paper are not necessarily those of the UK Government.

Produced by IIED's Sustainable Markets Group

The Sustainable Markets Group drives IIED's efforts to ensure that markets contribute to positive social, environmental and economic outcomes. The group brings together IIED's work on market governance, business models, market failure, consumption, investment and the economics of climate change.

Published by IIED, June 2014

Virgilio Viana, Cecilia Viana, Ana Euler, Maryanne Grieg-Gran and Steve Bass. 2014. *Green economy in Amapá State, Brazil: Progress and perspectives*. IIED Country Report. IIED, London.

http://pubs.iied.org/16575IIED

ISBN: 978-1-78431-026-4

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This report discusses the opportunities presented by the Amapá State government's intention to make the transition to a green economy. It explores initial progress in green policy and activity, and associated dynamics in the political economy, and lays out a broad but feasible set of sectoral and cross-sectoral policy options. The paper also offers an initial assessment of a pioneer, inclusive scheme of payments to small producers for forest-based environmental services: Pro-extrativismo Programme. It draws on lessons from Amazonas state that can help to inform Amapá's green economy strategy and concludes with recommendations for further technical collaboration, and for priorities in sectoral policy and cross-sectoral enabling conditions, with a focus on government leadership.

Contents

Summary

There is much international discussion about the concept of 'green economy'. But it is dominated by OECD countries and intergovernmental organisations. The 2012 Rio+20 Summit concluded that the exact form of a green economy should depend upon specific country contexts, natural resource endowments, stakeholder needs and capacities. To act on this, IIED has been helping to facilitate green economy dialogues and explorations in ten developing countries, offering space to exchange information and opinions, and to explore options, so as to tailor green economy approaches that work for local people and businesses.

IIED entered into a collaboration with the Amapá State government, inspired by the governor of Amapá's interest in the potential for transforming economic activities and governance towards greener approaches. This included:

- multi-stakeholder dialogues on what green economy might mean for Amapá
- high-level meetings with Amapá's governor and cabinet members
- a field visit by Amapá's governor and cabinet members to Amazonas to witness institutional and field experiences of green economy policies in practice
- technical studies on the opportunities and barriers to a green economy in Amapá.

This report explores initial progress in green policy and activity, the associated dynamics in the political economy, and lays out a broad but feasible set of policy options.

Mining, infrastructure, energy, agriculture and forestry are the drivers of Amapá's future development, with the first three having particularly dynamic potentials for change. Each of these sectors is intimately tied to the quality of the environment. It is possible, but risky, to develop these sectors without respecting these environmental linkages. However, if Amapá's development is to be productive, enduring and resilient, economic policy should nurture environmental assets such as forests, limit environmental hazards such as pollution, and aim at markets that are willing to pay for such environmental benefits. And it should do this in ways which are inclusive of the people whose livelihoods are tied most closely to environmental conditions (notably the poor), and those who know best how to manage environmental assets and hazards (from indigenous groups in the forest to best-practice mining companies).

The governor has emphasised how the green economy is as much a human agenda and a business agenda as an environmental one. To truly lead to change, the green agenda must connect to the everyday realities of jobs, livelihoods, health and human wellbeing.

The paper offers initial recommendations for next steps towards this kind of business-friendly, inclusive approach to green economy. A range of criteria were applied to suggest initial priorities from among the green economy options:

- impact on the creation of decent jobs
- impact on poorer populations, notably their inclusion in economic activity
- significance of environmental impact and potential to improve it
- availability of necessary resources and technologies
- access to markets for green goods and services
- existence of motivated champions of change.

Promising sector options appear to include: green and inclusive approaches to investment and business in Amapá's rapidly-developing mining sector; renewable energy schemes; and forest-based activities that add public environmental and social value. More detailed analysis is needed, especially in Amapá's urban context.

An initial analysis is offered of a pioneer green economy forestry programme: Amapá's new *Pro-extrativismo Programme* (PEP). This scheme of payments to small producers aims to improve the inclusiveness of economic growth among Amapá's people, and the public environmental and social values realised from Amapá's rich forest resources. We conclude that PEP has real potential, but will need stronger government

capacity to deliver it, scientific monitoring to assess its impacts on environmental service delivery, and cost-benefit analysis with a focus on who benefits and in what ways. If PEP succeeds, it points to several other ways in which the people of Amapá can produce profitable environmental services.

Cross-sectoral policy and enabling conditions will also need attention – ways to get 'green' and 'inclusion' into the machinery of government and business. An initial focus could be on increasing the proportion of government expenditure on goods and services from inclusive and green enterprises. Other options include: natural capital accounting alongside regular financial accounting; combined ecological and social metrics to assess the performance of businesses and organisations; strategic environmental assessments and other ways to analyse green and social implications of policies; and an Amapá State multi-stakeholder green forum to forge consensus and enable adaptive management towards sustainable development.

Background

1

This paper results from a request made to Virgilio Viana, IIED International Fellow and principal author of this paper, by Camilo Capiberibe, Amapá's governor and a political leader with a strong commitment to sustainable development. The governor had embraced the idea of green economy as a way to adjust economic incentives so that they more effectively achieve sustainable development. His father, João Capiberibe, was the first governor to announce and implement sustainable development policies at the state level in the Brazilian Amazon, with the 1992 PDSA Programme (*Programma de Desenvolvimento Sustentável do Amapá*). This programme later influenced other state level sustainable development programmes in the Amazon region, in Acre State (*Governo da Floresta*) and Amazonas State (*Programma Zona Franca Verde*). Amapá's governor is now shaping what could be described as the fourth state sustainable development policy in the Brazilian Amazon. It will be the first formulated after the concept of green economy entered the political mainstream in 2008 following the global financial market collapse, when G20 countries began to introduce 'green stimulus packages' to boost growth through green investment (see Box 1). Amapá's green economy policy aims to attract the types and volumes of investment that will unleash better use of the state's environmental assets and environmental knowledge, together forming a new green 'engine' of state economic growth. The journey has only recently begun, however. This paper reflects on early progress and possible next steps in sectoral and cross-sectoral action.

IIED has been facilitating the exploration of what green economies might mean in several developing countries. The potentials – in rich countries as well as poor – appear to be:

- improved natural resource efficiency and productivity
- reduced climate, pollution, and resource degradation hazards
- improved resilience of economic sectors and livelihoods to financial, climate and other risks
- increased income, employment and wellbeing deriving from the above.

Such potentials are proving to be attractive to governments, companies and civil society groups alike, and consequently the green economy has become a hot topic, moving from fringe debates to mainstream policy.

This expansion of interest and activity across the world is impressive, but green economies will look very different in different places. The potentials, and associated costs, will differ depending on a country's environmental assets and hazards, economic outlook, markets and societal preferences. Yet much of the initial thinking on green growth was led by the United Nations, multilateral development banks and other international organizations. And today many international initiatives are pushing particular angles; most strongly emphasise economic *growth* through green investment, particularly through applying standardised analytical techniques that focus on cost-effective greenhouse gas (GHG) abatement with its promise to attract international climate finance. There is less emphasis on *inclusion* and *equity* through inclusive governance reform, and/or embracing a wider range of environmental asset potentials than GHG abatement alone. This requires much more in-country exploration and discussion that many of the international initiatives are undertaking but, as the governor has stressed, if the green economy is to connect to businesses and people, it is as much a human and an enterprise agenda as an environmental one. This need to explore the precise local issues was also the conclusion of the 2012 Rio+20 Summit.

IIED, too, believes that space is especially needed within developing countries and among less powerful stakeholders to exchange credible information and opinion between stakeholders, and to tailor green economy approaches that work for people and businesses locally. In Amapá, IIED's collaborative work has therefore included a combination of:

- multi-stakeholder dialogues on the design of green economy pathways
- high level meetings with Amapá's governor and his cabinet members
- a field visit by Amapá's governor and cabinet members to Amazonas to witness institutional and field experiences of green economy policies in practice
- technical studies on the opportunities and barriers to a green economy in Amapá.

In March 2012 IIED and the Amapá government facilitated a seminar *'Basis for a green economy in Amapá State'*. Prior to the seminar, IIED produced a desk review of the policy and economic context for developing a green economy, along with early indications of on-the-ground progress and further opportunities in Amapá.[1] The seminar then considered this desk review and developed a draft set of policy options that responded to its findings. It was followed with a draft report 'Green economy programme for Amapá' which the State government used in order to identify priorities from among the options. A follow-up seminar on the green economy took place in May 2013, following which the Amapá State government has made important policy decisions to develop a green economy platform with component policies, initiatives and investments.

[1] Viana, C.; Bass, S. and Viana, V. (2012). Economia Verde no Amapá: subsídios para o debate. IIED Report.

BOX 1 DIVERSE OBJECTIVES AROUND THE WORLD IN GREEN ECONOMY DEBATE AND ACTION

Since the 2008 financial crisis, there has been much discussion on the promise of 'green growth' or 'green economies' to secure improved economic performance and livelihoods in ways that limit climate and environmental damage. But there have been different phases in that discussion, as IIED-facilitated dialogues in low- and middle-income countries have revealed:

- *'Green growth' is attracting political and financial attention:* Many international initiatives are working with developing countries on investment in climate-friendly energy and infrastructure as key new sources of economic growth and jobs. Greenhouse gas abatement and low-carbon technology dominate policy initiative, driven by the promise of energy cost-savings and attracting international climate finance. Such 'green growth' initiatives can attract significant policy and investment support in developing countries and the backing of some major corporations.
- *Natural resource potentials need to be grasped, too:* However, stakeholders in all of the dialogues to date, as well as the UN, have also pointed to enterprises that make sustainable use of natural resources as potential sources of growth and jobs – in other words, a 'doubly green' approach beyond a focus on climate. These hold promise for poorer countries and people in particular, offering routes out of poverty for those who depend disproportionately on natural capital. However, this approach has not yet become a significant part of international green economy initiatives.
- *Greening the economy needs to include social justice, too:* Although developing countries have had rather less input into green economy debates to date, in the national dialogues facilitated by IIED, the debate was very much one of equity – in other words, an inclusive approach to complement the new 'green' public-private partnerships. Poor people who have been marginalised by current 'brown' economic systems should be central to a green economic future.
- *Inclusive and green opportunities are constrained by economic and financial rules – which need to be transformed to achieve sustainable development:* Finally, while most stakeholders in the dialogues focused on growing the energy efficiency and natural resource goods and services sectors of the economy, a sizeable minority raised the need to rethink *the purpose of the economy* as a whole so that it refocuses on combining human and ecosystem wellbeing, focusing growth to this end but limiting growth in the physical economy where environmental damage is rising.

Many stakeholders are already beginning to achieve green economy outcomes, if not yet at scale:

- *Leading businesses* in most countries are exposed to new international green markets, producing for buyers who discriminate in favour of high environmental and social standards (in food, forestry and tourism products especially, where certified green standards are becoming a norm). It is worth identifying these, getting them to explore their contributions and stories of change, and sharing these across the sector.
- *Poor groups* themselves have found ways of producing green, inclusive and productive outcomes, often within the informal economy, such as waste-picker groups, and communities who build and run sanitation services, who are able to compete for municipal waste management contracts.
- *Technology companies and social enterprises* may have developed and positioned certain technologies so that they could be ready for wide scale-up if supported by policy and financial instruments, such as waste-to-power schemes, solar off-grid electricity and water heating.
- *Government and CSO NR management programmes* frequently show the way in terms of what inclusive, green outcomes can be achieved from land use. But the different approaches/models (e.g. for sustainable agriculture or forestry) have not yet been brought together, and financial signals and mechanisms are not yet tipped in their favour (e.g. subsidies still support external inputs such as fossil fuels and chemicals).

Source: Bass, 2013

It was decided that a priority step would be to design and test an iconic incentive scheme to pay small producers of non-timber forest products for the environmental services they provide alongside those products. This payment scheme forms part of the *Pro-extrativismo Programme* (PEP), a development plan for important non-timber forest products. It aims to base economic production on Amapá's rich natural resources (forest products) in ways that directly benefit poor people, stimulate their interest in becoming 'green' entrepreneurs, and produce multiple forest ecosystem services. Amapá's governor presented the State's green economy platform at a high level panel discussion at the Rio+20 Conference in June 2012. Ana Euler, president of Amapá Forestry Institute (IEF), explained the Pro-extrativismo Programme to a mix of practitioners and policy-makers at IIED´s Fair Ideas seminar held during Rio+20.

A year later, in June 2013, Amapá's governor and five cabinet members made a three-day visit to Amazonas, along with the president of the National Council of Extractivist Populations, Joaquim Belo, from Amapá. Their programme included a field trip to see the Bolsa Floresta and its education programme in practice, as well as a series of meetings with government officials and civil society leaders from Amazonas State.

This paper draws on all these events and studies. The conclusion of the meetings and follow-up discussions were used as input to this document, as well as desktop reviews of existing literature on governmental programmes. All published materials are cited in the text.

Social, economic and environmental foundations for a green economy in Amapá

2

2.1 Economic aspects

Amapá accounts for only 0.2 per cent of Brazil's economy. The state's population is predominantly urban, as is the state's economy: the service sector amounts to around 89 per cent of the GDP, while the industry sector accounts for 8 per cent and the primary sector just 3.2 per cent. Nearly half (48.7) per cent of the GDP comes from government administration and social spending, 14.5 per cent from trade and service, and 10.8 per cent from real estate and rental activities. In 2011, the GDP of Amapá was BRL[2] 8,350 million (IBGE, 2012).

The main productive sectors of Amapá currently account for small proportions of GDP: construction, responsible for 3.8 per cent of the state's GDP; the manufacturing industry, 3.1 per cent; agriculture, silviculture, and forest products, 2.3 per cent; cattle ranching and fisheries with approximately 1 per cent; and mining with 1.4 per cent (IBGE, 2012). The manufacturing industry in Amapá generated BRL 155 million in 2011 according to IBGE (2012) and focuses on the processing of mineral products.

Minerals are the most important exports from Amapá: in 2013, the main export was gold, accounting for 50.7 per cent of all exports, followed by iron ore, at 34.6 per cent (SECEX, 2014). Around 99 per cent of iron, kaolin, gold and chromite produced in the state were destined for external markets (Brazilian and international), and the four industries employed around 1,190 people in 2009 (Oliveira, 2010).

The area of planted forest in the state of Amapá in 2012 was 49,951 ha, making it the 14th Brazilian state in terms of forest plantation area. Planted forests generated 1,762,169 m³ of roundwood in 2012. 531,491 m³ of roundwood and 320,862 m³ of firewood were legally harvested from native forests in 2012 (IBGE, 2013b). The share of wood and wood products in the exports of Amapá was 4.5 per cent in 2012 and rose to 11.2 per cent in 2013 (SECEX, 2014).

GDP cannot measure the contribution of environmental assets to wellbeing. Thus, despite their low contribution to GDP, the extraction of non-timber forest resources, family farming and fishing are vital to livelihoods and food security for the population of Amapá. In 2007, fish production accounted for more than BRL 50 million. 63 per cent of the fisheries was extracted from inland waters and 35 per cent from marine waters (IBAMA, 2007). In 2012, the main non-timber forest product extracted in Amapá was açaí berry (generating BRL 2,234 thousand for producers), followed by Brazil nut (BRL 319 thousand), rubber (BRL 210 thousand) and heart of palm (BRL 26 thousand) (IBGE, 2013b).

But much of the production and trade of non-timber products occurs in the informal market; this is not captured by official data, but needs to be better assessed if economic potentials are to be realized.

Açaí berry, an economically important forest fruit, generates a total of BRL 500 million per year across its full supply chain (Carvalho, 2010). There are about 2300 açaí production facilities in Macapá and Santana, two of the municipalities with higher production in Amapá (Carvalho, 2010). Açaí is a significant export product of the state, having accounted for about 3.2 per cent of Amapá exports in 2013, and 3.9 per cent in 2012 (SECEX, 2014). About 90 per cent of the açaí consumed in Amapá is extracted from lowland areas in the estuary of the Amazon River on islands that belong to the state of Pará. In those areas, as in Amapá, açaí berry is predominantly extracted from natural açaí forests. Government support is on the increase: the Brazilian Agricultural Research Corporation (Embrapa) and IEPA have developed techniques for sustainable management and processing of açaí and IEF has trained over 2000 small producers in them. SEBRAE and companies like Sambazon work to strengthen the supply chain, improve the quality of açaí berry, its processing, as well as supporting access to innovations and financial incentives. Government programmes, such as PRONAF, have provided finance to small farmers and extractivist populations.

2.2 Social aspects

Approximately 90 per cent of the Amapá population is urban, and 74.6 per cent of the population lives in the municipalities of Macapá, the state capital, or Santana. The population of Amapá has recently had the largest population increase among Brazilian states: a rise of 40 per cent between 2000 and 2010, totaling 669,526 people in 2010 (IBGE, 2011). One factor that explains this phenomenon is migration: about 28.2 per cent of the current population is not native to Amapá (PNAD, 2012).

According to official data, there are 48 urban settlements with inadequate housing conditions in Amapá, 24 of which are located in Macapá, and 11 in Santana. These settlements had a resident population of 108,086 people in 2010, or 16.1 per cent of all inhabitants in the state. Of the 23,909 households in those settlements, 12,385 use rivers, lakes or the sea as a destination for sewage, and the remaining households are connected to the sewage system irregularly. Only 13.1 per cent of Amapá urban households have adequate sanitation, 78.9 per cent are semi-adequate, and 8 per cent are inadequate (IBGE, 2011). Although these rates represent a significant improvement from

[2] US$1.00 = BRL $2.3, as of January 2014.

that seen in 2000, more improvement can be made. In rural areas, only 2.4 per cent of households have adequate sanitation, while 32.5 per cent are semi-adequate, and 65.1 per cent are inadequate (IBGE, 2011). 100 per cent of households have access to water (from various sources), and 99.1 per cent have access to electricity (PNAD, 2012). 98 per cent of households have televisions, and 93 per cent have refrigerators (PNAD, 2012).

The illiteracy rate among people aged 15 and over fell from 12.1 per cent in 2000 to 8.4 per cent in 2010. The share of the population with the highest rate of illiteracy is indigenous, followed by the black population. Amapá's GDP per capita was BRL 13,105 as of 2011, much lower than the average among Brazilian states of BRL 21,254 (IBGE, 2012).

The infant mortality rate of children under 5 years in Amapá dropped from 36.8 in 2000 to 27.7 per thousand live births in 2011, but it is still the state with the highest mortality rate in Brazil (IDB, 2012). In 2010, Amapá State had the fewest doctors per capita, with 0.75 doctors per 1000 inhabitants (IDB, 2012). Amapá has the highest life expectancy at birth (72.1 in 2010) of the North region states (70.8 mean), yet it is lower than Brazil's average (73.9 in 2010) (IBD, 2012).

With such low figures in terms of human wellbeing, it is highly desirable that green economy policy and activity should serve to improve people's lives. And, while the PEP is a pioneer programme focusing on opportunities for poor rural people to benefit from a green economy, there is also clearly a need to improve the sustainability of the urban economy, where most people live.

2.3 Land use

According to research institutions (Embrapa, IBGE, SUDAM), between 60 and 70 per cent of soils in western and central regions of Amapá are unsuitable for agriculture, and are better suited to protecting forests or the extraction of non-timber forest products (Drummond & Pereira, 2007). Indeed, Amapá is not a major agricultural producer. Its production is geared mostly for internal consumption, the main products being cassava (12,800 ha planted in 2012), maize (2,600 ha planted), and rice (2,500 ha planted) (IBGE, 2013a). The state has significant herds of buffalo (254,046 individuals) and cattle (142,825 individuals), both raised in extensive farming systems (IBGE, 2013c).

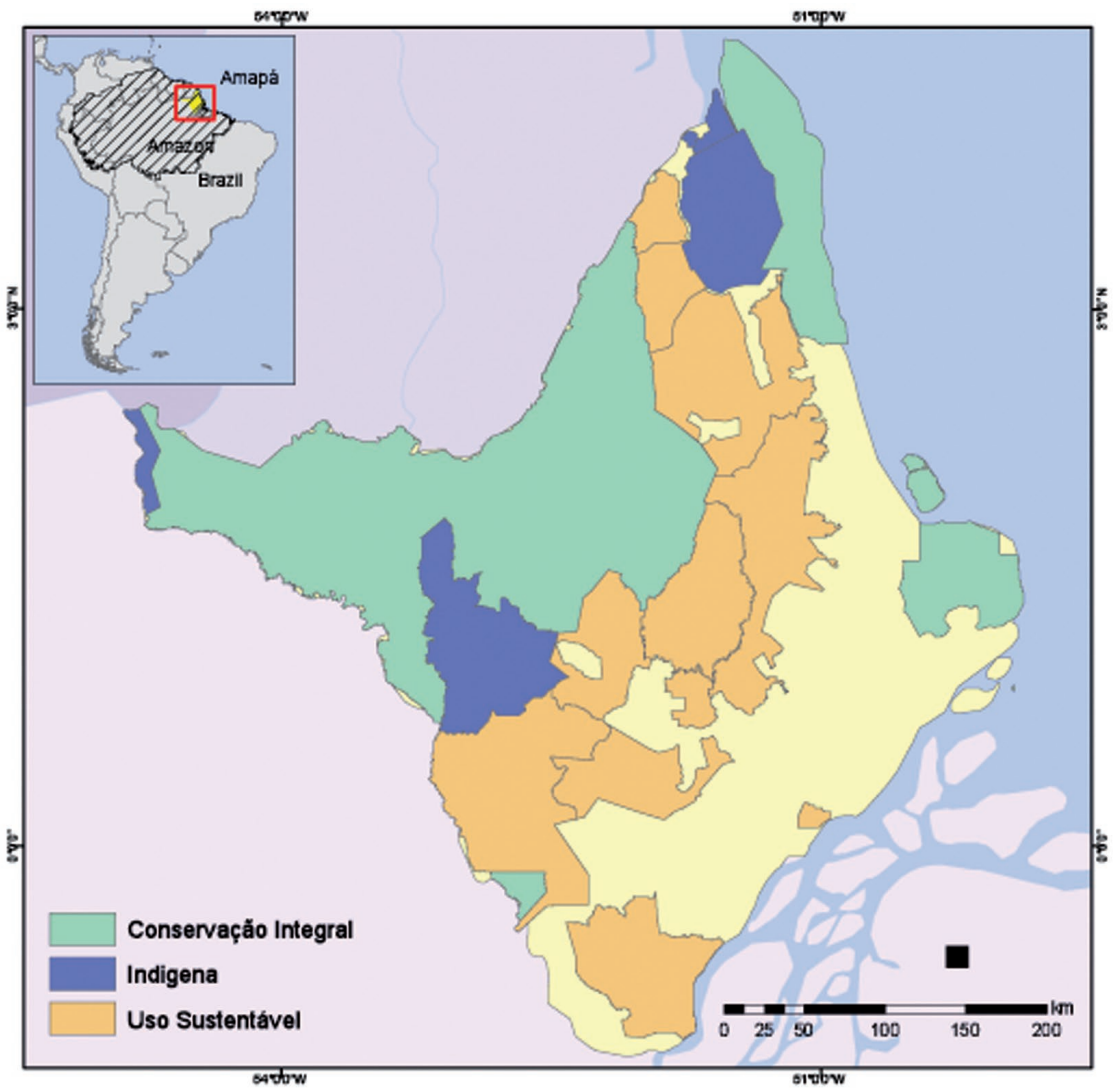
Between the areas of forest and the floodplains, there is a strip of savannah running from north to south that occupies about 6.9 per cent of the territory of Amapá, or 986,000 hectares. Currently, this area has been used for planted forests (mainly Eucalyptus), and for agricultural production. This area is identified as being very suitable for soybean production, even though high agricultural input prices still limit the feasibility of production (Yokomizo, 2004). Nevertheless, there is an emerging agribusiness sector with strong prospects of expansion, mostly comprising investors from Mato Grosso. As recently as 2012, there was no record of soybean production in Amapá (IBGE, 2013a), but the prospect of adapting the port of Santana to ship soybean production from Mato Grosso and towns along the BR 163, together with increasing international demand, indicate that soybean could prove to be an attractive product for the region.

At least as important is the wealth stored in forests, notably the biodiversity, carbon storage and other environmental services which are becoming increasingly scarce at the global level, and which are beginning to form the basis of particular green financial assets classes, notably carbon offsets. Altogether the state of Amapá has around 70 per cent of its territory in protected areas, which corresponds to 9,981,538 hectares (Drummond, Dias & Brito, 2008) (Figure 1). Eight areas fall under the strictly protected categories: national parks, biological reserves or ecological station, representing almost 60 per cent of the protected area. Eleven areas are categorized as sustainable use, distributed in the National Extractive Reserve (RESEX), the Private Natural Heritage Reserve, National Forest, State Forest, Area of Environmental Protection, Sustainable Development Reserve (RDS) and Municipal Natural Park. There are still five indigenous lands demarcated totaling 1,183,498.31 hectares.

There is significant potential for Amapá to participate in mitigating global climate change through forest conservation, as only 2 per cent of the state area has been deforested (Figure 2). The emerging international carbon market offers opportunities for Amapá to be paid for providing forest carbon conservation services, or to be 'compensated' for keeping its forests standing. The international REDD+ mechanism[3] has been under negotiation for some years but significant decisions on its design and operation were made at the UNFCCC Conference of the Parties in late 2013. In addition, the voluntary carbon market has for several years enabled companies, individuals or territories to offset their GHG emissions by buying credits from forest conservation projects. In the emerging REDD+ framework, the estimation of carbon *stock* and *flow* must follow strict criteria of measurement, reporting and verification (MRV) against a forest reference level, to ensure that the emission reductions are genuine and additional. There are also safeguards to ensure social participation in

[3] Reducing Emissions from Deforestation and Forest Degradation plus conservation, sustainable management of forests and enhancement of forest carbon stocks.

Figure 1. Protected areas of Amapá.

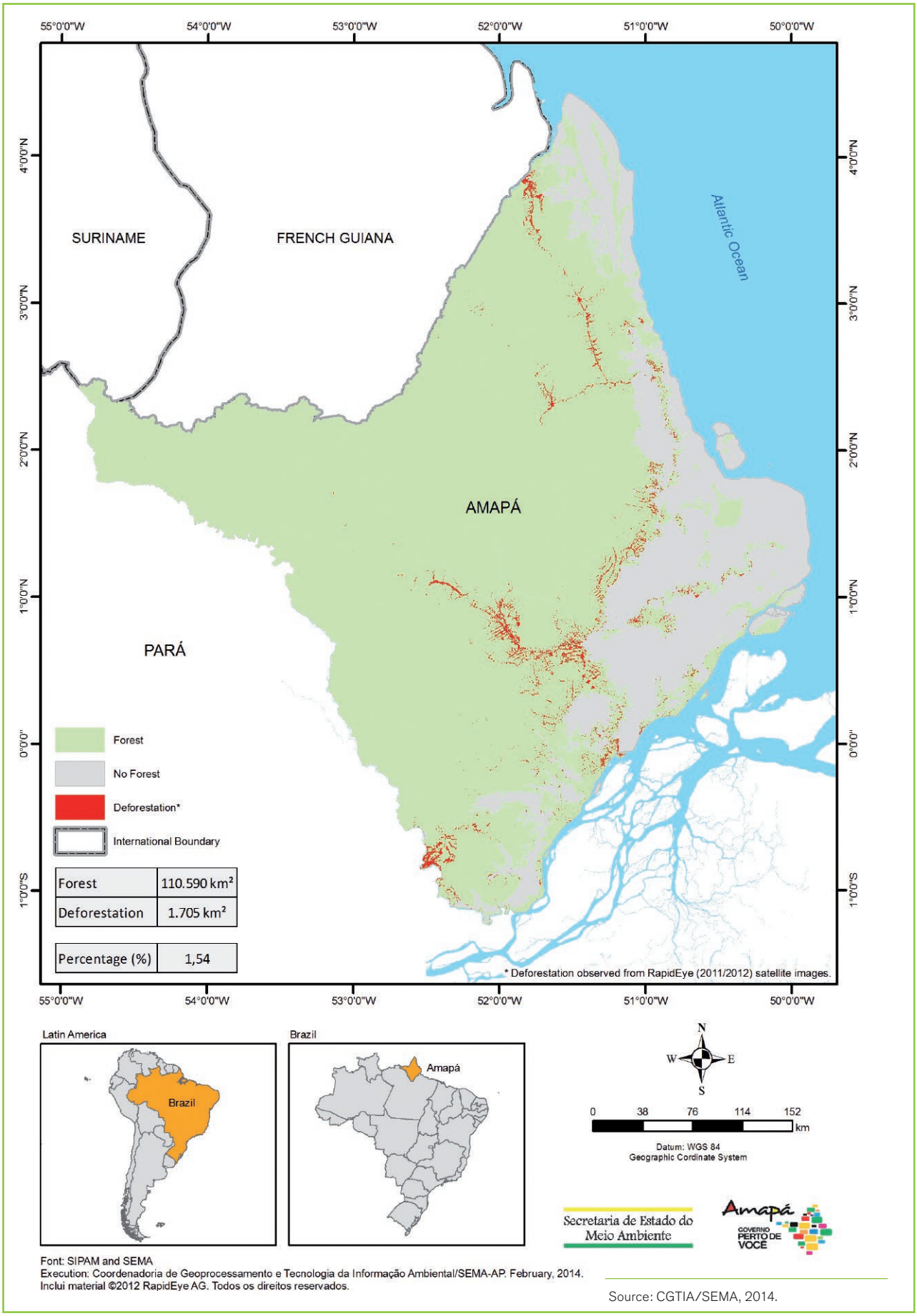


Source: CGTIA/SEMA, 2012

benefit sharing. In Amapá, residents of RESEX or RDS and extractive populations can be the first to benefit from such a mechanism, because they are dependent on, and guardians of, the forests. The criteria used for generating carbon credits emphasise additionality, that is compensation requires the retention of more carbon than would otherwise have been the case. This could result in only a small volume of carbon credits for the state of Amapá, despite its extensive area of intact forest – this is because forest conversion, based on past rates of deforestation, is not as severe a threat as in other areas of the country. Within Brazil there is some recognition of the perverse incentives that could result from a system which rewards only the areas where deforestation has been high and the consequent need to incentivize states to maintain these, such as Amapá that have high carbon stocks. The government of Amapá is aware of this potential and has taken this forward, through the discussion of the State Policy on Climate Change and participation in the governor's Climate & Forests Task Force, among other initiatives.

Carbon therefore has potential in Amapá, but opportunities also need to be found to gain from the other environmental services provided by intact forests – notably biodiversity conservation, hydrological regulation, and cultural conservation.

Figure 2. Deforestation in Amapá State (red) and forests (green).



Source: CGTIA/SEMA, 2014.

Green economy in Amapá: political and economic dynamics

3

Amapá's Governor Capiberibe has shown continued commitment to sustainable development, and is now actively developing green economy policies.[4] He has taken time to participate in events such as seminars, workshops and field visits (such as his visit to Amazonas State). The political and financial investments in the Pro-Extrativismo Programme also show this commitment, plus an increasing mainstreaming of the idea in the State government. Yet there are many challenges to the green economy agenda in Amapá.

First, there are tensions in the relationship between the State government and the State Assembly, which are linked to partisan divisions between the previous and the present administration. In the run-up to the 2010 elections, two candidates were arrested by the Brazilian Federal Police. This was an important factor in the election, which was won by current Governor Capiberibe. In 2013, this tension took a new turn: members of the State Assembly established a public and open confrontation with the State administration, more specifically related to the Amapá State Forest (FLOTA). The State government is in opposition to agricultural and mining interests in the FLOTA, which want to use part of the area for mining and commercial agriculture – some of which are illegal. In contrast, the State government has a strong environmental agenda and wants to promote forest management and sustainable agroforestry. To counterbalance this political pressure, social movements and NGOs came to publicly support Governor Capiberibe's policies, especially those implemented by Amapá's Forestry Institute, which were under great pressure from the State Assembly, and its calls to cancel the decree that created FLOTA.

Second, governmental institutions are quite fragile. This is a historic problem, further aggravated by partisan issues, and has led to discontinuities in programmes and projects as administrations change. One illustration of this problem is that many computers had their hard drives erased before the administration changed hands. Salaries are quite low, and so there is a high turnover of public servants as well as appointed staff. Excessive bureaucracy and inefficiency further aggravate the problem of institutional fragility.

There are new drivers of economic activity that are altering the political landscape. Growing agricultural production is increasing the economic role and political influence of those who favour expansion of cropland at the expense of clear-cutting forests, savannas and other natural ecosystems. Deforestation is currently small-scale and limited to areas around the capital Macapá and along the small road network (Figure 2). But there is growing pressure on savannas for soybean expansion, associated with large private investments by agricultural companies from Mato Grosso state (the number one state producing soybean in Brazil). A key constraint for the Amapá government is its limited jurisdiction, since most of the land resources are legally owned by the Federal government. The FLOTA is one of the few exceptions: this is one of the reasons for the interest of the agribusiness sector in this area, one for which the State government has legal authority but very weak capacity, and thus a driver of political conflicts over land tenure and conservation policies.

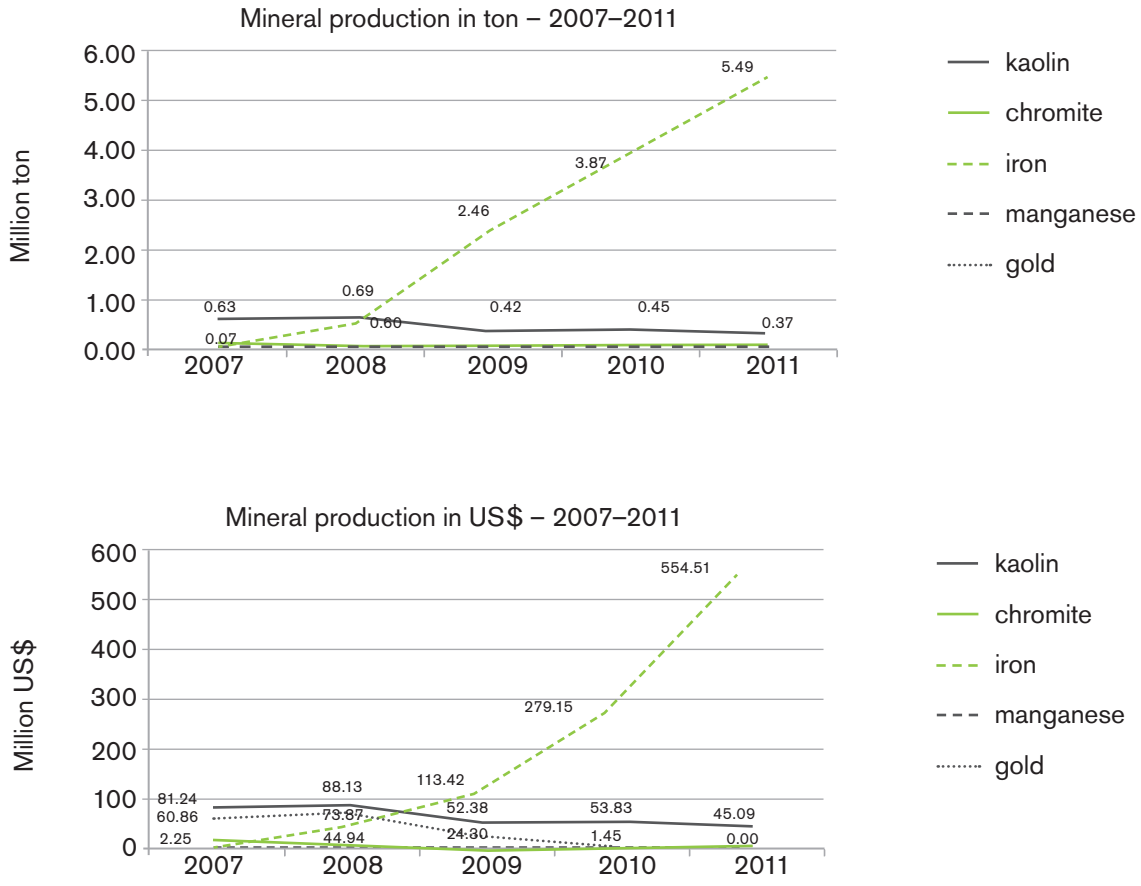
The scenario in Amapá reflects a national trend in Brazil. Agribusiness is growing in importance for Brazil's GNP, and therefore also politically. In 2012 the Brazilian Congress passed forest legislation that was perceived by most environmentalists as taking a step back from environmental commitments and surrendering to unsustainable agriculture. The Forest Code sets general rules for land occupation in Brazil. It allows the consolidation of land deforested before 2008. This is perceived as an amnesty for illegal deforestation, and may encourage further deforestation. In 2013, there was a tense debate in Congress over indigenous peoples' lands, which may result in other setbacks for environmental conservation and indigenous peoples' rights. The trend towards non-inclusive, environmentally-unsound growth is led by pro-agriculture lobby organizations and some members of the Brazilian National Congress.

At the same time, an important initiative is being led by IEF. By encouraging legal logging of small, medium and large forest areas by the private sector and local cooperatives through forest concessions, illegal logging is expected to decline. The first public notice offering 150,000 hectares of native forest was released in December 2013. Public hearings were carried out in March in three municipalities engaging representatives from various sectors of society (students, local communities, traditional population, government staff, private sector). The auction is expected to occur in April 2014. According to a recently finished zoning, the potential areas of forest concessions in Amapá is around 1 million hectares.

Mining activities, too, are increasing in Amapá (Figure 3), with the development of the sector being seen as central to Amapá's economy in the future (Figure 4). Yet mining growth interests also pose a threat to legally protected areas such as the FLOTA. There is growing political pressure to reduce the area under environmental protection by the State Assembly. In addition, big mining interests are pressing for more infrastructure development (especially roads). Small

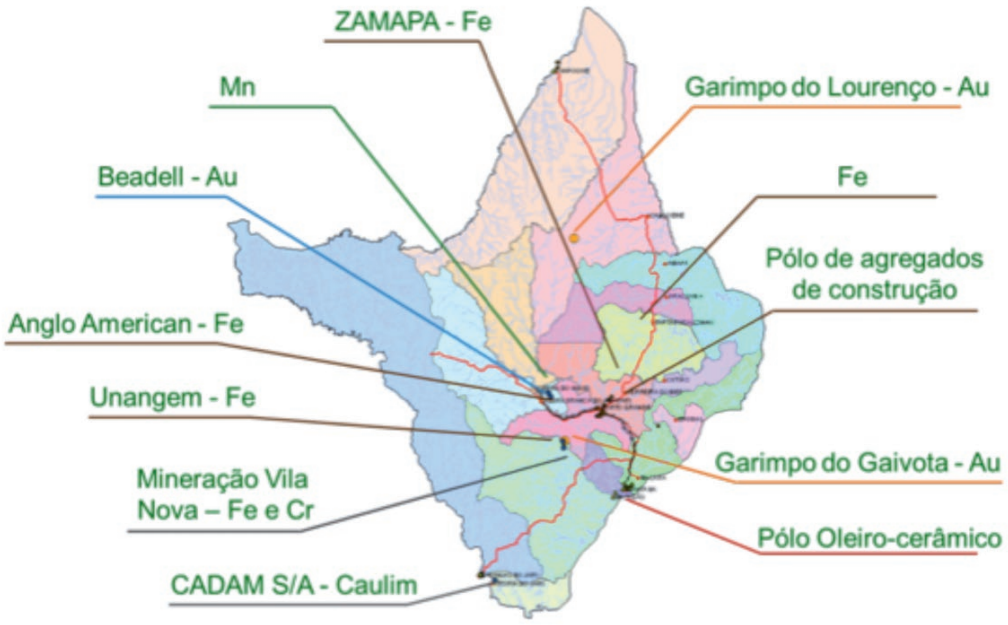
[4] The term 'sustainable development' is more widely used in Amapá's discussion. The term 'green economy' is still unclear to many stakeholders and one of the objectives of this collaborative programme was to clarify it. Some stakeholders still prefer sustainable development, both for historical reasons (earlier programme on sustainable development of Amapá – PDSA) and for ideological reasons (some left-leaning people see green economy as not necessarily socially inclusive, reflecting perhaps much of the international discussion and initiatives until recently). In practice, we are talking about getting economic and market signals right for SD.

Figure 3. Production and economic returns from mining in Amapá.



Source: SEICOM, 2012.

Figure 4. Map of current mining projects in Amapá.



Source: SEICOM, 2012.

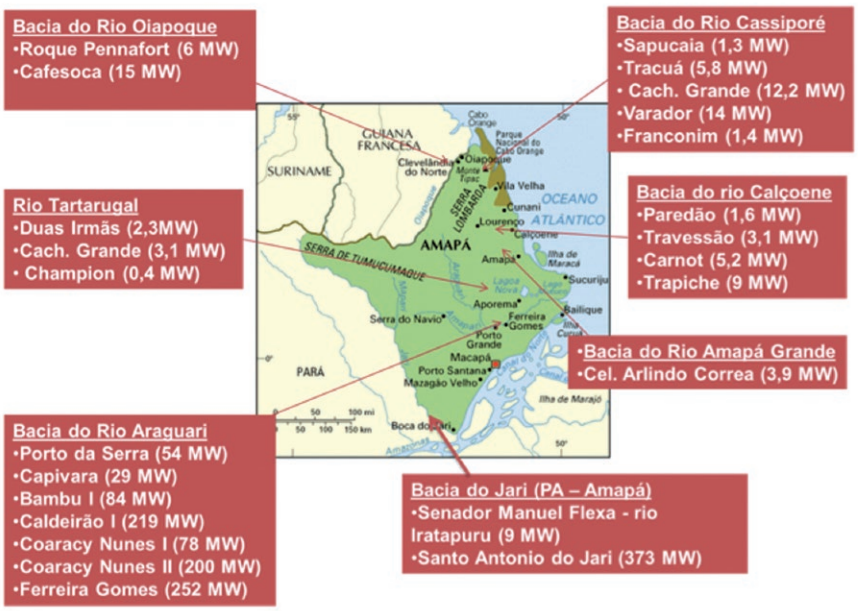
scale gold mining is a significant driver of environmental degradation, especially in Lourenço, Vila Nova and Oiapoque, with mercury pollution a very serious issue and a major contaminant of fisheries. Brazilian gold miners have also encroached illegally into French Guiana, creating similar problems.

There are increasing pressures to install major infrastructure to support the growth of other sectors. The connection with French Guiana offers great trade opportunities for Amapá; for example, the BR-156 road is being paved and the binational bridge is being completed. There is also the intention to pave the remaining sections of the BR-210. The redevelopment of the Santana port aims to expand it so that it can handle grain from other parts of Brazil. Amapá may receive products for French Guiana, as well as promote greater trade relations with this country and the rest of the Guyana plateau, opening up prospects for agricultural and livestock products, among others. Consolidating the state's logistical infrastructure is expected to enhance Amapá's economic performance. Yet several studies indicate that roads, especially paved roads, are significant drivers of deforestation (Soares-Filho et al, 2004; Soares-Filho et al, 2006; Nepstad et al, 2002). Therefore, it is essential to think of strategies to control deforestation and degradation along the roads.

The Government of Amapá has now received a loan of US$2 billion from Brazil's Development Bank (BNDES) to invest in road construction and paving. The federal government has also secured funding for paving road BR 210. These investments will pose a threat to indigenous land (Ueça) and protected areas (RESEX Cajari) if they are not complemented by investments in environmental control and sustainable development programmes.

While a green economy suggests a clean energy mix, 70 per cent of power generation in Amapá is currently derived from the burning of diesel oil (Eletronorte 2012). But there are efforts underway to change this situation. The integration of the state into the National Energy Grid (SIN) is one example; another is the new hydroelectric dams planned to generate some 1,000 MW (Figure 5). These will eventually replace the energy supply from the Santana thermoelectric plant and may even turn the state into an exporter of clean energy through the SIN (CEA, 2012). However, this will also increase the pressure on natural ecosystems and traditional communities, which are subject to flooding and other impacts associated with hydroelectricity projects in the Amazon. Alternative green options, such as the use of waste, solar, wind, biomass and small or micro hydro plants, could offer intelligent solutions to the issue at least for particular localities, and possibly generate

Figure 5. New hydroelectricity projects in Amapá.



Source: CEA, 2012.

carbon credits through the Clean Development Mechanism (CDM). The Ferreira Gomes hydropower project is already developing a CDM project on the basis of avoided emissions by substitution of diesel powered generation.

Agriculture, forestry, mining, infrastructure and energy are therefore clearly the drivers of Amapá's future development. Each of these sectors is intimately tied to the quality of the environment. It is possible, at least for the short term, to develop the sectors without respecting these environmental linkages. But if Amapá's development is to be productive, enduring and resilient for both this generation and others to come, economic policy should nurture environmental assets such as forests, limit environmental hazards such as pollution, and aim at markets that are willing to pay for such benefits. Furthermore, it is also important to pursue these approaches to economic development in ways which are inclusive of the people who most depend on environmental assets and are most vulnerable to environmental hazards (the poor), and who have most knowledge of how to manage them well (from indigenous groups in the forest to best-practice mining companies). This might be called 'inclusive green economy'. To be truly embedded as an approach, it needs to make the green agenda fundamentally a human one – connecting to the everyday realities of jobs, livelihoods, health and human wellbeing.

There are precedents – the sustainability agenda is largely supported, at least in spirit, by Amapá's population. Although most of the population is urban, there are strong family and cultural ties to forest populations, who are seen as knowledgeable about the environment but impoverished and in need of special supportive policies. This creates a favorable public context for green policies such as the Pro-extrativismo Programme to succeed. The success or failure of this programme may become an important factor in the state elections in 2014, which will coincide with presidential elections.

Both current and previous administrations have maintained a pro-green agenda so far. This scenario may weaken if the economic and political landscape of Amapá divides along big fault-lines driven by mining, agriculture and energy interests. The challenge is to avoid or bridge the fault-lines, identifying ways of reconciling mainstream economic growth (mining, agriculture and energy) with innovative social and environmental agendas. Inclusive green economy, as a way of getting environmental and social value from all economic production, would seem to be attractive.

Amapá's governor and some cabinet members made an important visit to the InterAmerican Development Bank (IDB) in Washington in May 2013. A start-up grant of US$300,000 was approved by IDB in December 2013 to promote timber management in settlement projects, with capacity building, support to forest inventories and licenses, improvements to forest governance, and to design a mechanism for the long term sustainability of the project, which includes REDD+. This began the design of a US$7 million project, US$2 million of which is a grant (to build the capability to produce environmental services) and US$5 million as a loan to the State government. The loan is to be used as credit to forest producers in the second phase of the Pro-extrativismo Programme; Amapá's Development Agency (AFAP) will lend to forest producers at lower than normal rates on the basis of the 'bioclimatic services' generated by their improved forest management practices. AFAP receives the rights over these services as a compensation for its lower interest rates. AFAP then transfers the credits of these bioclimatic services to IDB, which will in turn reduce the debt of the loan accordingly. Amapá State will make an additional co-investment of BRL 3.5 million.

This initiative could generate a potentially conceptual breakthrough and could encourage IDB to further move into the green agenda. However, there is a need to better quantify these bioclimatic services as well as their value.

In addition, the Amazon Fund, with resources from Norway and managed by BNDES, has approved a BRL 40 million project that will give a huge boost to Amapá's 'Sociobiodiversity' production chains, with an emphasis on açai, timber, Brazil nuts and fibres. Significant investment will also be made in the Amapá Research Institute (IEPA) to help it prospect for biodiversity and new pharmaceutical and therapy products. All of this bodes well for the generation of a vital and inclusive new forest-based green economy.

Green economy options and pathways for Amapá

4

4.1 Elements of an Amapá Green Economy Programme

We have described how different countries have diverse approaches to green economy, depending upon resource endowment, who controls it, opportunities for sustainable practice to be profitable, and political context. The March 2012 seminar on Green Economy in Amapá, held by the State government in association with IIED, identified four types of sector in Amapá´s economy:

(i) high economic dynamism, secured finance and high social and environmental impacts – such as mining, infrastructure and commercial agriculture;

(ii medium to low economic dynamism, non-secured finance and low social and environmental impacts, such as forestry;

(iii) government-based economy; and

(iv) environmental services.

Each type tends to be distinguished by different levels of investor interest and capital availability, dependence on government funds, impacts on livelihoods and environmental impacts. Each of these sectors also has different financial, technical and political requirements, and therefore requires different strategies to promote green economy in Amapá.

The March 2012 Seminar discussed the possibilities for greening the different sectors; Table 1 notes the main policy agenda for each sector, so as to promote changes from 'business as usual' towards more inclusive, greener and more enduring development. In addition, Table 2 summarises the cross-sectoral policies that were suggested as having potential to enhance achievements within each sector, especially by encouraging synergies between economic, social and environmental goals. For example, in the case of mining and energy projects, there is the potential to develop funds to promote payment for environmental services and programmes to support the sustainable management of fisheries. Such locally-funded initiatives could become a catalyst of innovative land use management practices. Amapá and other Amazonian states have a number of research institutions with diverse technical alternatives for sustainable resource management, and now is the time to explore and scale them up. International funds, managed by IDB or BNDES (Amazon Fund) could become additional sources of funding. Having a structured set of sectoral green economy policy frameworks would be very important to create better coordination between sectoral policies as well as to gather political support for the green economy agenda.

In addition to sectoral policies, cross-sector actions can be taken to push forward the green economy agenda in Amapá. Some of the possibilities discussed in the March 2012 Seminar are listed in Table 2.

4.2 Sectors with high economic dynamism, secured finance and high social and environmental impacts

These sectors include investments on infrastructure development (roads and housing), energy, mining and commercial agriculture (including plantation forestry). Financing for infrastructure development (roads and housing) comes from public funding from the Federal government; and the Amapá government has received a loan of BRL 1.5 billion from the BNDES for infrastructure. Financing for energy, mining and agriculture is mostly private, although sometimes funded by BNDES or other government institutions.

Many of these sectors have previous experiences on which to build greener, more inclusive approaches. Plantation forestry, for example, has FSC-certified operations that can serve as a reference to expand production of sustainably managed forest products, and legally harvested timber can be stimulated by government purchases in the construction sector. Embrapa has developed agricultural and forestry technologies that can be used to guide expansion of rural production, in ways that nurture ecosystem services, such as low carbon agriculture and agroforestry systems. In Costa Rica, both the energy and water sectors contribute to a fund that pays for the maintenance of forests, through a percentage of fuel and water taxes respectively. Energy and mining investments are being pressed by environmental legislation to improve old practices so as to reduce environmental impacts and increase social benefits. Some of the pathways towards green economy for those sectors are described in Table 3. They each need to be explored in detail in Amapá. The main way forward initially will be applying best available current practices in both government and corporate toolkits, and carefully monitoring their use to ensure learning and continuous improvement. Best available practices may sometimes be those used in neighboring states, as we explore in Section 6.

Table 1. Sectoral policy opportunities to support the transition to green economy in Amapá.

SECTOR	AGENDA
Mining	Environmental licenses simplified and longer lasting
	Stimulus for independent certification of sustainable production
	Socio-environmental fund to promote green economy locally
	Programme to support local service providers to the mining industry
Energy	Paying for carbon: support local green economy through environmental compensation of services provided by forests.
	Incentivize alternative energy sources such as solar, wind and biomass.
	Provide low cost energy to small towns and rural populations.
Transport and logistics	Additional support for local green economies along the roads such as agroforestry and avoided deforestation (REDD+)
	Environmental compensation from infrastructure investment, especially roads, in addition to the requirements of environmental legislation.
	Promote water-based transportation
Urban economies	Industrialization of regional products
	Waste management, including through informal actors
	Improve water management systems and use.
	Greening construction industry standards, materials and energy
	Improve and promote public transportation
	Promote cycling as a means of transportation
	Strengthen local sales and services in coordination with government spending
	Improve sewage system
Fisheries	Manage natural stocks (create estuarine reserves, promote fishing accords, revise closure periods based on science, monitor and control fishing activity)
	Stimulate fish farming that meets sustainability standards
	Promote fish processing (industrial districts for fisheries, attract new industries)
	Stimulus for independent certification of sustainable production
Agriculture	Promote and facilitate technological innovation
	Strengthen rural extension
	Promote greater value for products through processing
	Improve logistics and commercialization
	Stimulate cooperatives
	Improve access to credit
Forest and Environmental Services	Improve açaí management to assure joint economic, social and environmental benefits
	Promote legal forest management, especially timber production.
	Improve Brazil nut value chain
	Stimulate planted forestry, through agroforestry and monoculture
	Promote Payment for Environmental Services mechanisms such as REDD+

Table 2. Cross-sectoral policy opportunities to support the transition to a green economy.

POLICY AREA	AGENDA
Knowledge	Increase knowledge on resource availability and use – natural capital stocks, additions/deletions, flows, uses, users and impacts
Land tenure	Promote secured land tenure in partnership with Federal Government, to provide incentives for long-term sustainable management
Communication	Disseminate ideas on green economy through targeted campaigns, including cataloguing proven solutions that are profitable in different sectors
Government spending	Revise government spending in search of opportunities to increase efficiency in energy and water use, and reduce environmental risks
	Sustainable public procurement – increase purchases from local sustainable producers
	Promote energy and water savings e.g. through reduction targets and shifting subsidies

Even if there are technological alternatives available, a 'business as usual' policy environment is likely not to favor economic actors taking them up. An 'inclusive green' enabling policy environment is needed, with public policies incentivizing the private sector towards green economy pathways. To achieve this will not be easy: political barriers to policy changes will need to be overcome. Dialogue and engagement of leaders of various sectors is at the same time a challenge and a necessity. The strategy is to develop sectoral negotiations between governmental institutions and business in open and transparent ways – working to support existing positive trends in business and learning from them. Inclusive green economies are more likely to be shaped by 'working with the grain' of progressive business rather than proposing something completely alien. However, it is also important to challenge business where needed. This involves strengthening the role of civil society, which in Amapá has called for more participation and transparency in the decision making process of mining and infrastructure projects. Good companies working in these fields are keen to acquire

Table 3. Green economy pathways for sectors with high economic dynamism.

SECTOR	GREEN ECONOMY PATHWAYS
Infrastructure	Plan investments associated with road building and paving so as to reduce deforestation and support sustainable agricultural and forestry production by local populations.
Mining and energy	Change environmental licensing so that licenses are issued for longer periods, with lower transaction costs, and with incentives for independent certification schemes recognized by governmental agencies
	Social and environmental investments funded by mining and energy companies at larger scales than at present through innovative institutional arrangements – such as a green fund managed by non-governmental organizations
	Targets for mining and energy companies to increase purchases and contracts with local providers so as to improve job and wealth creation in Amapá
Large scale agriculture and plantation forestry	Improve the regulatory framework for land use change on the basis of ecological zoning in open and transparent ways, with strong involvement of the scientific community and local people
	Effective implementation of the new forest legislation so as to secure adequate protection of legal reserves and permanent protection areas

their 'social licence' to operate. For example, there is particular civil society concern that investments such as the construction of the Tucurui energy transmission line have had negative impacts, such as increasing prostitution and diseases such as malaria.

4.3 Sectors with medium to low economic dynamism, non-secured finance and low social and environmental impacts

Sectors such as small-scale agriculture, fisheries, tourism and forestry (both timber and non-timber products like açaí and Brazil nut) are characterized by medium to low economic dynamism, non-secured finance and low social and environmental impacts. They include several traditional land-based activities. There tend to be fewer vested interests within the sector that act against environmental sustainability, but equally not enough with effective interest in improving environmental asset management and adding value. Here the challenge is to stimulate the sector through green economic activity that improves the long-term value realization from natural resources – tackling the limiting factors that prevent greater economic activity and productivity, job creation and environmental conservation. This can be done using participatory methods and multi-stakeholder negotiation processes. This sector is being supported by specific state policies for natural forests (Pro-extrativismo), natural fisheries (PROPESCA), small-scale agriculture (PROTAF) and cattle farming (PROPECUÁRIA). These programmes are funded by 3 per cent of state sales tax and support the adoption of best management practices and aim to increase income generation. The Pro-extrativismo Programme is considered a payment for environmental services programme and will be described in detail in section 5 of this paper.

An interesting example of increasing economic dynamism in these sectors comes from the Sambazon company. Sambazon (Açaí Amapá Agro Industrial Ltda) exports around 11,000 tons of açaí berry from Pará and Amapá each year to the United States. In Amapá, the company reports that it has partnered with about 10,000 farmers or gatherers of açaí, and its processing industry in Santana employs 80 people. From a marketing strategy based on the nutritional benefits of the berry, along with Amazon conservation, and quality assurance through certification of organic production and fair trade practices, the company's products have guaranteed space in high-value, environmentally- and health-conscious North American markets, making it is one of the fastest growing companies in the United States. The company sells juices, vitamins and pulps from açaí in food stores nationwide. In 2003, the company founded the Sustainable Amazon Partnership as part of its business model based on conservation through market mechanisms. The goal is to combine private initiative with local partners in search of forest management, job creation, improving life standards and education opportunities for the local population (Sambazon, 2012).

But Sambazon is not the only example. These sectors have other existing green economy activities to build on. IEPA, Embrapa and UNIFAP have developed agroforestry and forestry technologies that can be used to guide the expansion and diversification of rural production, such as cassava, beans and corn. Adoption of these technologies has been limited to date, as a result of the lack of strong and well-equipped rural extension, poor roads to enable marketing of produce, and high level of indebtedness of producers, association and cooperatives, which blocks their access to credits and other public policies. Another limiting factor is the low level of education of rural people; the great majority has not completed basic education, and young people are leaving rural areas. Institutions like IEF have increased greatly the availability of new technologies but there is a need to improve agricultural and forestry extension.

Land tenure and access to credit present additional challenges. Clear land tenure is essential to incentivise legal timber production but many poor producers do not have land titles. Access to credit is similarly often limited by a lack of documentation and poor technical assistance. There is therefore a need to strengthen institutions that provide these services. A recent US$25 million project from the Amazon Fund/BNDES now presents a great opportunity to boost technical assistance and overcome barriers to a green economy in these sectors.

4.4 Government-based economy sector

The population of Amapá is mostly urban and the economy is similarly urban-based. Given the dominance of government administration and social programmes in the state's economy, the adoption of green practices by governmental institutions could be a key component of a broad green economy policy for Amapá. There are few examples at present, but potential practices can include:

(i) Improved governmental purchases to favour sustainably-produced local goods and services

(ii) Improved management of government institutions.

Improved governmental purchasing can have significant impacts on poverty as they can favour small-scale agriculture, non-timber forest products from extractivist populations and fish from local communities. Amazonas State has introduced a number of these policies with positive results, such as eliminating taxes on non-timber forest products, simplifying environmental legislation for small scale timber production, investment in processing plants of wild fruits, forestry extension and payment for environmental services through the Bolsa Floresta Programme (Viana 2010). Other potential opportunities for sustainable public procurement might be more urban-based e.g. partnerships with small enterprises and community groups to recycle waste.

The improved management of government institutions can reduce consumption of energy, water and other resources as well as generate savings. Management of government institutions should also focus on training staff on green economy issues – helping them to make social, environmental and economic 'win-wins' and informed trade-offs where win-wins are not possible. Staff must also be given incentives to think and act in this way, instead of remaining 'siloed' within their bureaucratic or professional confines. Such activities can have a significant long-term impact on the quality of decision-making.

Given that governmental activities are responsible for about half the economy, investing in improved management of governmental institutions and their performance is of strategic importance. This is a focus of the current government. The government of Amapá contracted Fundação Getulio Vargas to propose a major restructuring of governmental agencies and programmes. A challenge is to secure long-term commitment to these changes, as there will be elections for a new governor in 2014. Another challenge is to go beyond institutional reform and implement management changes. These kinds of change, and the associated capacity building of government bodies, are essential to promote green purchase policies and management guidelines. Political barriers to these policy changes will not be easy to overcome.

4.5 Environmental services

Global environmental services are an area of great potential for Amapá's green economy agenda, but one which has only begun to develop, specifically the service of carbon storage. There are initiatives from the private sector (*Jari Florestal*), which has validated a REDD+ project under Verified Carbon Standard (VCS). Amapá's Forest Institute, along with the National Institute of Amazonian Research (INPA) and Embrapa, has carried out a forest carbon inventory, which provides an important scientific basis for REDD+ policies[5] (IEF, 2012). However, the federal government of Brazil has not yet decided on how to share carbon rights with Amazonian states. A proposal presented by Amazonian states suggests that the federal government keeps 20 per cent and transfers 80 per cent to states, which would have greater responsibility in implementing policies to reduce deforestation and degradation. The proposal also uses a carbon 'stock and flow' formula for allocation, with 50 per cent weight for each component. If this is eventually formalized, Amapá would be entitled to 300 million tons of CO_2e.[6]

In addition to REDD+ revenues, payment for environmental services initiatives could be developed for other services, specifically biodiversity and cultural services. The challenge is to make sure they are cost-effective and inclusive. The sector with high economic dynamism, secured finance and high social and environmental impacts is the natural target. Within this sector, mining and energy projects should be prioritized: they could help to develop green funds; and they have potential for fair partnerships and joint enterprises with communities.

[5] An initial analysis of Amapá's forest biomass was published for Rio+20 and IEF is planning to publish a second edition in 2014 with updated data. http://www.ief.ap.gov.br/

[6] http://www.gcftaskforce-database.org/StateOverview/Amap%C3%A1

The Pro-extrativismo Programme – a pioneer option

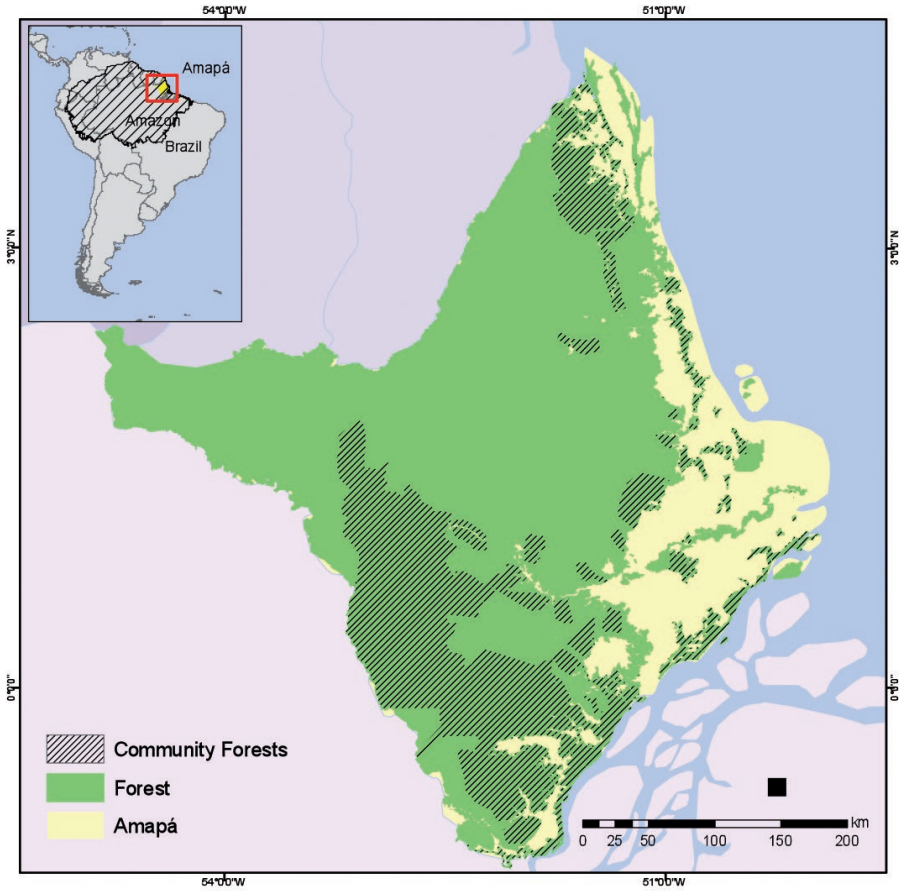
5

The Pro-extractivism Programme (PEP), launched in September 2012,[7] was chosen by Amapá's Government as the first programme to implement the green economy in Amapá. The choice was based on the social, environmental and economic characteristics of the forest sector. This is a sector with low income and high poverty, combined with a potential to produce significant environmental benefits if forests are well-managed, along with good economic prospects for local people – since demand for açaí, *titica liana*, Brazil nut and sustainably produced timber is increasing. The PEP objective is therefore to support the sustainable use of forest resources as a part of a strategy to promote forest conservation and reduce poverty. PEP has a focus on four indigenous forest products, each of which offers potential to increase dynamism and attract investment in the forest sector:

1. Açaí berry – *Euterpe oleraceae* (food). Açaí occurs mostly in floodplain forests. Total açaí production in 2012 was 1893 tons, most of which is processed and consumed inside Amapá.
2. Brazil nut – *Bertholetia excelsa* (food). Brazil nut occurs in an area of 2 million hectares, mostly in the southern part of Amapá. Production is mostly for exports outside of Amapá. The value chain highly undervalues brazil nuts at the level of the producers who tend to receive low prices.
3. *Titica liana* – *Heteropsis spp.* (furniture and crafts). Titica liana is a type of cane that occurs throughout the state.
4. Timber – various species and uses. Most (70–90 per cent) of the timber marketed in Amapá is illegal and produced unsustainably (SFB & Imazon, 2010). Most of the legal timber comes from small managed areas held by timber companies on the basis of contracts with small farmers.

Community forests account for 31 per cent of the state's total forest cover (Figure 6). But people who live in these areas have a human development index significantly lower than the state's average, and most families participate in federal and state cash transfer programmes. One strategy for overcoming this dependency on state transfers is to promote entrepreneurship through incentives for sustainable production.

Figure 6. Community forests in Amapá.



Source: CGTIA/SEMA, 2012

[7] http://www.ief.ap.gov.br/conteudo/lista_documentos/21

The GDP of non-timber forest products of Amapá was BRL 204 million in 2009; representing about 3.07 per cent of total Amapá economy (Carvalho, 2010). This difference is probably due to different methods of data collection and reflects a more general challenge of having more accurate data on non-timber forest products, which are mostly in the informal economy. The PEP strategy is to promote better forest management practices through a variety of investments along the different stages of forest product value chains, aimed at improving returns to producers and improving environmental performance.

PEP is led by IEF, in partnership with several governmental institutions. Responsibilities are accorded as described below:

1. Planning and coordination – IEF and the Secretariat of Rural Development
2. Technical assistance to forest producers – IEF and Rural Development Institute (RURAP)
3. Land tenure regularization – Federal Secretariat of Federal Properties (SPU), National Institute for Agrarian Reform (INCRA) and Institute of Environment and Zoning (IMAP)
4. Financial support to producers with loans and grants – Amapá's Agency for Economic Development (AFAP) and the 25% of the Rural Development Fund (FRAP) managed by SDR (which derives from 2% of State ICMS).
5. Environmental licensing – Amapá Institute for the Environment (IMAP)
6. Training, technical education and research – Secretary of Environment, Secretary of Science and Technology (SETEC), IEPA and Embrapa.

PEP investments are flexible according to the needs of rural producers and the characteristics of the forest products targeted, and include the following categories:

1. Technical assistance and training (including forest management plans for timber production)
2. Equipment and supplies, including safety equipment for forest workers
3. Silvicultural treatments – such as thinning
4. Logistics and transportation – such as tractors.

PEP is a non-conventional type of payments for environmental services (PES) scheme in which forest producers receive grants and loans to invest in implementing sustainable forest management practices, as well as other types of assistance. The aim is to enable them to increase productivity and to access markets on more favourable terms, at the same time as ensuring the continued production of environmental services. The rationale is that unsustainable harvesting practices currently practised in the sector are reducing the environmental services provided by forests. With investment in better management practices, forests will provide more environmental services and be more productive than they would if current poor management practices persisted. Harvesting forest products will generally involve some loss of ecosystem services when compared with untouched natural forest; an extreme is if forest resources become so degraded that this leads on to full conversion to agriculture. But, as illustrated in Figure 7, PEP aims to offer incentives to change the management and land use trajectories associated with each forest product so that the loss of ecosystem services is considerably lower than under business as usual. Grants and low interest loans received by forest producers to improve their management practices can thus be described as a type of payment for ecosystem services.[8]

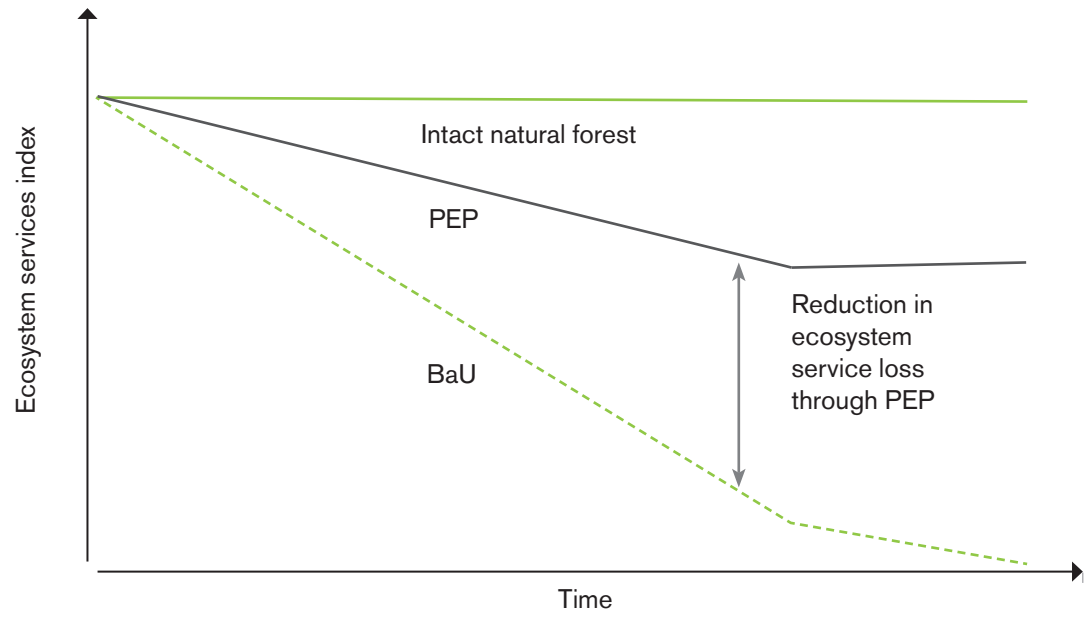
A principal example being pursued at present by PEP is forest management for açaí berry production. In order to increase production, native forests are usually thinned to provide more light for young trees. This 'business as usual' management practice often leads to careless and excessive reduction of tree diversity and abundance. This results in biodiversity losses. Well-managed forests, on the other hand, can combine limited thinning to increase productivity with maintenance of tree diversity. Thinning intensity has been well studied by Embrapa and other research institutions. The improved management practices sought by PEP, and their associated environmental benefits are set out in Table 5 for the full range of products in the PEP scheme.

Under PEP, each participating family is required to sign a commitment to adopt the good forest management practices summarized in Table 4, comply with environmental legislation and to provide production data for monitoring purposes. To date 1,200 PEP participants have been registered, and the first tranche of the payment has been made to 350 producers for açaí management and to 13 timber producers as part of a pilot project. In 2014, it is planned to incorporate 200 brazil nut producers and 50 timber producers in addition. IEF is implementing a monitoring programme to track the benefits for those participating in the programme.

The payment level is based on the budget needed to implement good forest management practices (Table 5) rather than on approaches commonly used with other PES schemes: estimates of opportunity cost for alternative uses of the land; or an estimate of the ecosystem services delivered and their value. The benefit to the producers is not from the payment directly,

[8] The FRAP fund issues 60% of its funds as grants and 40% as low-interest loans. The PEP vision is that the more vulnerable producers will access a grant in the first year, and will receive forest extension expertise to help them implement good practices. They will also receive credit/loan education classes from FRAP so that, from the second year, the producer can access a small low-interest loan and become an entrepreneur.

Figure 7. PEP aims to offer incentives to reduce the loss of ecosystem services



Under a 'business as usual' scenario (BAU) natural forests of Amapá tend to face degradation and forest conversion. PEP is intended to facilitate a transition to more sustainable management practices which can both reduce ecosystem service loss and promote reduction of poverty. Source: Maryanne Grieg-Gran.

Table 4. BAU practices and expected environmental and other benefits from PEP.

PRODUCT	BAU	EXPECTED ENVIRONMENTAL BENEFITS FROM PEP
Açaí	Uncontrolled harvesting and thinning practices, low productivity, small production	Reduced forest degradation through better harvesting and thinning practices. Increased family revenue, improvement of forest governance
Brazil nut	Use of fire as a part of harvesting practices, Loss of nuts from inadequate storage and transportation Quasi-slavery trade system	Decreased forest degradation through reduced use of fire Better price, increased family revenue, improvement of forest governance
Titica liana	Unsustainable harvesting which kills plants Illegal harvest	Reduced forest degradation through good forest management practices Better price, increased family revenue, improvement of forest governance
Timber	Uncontrolled and illegal timber harvesting by forest users and owners	Reduced forest degradation through good forest management practices and better prices for legal timber. Better price, increased family revenue, improvement of forest governance
All	Conversion of forests into agricultural land uses	Reduced deforestation Biodiversity and watershed conservation Social inclusion

Table 5. Investments by PEP.

PRODUCT	NUMBER OF PARTICIPATING FAMILIES	INVESTMENT PER FAMILY (BRL $)	TOTAL INVESTMENT (BRL$)	FOREST AREA (HA)
Açaí	1,200	1,500.00	1,950,000.00	6,000
Brazil nut	500	1,500.00	750,000.00	15,000
Titica liana	200	1,000.00	200,000.00	2,000
Timber	100	3,500.00	350,000.00	5,000
TOTAL	**2,000**[10]	**-**	**BRL 3,250,000.00**	**28,000 ha**

as they invest this in the forest management system, but from the resulting improvement in productivity and/or prices. According to Embrapa, açaí productivity can be up to four times higher than in poorly managed forests. PEP participants also gain the opportunity to receive higher prices for their products through access to the minimum prices scheme (PGPM)[9] in the case of Brazil nut and to a market for legal products in the case of titica liana.

In this respect PEP is not a conventional PES, although it bears similarities to schemes focusing on tree planting for carbon sequestration. For example, in the reforestation component of the national PES scheme in Costa Rica the payments cover a proportion of the planting and establishment costs, and the benefits to landholders are from the sale of mature harvested timber later on (Porras et al 2013).

The gross revenues that participating forest owners are expected to receive from PEP vary from BRL 5,000 to 52,000 per family per year (Table 6). This gives some indication of the potential benefits for PES participants, a big part of family income. However, to have a more accurate estimate of the benefits it would be necessary to estimate revenues net of production costs (costs are higher for timber production than for non-timber forest products). It would also be important to compare these with net revenues under traditional management practices. Further technical studies are needed to estimate the net financial benefits received by forest owners as a result of the PEP investments, and to assess any associated less tangible benefits such as improvements in capacity, and working conditions.

The principles and assumptions behind the PEP PES scheme do appear to be sound, but a scientific

Table 6. Economic impact of PEP investments.

PRODUCT	FAMILIES	AREA PER FAMILY (HA)	PRODUCTIVITY	TOTAL PRODUCTION PER FAMILY	VALUE PER UNIT (BRL)	TOTAL ANUAL FAMILY REVENUE
Brazil nut	500	30	3.3 hl/ha	100hl	50–100	5.000–10.000
Açaí	1200	5	80 bags/ha	400 bags	50–100	20.000–40.000
Titica	200	10	200 Kg/ha	2000kg	4–8	8.000–16.000
Timber	100	50	15m^3/ha	750m^3	30–70	22.500–52.500

[9] Política de Garantia de Preço Mínimo
[10] Some families manage more than one product i.e. the total number of distinct families may be lower than 2000

approach will need to be brought to the programme, with good learning, monitoring and adjustments as well as assessment of the extent of ecosystem service improvement actually delivered by the programme. This would require some quantification of the business as usual scenario and the loss of ecosystem services of interest such as carbon stocks and biodiversity, and the relative improvement that can be expected with the PEP. This would establish the extent of additionality in relation to 'business as usual' production systems. Such analysis would need to make a clear distinction between traditional management, intensive management systems and low impact management systems.

PEP presents strengths and weaknesses when analyzed from a green economy perspective (Table 7). On the one hand, it is inclusive of a socially marginalized population, increases social and environmental resilience, and has the prospect of achieving significant conservation goals. On the other hand, the success of the programme relies heavily on good quality forest extension that can reach forest producers and change their behavior, and scientific monitoring to assess the actual environmental changes. A cost-benefit analysis is therefore recommended to assess the impacts of PEP, including the net economic gains for producers, other social impacts, and environmental impacts of managed forests compared to 'business as usual'.

Understanding and awareness of the PEP scheme, and access to it, are clearly also important for it to realize its potential for small businesses to leverage local green economy.

Table 7. Analysis of PEP from a green economy (GE) perspective.

GE CRITERION	PEP POTENTIALS AND POSITIVE IMPACTS	PEP WEAKNESSES AND NEGATIVE IMPACTS	RESEARCH NEEDS
Increase natural resource productivity	Managed forests have higher productivity than unmanaged or poorly managed forests	Dependent on good quality forestry extension	Document productivity in managed forests relative to poorly managed and unmanaged forests.
			Document indicators of forestry extension.
Reduce climate change	Managed forests can have more carbon stocks than poorly managed forests	Dependent on good quality forestry extension. Monitoring is a strategic challenge.	Document final carbon stocks in managed forests relative to poorly managed and unmanaged forests.
Reduce deforestation	Managed forests are more sustainable than poorly managed forests, diminishing decision to clear forested lands	Profitability of other land uses (such as grain) may influence individual decision on land use activities	Monitor land cover change and drivers of deforestation
Sustain biodiversity and ecosystem services	Managed forests have more biodiversity than poorly managed forests	Dependent on good quality forestry extension Very new topic for forest producers.	Document final tree diversity in managed forests relative to poorly managed and unmanaged forests.
			Document indicators of forestry extension
Build ecosystem resilience to damaging change	Managed forests are more resilient than poorly managed forests	Dependent on good quality forestry extension	Document resilience of managed forests relative to poorly managed and unmanaged forests.
			Document indicators of forestry extension

GE CRITERION	PEP POTENTIALS AND POSITIVE IMPACTS	PEP WEAKNESSES AND NEGATIVE IMPACTS	RESEARCH NEEDS
Build social resilience to damaging change	PEP secures profitability of extrativism through subsidy	Dependent on government funding and support	Document diversity of household activities and reliance on PEP
Improve equity and inclusion	PEP funding targets poor social groups	Managed forests may be less economically attractive to poor groups for some products, in some circumstances than unmanaged or poorly managed	Document social profile of PEP recipients in relation to the total population of extractivists.
			Evaluate profitability of managed versus unmanaged forests for the specific forest products
Increase income	Managed forests provide higher income over long term than unmanaged or poorly managed forests	Managed forests may be less attractive economically for some products, in some circumstances than unmanaged or poorly managed forests.	Document net income in managed forests relative to poorly managed and unmanaged forests.
Economic growth multiplier	Managed forests increase production and incentivize investment along value chains of forest products in Amapá	Managed forests may be less attractive economically for some products, in some circumstances than unmanaged or poorly managed forests.	Document net income in managed forests relative to poorly managed and unmanaged forests.
			Document investments along the value chain

Reflections on experience from Amazonas State to inform the Amapá Green Economy Strategy

6

Amazonas State has now had several years of experience of implementing a number of innovative policies as a part of its sustainable development programme, *Zona Franca Verde* (Viana, 2010). In order to see some of these initiatives in practice, Amapá's Governor Capiberibe made a high level 3 day visit to Amazonas with the heads of the several Amapá State government institutions:

- Amapá's Forestry Institute
- Secretariat of Rural Development
- Institute of Environment and Zoning (IMAP)
- Amapá´s Agency for Economic Development (AFAP)
- Secretary of Environment
- Secretary of Science and Technology (SECT)

In addition, the president of the National Council of Extractivist Populations (CNS), a grassroots organisation participated at the suggestion of Virgilio Viana.[11]

The governor's visit was extremely successful. His team was received at the highest level. The governor himself led the discussions with the host organizations, and the format allowed Amazonas cabinet members to go into considerable detail on their ideas and views. The process of exploring the long practical experience of Amazonas host institutions cleared several doubts; that Professor Viana himself had led the implementation of Amazonas' Green Free Trade Zone for several years following 2003 conferred considerable credibility.

Lessons learned from the Bolsa Floresta Programme in particular served as an important reference for the PEP strategy.

GREEN FREE TRADE ZONE

The Green Tax Free Zone (Zona Franca Verde, ZFV) Programme was created in Amazonas State in 2003. The Programme was conceived as a set of cross-sectoral policies aimed at promoting sustainable development. As such, it offers an enabling environment for the further development of green economic policies. The name given to this policy attempted to translate the concept of sustainability in simple terms to the Amazon population. In Amazonas, 'tax free zone' is perceived as an area which is accelerating economic development and jobs, as is associated with the fiscal incentives in the Manaus industrial complex. Green is easily associated with natural resources: forests, rivers and lakes. 'Green Tax Free Zone' thus means, to the public (if not to economists), economic development and job creation on the basis of participating in natural ecosystem management and protection. This simple messaging was an essential component of the strategy to gain political support for policy change.

The challenge to business and individuals, as well as to government, can be summarized by the key political message of the ZFV Programme: 'forests are worth more standing than cut'. Although simple, this message represents a major change in the development paradigm. Conventional development policies in the Amazon have been guided by the goal of stimulating economic activity through deforestation for expansion of the agricultural frontier. Policies for sustainable development, in turn, have to aim at reducing deforestation by creating an economic interest in managed and protected forests. This new paradigm imposes the need to revise all sectoral and cross sectoral policies so as to change the drivers of land use dynamics and deforestation.

The ZFV's policies for sustainable development aim at promoting: (i) social fairness and conflict resolution, (ii) sustainable economic growth, (iii) environmental conservation, (iv) secure land tenure rights for the poor and for business investment and (v) sustainable natural resource use. These policy goals contrast sharply with the outcomes observed in conventional development policies, which usually result in: (i) poor income distribution, injustice and conflicts over resource use, (ii) boom and bust economic cycles linked to resource overuse and depletion, (iii) environmental degradation associated to deforestation, biodiversity losses and soil erosion and (iv) predatory natural resource use.

[11] The Amapá team visited the following Amazonas state institutions: Amazonas Agency for Economic Development (AFEAM), Secretary of Environment and Sustainable Development (SDS), Foundation to Support Research in Amazonas (FAPEAM), Amazonas Sustainable Foundation (FAS), Amazonas Agency for Sustainable Development (ADS).

BOLSA FLORESTA PROGRAMME

The Bolsa Floresta Programme has been implemented in Amazonas State since 2007. The objective is to reward families of traditional populations that made a commitment to zero deforestation of primary forests. Additional commitments include having all children attend schools and use of fire breaks in shifting cultivation areas. This has proven to be a positive incentive for forest conservation. The Bolsa Floresta Programme was the first Brazilian REDD+ initiative (reduction of emissions from deforestation and degradation plus forest management, conservation and enhancement) to receive an international audit based on the Climate, Community and Biodiversity Alliance (CCBA) set of standards. The Bolsa Floresta Programme is a reward to traditional and indigenous populations for their maintaining the environmental services provided by tropical forests. The simple message is 'make a commitment for zero deforestation and you will receive benefits from the Bolsa Floresta Programme'. There are four components of the BF Programme, with associated benefits:

- **Bolsa Floresta – Income (BFI)**. This is an investment in income generation activities based on sustainable production forest, fisheries, tourism, permaculture and agroforestry. In simple terms, anything that generates income, is legal and does not produce smoke, i.e. does not involve burning the forest. Average of BRL 140 thousand per reserve per year.
- **Bolsa Floresta – Social (BFS)**. This is an investment aimed at improving the life quality of communities, with a focus on education, health, communication and transportation. Average of BRL 140 thousand per reserve per year.
- **Bolsa Floresta – Family (BFF)**. This is an BRL 50 monthly reward paid in cash to the mothers of families living in the Protected Areas, for their commitment for zero deforestation, plus children's education and prevention of forest fires.
- **Bolsa Floresta – Association (BFA).** This supports local grassroots organizations to increase social control of the programme. Associations of residents of Protected Areas receive support to strengthen their organization. The focus is on office support (internet, solar panel, computer), transportation (speed boats) and logistics (fuel and food supplies). Average of BRL 12 thousand per reserve per year.

6.1 Lessons learned from Amazonas

One of the aims of the collaboration between IIED and the State government of Amapá has been to create the space for exchanging experiences between the state of Amazonas and the state of Amapá. Starting in 2003, Amazonas state began a paradigm shift towards valuing standing forests (thus reducing deforestation), especially by rewarding those who keep forests standing (Viana, 2010). This section presents some of the policies developed by Amazonas state that the Amapá government felt could guide its own policy-making.

The existence of a free trade zone in Manaus differentiates Amazonas from other states, as it generates considerable income from a single city (Manaus accounts for nearly 80 per cent of the state's GDP) that can be redistributed to the less dynamic interior of the state. However, the free trade zone in itself did not create positive incentives for environmental conservation outside the city until the creation of the ZFV. Bolsa Floresta is one of the key incentive schemes that were subsequently developed.

There are other lessons that can be transferred to Amapá, although Bolsa Floresta was perhaps the most significant for PEP. For example, and as discussed in Section 4, government spending can have significant impacts. For example, in Amazonas, public schools spend over BRL 70 million per year on meals and snacks from local suppliers, and over BRL 10 million per year on furniture from local suppliers. Such policies, if they include the right sustainable procurement criteria and are supported by advice to both producers and buyers, can promote sustainable production and encourage entrepreneurship at the local level. Amapá could benefit from adopting similar policies.

Potential areas for further exploration

7

The early work we have described above has begun to open up the potentials of an inclusive Amapá State economy which best deploys the state's natural resources in ways that can serve people's needs fairly, within ecological limits. Amapá's green economy programme shall guide policy-making in all sectors, promoting jobs and income through locally appropriate economic activities that includes environmental conservation and the reduction of social inequality at the state level.

In Section 4 of this report, several policy opportunities were identified as having potential to support a green economy in Amapá. It is unlikely that all of these could be implemented at the same time. For that reason, we suggest some criteria for identifying the areas with biggest potential for economic, social and environmental impacts. These criteria were discussed in the March 2012 Seminar on Green Economy:

- Impact on job creation
- Impact on including poor/marginalized populations
- Significance of environmental impact and potential to change it
- Availability of necessary resources and technologies
- Existing or within-reach markets for green products
- Need for new infrastructure
- Existence of motivated champions of change.

From this perspective, following the seminar, some assessments were made, narrowing down to these areas that offer good prospects for Amapá's green economy. For each, we suggest key questions that should now guide their exploration:

7.1 Mining

This is an important sector for the state, with potentially significant environmental impact and relevance for job creation. The infrastructure is being developed to meet demand, and major investments are being made. In the face of these realities, advantage should be made of the fact that technologies exist to lessen environmental damage and promote social benefits.

- IIED recently reviewed 10 years of progress, and remaining gaps, following the global Mining Minerals and Sustainable Development initiative (See http://pubs.iied.org/16041IIED.html). Following this, how can Amapá position itself in the emerging vanguard of responsible mining states?

Given the high revenue-earning potential of the mining sector, it can be expected to influence other sectors in their work towards realising the potential of local green economies.

- Which are the best management practices that could be used by mining companies to reduce their environmental impacts and improve social benefits to local communities?
- How could mining activities generate funding to invest in green development pathways such as PEP?

The tension between mining, agriculture and forest conservation interests in Amapá's State Forest (FLOTA) points to the need for improved dialogue between mining companies, agriculture and environmental institutions of Amapá´s governor, as well as non-governmental organisations.

- What kind of green economy governance is needed to engage actors that currently oppose conservation policies, and forge synergies between their activities?

7.2 Pro-extrativismo Programme (PEP)

As Section 6 explains, PEP has real potential as a programme with great conservation benefits, with a positive impact on rural job creation and the promotion of social inclusiveness. Moreover, it builds on existing local economies with strong ties to local context and culture.

The budget to improve management systems for each forest product is based on assessment of the costs to implement good forest management practices. But there is no formal connection between the payment level and the environmental services provided.

- How to best quantify and value the environmental benefits provided by improved forest management practices, and potentially link this to the payment programme?

There is a need to expand current funding to PEP, which now comes from the state budget only.

- Which are the most promising alternatives to expand current funding for PEP?

PEP is being designed as a PES scheme. During 2014, IIED is bringing together its 20 years of research on what makes PES work across the world, and what the limits are. There is therefore scope to explore:

- How to minimise the environmental impacts of some management practices? What is the impact of thinning to biodiversity and biomass? How can thinning practices be adjusted so as to minimize those impacts?
- How to evaluate the additionality in terms of net extra environmental services delivered compared to 'business as usual' scenarios?

7.3 Enabling conditions – adaptive management and continuous improvement towards green economy in Amapá

There is a need to document progress and provide input to the design and implementation of other green economy policies in Amapá.

- How to measure progress of PEP and improved mining in relation to their objectives as well as unintended impacts?
- How can lessons from other experiences be used to provide input to the design and implementation of green economy policies and business practices in Amapá?
- How can study trips be used to help advance green economy policy making?
- How can stakeholder dialogue and knowledge sharing be used to create broader political support to a green economy in Amapá?

Amapá green economy policy developments to date have concentrated on specific sector opportunities and problems. But the wider enabling environment for a green economy also needs to be explored. While a few green technologies or projects might be able to take off with one or two specific policy adjustments, at an economy-wide level, green economy will require a more comprehensive reform of economic governance so that it adds environmental and social value through the mainstream of economic activity. Where mainstream policy has tended to privilege short-term economic growth, it will now need to be adjusted to conserve natural capital and the closely-associated social capital that will support long-term, resilient growth. It will also entail improving the working practices, targets and standards of government, business and informal economic actors. A range of specific policy instruments that can help to mainstream green economy should now be explored, notably:

- *Government expenditure:* with the public sector a major driver of development and employment, the way that government spends its budget will have a significant impact on the sustainability of production in the state. A green public expenditure review, asking key questions on what is being spent by different departments on maintaining and improving the value from natural resources, or on the environmental risks of all sector expenditure, can help define opportunities for greener more inclusive government budgeting and purchasing (sustainable public procurement)
- *Shift incentives towards green:* resource pricing and taxation to shift the fiscal burden away from labour and other 'goods' and towards pollutants and other 'bads'; green funds and 'quality' investment codes and conditions to attract long-term investors/pension funds; cataloguing local green best practices; and state-level green branding. There is potential for a 'Green Amapá Brand', the Amapá being a tree with great medicinal and spiritual values.
- *Integration mechanisms:* ways to get 'green' and 'inclusion' into the machinery of government and business; natural capital accounting alongside regular financial accounting; combined ecological and social metrics to assess the performance of businesses and organisations; strategic environmental assessments and other ways to analyse green implications of policies; and a multi-stakeholder state green forum to forge consensus, among others.

Final considerations

8

Although the process of design and implementation of green economy policies in Amapá is at an early stage, there is a history of support for the goal of sustainable development, a deep traditional and cultural understanding of the importance of the environment, and now concrete economic programmes are being implemented, such as the Pro-extrativismo Programme.

Leadership is an important ingredient for the success of new green economy initiatives – witness the personal engagement of Amapá's governor and the presence of the most directly involved cabinet members. Leadership from business – especially in mining, and leadership from civil society – such as forest extractivists, is now needed.

Given that state elections will take place in 2014, the acid test of green economy is how far it is included in campaigning. Under normal circumstances, the more ambitious reforms towards green economy policies would have to wait until 2015. But it could be that an innovative green economy proposal may be part of the governor´s second-term letter to the people, as now is the time to build the vision for a second mandate. In the meantime, the consolidation of programmes such as Pro-extrativismo should be the priority focus for the practical development of the green economy agenda, alongside specific cross-sector policy instruments that will create a more favourable environment for further green economy initiatives.

Amapá was a pioneering state for sustainable development in the 1990s, significantly raising the profile of environmental and associated social objectives. But economic drivers still proved to be largely short-term and shaped by narrow financial objectives. Now, in aiming to shift economic policies and governance towards greener and more inclusive approaches, producing environmental and social benefits as integral parts of economic activity, the State government is beginning to shift economic drivers towards longer-term sustainability. Amapá could well prove to be an iconic leader for the future of sustainable development in Brazilian Amazonia, as well as in neighbouring countries.

This case of cooperation among states (Amapá and Amazonas) exemplifies how investments in South-South cooperation can be effective. Exchange visits by high ranking officials can play a key role in policy innovation, as they reduce the sense of political risk. Exchange visits and seminars that include mid-level officials, scientists and members of civil society also reduce the frequency of technical errors and thus result in more efficient policy interventions. South-south cooperation among different countries should also be given greater attention, especially within regions such as the Amazon Basin.

The experience of Amapá is inspiring to other states and countries of the Amazon Basin. By investing in non-timber forest products the government of Amapá is finding ways to reduce or even reverse the process of rural exodus. The very rapid growth of urban areas is in part a result of poor services (especially education and health) and low income in rural areas. Tackling these drivers of migration may be an important component for sustainable development in tropical rainforest areas worldwide.

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Abbreviations

ADS	Amazonas Agency for Sustainable Development
AFAP	Amapá Agency for Economic Development
AFAP	Amapá Development Agency
AFEAM	Amazonas Agency for Economic Development
BAU	Business as usual
BF	Bolsa Floresta
BFA	Bolsa Floresta – Association
BFF	Bolsa Floresta – Family
BFI	Bolsa Floresta – Income
BFS	Bolsa Floresta – Social
BNDES	Brazilian Development Bank
BRL	Brazilian Real (US$1.00 = BRL $2.3; January 2014)
CBA	Climate, Community and Biodiversity Alliance
CDM	Clean Development Mechanism
CNS	National Council of Extractivist Populations
EMBRAPA	Brazilian Agricultural Research Corporation
FAPEAM	Foundation to Support Research in Amazonas
FAS	Amazonas Sustainable Foundation
FLOTA	Amapá State Forest
FRAP	Amapá Rural Development Fund
FSC	Forest Stewardship Council
GDP	Gross Domestic Product
GE	Green Economy
GHG	Greenhouse gases
IBGE	Brazilian Institute of Geography and Statistics
ICMS	Tax on Sales and Services
IDB	Interamerican Development Bank
IEF	Amapá Forest Institute
IEPA	Amapá Research Institute
IIED	International Institute for Environment and Development
IMAP	Amapá Institute for the Environment and Zoning
INCRA	National Institute for Agrarian Reform
INPA	National Institute of Amazonian Research
MRV	Measurement, Reporting and Verification
NGO	Non-governmental Organization
PDSA	Amapá Program for Sustainable Development
PEP	Pro-extractivism Program
PES	Payment for Ecosystem Services
PGPM	Minimum Prices Policy
PRONAF	National Program for the Strengthening of Family Farming
RDS	Sustainable Development Reserve
REDD+	Reduced Emissions from Deforestation and Forest Degradation plus Forest Management, Conservation and Enhancement
RESEX	National Extractive Reserve
RURAP	Amapá Rural Development Institute
SDR	Amapá Secretary of Rural Development
SDS	Amazonas Secretary of Environment and Sustainable Development
SEBRAE	Brazilian Service of Support for Micro and Small Enterprises
SECT	Amazonas Secretary of Science and Technology Amazonas
SETEC	Amapá Secretary of Environment, Secretary of Science and Technology
SIN	National Energy Grid
SPU	Federal Secretariat of Federal Properties
SUDAM	Amazon Development Authority
UN	United Nations
UNDP	United Nations Development Program
UNFCCC	United Nations Framework Convention on Climate Change
UNIFAP	Federal University of Amapá
ZFV	Green Tax Free Zone

This report discusses the opportunities presented by the Amapá State government's intention to make the transition to a green economy. It explores initial progress in green policy and activity, and associated dynamics in the political economy, and lays out a broad but feasible set of sectoral and cross-sectoral policy options. The paper also offers an initial assessment of a pioneer, inclusive scheme of payments to small producers for forest-based environmental services: Pro-extrativismo Programme. It draws on lessons from Amazonas state that can help to inform Amapá's green economy strategy and concludes with recommendations for further technical collaboration, and for priorities in sectoral policy and cross-sectoral enabling conditions, with a focus on government leadership.

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This research was funded by UK aid from the UK Government, however the views expressed do not necessarily reflect the views of the UK Government.