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Lessons Learned from Implementing the Sustainable Development Program in the State of Acre in Brazil

The IDB's strategy in Brazil seeks to promote and further the reform and modernization of the public sector, to support efforts to improve the competitiveness of Brazilian goods, to support the efforts to reduce social inequalities and poverty and, finally, to address the problems of environmental and natural resource management.¹ The Sustainable Development Program in the State of Acre² supported the four elements of this strategy by including activities to strengthen the capacity for environmental management at the state level thus promoting modernization of the state, by bolstering competitiveness through improvement of the quality of the transportation infrastructure, by actions to foster the productivity of rural communities and small producers thus supporting efforts to reduce inequality and by actions for conservation and protection of the Amazon rainforest. This note gives an overview of key achievements and challenges to reach such results as well as outlines the key lessons learned accumulated over the course of the projects.

Background

The state of Acre is located in the far west of Brazil, bordering on both Peru and Bolivia, covering a total area of 16.5 million hectares. The population is nearly 550,000 persons, including many descendants of colonizers from the Brazilian Northeast who were attracted to the region by the high profits to be had from extracting latex during the rubber boom and later from collecting Brazil nuts. As the economic development of Acre has historically been based on tapping forest resources, its natural wealth has been preserved. Nonetheless, the fall in the international price for natural latex in recent decades, with the appearance of lower-cost synthetic latex, led to a reduction in the production of natural rubber. This, in turn, led to a steady decline in real per capita GDP in Acre, a major dependence of the economy on transfers from the Federal Government and living conditions far below the national average. The end result was a vicious cycle of poverty-deforestation-environmental degradation.

In order to achieve sustainable rates of growth and a consequent improvement in the quality of life of the population, it was necessary to break the poverty-deforestation-environmental degradation cycle. Doing this was possible by simultaneously addressing three critical problems: (i) unregulated access to land; (ii) the low economic rate of return in traditional agriculture; and (iii) the deficient transportation and rural electrical infrastructure, which reduces the state's competitiveness.

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¹ IDB Country Strategy with Brazil November 2004 (GN-2327)

² BR-0313 (loan 1399/OC-BR).

Two main factors characterized land access in Acre at the outset of the project: lack of clearly-defined land tenure and in many areas lack of an adequate system to control land use. In the first case, the lack of property titles in many settlements and agrarian colonies or concession contracts for the use of extractive reserves, the small number of protected public areas for conservation, as well as the lack of up-to-date, systemized and realistic cadastral and registry information all stood in the way of a clear definition of land property rights. Work to establish guidelines for the Government to resolve these land tenure problems had been minimal, due to the reduced public institutional capacity. It was only in March 2001 that the Acre Land Institute (ITERACRE) was created to promote and carry out the regularization of land tenure in the state, as well as the organization and update of the cadastre of rural properties. Regarding the capacity to control land use, the state government's prevention, surveillance, oversight and environmental licensing actions, especially to prevent deforestation or conversion of forest lands, were very limited.

One of the main barriers to economic development in the region was the high transportation cost. This was a fundamental factor determining the economic rate of return of productive activities in the rural sector. The transportation network was made up of 2,266 kilometers of highway (federal and state) and 4,226 kilometers of rural roads, mainly concentrated around Rio Branco, the state capital. The state's territory was connected from east to west, by highway BR-364, 60% of which is passable only three months of the year. The responsibility for maintaining federal roads was delegated to the state government. In addition to the roads, the use of some 8,000 kilometers of rivers and smaller effluents as a means of transportation was restricted by the lack of bathymetric information, the lack of piers and ramps, or by their periodic obstruction, which hindered navigability. Both the availability and conditions of the transportation infrastructure directly impacted competitiveness, as it had a direct impact on marketing costs.

In December 2001, the State Government approved a Forestry Law, in order to establish an adequate normative framework for the management of forest resources. This law defined incentives for combating predatory exploration and exploitation with low rates of return in the rural sector, while also establishing criteria and supervision for actions to increase the sustainability of the use of productive forests, through the creation of a state system of natural and protected areas. Nevertheless, the execution of these functions would only be viable with an improvement and strengthening of the institutional capacity of the state's public sector.



From an economic standpoint, the State of Acre needed a Program that fostered economic growth, promoting investments in sustainable forestry activities, with an adequate use of natural resources, which: i) developed alternative activities to intensive livestock grazing and low-yielding farming; ii) increased competitiveness by modernizing services to foster productivity; and iii) improved the quality of public infrastructure. To this end and in order to develop in a sustainable manner this enormous natural and cultural patrimony, the State of Acre signed a contract in May 2002 with the Inter-American Development Bank (IDB) for the Sustainable Development Program, with a total estimated cost of US\$ 108 million – US\$ 64.8 million was to be financed by the IDB and the rest would be contributed by the State of Acre itself.

The general objective of the Program was to improve the quality of life of the population and to preserve the natural patrimony of the state of Acre for the long term. More specific objectives were: (i) to modernize the environmental management capacity of the State and to ensure an efficient use of natural resources; (ii) to increase the growth rate of the agricultural and forestry sector; and (iii) to reduce transportation costs and increase access to rural electrification in Acre.

Results and Critical Factors:

As a result of the Sustainable Development Program and according to data provided by The Environmental Institute of Acre (IMAC) on monitoring of deforestation, the State of Acre reduced its annual deforestation rate



to 0.14% by 2008.³ There was a high degree of correlation between the reduction in deforestation rate and economic growth.⁴ In terms of increasing the growth rate of the agriculture and forestry sector and generating employment, the gross domestic product of the State of Acre showed an annual growth rate of 6.5% in 2007.⁵ At the end of December 2005, the forestry sector represented 27.6% of the gross domestic product and the agriculture sector 9.4%. By 2006 the agriculture sector

³ National Institute for Space Research (INPE) 2009. A strengthened forest policy, an increase in areas with forest management and in the number of conservation units and areas covered by public forests, an attention to fallen forests and a reduction of forest fires, contributed to reaching this goal. The initial goal was to reduce the deforestation rate from 0.4% to 0.3% by the completion of the program, to less than 50,000 hectares/year, using 2002 as the base year.

⁴ Brazilian Institute for Geography and Statistics (IBGE) and Planning and Coordination Secretariat (SEPLAN).

⁵ IBGE 2008. The State of Acre enjoyed very high growth rates throughout an extended period. With growth of 6.9% in real terms, higher than the national average of 5.2% (using 2008 as the base year), the state of Acre had the second best performance of the Northern region of Brazil and seventh for the country overall in 2010.



had grown to 15.95% of the gross domestic product.⁶ The program registered successes in the area of rural electrification as well in that 68% more rural communities (for a total of 267 communities) were covered by the Brazilian Program for Rural Electrification (PRODEEM) by 2006, compared to the base year of 2003 (158 communities).

The Sustainable Development Program had various important effects as a result of its execution, such as: increasing more than twice the planned number of Integrated Protected Areas through the creation of the Chandler State Park in 2004, covering an area of approximately 695,303 hectares; an increase of 161% of the recovered degraded pastures, including areas dedicated to sustainable agriculture activities; achieving monitoring of 100% of the territory to detect deforestation activities by ways of satellite imagery and a continued annual maintenance of the alternative electrification

⁶ SEPLAN and IBGE. This growth was sustained beyond 2006 and by 2008 the agriculture sector accounted for 18.6% of the value added of the State.

systems for 100% of community beneficiaries of alternative energy, amongst other achievements.

The state land titling institution, ITERACRE, founded in the years shortly before the program started, demonstrated the key role that land regularization plays in stabilizing the population. The indigenous communities and traditional population were pro-actively consulted and their participation in collaboration with the authorities helped to ensure that no squatting or irregular settlements came with new road access. By the end of the project, 5,976 land titles were registered, vesting property

rights to the land. This represented 276 more titles than initially planned. 9,453 definitive property rights in settlements were certified by the Institute of Colonization and Agrarian Reform (INCRA), representing five times more than planned. In addition, 3124 concession use contracts were registered in 107 localities dedicated to extractive activities and four conservation units were demarcated for direct use and four state parks.

Critical factors that led to a positive outcome of the program were linked to the existence of a favorable economic environment related to the robust growth of Brazilian GDP in 2005. This allowed for an income increase for the beneficiaries of the economy of the region of Acre. This availability of increased fiscal resources and, specifically, the launching of the Program to Accelerate Growth (PAC) at the beginning of 2007, allowed the Sustainable Development Program to mobilize a much higher level of local resources than initially estimated, thus solving the important issue of high unpredicted costs that arose in the construction of the stretch of highway BR-364.

Other positive factors are related to the strong social mobilization consisting of cooperatives and environmental social movements, which contributed to the total inhibition of any land speculation in the areas of the Program. In this sense, the Program also had a strong focus on strengthening cultural identity of population through the preparation of an inventory of traditional cultures and the dissemination of this research through five centers of cultural dissemination aimed at upholding the value of cultural identity of the 12 indigenous ethnic groups recognized to exist in Acre. This had a positive effect on the implementation of the Program through the creation of a political and social force working daily to achieve a tangible result and social inclusion, at the same time valuing the forest.

Amongst the negative factors encountered throughout the Program, initial delays of the bidding processes for paving of the stretch of Highway BR-364 led to a substantial increase in the labor costs, which could have had led great fiscal difficulties. These problems were fortunately averted thanks to the federal transfers of funds to local governments in the context of a significant GDP increase in the country in 2005.

The program also faced a great challenge related to the promotion of entrepreneurship and awareness of the importance of adding value to rural products, particularly amongst small farmers and ranchers but also amongst local institutions which were staffed with older technical specialists with a very traditional profile. Finally, some difficulties were encountered in monitoring of certain objectives and indicators related to subcomponents. This was due to the failure of the



State to assign a responsible entity to monitor these objectives. Moreover, some of the targets for the indicators were unrealistically overstated; for example, the target set for the number of families to benefits from land concessions for extractive purposes was 3,200 families, when in fact only 3,124 families were registered in the area of highway BR-364.

Lessons Learned and Recommendations

There were several critical aspects that had a decisive influence on the development and scope of the program, its achievements and results. A number of lessons learned emerge from the analysis of these:

- **Integration of environmental concerns in the road design ensured no future damage would occur**

Environmental concerns were taken into account and were successfully integrated in the design and execution of the road ensuring there would be no damage arising as a result of building this road, as often happened with past projects.

- **Successful involvement of farmers from the deforested area in the program execution resulted in farmer's sense of ownership of the positive developments of the area.**

Engaging the small producers—farmers and ranchers inhabiting the deforested area, as well as indigenous ethnic groups and traditional communities in the design and execution of the project represented the mark of a different era by giving recognition to their role in the productive development of the area and by making sure they would not engage in deforesting activities in the future. Exit surveys confirmed levels of beneficiary satisfaction of over 70%.

- **Acre's unique land surveillance system and the land regularization measures played a crucial role resulting in the stabilization of the population and prevention of deforestation;**

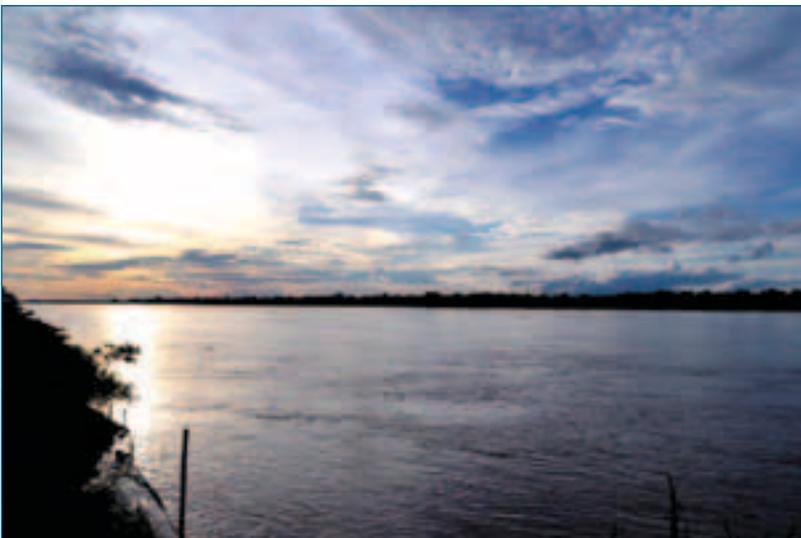
The establishment of the Geodetic Network for the final demarcating and publishing of each plot of land (parcel)

and their approach to land regulation has become a model for the country. This technical advantage allowed Acre to demarcate every single plot of land in the state. It is the only state of the Legal Amazon Region with a geodesic grid that supports 100% coverage for geopositioning at high levels of precision. This advantage has contributed to the effectiveness of a surveillance system that has controlled any forest fire larger than 10 hectares since 2005, which is not the case in other parts of Brazil. The Geodetic Network led to a very innovative land tenure system where every poor person in the state can obtain a title to their land, not possible without this surveillance system.

- **Conducting full-scale road feasibility studies in the Amazon is key and will lead to a better estimation of construction costs, thus avoiding any possible funding problems.**

The road construction did encounter major cost over-runs at the time of implementation as it became necessary to import building materials by barge from as far away as

Manaus. The dual lesson is that more extensive geological testing is required in many areas of the Amazon than elsewhere and that preliminary feasibility studies are not sufficient. In order to achieve a satisfactory level of accuracy in cost estimates, full-scale studies are an absolute “must” in the Amazon. The availability of financial resources due to the robust increase of Brazilian GDP in 2005, and particularly the launching of the Program for Accelerated Growth (PAC) in 2007, allowed the mobilization of a much higher level of local



financial resources, thus remedying the problem related to higher anticipated costs of the stretch of highway BR-364. Were it not for the timely arrival of the PAC for public infrastructure, the cost overruns could not have been financed with counterpart funds as they ultimately were in this case.

A set of recommendations emerged from this learning process, such as: i) improving the calculation of the cost of building the road as well as an improved technical analysis of the road, ii) establishing clear goals with very clearly defined quantitative indicators and realistic targets,

iii) presenting to the public and decision-makers the clear benefits of stopping deforestation which exceed the sacrifices that have to be made along the way and iv) applying the concept of environmental sustainability to program actions/ components made possible only through concerted participation of all relevant stakeholders in the area.

References

IDB, Sustainable Development Program in the State of Acre, Brazil.

For more information, visit:

<http://www.youtube.com/watch?v=OX5L8ysA3d8>



www.iadb.org