

Global Agenda Councils

Creating New Models Innovative Public-Private Partnerships for Inclusive Development in Latin America

Authored by the Members of the World Economic Forum Global Agenda Council on Latin America

April 2014



Published by World Economic Forum,
Geneva, Switzerland, 2014

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Foreword

The steady economic growth experienced by Latin America over the past decade has allowed countries in the region to step up efforts to achieve development objectives and to reinforce state-run public programmes aiming to bring about much-needed social transformations. Nevertheless, Latin American economies still face the challenge of guaranteeing sustainable, inclusive, good-quality growth and development to satisfy the demands of a better-informed and increasingly well-educated population. To respond to these challenges, institutions are now redefining their “default” roles and, perhaps more importantly, their modes of operation.

Public-private partnerships have therefore emerged in the social and sustainable development arena as efficient models for the provision of public services and social entitlements to the Latin American citizenry. The region is now accumulating valuable experience, as shown by the many well-functioning alliances among governments, the private sector, civil society and other stakeholder groups that make the most of capital investments, especially in the areas of social and human capital development.

In this report, the members of the Global Agenda Council on Latin America have chosen to illustrate, through a series of brief case studies, the creativity and commitment displayed throughout the region in the design and execution of innovative public-private partnerships in areas such as education, health and environmental sustainability. These studies highlight the benefits of capitalizing on the strengths of the different sectors in question, and support

the notion that in an ever-connected world, no actor can deliver maximum social benefit alone. The Council believes that there are additional benefits to sharing practices described here as a way of underpinning confidence in well-structured partnerships, as inspiration for other countries in the region and beyond to replicate and build upon these models, and as a window into the ingenuity of the region. With this report, the Council has made a valuable contribution to the definition of the regional agenda, anticipating important trends and issues in the region. It reflects the diversity of Council Members’ experiences and views, and their understanding of local interests.

The World Economic Forum is proud to support the Global Agenda Council’s commitment to the improvement of Latin America. We are grateful to the authors of these case studies, to the Members of the Global Agenda Council and their organizations, and to the teams at the Forum who made this report possible. We would like to extend special thanks to Enrique García Rodríguez, Chair of the Council, and to Alicia Bárcena Ibarra, Vice-Chair of the Council. Their leadership and the commitment of their teams are an inspiration to us.

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Introduction

The ongoing paradigm shifts in the world economy, the emergence of new global concerns over recent decades, and the magnitude of the economic and financial crisis begun in 2008-2009 have further challenged traditional views of the role of the state, the private sector, civil society and community organizations as well as traditional models for cooperation between them. In industrialized countries, the economic and financial crisis and the subsequent eurozone debt crisis have led to one of the worst economic depressions in recent history, placing increasing pressure on public finances and job markets and further questioning the sustainability of traditional welfare models.

By contrast, between 2008 and 2012, the countries of the global South – particularly China and the other BRICs (Brazil, Russia, India and China, taken together) – and rapidly growing emerging economies – emerged as key drivers of global growth. These trends, together with the dynamism of South-South trade and cooperation, have contributed to a relative shift in traditional balances of power and centres of wealth.

The recent launch of mega-regional trade negotiations is a sign that industrialized countries have quickly reacted to this development and that regionally integrated blocs will be increasingly significant on the global stage in the coming years. In parallel, the social unrest in various parts of the world and the growing expectations of citizens for greater equality within a rights-based framework, inclusive growth and better ways of providing quality public goods and services have stressed the need for new models of governance and growth. Finally, global concerns including climate

change, the loss of biodiversity, financial stability, and the need for identifying new patterns of production and consumption, call for new solutions at the global, regional and national levels.

Over the course of the past decade, Latin America also experienced significant changes in its societies, growth trends and development paths. The dynamic growth cycle from 2002 to 2012, driven by a favourable external climate, enabled significant progress in the social sphere, chiefly in terms of reducing poverty and, to a lesser extent, extreme poverty and inequality. It was also sustained by a combination of sound economic and social policy-making from governments and accompanied by improvements in the labour market and real wages which enabled greater resilience to external shocks. The emergence of a “new middle class”, albeit very different from that of industrialized countries and still vulnerable to falling back into poverty, has enabled significant progress in terms of providing households with access to a more diversified basket of consumer goods.

However, it has also given rise to new demands and higher expectations regarding the provision of quality goods and services, which have fallen short in areas such as education, health and public transportation and therefore pose new challenges to public and private decision-makers. On the one hand, the notion that the state has enabled greater equality and promoted a rights-based approach has become widely recognized by the region’s societies and citizens. On the other, in spite of the different development models currently in use in the region, its societies are still clearly

divided in terms of quality between private and public services, thus perpetuating intergenerational poverty and exclusion.

In spite of the positive achievements of the past decade, the region is fraught with structural gaps, the most pressing of which include its high levels of inequality, segmented access to education and health, urban and territorial segregation, low levels of productivity and investment, and limited productive and technological innovation capacities. Following a predicted economic slowdown, new expectations from the region’s people and traditional social burdens are therefore likely to further test the resilience of its societies, the overall sustainability of the current growth models and the ability of public and private actors to address these issues. New constraints created by the changing global context, such as a reduced fiscal space, limited access to financial flows and to traditional instruments of development finance or deteriorating terms of trade and levels of international reserves, are likely to place more pressure on governments and call for innovative solutions.

New efforts and approaches must therefore be urgently devised to take stock of the changes that have taken place among all actors of society. Changes at the global and regional level have renewed debate on and interest in the role of the state and policy-making, in particular whether to pursue state-led economic policy or enhance collaboration between the state and private actors. Societies have called for new forms of leadership, sufficient institutional capacity, the right forms of governance and creative thinking to address these challenges.

Civil society and local communities have become increasingly well-organized and connected at the global, national and local levels. They have been able to raise the voice of citizenship and have progressively developed into significant and reliable stakeholders. Their contribution to policy analysis and debates is increasingly relevant, and they have become key actors in helping devise innovative approaches and implement specific development initiatives, often hand-in-hand with the academic sector.

These new concerns have also raised the interest and understanding of the business sector, initially through corporate social responsibility but increasingly through the greater understanding of the business impact of and opportunities created by such issues as social and sustainable development, climate change or digital connectivity. Some companies and sectors have already started to rethink their business models by taking account of such issues and reaching towards the most vulnerable sectors of society – the “bottom of the pyramid” – or turning social and global development issues into business opportunities.

New instruments such as microcredit and new approaches such as social business, social innovation or solidarity economy have therefore quickly gained momentum. New and younger players from academia, business and civil society – such as social entrepreneurs – have become dynamic actors, providing innovations that change the way the market and civil society address some traditional challenges. Such actors rely heavily on new technologies and mobility and aim to turn development issues into opportunities for business and society. In tackling many social and sustainable development challenges, the state is therefore called on to generate new social covenants in which long-term strategies and partnerships with these actors can give rise to “win-win” opportunities that help build inclusive, more equal societies.

Successful initiatives of this type shed light on the opportunity provided by public-private partnerships (PPPs) at the global, regional, national and local levels. PPPs have traditionally been seen as tools to provide powerful leverage to carry out large projects, chiefly in the area of infrastructure development¹ but also in encouraging long-term productive and export development strategies.² In the case of infrastructure, the long-term nature of the investments and the risks involved, particularly in energy exploration and generation, public transportation and

roads, or large-scale research and development (R&D) projects means that success is contingent on collaboration between public and private stakeholders. In various innovative success stories, the state has been a powerful driver and risk taker at the early stages of development.³ Thanks to the social dynamism and innovation of Latin America, creative PPPs have emerged in recent years and provide powerful examples of how collaborative solutions have developed between private and public actors and can usefully address structural challenges throughout the region.

This report provides a selection of successful case studies focusing on innovative public-private partnerships (iPPPs) that have responded to critical development challenges in the areas of social, human and sustainable development. The case studies, prepared by a multi-disciplinary team from, and supervised by, the Global Agenda Council on Latin America of the World Economic Forum, cover a broad set of thematic areas including education, health, sustainable development, climate change, access to and use of information and communication technologies, the efficiency of public administration, post-disaster prevention and reconstruction, and gender equality.

Each case highlights the ways in which innovative collaboration between governments and private actors has improved the quality of public goods and services or contributed to sustainable development. The range of case studies varies from the local to the regional and national level. Some are transnational initiatives where public and private actors have not only overcome mistrust of their traditional “separate” approaches, but have also been able to enhance the overall delivery and quality of goods and services that were traditionally delivered by a single actor, in either the private or the public sector. These cases only represent one set of examples and areas in which innovative approaches are currently taking place in the region; there are certainly many more. Based on these different experiences, the report seeks to identify key success factors and policy recommendations that, we hope, will provide ideas for the design and implementation of more innovative public-private partnerships and policies to address the growing concerns of the region’s societies and beyond.

Enrique García Rodríguez

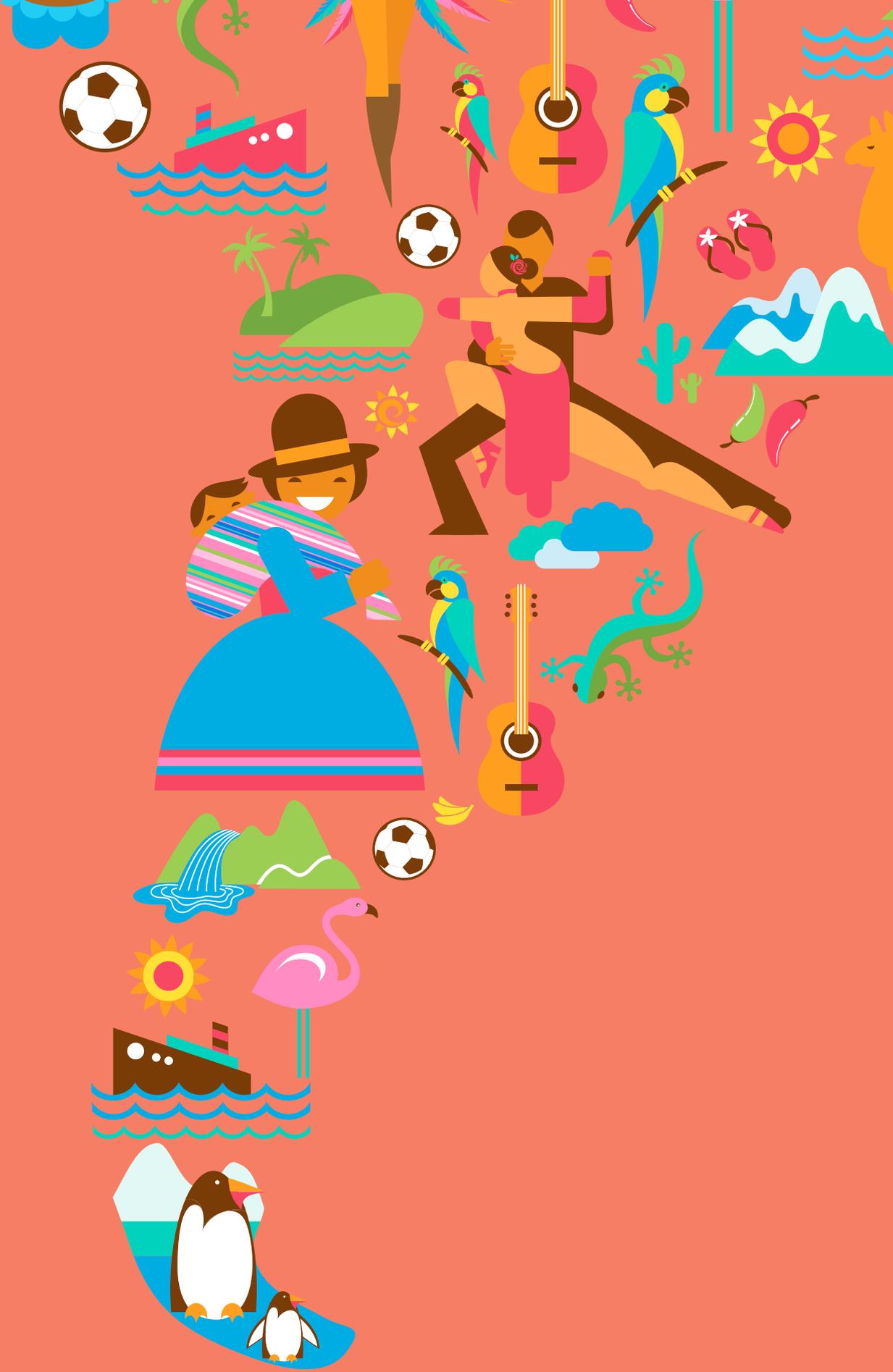
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Part I

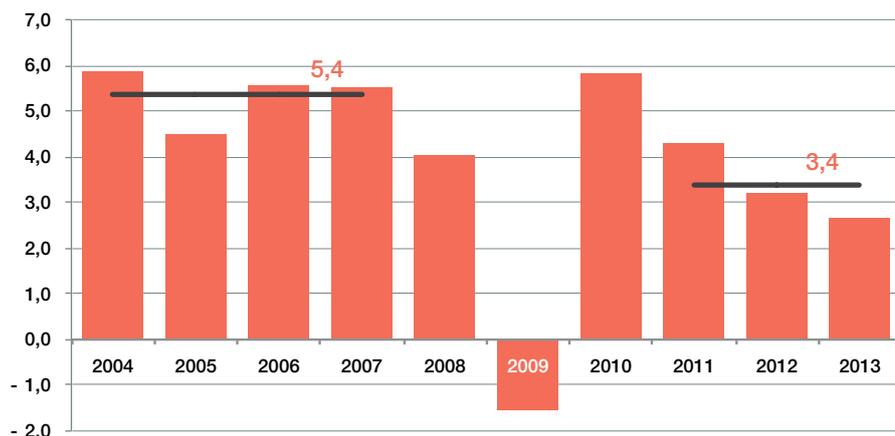
A. Latin America Today

... *The good news*

Over the past decade, Latin America has benefited from a remarkable period of economic expansion, accompanied by significant progress in poverty reduction and other social progress. Between 2003 and 2012, the region grew at an average annual rate of 3.8%, in spite of the contraction attributable to the international financial crisis (2008-2009). This expansion was primarily driven by favourable international conditions and the rapid growth of world trade and commodity prices, resulting in positive terms of trade for the region, particularly for South America. Over the same period, most countries in the region engaged in more cautious macroeconomic management, progressively making debt levels and fiscal and external accounts more sustainable. In parallel, governments have also maintained steady growth in social public spending, a trend that was not halted by the effects of the 2008-2009 crisis. This underlines the stronger economic and social resilience of the countries in the region as, unlike in previous crises, social spending was not used as a buffer to cut budgets.

Figure I.1 : Latin America and the Caribbean: GDP Growth, 2004-2013

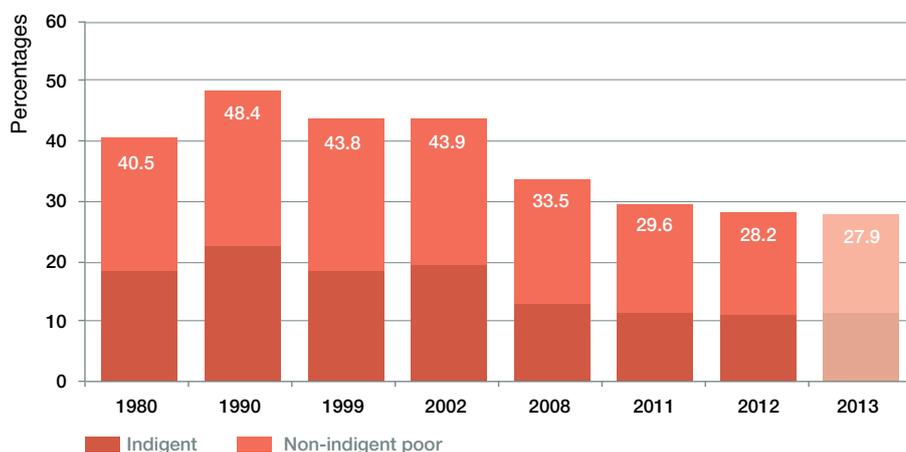
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

Figure I.2 : Latin America and the Caribbean: Poverty and Indigence, 1980-2013

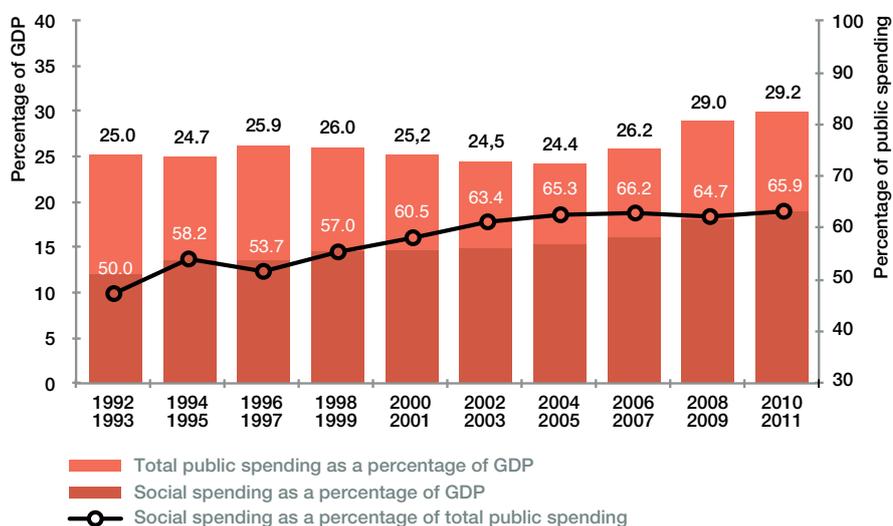
(Percentages of the population)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

Figure I.3 : Latin America and the Caribbean (21 Countries): Social Public Spending as a Share of Total Public Spending, and Total Public Spending as a Share of GDP, 1991-1993 to 2010-2011

(Percentages of GDP and total public spending)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

Most countries in the region have also benefited from favourable labour market conditions that have led to a reduction in informality, an increase in “quality” job creation and a rise in average real wages. This combination of factors, along with the implementation of active and innovative social policies – particularly conditional cash transfers (CCT), which were progressively replicated throughout the region and beyond in the 2000s – have enabled a reduction in income inequality for the first time in decades.

These developments have also enabled the emergence of a “new middle class” in many countries of the region, since a significant share of the population has been lifted out of poverty. While this population now has access to a more diversified basket of consumer goods and services, new demands have been made for access to other goods and services of a higher quality, particularly in sectors pertaining to social and urban development, such as education, health, public transportation and citizen security. Part of this new middle class is quite vulnerable to falling back into poverty, and the social unrest in these countries may well be related to the rising cost of public services, which this social group fears could threaten its new status. This new Latin American middle class is therefore different from the one traditionally depicted in more developed countries. This stresses the importance of finding new ways to provide quality public goods and services to help consolidate this emerging phenomenon.

... *But caution!*

The international context is changing, with negative ramifications for the region as a result of decreasing external demand, a moderation in commodity prices, and the uncertainty generated by tightened monetary and financial conditions across the globe. The countries that have driven global growth over recent years, especially China, are now entering a phase of slower growth. The probability of lower growth rates in the medium term jeopardizes the progress that has been made in the fight against poverty and inequality in the region, and slack growth could be more damaging for South American countries, which are more dependent on commodity exports.

Such a prospect makes it all the more urgent to carry out structural reforms to address the most serious gaps: the worst income distribution in the world, persistently high levels of informality and of structural heterogeneity, vulnerability to external shocks, unequal access to education and social protection and shortcomings in terms of innovation and productivity. The limited improvements made in productivity in most of Latin America are partially explained by rigid labour market regulations, which have fostered a large informal sector with a vast array of small and unproductive firms and very few dynamic large and medium-sized firms. One of the biggest challenges in the region, then, is how to promote dynamic entrepreneurship in start-ups to create small and medium-sized enterprises with high growth potential. To address these challenges, Latin America needs to pursue a greater degree of economic diversification, supported by policies promoting – not forcing – innovation and strengthening productive linkages. This requires difficult reforms to boost productivity, improve education and strengthen government capacity with a view to addressing social needs. Cross-cutting global challenges such as energy independence, climate change, loss of biodiversity, sustainable growth, and access to global financing also need to be addressed.

In terms of access to financial flows, efforts need to be made and new approaches must be devised to take stock of the significant changes that have taken place in respect of the actors, instruments and mechanisms in the development finance sector. On the one hand, the traditional reliance of Latin America and the Caribbean on official development assistance (ODA) flows as a source of development funding has been decreasing in recent years,⁴ thus raising the importance of private flows. In addition to the growing importance of private flows, new actors have appeared in international cooperation: emerging donor countries other than the members of the Organisation for Economic Co-operation and Development's Development Assistance Committee (DAC) and private donors such as NGOs and philanthropic institutions.⁵ As Prada (2012) has stated, private flows currently account for close to 90% of financial flows to countries in Latin America and the Caribbean, whereas official flows comprise slightly above 10%.

In this context, it is important to note the fundamental differences between private and public resources, which obey a different logic and respond to different incentives. ODA is granted and provided according to set criteria and development needs, and is contingent on dialogue between donor and recipient. Private flows, on the other hand, respond to market incentives and are mostly driven by profit motives; this in turn requires public policies to create a positive investment environment and set the appropriate incentives. A key challenge is therefore how to blend private and public resources to generate innovative ways to combine the different funding methods and achieve the required leverage to maximize the impact of development finance.

Latin America is also the most urbanized region of the developing world, with nearly 80% of its population living in urban areas. One in three Latin American people lives in cities with upwards of a million inhabitants, which take up a large share of financial, technological and educational resources. The sustainability of urban development remains a challenge in terms of housing, transport and commuting, pollution, citizen security and so on.

Finally, global challenges such as climate change, environmental sustainability and the need for more sustainable patterns of production and consumption also need to be addressed. Latin America's significant natural heritage and abundant natural resources⁶ need to be managed in an environmentally sustainable manner. As climate change intensifies, the consequences are likely to become more serious and to threaten the social, economic and environmental development of Latin America and the Caribbean. The possible consequences include decreases in agricultural productivity in some areas; a significant deterioration in the quality, quantity and availability of fresh water; damage to coastal areas; more widespread bleaching of coral and the death of coral reefs; increased economic damage from intense weather events; and the extensive loss of biodiversity.

Then... how to respond?

To confront these challenges, Latin America needs to pursue a greater degree of economic diversification, supported by policies promoting innovation and strengthening productive links. This requires difficult reforms to boost productivity, improve education and strengthen government capacity to address social needs. In the social sphere, the countries of the region must devise and put into place a second generation of policies that go beyond conditional cash transfers, as social issues and progress cannot be addressed by social policies alone. The following is required:

- Sounder macroeconomic management, to limit social setbacks during economic crisis and favour growth with job creation
- Lower inflation rates at the national level, to temper vulnerability to volatile international prices of primary goods and food products
- More balanced public finances, to allow building fiscal space to sustain public spending and consolidate social policies
- Investment and savings, to boost fixed capital formation, infrastructure and innovation
- A sustained period of high economic growth, to support the creation of formal jobs and the rise of labour incomes, keeping a focus on employment as the master key for equality

B. Innovative Public-Private Partnerships: Concepts and Emerging Trends

This report argues that addressing the traditional social gaps and emerging development challenges in Latin America increasingly means that public and private actors must seek greater efficiency, quality and sustainability in the delivery of goods and services traditionally provided by the public sector. This line of reasoning is particularly relevant in the social and sustainable development spheres, where there have been sharp dividing lines between the different sectors of the population in terms of the quality of and access to education, health, security, public infrastructure and transportation, as well as differing experiences in respect of gender equality, climate change and sustainable development. In this report, we wish to highlight innovative public-private partnerships (iPPPs) in which the state, private firms and civil society organizations have identified opportunities for the design and implementation of new forms of collaboration.⁷

Introducing iPPPs implies rethinking the traditional role of the state in the drawing-up, financing and implementation of covenants, policies and programmes. However, rather than removing the state as an actor, establishing an iPPP requires strengthening its capacities. In this chapter, iPPPs are defined as initiatives in which the state not only retains the key roles of supervising, providing incentives and regulatory frameworks for the provision of quality goods and services, but also identifies new opportunities and governance mechanisms to do so jointly with the private sector with a view to optimizing outcomes, impact and sustainability. The traditional role of the private sector has also significantly changed in terms of its understanding of and potential contribution to social and sustainable development issues, although it maintains its business focus and for-profit orientation. Finally, other actors, such as NGOs, communities and academic institutions, also necessarily fit into this equation by contributing their own comparative advantage, voice and positioning. Although establishing iPPPs among these actors is no simple matter

and requires overcoming ideological, cultural and organizational barriers, they may ultimately provide a qualitative leap in terms of processes and outcomes in contributing to social and sustainable development.

Public-private partnerships are widely known to be powerful tools in carrying out major projects chiefly in the area of infrastructure,⁸ but are also of great use in developing export strategies.⁹ Activities such as energy exploration and generation, public transportation and roads, or even large-scale research or scientific projects naturally bring together public and private stakeholders. Various modern innovation success stories currently led by private interests were originally kick-started by the state, which played the role of driver, investor and risk taker at the early stages of development.¹⁰ Public-private alliances are vital for the formulation and implementation of strategies in an era of globalization and growing international competition:

In the social and sustainable development spheres, partnerships between public and private actors are less common but are becoming more widespread, suggesting that a new paradigm for collaboration, action and impact is rapidly emerging. The issues to be addressed in these areas range from equal access to quality public goods and services – particularly in education and health – combating income inequality, improving access to formal jobs and reducing informality, tackling social vulnerability of certain sectors (in particular women, indigenous populations and children), gender equality, housing, and sustainable patterns of production and consumption. Developing iPPPs and meaningful models to better bridge the significant divide between the quality of public and private service provision is key to societal advancement.

PPPs are defined as an innovative organizational and financial solution that emerges from cooperation between the public and the private sector with a view to supplementing the government's public response to growing social needs in a specific sector, country or region. PPPs usually – although not exclusively – take the form of legally binding contracts that define how resources, risks, responsibilities and profits (if any) will be shared between the public and the private sector. PPPs usually require strong collaboration between both sectors based on the expertise and knowledge that each actor has regarding potential solutions to the social needs to be

addressed. This collaboration is reflected in the design and consolidation of institutional arrangements to ensure the sustainability of these new solutions in both the design and the delivery of public services. In many developing countries with weak institutions and low levels of social trust, public and private agencies encounter significant economic, legal, political and even social obstacles in building these alliances.

The underlying logic of developing iPPPs is that the most pressing development issues should be analysed jointly – rather than separately – by governments, public institutions and businesses and addressed using a complementary approach and long-term common vision. These actors are increasingly facing new limitations to their capacity to act alone or in traditional ways. In the case of the state, these include fiscal and public budget constraints, limited fiscal space, an unfavourable perception from society or public mistrust owing to a lack of efficiency, excessive bureaucracy or even corruption. Similarly, the private sector may suffer from the perception that its for-profit rationale is incompatible with the public interest and social or sustainable development. In the absence of adequate regulation, self-regulation may curtail competition and deepen inequalities through the “mercantilization” of services in education and health and otherwise have negative external effects in the social and environmental spheres. Finally, civil society actors may suffer from perceptions that they lack proper management or accountability.

Such divisions and prejudice can be progressively overcome, and there are a growing number of positive factors identifying the opportunity to enhance dialogue, foster collaborative approaches and identify innovative solutions in terms of design and implementation of their interventions between governments, private sector and civil society. Below is a quick overview of the recent developments affecting these actors and practices as well as details on how new actors have emerged, providing fertile ground for the development of iPPPs.

1. The state

In the current context of a shifting paradigm, the role of the state remains vital in designing, fostering and implementing social covenants, regulatory frameworks, incentives, policies and innovative partnerships with the private sector and civil society actors to encourage progress in society, the economy and the productive sector within a rights-based approach. To forge a new social contract facilitating the exercise of citizenship in all its dimensions, the state must encourage the transformational agenda through a combination of coherent economic and productive development policies and provide for an inclusive social safety net. It must also work towards universal employment with full rights, universal social protection and capacity building. An essential precondition of integrated development is a politically legitimized state capable of achieving that goal in the long term and of engaging and coordinating economic and social agents. This entails taking initial risks related to funding or kick-starting innovative and successful initiatives to be run by the private sector.

Additionally, the characteristics and expectations of “the new middle class” and the need for innovative mechanisms, greater sustainability and new sources of financing for the provision of quality goods and services in the social and environmental spheres increasingly require the state to devise new generations of policies and tools at all levels of government: national, regional, local and community. The state remains the key actor in forging social covenants with other relevant social stakeholders with a view to achieving greater equality and intergenerational sustainability, chiefly in the areas of productivity and investment, employment and fiscal policy. Such a vision requires the ability to integrate these actors into broader public-private policy frameworks in, among others, the macroeconomic, industrial, science and innovation, social and environmental spheres. It also requires more closely monitoring innovative mechanisms established by public authorities, private institutions, civil society and communities, or a combination thereof, and providing a framework for their evaluation to assess the potential for scaling and replicating the most successful mechanisms.

2. The private sector

In the case of the private sector, businesses have become more interested in pushing for greater involvement in solving social problems both in industrialized and (increasingly) in emerging countries, thereby going beyond traditional corporate social responsibility to touch on issues such as poverty, inequality, fair trade or the environment, which are progressively becoming part of their corporate values. More importantly, the business case through which the private sector seeks to position itself among more vulnerable sectors of society by providing them with goods and services and to address issues of environmental sustainability is quickly gaining acceptance as a new source of value creation.

More recently, some business sectors have therefore stressed the importance of rethinking their business models by taking such issues into consideration, reaching towards more vulnerable sectors of society and the “bottom of the pyramid”¹¹ (BOP), which had been traditionally underserved, thus turning social and global development issues into business opportunities. As Prahalad (2011) and Yunus (2013) have stated, developing innovative approaches to reach the BOP and reshaping business models towards sustainable social impacts can be facilitated by building and generating “ecosystems” which include large corporations, SMEs, micro-entrepreneurs, NGOs and the public sector as collaborators.

3. Corporate and private philanthropic foundations

Corporate and philanthropic foundations help bridge the gap between the corporate world and the fight against poverty at the national or community levels. Today, financial flows from private philanthropy to the developing world outweigh the monetary contributions of all governments combined.¹² Some global private foundations, such as the Bill and Melinda Gates Foundation, have become global players, addressing key social challenges, particularly with regard to health and education. In Latin America, the Kellogg Foundation, the Ford Foundation and Ashoka traditionally support pioneering projects and research in identifying innovative initiatives and conceptual frameworks.¹³

An increasing number of corporate foundations also stress the importance of going beyond welfarism and focusing on community development by identifying and supporting social development and social innovation projects, mostly at the sub-national, local and community levels. For example, the members of Red eAmerica,¹⁴ a network of 76 Latin American corporate foundations, runs the “transformadores” contest to identify and disseminate innovative community-level practices aimed at reducing poverty and inequality. The Brazil-based Lemann Foundation¹⁵ develops innovative initiatives to provide increased access to education, from primary to university levels, including the “Science without borders” project aimed at fostering research, technological development and innovation by increasing tertiary outbound mobility.

4. Civil society, NGOs and local communities

Over the past decade, NGOs and organized local communities from civil society have become very significant stakeholders in the analysis and debate of issues related to sustainable development, the environment and the rights of the most vulnerable sectors of society. These actors have progressively become more informed, organized and relevant in raising public interest and in formulating and implementing concrete initiatives addressing economic, social and cultural rights-based issues in sectors as diverse as education, health, food security, the rights of indigenous populations and young people, access to water, and the impact of extractive industries. They have benefited from improved institutions and the inclusion of their concerns on the public agenda, and in some cases have developed solid partnerships with academia and donor institutions, thus reflecting the growing awareness of citizens and societies as a whole of their rights and responsibilities regarding sustainable development.

Moreover, as Rey de Marulanda has stated (ECLAC, 2010), the Latin American and Caribbean region is currently witnessing an “explosion of creativity and social innovation” from civil society, whose main driving forces are NGOs and local communities. NGOs have become key actors in implementing social programmes and initiatives. In the same vein, local communities, such as indigenous peoples, rural populations and other vulnerable groups have become relevant social and political actors, participating directly in the formulation

and provision of innovative and integrated approaches to their local and territorial development. Under this logic, governments may often find it more efficient to partner with or rely on NGOs and communities in implementing some of their social programmes and initiatives, because they benefit from greater legitimacy, have particular skills or are more likely to deliver the expected results and outcomes. Such partnerships can prove to be more productive and more efficient than initiatives that public authorities implement independently. Interestingly, many of the case studies clearly suggest that organized communities have been empowered and are demanding to take the lead in both the design and implementation of programmes and potential iPPPs.



Fundación Avina: Example of an Integrated

Vision of Development Based on a PPP in Latin America

Fundación Avina was established in 1994 by Swiss entrepreneur Stephen Schmidheiny with the initial goal of strengthening initiatives from social and business leaders in Latin America to promote sustainable development in the region. As a dynamic organization that is constantly learning and changing with the times, Avina now looks outside the region to identify opportunities to impact global sustainable development from Latin America, by creating favourable conditions for diverse actors to join forces in contributing to the common good. These opportunities are selected on the basis of their relevance for sustainable development, their potential for regional and global scalability, the existence of gaps in collaboration between the various stakeholders – as by reducing this gap, the collaborative processes can be strengthened – and the presence of tipping points. That is, conditions that ensure that specific actions will have an impact on the processes of transformation.

Avina's strategies are aimed at developing, promoting and enhancing collaborative processes that involve a variety of participants from different sectors and multiple points of view. It maintains a balanced critical mass of civil society, private sector and government actors that share a vision for the future, adopt innovative social methodologies and converge in shared agendas of action to influence joint decision-making for the better and to drive social change. Avina adds value to collaborative processes in order to pave the way for these social changes – actual improvements in people's quality of life or in the environment through political, institutional, technological, scientific or cultural transformations – that will lead to systemic changes in communities, cities and countries, which will in turn have an impact on sustainable development. It does so by contributing contextual intelligence drawn from unique approaches and innovative knowledge, fostering the convergence of stakeholder interests, visions and goals. It helps coordinate the efforts of diverse actors by building trust and creating productive links that leverage their joint work, and helps its partners introduce and advance a common vision and shared agendas of action in different areas.

Systemic changes are changes that effectively challenge the status quo, are resilient and can scale up impact, thus affecting structures and the prevailing conditions, beyond isolated events or developments. They are necessary to achieve sustainable development, which is by definition capable of being sustained in the long term. Such changes are complex, reflecting an infinite number of variables that go beyond the linear logic of cause and effect and are cross-cutting in nature, because they are not limited to any one sector or area. Two types of changes are key to the region: increasing the value of public goods, that is, of what belongs to all citizens, because the more public goods there are, the less inequality there will be; and the transition towards a new economy that preserves natural wealth and contributes to social progress.

Avina's efforts are focused on a portfolio of regional and global opportunities developed together with its partners and adapted to the specific conditions of the 21 countries in which it operates. The areas of action currently covered include access to water, the Amazon biome strategy, energy, the extractive industries, inclusive recycling, migration, public institutions, sustainable cities and the South American Chaco. Avina places

great emphasis on the use of results-based management tools for measuring the relevance and efficiency of the processes, assessing the impact of the initiatives on public policy agendas and devising exit strategies to ensure sustainability among stakeholders. Two recent public-private initiatives – on post-earthquake reconstruction in Chile's central-south region and on the transnational approach to deforestation in the Amazon biome – offer examples of specific work carried out by Avina Foundation.

Source: AVINA, for further information: <http://www.avina.net>

5. Universities, think tanks and research centres

Universities, think tanks and research centres play an important role in the promotion and development of iPPPs. By analysing iPPPs in progress, these institutions identify causes and factors that contribute to the success or failure of partnerships between governments and the private sector, and assist in the improvement of these relationships. Furthermore, academia and research centres provide, through their case studies, a holistic overview of PPPs worldwide, validating models applied in specific countries that could be replicated elsewhere. In other words, they provide the private and public sectors with a benchmark for best practices in PPPs.

Their participation extends beyond merely researching and documenting to acting as a partner in iPPPs. Foreign and local, private and public universities play an important role today in the improvement of education in Latin America through their partnership with the different governments and by facilitating the access of low-income students and vulnerable populations to learning institutions. PPPs involving universities and research centres have been strengthening the social infrastructure by improving the technical skills of the labour force.

An interesting coordinated effort is the Social Enterprise Knowledge Network (SEKN), a network for collaboration among 10 of the most prestigious business schools in Iberoamerica. Its mission is to push back the frontiers of knowledge and practice of social projects through joint research, shared learning and case-centred teaching, as well as capacity building for management training institutions serving their communities.

6. Regional and multilateral institutions

a. The United Nations

The United Nations is a global and regional facilitator of neutral dialogue on and analysis of peace, security, human rights and the development agenda among the governments of member states and other relevant stakeholders (academia, the private sector and civil society). In 2000, Secretary-General Kofi Annan launched the United Nations Global Compact,¹⁶ a strategic policy initiative geared towards the business community and committed to aligning its operations and strategies with universally accepted principles in the areas of human rights, labour, the environment and the fight against corruption. By taking part, business, a primary driver of globalization, can contribute to opening up new markets and fostering progress in trade, technology and finance for the benefit of economies and societies as a whole. The Global Compact is a leadership platform for the development, implementation and dissemination of responsible and sustainable corporate policies and practices. With nearly 8,000 corporate participants in over 140 countries, the Global Compact is the world's largest voluntary corporate sustainability initiative. In developing the Millennium Project and its related Millennium Development Goals (MDGs) in 2002, the United Nations not only displayed a targeted roadmap for development but also placed significant emphasis on the need to build global partnerships for development (MDG8) in order to contribute to achieving such goals.

As the report of the United Nations System Task Team on the post-2015 development agenda, *A renewed global partnership for development*,¹⁷ states: "MDG8 has played a central role in galvanizing aid, increasing market access, providing debt relief and improving access to ICT and essential medicines and other forms of support [...] Yet MDG8 also has important gaps and systemic shortcomings and there is a large discrepancy between its initial level of ambition and its implementation." Furthermore, a renewed global partnership will need to strengthen global governance by addressing weaknesses in international arrangements for collective decision-making. For reasons of accountability, multistakeholder partnerships could also be mainstreamed under each thematic goal, thus strengthening the links between goals and the means of achieving them. This structure would better reflect the contributions of voluntary and single-purpose partnerships, which could be coordinated

and linked to the priority needs of developing countries in a more systematic manner. Lastly, robust accountability mechanisms at the global, regional and national levels will be critical in increasing the effectiveness of the renewed global partnership.¹⁸

b. Development banks

Regional financial institutions (RFIs) also have specific characteristics which make them particularly valuable. They provide a sense of ownership of resources and of their destination, given the governance of those institutions. RFIs are also familiar with the region's specific characteristics, a fact that facilitates dealings with local authorities. RFIs have shown their ability, contingent on their lending capacity, to act and respond in a timely manner when required. These features have allowed subregional institutions to project an image of trust and confidence. Moreover, given the incomplete character of the existing global financial architecture, RFIs can bridge existing gaps. The region should strengthen the capacity and scope of subregional development banks to encompass the provision of trade finance, an area in which these banks have been playing a role, albeit a modest one. Subregional development banks also need to cooperate more effectively with development banks at the national level. Various initiatives implemented by the World Bank, the Development Bank of Latin America and the Inter-American Development Bank's Multilateral Investment Fund and social innovation programme, some of which are included in the case studies showcased in this report, are noteworthy examples.

c. Other global and regional conveners

Global organizations such as the World Economic Forum, the Clinton Global Initiative (CGI) or the Clinton Climate Initiative also play a key role in identifying and bringing together actors from governments, international organizations, the private sector and civil society. The Forum has progressively established itself as one of the foremost organizations fostering public-private and intergenerational dialogue, and coordinating and integrating stakeholders involved in the decision-making process. More recently, CGI has also stressed the importance of seeking new solutions to traditional and emerging development issues, thereby serving as a catalyst for fundraising to finance innovative initiatives and projects. These conveners serve as platforms for collaboration between governments, businesses and civil society at global, regional, national and local

levels. More recently, the Global Partnership for Effective Development Co-operation,¹⁹ promoted by the Governments of the United Kingdom, Indonesia and Nigeria, places emphasis on bringing together key stakeholders from governments, donor institutions and the private sector to enhance international cooperation and aid practices globally and supporting the formulation of a post-2015 development agenda in this respect.

7. Social entrepreneurs and social innovators

Over the past decade, social innovation and entrepreneurship have developed from an emerging initiative into a key issue on the business and social development agendas, both in industrialized and developing countries. Social enterprises balance a social mission with financial viability and sustainability, existing between the public sector and private markets in both the developed and developing world. As Nick O'Donohue, Vice-Chair of the Global Agenda Council on Social Innovation, has said, "We need to unleash a whole new wave of social entrepreneurs and help existing models with proven impact grow to scale much more effectively. If we get this right, the economic historians of the future will look at this generation of leaders and be grateful. They took the risk and transformed the prevailing model. They helped create a world that enriched the many and not just the few." In Latin America, initiatives focusing on social innovation and social entrepreneurship are more recent but are growing quickly.

SOCIALAB: An Example of Social Entrepreneurship and Innovation in Latin America

SOCIALAB is a platform operating in Argentina, Colombia, Chile and Uruguay that supports entrepreneurship, technology and business models aimed at achieving positive change in the quality of life of vulnerable populations. It seeks to support, identify and disseminate innovative solutions to address traditional issues related to poverty and social exclusion through co-creation and networking. Its methodology and philosophy is to pool the skills of and synergies between academic institutions, private companies and the public sector to assist young entrepreneurs from local communities and thereby foster social innovation experiments and entrepreneurship initiatives that can be continued or replicated. SOCIALAB is supported by the Inter-American Development Bank's Multilateral Investment Fund (FOMIN), Movistar Chile. It began as a spin-off of the regional non-governmental organization TECHO.

Its main levels of action are:

- Developing and implementing national social innovation contests for private companies and the public sector to identify emerging innovative entrepreneurship initiatives. Recent achievements include work with Colombia's National Agency for Overcoming Extreme Poverty (ANSPE), the government of the city of Buenos Aires and running the annual "Desafío Clave" contest together with the Chilean National Youth Institute (INJUV, see <http://www.injuv.gob.cl/portal/p-a-i-s-joven/desafio-clave/>).
- Developing global innovation challenges such as "First 72 hours", a project currently being run in partnership with UNICEF (<http://www.first72hours.org/>) to find innovative ideas focused on the 72 hours following a natural disaster to ensure the provision of water and food, ICTs, energy and healthcare.
- Providing direct support, tools and methodological advice through joint efforts with social entrepreneurs from vulnerable communities with a view to launching social innovation projects.

Source: SOCIALAB, for more information: <http://www.socialab.com>.

Partnership Enablers: Tools, Practices and Opportunities for Empowering iPPPs

Recent advances in technology, connectivity, collaboration tools and improvements in management practices in both the public and private sectors may significantly contribute to the development of PPPs.

1. Management culture and tools for the public and private sectors

A culture of results-based management has emerged and has, together with the related methodologies and tools, progressively been adopted by governments, multilateral organizations and NGOs to provide greater efficiency and accountability in policies, programmes and projects. In the world of international cooperation and development aid, the use of these tools has steadily become a prerequisite to ensure efficient delivery and impact and to provide accountability to funders and donors (foundations, governments or cooperation agencies). They are also a means to ensure greater accountability in society as a whole, particularly in relation to flows of overseas development aid, which tend to be lower in middle-income countries.

In the current context, following the global financial and economic crisis and the eurozone debt crisis, it is increasingly important for governments or large corporations to be able to justify the outcomes and impacts of providing external aid to regions that may be more dynamic in terms of growth than their own. Furthermore, the use of results-based management techniques and budgeting tools can significantly enhance the life cycle of a project, policy or initiative and ensure greater sustainability. The mechanisms for the evaluation of public policy-making and aid policies are also useful tools in assessing the outcomes and impacts of such initiatives. In this respect, in the area of poverty and social development, the methodologies and case studies developed by the Massachusetts Institute of Technology, as part of the work of the Abdul Latif Jameel Poverty Action Lab (J-PAL),²⁰ are very useful benchmarks, both in terms of methodology and good practices.

2. Access to ICTs and digital connectivity

ECLAC estimates that the digital economy accounts for 3% of Latin America's gross domestic product (GDP), as opposed to 5% in the European Union, 6% in the United States and 7% in Japan. Over recent years, gaps in access to mobile telephony and broadband connectivity have slowly been closed and the take-up has broadened to a majority of the region's population, and demand for and access to mobile broadband have similarly risen. The current reality is a two-speed process: some countries are at 75% of the OECD average, whereas others are only at 38% of the ICT development index. Although there remain inequalities in terms of access, the high penetration and growth of mobile telephony and digital connectivity have made it a matter of urgency for actors, both public and private, to work in concert and treat digital connectivity as a key factor in their strategies and policies within an integrated framework. The availability of collaborative and networking tools (such as social media or massive open online courses) also reinforces this trend.

As part of this technological revolution, the state has progressively embraced the need to collaborate with or get closer to the private sector to improve its efficiency and transparency through a series of initiatives including e-government, open government and whole-of-government approaches.

3. Innovative financing mechanisms

As mentioned earlier, new trends in development finance provide new opportunities to combine public and private capital flows, with due account for the specific nature of each. Given that some players have the potential to increase their role in development finance, there is space for new mechanisms through which public policies can generate a climate conducive to private capital investment and establish an incentive scheme to steer it towards development objectives. New initiatives using public resources to mobilize investment towards development objectives have appeared in industrialized countries. One such example is development impact bonds, which turn social problems into opportunities for investment. On a different level, emerging crowd-funding practices may also represent innovative funding mechanisms for civil society and local communities. These may provide an inspiring example for Latin America.

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Part II

Case Studies

Case 1. University for All (ProUni)

Executive Summary

ProUni aims to promote access to tertiary education for low-income students with the support of private tertiary institutions in Brazil (incentivized by tax exemptions). From its beginning in 2005 until the first semester of 2013, the programme has provided more than 1.8 million scholarships. To ensure that low-income students apply to the programme, the Ministry of Education has established partnerships with other government agencies and non-profit organizations to provide widespread free access to the Internet. The government has also implemented monitoring procedures by cross-checking information available in different databases to ensure that only eligible students participate in the programme.

Geographical scope: Brazil

Thematic area: Tertiary education

Description

In Brazil, less than 15% of young people between 18 and 24 years of age are enrolled in tertiary education institutions, according to data collected by the National Institute for Educational Studies and Research (INEP).²¹ This percentage is lower in the north and north-east of Brazil, the poorest regions of the country, where only 10% of young people attend tertiary institutions.²² These data reveal the magnitude of the challenge of achieving goal 12 of the national educational plan²³ (PNE), i.e. to increase the percentage of the young population enrolled in tertiary education institutions in Brazil to 33% by 2020. It is noteworthy that Brazil is in a worse position than several other Latin American countries. According to the global innovation index (GII),²⁴ which includes indicators ranking countries in terms of their openness to innovation, higher education is considered crucial for economies to increase productivity. Brazil was ranked 64th out of 142 countries in the 2013 GII, owing to its relatively poor performance in indicators such as human capital and research (75th). While Argentina and Chile were ranked 14th and

23rd in tertiary enrolment respectively, Brazil was ranked 82nd. In fact, even lower-middle-income countries, such as Bolivia and Paraguay, were better ranked than Brazil concerning tertiary enrolment.

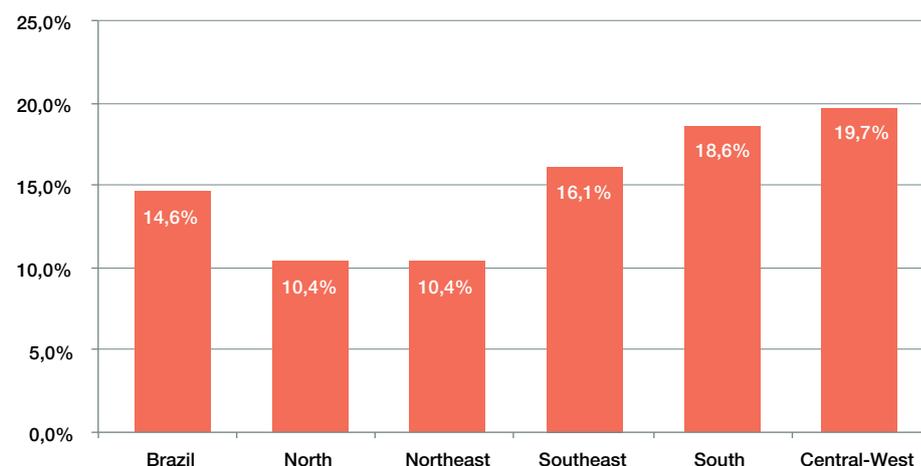
The Model

Target area and characteristics

In 2004, the Brazilian Ministry of Education launched the “University for All” (ProUni) programme, which aims to provide academically gifted low-income students with places in private tertiary education institutions on partial or full scholarships. Law No. 11,096 of 15 January 2005 established ProUni, and students are eligible for a full scholarship if they have graduated from a public high school or have studied in a private high school on a full scholarship, and if their per capita monthly family income is up to 1.5 minimum wages, i.e. 1,017 Brazilian reais (R\$), or US\$ 440.89 per month. Students are eligible for a partial scholarship of 25% or 50% of the tuition fee if they have graduated from a public high school or have studied in a private school on a full scholarship, and if their per capita monthly family income is up to three minimum wages (i.e. R\$ 2,034, or US\$ 881.78 per month).²⁵ With a view to meeting a social need and fostering meritocracy, ProUni selects students based on the score obtained on the National Assessment of Secondary Education (ENEM),²⁶ to ensure that students with good academic records from low-income families are chosen. ENEM is a non-mandatory national exam which evaluates the educational attainment of high school pupils in Brazil, and is also used as a standard university entrance qualification test. The option of offering scholarships to low-income students in private institutions, instead of facilitating their access to public universities, is justified by the sharp rise in the number of private institutions. According to the Explanatory Memorandum 26 attached to the Bill No 3,582/2004,²⁷ there were 1,637 tertiary education institutions in 2002, of which 1,442 were private and only 195 were public. Moreover, 37.5% of places at the private institutions were unfilled, corresponding to approximately half a million unfilled places, whereas only 5% of the places at public universities were unfilled.²⁸

Figure II.1 : Population Aged 18 to 24 Years Old Attending Tertiary Education in Brazil, 2011

(Percentages)



Source: Prepared by the authors, on the basis of information from INEP, “Resumo Técnico do Censo da Educação Superior 2011”.

Stakeholders and structure

In short, ProUni fosters cooperation between the public sector (Ministry of Education) and private tertiary education institutions. For the second semester of 2013, 919 private institutions will be offering scholarships for ProUni’s selection process.²⁹ The Ministry of Education has also established partnerships with Caixa Econômica Federal, one of the largest stated-owned savings and loan-style financial institutions in Brazil, the Brazilian Federation of Banks (FEBRABAN), and the student financing fund (FIES) to be able to offer ProUni students other sources of grants. The Ministry of Education has also established partnerships with the National Indian (indigenous peoples) Foundation (FUNAI) and its regional executive administrations, the centres for partnerships between businesses and schools (CIEE), and the Citizen E-Government Assistance Service (GESAC) to make it easier for low-income students to apply by providing widespread free access to the Internet.

Implementation strategy

It is worth noting that the private tertiary education institutions must provide free Internet access to all individuals wishing to apply for the programme, thus ensuring widespread access to the Internet throughout the ProUni application process. In addition, the joint actions of the Ministry of Education with Caixa Econômica Federal and the Brazilian Federation of Banks offer ProUni’s recipients internships during their tertiary education, enabling students to earn money while studying. Moreover, students

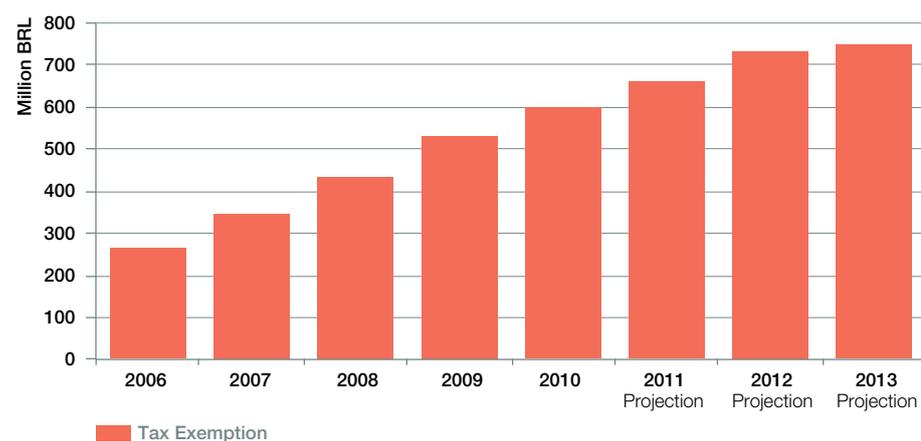
who receive full scholarships are also eligible for a monthly stipend of R\$ 300.00 (about US\$ 130). Students on 50% scholarships can request a loan from the student financing fund to finance the rest of their tuition fees, with no need to provide collateral.

Financing scheme and incentives

Private institutions receive tax exemptions for taking part in the programme and participate on a voluntary basis. In other words, the scholarships involve no actual transfer of resources from the Ministry of Education to the students or to the participating tertiary education institutions. Instead, these institutions receive a tax exemption up front in the first year of their participation in the programme. The tax exemption scheme continues every year that scholarships are maintained for students who registered in previous enrolment rounds, and scholarships are provided to new ProUni students according to the formula of one scholarship for every 10.7 students enrolled in the institution. For the time they participate in the programme, tertiary education institutions are exempt from corporate income tax (IRPJ), and are not required to make social contributions on net profit tax (CSLL), on Social Security Financing (COFINS) or to the social integration programme (PIS). More than R\$ 750 million (about US\$ 325 million) in exemptions is estimated to be granted in 2013 as part of ProUni. Since the creation of the programme, more than R\$ 4 billion (about US\$ 1.7 billion)³⁰ has been exempted on average.

Figure II.2 : ProUni Tax Exemption, 2006-2013

(Reais^a)



^a The Brazilian currency has been extremely volatile. For this reason, the authors preferred to provide financial information in ProUni in Brazil's currency (i.e. reais) to ensure accuracy.

Source: Prepared by the authors, on the basis of information from the Receita Federal (<http://www.receita.fazenda.gov.br>).

Results, Outcomes and Impact

From the beginning of the programme in 2005 until the first semester of 2013, it has provided more than 1.8 million scholarships, of which 57% were full scholarships, as shown in Table II.1. According to the public opinion survey conducted from 13 to 23 March 2009 by the Brazilian institute of public opinion and statistics (IBOPE),³¹ of the 1,200 former full scholarship recipients interviewed, 86% considered the programme excellent. In fact, 99% would recommend it to relatives and friends. It is noteworthy that the programme has also become a motivational tool for others: eight out of 10 respondents mentioned that other family members felt encouraged to start or continue their studies after the experience with the ProUni. Moreover, ProUni improved the employment status and household income of its students: 80% declared to be working after ProUni – before the experience, only 56% were in work – and 68% of respondents said that their household income had improved.

However, it should be noted that not all scholarships were claimed; more than 35% places were left unfilled in 2010. Brazil's Federal Audit Court (TCU) also identified this problem in its reports for 2009, noting that the unclaimed rate of ProUni scholarships was significantly higher for partial scholarships, and recommending changes in the way the programme was implemented.³² In some cases, the unclaimed rate of partial scholarships was three times greater than that of full scholarships.

In its 2012 report, the TCU concluded that, despite that ProUni continues to have a high rate of unclaimed scholarships, particularly partial scholarships, the government has adopted several measures to reduce it, such as: changes in the selection process, introducing single-step enrolment, calls for expression of interest in scholarships and a waiting list; sending e-mails to inform students who have obtained the minimum ENEM score informing about ProUni's selection process and inviting the Student Financing Fund to finance the remaining tuition fees of students who received only partial scholarships from ProUni.³³

Value Elements

Key Success Factors

As stressed by Somers, Morosini, Pan and Cofer (2013), the number of private institutions participating in ProUni has been steadily increasing, from 1,142 in 2005 to 1,304 in 2010. The programme has therefore been readily accepted by the private sector, which has taken part chiefly because of the tax exemption scheme put in place by the federal government. This policy measure would appear to be justified since, according to the Brazilian Institute for Tax Planning (IBPT), Brazil's tax burden was 36.27% of GDP in 2012.³⁴

In addition to the participation of tertiary private institutions, ProUni is supported by the non-profit-making Council on International Educational Exchange (CIEE), which is active all over Brazil and

helps low-income students with the application process. CIEE, together with other governmental agencies (such as GESAC), assists in the application process by providing low-income students with widespread free access to the Internet.

Lastly, the government is introducing a monitoring system to ensure that only eligible students are granted ProUni scholarships. In November 2009, 1,766 scholarships were terminated due to irregularities³⁵, and a further 4,253 were in 2010.³⁶ These scholarships were cancelled following cross-checks of the records of ProUni students with other databases, such as the Annual Social Information Report (RAIS), the National Registry of Motor Vehicles (RENAVAM) and the Integrated Platform for the Management of Federal Universities (Pingfes), and the databases of state universities (Ministry of Education, 2009).

Although the number of irregularities represented only 0.45% of the 396,000 scholarships in 2009, and 0.94% of the 453,000 scholarships in 2010, the need for regular monitoring was clear. Indeed, on 30 April 2013, the Brazilian Federal Register published Ministry of Education Ordinance 8, of 26 April 2013, establishing procedures to periodically supervise ProUni students. This monitoring will be carried out by cross-checking databases (databases have been cross-checked since 2009) and by processing complaints submitted to the Ministry of Education. The Ministry will then cross-check information in the ProUni database against other official records. The student will have 10 days to submit documentation to prove there are no irregularities.

Sustainability

Based on the analysis of the overall tax exemptions from 2006 to 2012, it can be concluded that ProUni is not an expensive programme. By examining the increase of tax exemptions from one year to another (i.e. total tax exemption of year ["n"] minus the total tax exemption of the previous year ["n-1"]), divided by the number of ProUni's new scholarships per year, it is possible to ascertain the cost of each of the new ProUni scholarships. According to the information from the Federal Revenue Office and ProUni, the programme costs less than R\$ 300.00 (approximately US\$ 130.00) per new recipient since 2010. This shows how cost-efficient the programme is, as indirect costs are kept to a minimum by means of tax exemptions over the years.

Whereas in 2006 the scholarships cost R\$ 1,146.92 (about US\$ 500) per new recipient, in 2012 it was only R\$ 253.68 (approximately US\$ 110).³⁷ However, it is important to note that, until 2011, tax exemptions were calculated on the basis of the number of scholarships offered by the private tertiary institutions rather than the actual number claimed. This discrepancy was identified by the TCU in its report of 2009³⁸. Thus, the cost of ProUni incoming students per year was actually higher than the amount provided. For instance, rather than costing R\$ 292.92 in 2010 (about US\$ 127), the scholarships cost R\$ 462.79 (about US\$ 200) per new incoming ProUni student.³⁹ This state of affairs was remedied by No. Law 12,431, of 14 June 2011. As stressed by the 2012 report of TCU,⁴⁰ the tax exemption is now calculated on the basis of scholarships actually provided, and not the number offered by the institution. Nevertheless, it can be said that, even considering the greater cost of the programme before the advent of Law No 12,431/2011, the programme is still cost-efficient. ProUni would therefore appear to facilitate access to tertiary education while providing value for money, meeting with the approval of the private institutions by providing tax exemptions and enabling the federal budget to be balanced (Catani and Hey, 2007).

Reproducibility

As discussed above, ProUni is a relatively cost-efficient programme that could be replicated in other developing countries. It is important to verify both whether the country has a wide range of private tertiary institutions and whether such institutions have a substantial number of vacant places that could be used in the welfare programme to facilitate the access to higher education for students from low-income families. In the case of Brazil, the high tax burden made it possible to encourage private institutions to participate in the programme through tax exemptions. Thus, it is also essential to choose an economic incentive that is not only cost-efficient for the government, but also attractive to the private sector.

Recommendations

To plan and implement an innovative PPP, it is essential to take into account the interests of the social group targeted, how expenditure on the new programme would affect the government's budget and what economic incentives could be offered to attract the private partners. In other words, an innovative PPP must combine these three factors to give rise to a "win-win situation". In the Brazilian case, the low number of young people aged 18-24 years old attending tertiary education was alarming (i.e. less than 15%), and became an issue of public interest. Given the high tax burden, a policy based on tax exemptions was attractive to the private sector, since it would be able to pay less taxes and places that had previously been

unoccupied. For the government, the programme was cost efficient, with no need to transfer resources to the private sector.

Additionally, it is important to ensure that the partnership will be a long-term one and that monitoring and evaluation mechanisms will be implemented to ensure the quality and effectiveness of the programme. To foster the long-term partnership with the private sector, ProUni established that the tax exemptions would continue every year for as long as the private tertiary institutions maintained scholarships for students registering in previous enrolment rounds, and provided scholarships for new ProUni students according to the formula of one full scholarship for every 10.7 students enrolled at the institution. Moreover, the private tertiary institution must sign a 10-year contract, renewable for an additional 10 years. ProUni also established a monitoring mechanism that consisted of cross-checking information available in different official databases to ensure that only eligible students would participate in the programme.

It is possible to state that ProUni is a successful initiative to open up access to higher education. There are, nonetheless, some problems regarding the illegibility of some students and the inflation of tax exemptions by the private tertiary institutions before the passing of Law No 12,431/2011.

Keywords/tags: Brazil, ProUni, tertiary education, private universities, tax exemption, scholarships

Table II.1 : ProUni Scholarships Provided (2005-2013/1)

	2005	2006	2007	2008	2009	2010	2011	2012	2013/1	Total
Scholarships	112,275	138,668	163,854	225,005	247,643	241,273	254,598	284,622	162,329	1,830,267(100%)
Full	71,905	98,698	97,631	99,495	153,126	125,922	129,672	150,870	108,686	1,036,005 (57%)
Partial	40,370	39,970	66,223	125,510	94,517	115,351	124,926	133,752	53,643	794,262 (43%)

Source: Prepared by the authors, on the basis of information from ProUni, available at <http://prouniportal.mec.gov.br/>.

Table II.2 : Cost of New ProUni Scholarships Granted per Year (2006-2012)

(Millions of reais)

	2006	2007	2008	2009	2010	2011	2012
New scholarships granted per year	138,668	163,854	225,005	247,643	241,273	254,598	284,622
Cost of new ProUni scholarships per year (in R\$ and US\$)	1,146.9 (US\$ 500)	506.70	379.58	389.37	292.92	237.35	253.68 (US\$ 110)

Source: Prepared by the authors, on the basis of information from the Federal Revenue Office and ProUni.

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Case 2. Concession Schools in Colombia

Geographical scope: Colombia, specifically Bogota

Thematic area: Education

Executive Summary

Schools run under concession seek to provide education to marginalized and displaced populations by hiring private entities with successful experience in the educational field. The project arose from the need to deliver quality education to the most vulnerable groups of the population and has been developed in areas where education is not provided. This alternative option has been offered as part of the expansion of education as a public service, and is fully funded by the state. It is monitored to ensure compliance with quality conditions stipulated in contracts with the private providers. The project was first developed in Bogota, a segregated city, with marginalized areas on the outskirts of the city that lack public and social services. After an analysis of the positive results, the project was extended to 23 cities in Colombia, with the aim of providing education to groups that have relocated to urban areas as a result of violence. This case study describes the development of the first schools in Bogota, and some of the results. It describes the level of development attained by the project at the national level.

Description

At the end of the past decade, a strategy was developed to integrate some of Bogota's neighbourhoods into urban life. These areas had emerged as a result of migration to the capital and they concentrated the city's poorest population. These neighbourhoods were not served by the city services and many of them were illegal settlements. Part of the strategy included measures to legalize the settlements and to provide them with public services, recreational areas and social services such as education and health. To ensure the provision of quality education to these areas, a project was

devised in which educational infrastructure was to be built as part of the improvement of the neighbourhood. This was based on the conviction that these poor communities needed to be integrated into the city and the state had to be capable of adequately educating the new generations.

Educational infrastructure is part of the make-up of a city, and it was deemed essential to include these settlements in the development of the city. Schools also sought to address the challenge of ensuring the sustainability of this process of integration into urban normality in terms of student learning, in order to challenge the traditional link between students' socio-economic background and the quality of the education they receive, as measured in domestic and international tests.

The Sectoral City Education Plan for 1998-2001, aimed to create new places in local schools, thus increasing the gross and net educational coverage of the city. In this context, it was urgent to address the acutely high dropout rates in schools in marginalized areas of the city, partly attributable to a lack of places in all academic cycles and also to the poor quality of teaching methods. The traditional system had shown its inability to ensure that the poorest children could acquire standard skills. One of the biggest problems faced by the city was how to attract public school teachers to these areas and convince them to work far from

their homes. This led to a high turnover of teachers and the serious problem of the isolation of schools within their communities. Above all, there were major differences between the performances of these children in tests, partly due to socio-economic factors, but also due to the inflexibility of the public system.

Innovative model of iPPP

A project was devised to overcome this situation. It sought to ensure the construction of schools with outstanding architecture that would become milestones in the improvement of their communities. Although these architectural standards were developed for use in all new school buildings in the district of Bogota, the new schools in these areas could surpass them. They were also planned as comprehensive institutions, designed to integrate classes from all school years, from preschool to middle school. This feature was important to address dropout problems caused by the bottlenecks in these institutions, since when primary and secondary schools are in different locations and students cannot go through all cycles of learning in one location near their homes, there is a significant risk of their dropping out of school.

Map II.1 : Location of Schools in Bogota's Marginal Areas



The project also sought to give institutions enough autonomy to take an active role in their students' academic performance. Traditional public schools had no autonomy over teachers or over the distribution of funds and, thus, had little leeway to intervene. Consequently, services were provided in this project by entities that could ensure both the autonomy of the organization and the quality of teaching. The staff members hired had to provide proof of their expertise in the field of education. Schools that demonstrated their ability to develop high-quality educational processes were asked to cooperate under the umbrella of non-profit organizations that had contracts with the city's Secretariat of Education. Finally, the concession model was chosen, which ensured a sufficiently strong tie with the city, both in terms of time and money (to overcome the threats of political changes). This type of contract requires a public invitation to tender as a prerequisite, to ensure transparency in the allocation of resources and recruitment, looking to come up with the best proposals. It also provides for long-term contracts.

Investment in infrastructure was the state's responsibility, considering that schools should become architectural landmarks in the recovery of their neighbourhoods. It was decided that the contracts should be signed with non-profit foundations, institutions capable of finding additional resources to provide services. Choosing schools with outstanding results guaranteed a good outcome. The public invitation to tender laid down the basic conditions for the institutional educational project and teaching methods. A financial proposal was included, but it was determined that the costs could not exceed average public sector spending per student in Bogota. Pursuant to Law 115 of 1994, it was decided that, unlike in many public schools, the establishments should operate in a single shift, to allow for extracurricular activities within the facilities as well as to provide much needed attention to the surrounding communities. It was established that the Secretary of Education would administer the student registration process at these institutions, using the same criteria applied to all public education, where the main criteria for the allocation of places is the proximity to schools. This allowed for greater community involvement with the institution and minimized transportation costs.

Contracts had to provide for clearly established rates on an annual basis (initially indexed each year) and disbursement dates. To ensure that future payments were made, the concession agreement requires the city council's approval of planned future allocations throughout the term of the contract. The council has approved allocations until 2014.

Likewise, quality results are scrutinized by clearly established indicators, and there are clear stipulations governing the conditions for contract termination and auditing. The approved terms for contracts allow institutions to disclose the results of students who have completed all levels from preschool to middle school (a 12-year cycle). Once the contract expires, it may be extended or terminated, depending on the results obtained by the school.

Sustainability factors

One of the biggest challenges in establishing schools in targeted areas was finding land on which infrastructure could be developed legally. Schools had to be placed in areas that were populated by "invasions" or illegal takeovers, and many such settlements were without utilities and not officially a part of the city. Overall, they were areas of high population density, where it was necessary to find an acre of undeveloped land with access to utilities that could be built on legally. These problems were overcome with the participation of various city agencies. The Treasury guaranteed the funds for construction and proceeded to come up with the design, with clear specifications for teaching requirements and architectural quality. In the process, it was possible to engage the best architects in the country, in a time of a major crisis in the construction business.

The city council had to give its approval for future funding to guarantee the resources needed over the length of the concession. Here, the project met with the opposition of the public teachers' union. The main argument against it was the supposed privatization of education, although education in these schools was free and funded by the state. Finally, funding was approved. The discussion did not lead to industrial action by unions, essentially because the project did not entail any reduction in public education and the sites chosen represented a good alternative for teachers. Communities also expressed their support.

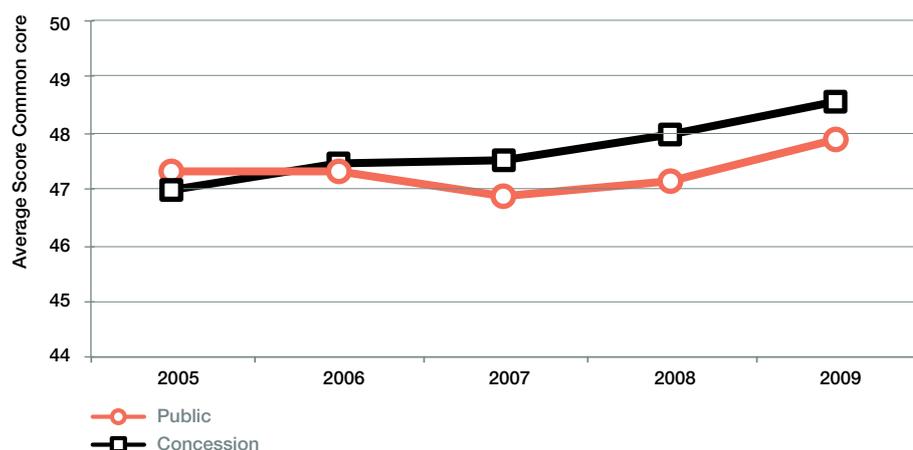
It was also necessary to convince prestigious private schools to participate in the project. They were encouraged to do so for reasons of social responsibility and because the conditions of the contract protected them against any financial risk. Although schools showed great confidence in their ability to produce good results, they were concerned for the potential impact on their academic reputation of a possible adverse outcome of the project. Nonetheless, certain schools with a clear social focus agreed to take part, such as those operated by religious communities or the compensation funds⁴¹ and several of the city's elite schools, one of which belonged to a prestigious university.

Finally, operators were selected for the 25 schools established. They began operating primary classes in the first year of the programme and high school classes in the second.

Results, Outcomes and Impact of the iPPP – Key Success Factors

The project began to show benefits at an early stage: the development of infrastructure, accompanied by other actions performed by the state, managed to produce major physical transformations in these neighbourhoods, especially in the immediate environment of the schools. This responded to the local administration's city normalization and integration plan. Differences in the relationship of schools with surrounding communities were also evidenced. Traditionally, public schools (with certain noteworthy exceptions) were isolated from surrounding marginalized communities as a result of supposed security concerns or difficulties faced by teachers in accessing remote locations. Additionally, the ability of these institutions to involve other institutions allowed them to offer educational services to the community outside normal school hours (in evenings and at weekends). The high demand for these schools has shown that they have been accepted by the community. Other advantages began to emerge later. The well maintained nature of these buildings was one: while new infrastructure with the same characteristics operated under the traditional public sector model deteriorated significantly in the first year of use, the careful use and good maintenance of the infrastructure by concession schools was remarkable. Finally, after a number of years, systematic evaluations were performed. The World

Figure II.3 : Averages at the common core in Bogota, 2005 - 2009
Concession schools vrs. all Public schools



Bank's⁴² findings (data from 2004) show lower dropout rates in these schools compared to city-run public schools. Likewise, analysis of the results in reading and math tests shows better results in concession schools than in similar public schools. It also shows a more rapid improvement in annual results. Juan Bonilla,⁴³ using data from 2008, confirms the positive impact of concession schools on student learning, especially in mathematics, where they display results up to 6% better than in traditional public schools. A comparison of attainment in state examinations of 11th-grade pupils in concession schools against all public schools in 2009 is shown in Figure II.3.

These results are very significant, because this version of the state examination included all students in all schools throughout the country, under a law that made them mandatory. Furthermore, since the socio-economic background of pupils is not considered, this fulfils one of the objectives of the project, which is to provide quality education to children from lower-income families. It is important to note that this test serves as an entrance examination in a large proportion of the universities in the city. Pupils graduating from concession schools are therefore better able to access higher education than the average pupil graduating from a public school.

Extension of the project to the country at large – reproducibility

As of 2006, the project was extended nationwide, as other cities had marginalized populations with similar problems as those in Bogota, as a result of the displacement of rural communities to cities that did not have an adequate education system to accommodate them. This addressed a request from the High Constitutional Court for the Executive to provide quality basic services to populations displaced as a result of the Colombian conflict.

Cities with high displacement rates were determined. On account of the country's decentralized education system, incentives were established for local authorities that wished to develop the project, since funding of the infrastructure is provided by the central government. Quality conditions were set similar to those that had been developed in the schools of Bogota, but capacity was extended by 30%. The local authority is obliged to provide the land, which must be in an area where displaced persons make up the majority of the population. Service providers are guaranteed payment on the basis of commitments by the central government to make transfers calculated according to the number of children served. The cost per pupil paid to providers is equivalent to the cost of national transfers made for the same purpose.

Currently, 43 projects are being developed that will serve more than 60,000 students in 20 cities across the nation. There are four schools in operation and others are in various stages of progress. In January 2011, another 17 came into service.

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Case 3.

Empresarios por la Educación (ExE)

Geographical scope: Colombia

Thematic area: Education

Executive Summary

Through *Empresarios por la Educación* (Entrepreneurs for Education – ExE), the Ministry of Education of Colombia and regional education secretariats are working closely with the local business community to improve education in the country's public schools. The programme focuses on co-responsibility, i.e. on providing an opportunity for the public and private sectors to work collaboratively to merge their strengths and bring them to bear to improve education. ExE works regionally to channel and mobilize the leadership, experience and resources of the private sector to support effective education policy and efficient management of schools.

Progress has been made towards increasing the number of children in school in Colombia; today, 87% of boys and girls nationwide are enrolled in primary schools. Nevertheless, the low quality of education remains a major hurdle to the country's continued development and growth. The country ranked 52 out of 65 in the 2009 PISA survey, and dropout rates remain high, with only 40% of students enrolled in primary education completing the 12th grade.

Education levels also vary dramatically across different regions. In rural areas, which have historically been affected by military conflict, education levels are particularly low. Between 1996 and 2003, guerrillas, paramilitaries and public agents attacked 71 schools in such areas. Public investment in primary and secondary (K-12) education has also been irregular. From 1994 to 1996, spending increased from 3.09% of GDP to 5.03%, but in 1999, it dropped to a mere 2.74% owing to austerity measures. Between 2000 and 2004, education spending again increased, from 3.6% to 5.1%. However, such erratic spending leads to inconsistent education policies, affecting the availability of key resources.

ExE is innovative through its involvement of the private sector in the country's public education system. While Colombia's law does not allow for-profit institutions to provide education services, and while private, for-profit schools are not permitted, ExE has created an alternative way of involving the private sector as an active participant in education.

Description

ExE focuses on primary and secondary education in the regions where it operates: Antioquia, Atlántico, Bogota and Cundinamarca, Bolivar, Caldas, Cauca, Quindio, Risaralda, Santander, and Valle del Cauca.

Created in 2002, ExE fosters the active participation of the private sector in the improvement of Colombia's education system. It is influencing education policy by helping to identify goals and develop new strategies to implement them. It is promoting better management practices by training school managers and their teams while also providing post-training support. It is bringing innovations to teaching by preparing new educational curricula that will be used throughout the country. Lastly, great emphasis is placed on establishing and implementing mechanisms for monitoring, evaluating and enhancing the effectiveness of individual programmes and initiatives. All ExE programmes are carefully developed through the comprehensive evaluation of existing initiatives and, once put in place, ExE programmes are continually measured for quality assessment of their ability to improve education, education management and training.

Key Public Stakeholders: Ministry of Education, regional secretariats for education in 12 regions.

Key Companies and Foundations: Avianca, Bimbo, British Council, Bucaramanga Chamber of Commerce, Comfandi, Vallecaucana Commission for Education, Compania Energetica del Occidente, Consejo Privado de Competitividad, Coomeva, Federation of Colombian Coffee Growers, Argos, Fundacion Bancolombia, Fundacion Bolivar Davivienda, Fundacion Cavalier Lozano, Fundacion Nutresa, Fundacion Siemens, Fundacion Sura, Fundacion Telefonica, Fundacion Terpel, gasNatural, Ingenio Risaralda, Intel, Juan Manuel Ruiseco Vieira, Madeal, Metrex, Microplast, Qualificar, Rehabilitar, TransOriente, Tipiel, Surtigas, Unica

Key International Organizations: Inter-American Development Bank, British Council, Community of Madrid

Strategy for implementation

Human Capital in Schools: ExE seeks to improve the human capital of schools by strengthening the skills of teachers and managers through special programmes and initiatives, such as *Ser + Maestro®*, *Rectores Líderes Transformadores*, and *Marco de Estrategias Educativas para la Equidad* (MEPE). ExE also works to further engage individuals in the education system, and has a corporate volunteering programme through which staff from member companies play an active role in schools' management. Finally, member companies also organize cooperation programmes with schools that supply students to go on work placements in these companies.

Public Policy in Education: ExE liaises with local-level committees, such as *Comités Empresariales de Apoyo a las Secretarías de Educación*, as well as with the Ministry of Education's Advisory Board, on which a number of ExE's own board members serve. Member companies also meet regularly with the Minister of Education.

Financing scheme

ExE has two sources of income. The first is made up of contributions received from companies, individuals and foundations, the other is from national or international cooperation partnerships.

During 2012, ExE raised a total of 2.4 billion pesos (US\$ 181 million). Its expenses for the year totalled 2.2 billion pesos (US\$ 166 million), generating a surplus of 205.6 million pesos (US\$ 15 million).

Results, Outcomes and Impact of the iPPP

To achieve its goals, ExE works closely with the government using a three-pronged strategy to improve the quality of education, mobilize public and private sector individuals from member companies and impact public policy. Each element of its strategy is monitored to continually measure development, progress and effectiveness, and make adjustments as needed.

Its initiatives work in various ways to improve quality. For example, its *Ser + Maestro®* initiative focuses on management and skills training for school administrators and teachers. To date, 1,116 individuals have been trained through the programme. Its *Ola Escolar* initiative works with foundations to raise money to complete major infrastructure projects for

schools, including repairs, renovations and construction work. To date, 11 such major projects have been completed, benefiting over 4,500 children across Colombia. ExE also continues to innovate to make an impact on quality of education. In April 2012, it launched a new programme to strengthen foreign language teaching, and today over 400 teachers are going through the pilot programme, which has proven highly successful in raising levels of proficiency in English, and shows great promise for future students.

Recognizing the importance of community involvement for education, ExE works to mobilize an active volunteer force dedicated to improving management in schools. Today, ExE has over 440 volunteers who have worked with more than 290 educational institutions and 139,000 members of the educational community, including school administrators, teachers, parents and students.

Finally, ExE endeavours to influence policy on education, including by working closely with the national government and having ExE board members serve on the Education Ministry's advisory board to foster progress in priority issues for educational policy. For example, in 2011, at the request of the Minister of Education, ExE partnered with McKinsey to conduct an assessment of the current state of Colombia's education relative to international standards. The results led to the development of a national policy that works to accelerate education reforms.

Key Success Factors

ExE has helped to establish a lasting relationship between public schools and the private sector in the country around education, which has traditionally fallen within the sphere of influence of the public sector. Leading figures and businesses from the private sector have great potential to inject fresh ideas into educational systems, to bring their political capital to bear to prioritize education in policy-making and to provide resources and fiscal support to financially strapped educational systems. Their involvement is a valuable asset and much needed catalyst for improvements in public education, particularly in management.

Moreover, because the programme concentrates on human capital and interpersonal exchanges, it is able to increase mutual understanding between the sectors and to help school managers and teachers be more receptive to increasing efficiency in management systems.

Sustainability factors

ExE's activities are sustainable because the programme is heavily focused on oversight. ExE closely tracks the progress of school managers and their teams for over two years to ensure that the management training provided is put into practice. Through SIPE, a new information system being developed by ExE, member companies that have contributed to the programme are now able to keep track of how their investments are being spent, allowing for transparency and ensuring that funds invested go to schools' priorities.

The focus on interpersonal exchanges is also critical to the programme's sustainability. Face-to-face relationship building between the public and the private sector at all levels through ExE – from the national advisory board of the Ministry of Education to the private training programmes for teachers – ensures a deep, long-term dedication to and engagement with the issue.

Reproducibility in other countries

Given ExE's recognized success in Colombia, the initiative has supported the development of similar foundations in Latin America. Peru and Guatemala now have their own *Empresarios por la Educación* programmes that follow a similar model to that of Colombia. A number of other Latin American countries have started to replicate the work of ExE through similar programmes, including Ecuador, Mexico, Honduras, El Salvador, Nicaragua, Panama and the Dominican Republic.

Recommendations

Local and national education ministries should encourage greater private sector involvement in determining the plans and goals of schools and in ensuring effective resource allocation. The private sector, based on efficiency within a competitive market, has a long history of implementing quality controls and effective operations that are natural in the business environment but are often lacking in public education. It also has the expertise and human resources to work with schools, and should follow the model of ExE initiatives like *Ser + Maestro®* and *Rectores Líderes Transformadores* to provide management and leadership training programmes for public school managers to increase efficiency and enhance productivity. School managers must be trained to prioritize spending, reform/build school infrastructure, and ensure that schools provides an environment conducive to learning.

Clear and consistent time-specific metrics must be in place to monitor the status and quality of programmes' improvements.

Programme evaluation should follow a timeline of, for example, two years, with close tracking of goals for improvements. Firms must consistently evaluate their own performance; this experience should be shared with school officials who must also develop consistent standards for measuring impact and progress. Through the adoption of information technology programmes like ExE's SIPE, which collects information on public education programmes and increases public spending transparency, governments can monitor new initiatives and companies can track investments made in education. ExE's focus on information gathering and assessment is important to follow in exporting models for improvement.

Keywords/tags: K-12 education, school management, Colombia, policy

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Related website / online material:

Empresarios por la Educación Website: http://fundacionexe.org.co/?page_id=65.

Case 4. Partnerships for Progress and Inclusion, Strengthening Technical and Vocational Education in Colombia

Geographical scope: Latin America/
Colombia

Thematic area: Technical and vocational
education (TVE)

Executive Summary

To address the problems associated with the coverage and quality of technical and technological education, the Ministry of Education of Colombia, with the support of CAF, launched the “Strengthening Technical and Technological Education Programme”, which relied on the formation of alliances among public and private sector actors: tertiary and secondary education institutions, regional and local officials, producer associations, industry and firms. These partnerships, together with the Ministry of Education, forged links between secondary and tertiary technical education institutions. They devised high-quality, competency-based technical and technological training programmes that catered for the needs of the productive sector and fostered progress in regional and national development and in science and technology.

After four years of operations (2006-2010), the alliances had created more than 263 accredited academic competency-based TVE programmes and opened up 42,958 new places in higher education by providing technical and financial assistance to schools. A total of 175,186 school students benefitted from this, of which 57,111 undertook professional technical programme modules. According to data collected on employment, more than two-thirds of the graduates were employed in the formal sector, with an average monthly starting salary of over US\$ 500.

Key success factors were the bottom-up strategy followed by the Ministry of Education, which granted autonomy to alliances for programme execution and budget allocation, and the furnishing of an adequate policy environment that provided incentives, timely technical assistance and evaluation to the alliances. The Ministry of Education has now launched a second phase of the programme to extend the alliances’ work to other productive sectors. The key lessons learned for replicating the experience are to ensure government ownership to provide the alliances with autonomy for decision-making and resource allocation, while at the same time providing investment and deploying substantial technical and financial resources to help them achieve common partnership objectives.

Description

At the beginning of the new millennium, Colombia was facing important challenges regarding the quality of its TVE, which resulted in an insufficient supply of skilled labour and limited job opportunities for new entrants into the labour market, especially young people. According to the National Council for Economic and Social Policy Document (CONPES), the main problem with TVE was the low enrolment rate, particularly among the lowest income groups. In 2003, the enrolment rate for TVE was 4.1%, placing Colombia below the regional average. Even in the lower income quintiles, university education was preferred to TVE, which led to a significant gap in access to higher education among them. This also explained why enrolment rates in university education, and not TVE, were growing over time.

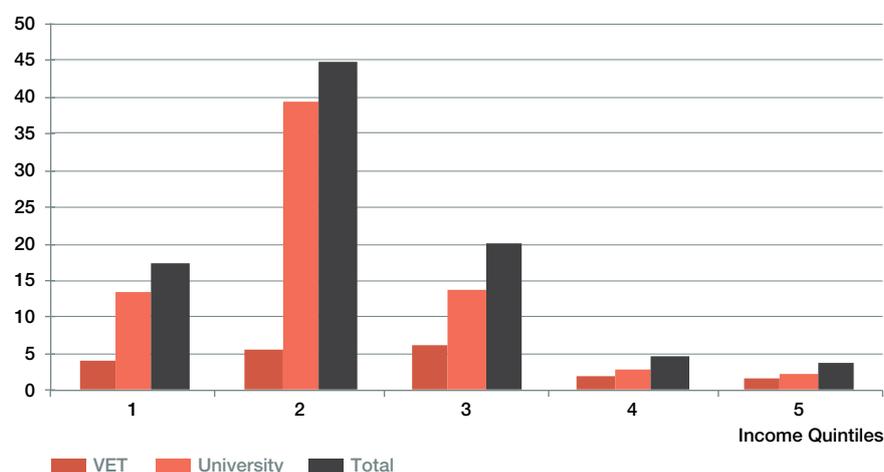
Academic TVE programmes were outdated in terms of providing the skills needed for new technologies, had weak links with secondary schools and industry and were overly concentrated on a small number of career paths. In addition, TVE providers worked with out-of-date, run-down equipment and had neither adequately trained teachers nor good quality teaching material. Both public and private TVE providers were concentrated in just three parts of Colombia – Bogota, Antioquia and Valle – which housed only 38% of the country’s young people between 18 and 24 years old. To address these challenges, the Government of Colombia enacted new legislation – Law No 749 of 2002 – and launched the “Strengthening Technical and Technological Education Programme” aimed at improving the coverage, quality and relevance of TVE in respect of the needs of the productive sector, and fostering progress in national and regional development, and science and technology. The programme entailed the formation and management of strategic alliances among key public and private sector actors, who, in partnership with the Ministry of Education, would pursue the programme’s goals. The programme was implemented from 2005 to 2011 at a cost of US\$ 35 million, of which CAF provided US\$ 15 million through a loan.

Innovative model of PPP

Under its main component, the programme encouraged the formation and management of 40 regional and local alliances with a double aim: to facilitate coordination between secondary and tertiary education, and to design high-quality, competency-based, vocational

Figure II.4 : Colombia: Higher Education Enrolment Rates by Income Quintile, 2003

(Percentages)



Source: DNP (2005). Document: CONPES 3360.

technical and technological academic programmes that catered for the needs of the productive sector and fostered progress in territorial development and science and technology. The alliances were located in 27 geographical departments of Colombia and served four sectors of the economy: agriculture, agro-industry, industry and manufacturing and services.

To formalize the partnership, the alliances had to acquire legal status, which entailed defining their geographical scope, ranging from one to multiple territorial departments. The projects implemented had a duration of one to four years, depending on when they were granted funding. All actors involved – tertiary and secondary education institutions, regional and local officials, producer associations and firms – had to join forces to design, develop, secure accreditation for, and implement new practical, competency-based academic programmes, which provided direct employability skills in line with international standards. However, the responsibility for leading the process of systemic change was given to the managers of private educational institutions, who were given a comparatively small amount of funding and tight timelines, to develop new institutional capability, manage complex processes of organizational change and engage more directly – and with greater accountability – with the industries, markets and communities that they served.

The 40 alliances comprised 97 unions and/or private producer associations, 129 companies, 19 research and development and innovation centres, 63 higher education Institutions and 532 secondary education institutions in 245 municipalities. The role of the productive sector was to guide the design of occupational profiles according to their needs, which were incorporated into the practical academic programmes designed by the education institutions. In turn, regional and local governments were responsible for supporting these partnerships through the development of local policies and proactive management. Several alliances also counted on the support of research centres and other training agencies to integrate their experience and know-how concerning TVE.

The Ministry of Education followed two lines of action: first, the promotion, establishment and management of new alliances, which entailed a selection process based on geographic location and strategic productive sector criteria and a process called “Multiplication of Knowledge”, in which participating alliances provided their experience to other potential alliances in different sectors and regions. The second line was focused on quality assurance, including the definition of methodologies to guide alliances in the drawing up and implementation of academic programmes. The Ministry of Education also carried out continuous quality monitoring to identify key issues requiring specific actions and provided technical assistance covering academic, financial and legal aspects of the projects.

To finance the alliances’ projects, the Ministry of Education established a competitive fund of US\$ 25 million and granted, on average, half a million dollars to each alliance. In addition, alliances were required to provide co-funding of 30%; yet, in the event, their total contribution was four times the amount provided by the fund.

Results, Outcomes and Impact

The alliances drew up 293 competency-based academic TVE programmes, of which 263 were accredited by the National Commission for Quality Assurance in Higher Education (CONACES). These programmes opened up 42,958 new places in higher education (HE), and through coordination with schools and the provision of technical and financial assistance to them, 175,186 school students benefited from the programme, of which 57,111 undertook professional technical programme modules. Table II.3 summarizes the main results by economic sector.

Table II.3 : Results by Economic Sector

Agriculture	Agro-industry	Industry and manufacturing	Services
- 10 alliances	- 7 alliances	- 13 alliances	- 10 alliances
- 48 programmes	- 40 programmes	- 84 programmes	- 95 programmes
- 31,395 secondary students attended of which 12,497 were in coordinated programmes	- 35,207 secondary students attended of which 15,468 were in coordinated programmes	- 43,163 secondary students attended of which 10,806 were in coordinated programmes	- 65,420 secondary students attended of which 18,340 were in coordinated programmes
- 9,134 new places in HE	- 7,806 new places in HE	- 8,987 new places in HE	- 17,031 new places in HE

Note: Of these academic programmes, 31% are classified as virtual or distance education.

According to the programme’s evaluation reports, its main outcomes and effects are:

- There has been a successful paradigm shift from a traditional to a “hybrid system”, which has broadened the consensus on the economic and social value of competency-based technical education, programmes coordinated with secondary education and on public accountability for meeting industry training needs.
- The engagement of industry was consistently evident through the design, selection and incorporation of competencies and modules into most new academic programmes.
- Strong support from the private sector has been secured for the new coordinated programmes, stretching from secondary level through to universities, resulting in high levels of enrolment in TVE.
- Students who would never have contemplated pursuing higher education, particularly in more distant regional areas, have been enrolled, enabling them to join the workforce. As the available data shows, 67.2% of graduates are employed in the formal sector, with an average monthly starting salary of over US\$ 500.

Key Success Factors

Bottom-up strategy: Rather than imposing complex policy and rule change from the top, the Ministry of Education employed a bottom-up strategy that led to a successful grass roots involvement of managers and leaders, teachers, parents, administrators, students, industry associations, individual companies and different levels of government working together for a common set of goals. This has provided a sound platform for ongoing systemic reform.

Budget autonomy: The Ministry of Education provided the autonomy for the alliances to freely allocate the funds granted, as long as they followed the regulations set out by the Ministry of Education.

Regular institutional strengthening and monitoring and evaluation: In addition to the monitoring and technical assistances provided by the Ministry of Education, the alliances themselves made significant efforts and invested considerable resources in professional development programmes to support their members in key areas. The Ministry of Education also required the alliances to carry out self-evaluations, which enabled them to take control of their actions and outcomes.

Sustainability factors

Social benefits of TVE: To ensure a growing flow candidates enrolling in TVE, the Ministry of Education implemented a dissemination and advertising campaign entitled “Pursuing a career in a technical or technological sector gives you a place in life”, that informed school graduates of the potential benefits of pursuing these careers. By working on the demand side, the Ministry of Education has contributed to overcoming students’ reluctance to opt for these careers.

Institutional development and good governance: The programme’s component “Institutional strengthening of the Ministry of Education and higher education governing bodies” developed institutional capacity within the Ministry of Education and local education authorities, and supported the process of decentralization of higher education institutions that were still attached to the Ministry of Education. Thus, the alliances counted not only on the support of the Ministry of Education in terms of technical assistance but on existing key institutional arrangements that set an adequate policy environment, such as quality assurance systems, organization networks and policy guidelines for major programme reforms.

A planned second phase: Since the programme was considered a pilot, the Ministry of Education integrated part of its activities into its regular work programme, which ensured budget funding for continuing and enhancing the work of alliances.

Reproducibility in other countries

Although this initiative was launched and implemented within a particular policy environment – i.e. ad hoc legislation, political support, and institutional arrangements and mechanisms for reform assistance and sustainability – that conditions its replication, the initiative’s principles could be followed in the formulation of other countries’ innovative partnership projects. A short discussion follows:

Following a bottom-up approach is strategically important for triggering coordinated actions among main stakeholders while ensuring the necessary legitimization of the project’s objectives. Actions requiring inputs from the target population or potential recipients can benefit most from this approach.

Decentralized resource allocation: Given its contribution to achieving efficient and effective resource allocation, this principle should be replicated in public-private partnerships with the necessary monitoring and accountability measures.

Self-evaluation culture: The decision of the Ministry of Education to invest the alliances with the responsibility for carrying out their own impact evaluations enabled them to take control of their actions and outcomes. The availability of methodological guidelines and training facilitates replication of this feature in other initiatives and places.

Leadership and institutional development: These actions should also be replicated in any other partnership initiative because of their crucial role for providing an adequate policy environment and regular support to the partnerships in their tasks execution.

Policy Recommendations

As a first concrete action to embark on an innovative partnership, governments should assess the advantages of pursuing partnerships to tackle specific development issues as was carried out in this case in Colombia, given the significant investments of material resources, efforts and time required for partnerships formulation and implementation. This step is also crucial for ensuring government ownership.

Second, ex ante conversations among the potential partners are necessary to identify to what extent their interests are aligned and the extent of their institutional and financial capacity to carry out actions according to the objectives and standards set for the project.

Another recommended action is the development of an adequate policy environment including the provision of mechanisms and tools such as methodologies, guidelines, standards, monitoring and evaluation systems and institutional arrangements. These are essential for ensuring that partners carry out their activities in accordance with the existing technical standards and financial regulations.

A permanent communications channel between the government and the participating parties also should be established to ensure that timely adjustments can be made and additional support can be provided to the partners.

Lastly, to ensure the sustainability of the partnerships, governments should establish from the inception of the project the funding sources mechanisms, including the partners’ co-funding.

Keywords/tags: Technical and vocational education, partnerships, Ministry of Education of Colombia

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Case 5. Promotion of Productive Development through the Inclusion of Women in Quality Employment in Central America

Geographical scope: Central American countries

Thematic area: Women's economic empowerment and gender equality.

Executive Summary

This initiative aims to harness both public and private sector know-how and experience to identify key public policy recommendations to increase women's economic autonomy and, more specifically, to create more quality employment for women in dynamic sectors of production. Implemented during 2013 in Costa Rica, El Salvador and more recently Panama, the initiative has also been extended to Peru.

Description

While Central America has demonstrated significant potential for economic growth in recent years, even overshadowing other parts of the region, inequalities persist. From the gender perspective, there is an inefficient use of women's capabilities. Women's access to education often exceeds that of men, yet labour participation rates and wages remain significantly lower for women than for men. This can be attributed in part to a lack of policies to encourage shared responsibilities in care between men and women, but also between the state, the market and families.

A look at women's economic autonomy in the region shows that one in three women does not have an income of their own, whereas, according to data from the Gender Equality Observatory for Latin America and the Caribbean, only 11.7% of men are in the same situation. Despite the demonstrated economic growth and overall reduction of poverty, there has been a simultaneous and steady increase in the feminization of poverty, demonstrated by the proportion of women living in poverty, which reached 118 women for every 100 men in 2012. When women are employed, it is often in part-time precarious or informal work, which is centred in sectors of low productivity. Some of the barriers women face include access to credit, property and assets, burden of total work time when both paid and unpaid work is taken into account, as well as cultural values, discrimination and gender-based violence.

Despite existing evidence of economic and social benefits of integrating women in productive development, as well as the opportunity cost of not doing so, there are few if any active policies in the region that are promoting women's productive employment. Where protective labour measures have been introduced, this has not been extended to small or informal enterprises, where women are overrepresented. Although women's economic participation has increased, there has not been a significant change in legislation or institutional support to promote shared responsibilities with regard to reproductive and care tasks, which remain within the family and are almost the sole responsibility of women.

Governments in the region have developed plans and policies for gender equality with specific objectives aimed at promoting women's economic participation. However, these plans do not form part of the state economic and business agendas, or, for that matter, those of ministries of economy, trade unions, chambers of commerce, producer associations or the national financial system. Often, gender policies and plans have limited resources and focus on providing support to small producers, microcredit or other non-financial services, and therefore find it difficult to provide sustainable and lasting benefits in terms of women's integration in quality employment sectors of potential growth.

In sum, there are numerous studies both within and outside the region that take account of women's contribution to the economy as well as obstacles faced; there are also clear opportunities for integrating women's affairs in the regional agenda for productive and equitable development. Policies, mechanisms and institutions, however, need to be strengthened to efficiently address challenges relating to growth with equality, including gender equality.

The initiative, part of the ECLAC programme of cooperation with the Federal Ministry of Economic Cooperation and Development of Germany (BMZ), was first implemented in 2013 in Costa Rica and El Salvador. More recently, it is being replicated in Panama and outside of the Central American region in Peru. It is focused on the development of public policy proposals to improve the conditions of the involvement of women in dynamic growth sectors, based on existing knowledge in relation to the productive work of women in the region and ensuring an active engagement of cross-sectoral stakeholders and social organizations. The objective is to reach an agreement between public and private institutions for the implementation of policy recommendations. This is achieved by identifying key actors in each country, and subsequently organizing a series of national workshops to provide visibility for existing policies and programmes in the country, improve coordination across sectors and disciplines, identify remaining challenges and, finally, adopt a common agenda.

The project adopted a participatory implementation strategy based on constant communication with stakeholders and the establishment of dialogue and consensus-building which harnesses the knowledge and experience of both the public and the private sector in the selected countries, bringing together different disciplines, institutions and social actors. The aim of including a multidisciplinary approach, entailing a public-private partnership, favours the adoption of common approaches and strategies and creates synergies.

In Costa Rica, the principal stakeholders involved from the public sector are the Ministry of Economy, Industry and Trade (MEIC) and the National Women's Institute (INAMU), which, together with the Ministry of Agriculture, have been leading the project implementation. During the course of the project, the Ministry of Science, Technology and Telecommunications (MICITT) and the Ministry of Labour and Social Security also joined the initiative. From the private sector, key representatives include private companies such as Wal-Mart and Intel, as well as the national chamber of commerce, the chamber of industry and the chamber of technology, as well as associations of women leaders and entrepreneurs and the Business Association for Development.

In El Salvador, the initiative has been led by the Ministry of Economy and the National Institute for the Development of Salvadoran Women (ISDEMU) as well as the Technical Secretariat of the Presidency, which joined a few months into the project. From the private sector, the Chamber of Commerce and Industry and a number of key civil society actors have become involved.

Results, Outcomes and Impact of the iPPP

In Costa Rica, a first meeting with approximately 40 representatives of the public and private sectors was held on 18 February 2013, which opened the dialogue on the role of women in the Costa Rican economy and some of the key barriers they face in finding quality employment. The project was officially launched on 10 May by the Minister of Economy and Minister of Agriculture together with INAMU, following a high-level dialogue between these ministries and key selected representatives of the private sector.

Four technical meetings took place in 2013, each with the participation of between 30 and 40 representatives from the public and private sectors. The meetings allowed firstly a discussion of the current situation and available programmes and support, and subsequently engaged stakeholders in working groups to develop and design an intervention strategy to improve the economic situation of women in Costa Rica. An implementation plan for the strategy is now being finalized. In parallel to this work, a survey was launched with the support of women's associations to map the situation of women entrepreneurs, and provide these women with a voice in the design of the public policy recommendations. Over 800 responses were received and analysed. The progress made in Costa Rica was shared with other countries at the XII Regional Conference on Women in October 2013. Future activities include the design and launch of a Web portal to centralize all the information relating to policies and programmes strengthening women's autonomy in Costa Rica, with the aim of making it more accessible to potential beneficiaries.

The project in El Salvador was launched on 2 May by the Minister of Economy together with the National Institute for Women's Development (ISDEMU). Since then, three technical meetings have taken place with 40 representatives of different ministries as well as civil society. The meetings served to give visibility to the work being done on women's economic empowerment and improve coordination among different sectors. As a result of work carried out at the meetings, a report has been drafted and is in the process of being published. The meetings also served to secure a national-level agreement including key policy recommendations on how to increase women's economic autonomy. Progress made was shared with other countries at the XII Regional Conference on Women in October 2013.

Key Success Factors

Throughout the implementation of this initiative, governments and ECLAC have made unstinting efforts to engage in a process of continuous learning by taking on board lessons learned in the workshops and seminars that examine the specific characteristics, contexts and institutional constraints in each country. Key success factors identified have been the necessity to engage the private sector in the assessment and design of public policies in which all sectors have a role, reinforcing the need for dialogue and consensus building both within different sectors of the government and between the government and the private and the non-profit sectors. The engagement of different stakeholders in the development of new policy recommendations is key to their ownership. Throughout this process, political leadership by the leading ministries has proved to be key in ensuring that all actors participate and are engaged, as well as for the sustainability of the dialogue and proposals developed.

Sustainability factors

By employing a strategy that engages all relevant stakeholders from the public and private sectors, the initiative has built trust and led to ownership of project objectives by the participating actors, and has struck the right balance between processes and results. The project aims to promote sustainability on three levels: political, through the Regional Conference on Women in Latin America and the Caribbean; technical, by strengthening national capacities of both the public and the private sector and their coordination, as well as ensuring knowledge sharing; and social, expressed through the participation of organizations of women workers and entrepreneurs which promotes the continuity of the project and its results.

Reproducibility in other countries

Originally, the project was planned to be implemented in Costa Rica and El Salvador, with a view to sharing lessons learned with other countries in Central America through the Council of Ministers of Women of Central America and the Dominican Republic (COMMCA), part of the Central American Integration System (SICA). Over the course of 2013, the two participating countries shared their experiences at the XII Regional Conference on Women in Latin America and the Caribbean, held in October 2013 in the Dominican Republic, as well as the related subregional preparatory meetings which took place in May 2013. As a result of the shared experience of Costa Rica and El Salvador, two countries – Panama and Peru – specifically asked ECLAC to replicate the experience. In Panama, project activities began in October 2013 and the first meetings of public and private sector representatives took place in January and February of 2014. In Peru, the project was launched in November 2013 with a cross-sector commitment signed by the Ministers of Women and Vulnerable Populations, of Productivity, of International Commerce and Tourism, of Labour and Employment Promotion, and of Economy, who agreed to work together to implement the initiative, and the first bilateral meetings with the Chamber of Commerce of Lima, the Association of Exporters and the Association of Women Entrepreneurs of Peru.

Policy Recommendations

The response from governments participating in the XII Regional Conference on Women was very supportive of this initiative, to the extent that a specific request was included in the Consensus of Santo Domingo in which countries: *“Urge the Economic Commission for Latin America and the Caribbean, through the Division for Gender Affairs, to carry forward action to promote production development and women’s economic autonomy by raising the profile of women engaged in production activities and designing and implementing an integrated, inter-agency and intersectoral approach for the support of women entrepreneurs, women producers and businesswomen within value chains”* (Article 68).

The project also revealed the need to strengthen official statistics on women’s economic autonomy, especially with regard to economic indicators and data and key issues such access to credit, productive assets including land and technology.

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Case 6. Global University Engagement

Cornell University and the Government of Panama

Geographical scope: Panama

Thematic area: Educational development

Executive Summary

Panamanian President Ricardo Martinelli signed a memorandum of understanding (MOU) with Cornell University to develop one of the first public-private partnerships (PPPs) created by Cornell and a sitting head of state (Cornell Institute for Public Affairs, 2013). The purpose of this relationship was to use Cornell's status as a global university to foster human capital development, economic growth, social welfare and sustainable infrastructure. The Martinelli administration believes that, through academic partnerships, Panama can overcome the gap in professional education that is jeopardizing economic prosperity and sustainable development in Panama.

The Cornell Institute for Public Affairs (CIPA) developed a strategic alliance led by faculty, students and the President himself to prepare civil servants and select Panamanian students for the demands of the global digital economy. The areas of expertise at Cornell and CIPA will prepare students to address policy issues on PPPs, infrastructure, science, technology, economics and financial policy, sustainable development, government, politics, human rights, social justice, international development and public and non-profit management. The model relies on innovative funding mechanisms to provide financial support for students and rethinks the distribution of benefits and risks that characterizes traditional, unidirectional university-government partnerships.

Description

Universities have long been recognized as being important drivers of political, economic and social development. In the United States, numerous studies have provided evidence of a correlation between strong university-community relationships and economic growth. (Devol, 1999; Bartick and Erickcek, 2008; Shaffer and Wright, 2010; Trani, 2010). At the national level, US government subsidies to higher education, dating to the Morrill Land-Grant Acts of 1862, have provided incentives for a range of knowledge-sharing partnerships between the federal government and domestic US universities. Universities in the United States also frequently serve as pools of expertise and technical assistance concerning international development activities. However, many of these global engagements are characterized by high-level peer-peer interaction, where faculty and staff from US universities provide consulting and advisory services to counterparts in host countries. Because this traditional, unidirectional model of global university engagement does not involve shared financial or operational risk, it does not fit the mould of a conventional public-private partnership.

The global innovation economy has expanded the role universities can play in fostering innovative and sustainable solutions to complex public policy challenges. At the same time, many university presidents in the US have advocated redefining major research institutions as "global universities" with an *obligation* to build human and institutional capacity, alleviate poverty and reduce inequality around the world (Skorton, 2008). For universities to assume this obligation, a substantial departure from the traditional, unidirectional model of global engagement is required. This new approach also requires meaningful collaboration, where local stakeholders play a critical role in defining the goals and approaches applied in university partnerships. Finally, this commitment entails rethinking the distribution of risk in university partnerships, as global universities and institutional counterparts abroad become co-investors in human capacity building. Despite great demand for the kind of academic and professional development offered by global universities, the tuition at many of these institutions often prices out high-calibre students with limited financial means. Likewise, governments seeking training opportunities for civil servants are

reluctant to invest the time and money required to support personnel seeking advanced degrees in the United States. For universities and potential counterparts, the challenges of rethinking global university partnerships as mutually beneficial PPPs are therefore linked to academic, financial and workforce development concerns.

Panama is one of the fastest-developing countries in the world, and recent economic projections by the World Bank suggest that Panama will continue growing at a steady rate⁴⁴. According to Panama's president, (Martinelli, 2013), Panama's geographical position in Central America is logistically advantageous, facilitating competitive transportation and freight connectivity through land, sea and air. As President Martinelli notes: "Panama is an ideal site for doing business in the region as a result of its open service economy, political and social stability, dollarized economy, position as an international financial centre and world-class logistics platform."

The current rate of infrastructure development in Panama through public-private partnerships is unprecedented in Central America (Roy, 2013). Nevertheless, the country has been lagging behind in human development, particularly in education. The lack of educational opportunities in Panama has the potential to jeopardize the economic prosperity of the country. According to Mattson and Teran (2011), as cited in the *Global Competitiveness Report 2011-2012*, Panama's primary education ranks 129th among 134 countries, and in higher education, Panama is ranked 128th. As a result of the gap between economic growth and human development, the government launched an aggressive campaign to develop partnerships with global academic institutions, as well as scholarship programmes for civil servants and deserving students pursuing degrees abroad.

Mattson and Teran raise the issue of challenges faced by the country as a result of a widening education gap and accelerated economic growth: "A global crossroads with 4% of global trade moving through its canal, Latin America's two busiest ports and a communications and financial infrastructure that draws global investors, Panama is running out of skilled workers." The increase in foreign direct investment and heavy investment in infrastructure have stretched the country's labour market, revealing the need for highly specialized human capital and capacity building in the public sector

workforce. Skilled administrative personnel are required to fill critical needs positions in ports, business centres and free trade zones. While Latin America's economic inequalities are among the most extreme in the world, and are reflected in very poor education for all but the wealthiest, Panama has even more severe challenges. As Mattson and Teran argue, no other Latin American nation "combines greater wealth than several European nations and almost double-digit economic growth with one of the worst education systems in the world. Except Panama."

Innovative model of iPPP

In the Cornell University-Government of Panama model, Cornell developed a memorandum of understanding that established two degree tracks for obtaining the Master's degree in public administration (MPA) from the Cornell Institute for Public Affairs (CIPA). The first track is designed for civil servants in the Panamanian government with five or more years of relevant experience in public service. Applicants through the civil service track receive full tuition sponsorships through the Institute for the Training and Use of Human Resources (IFARHU), a government agency that provides scholarships to citizens of Panama seeking undergraduate and graduate degrees abroad. CIPA has committed to funding an internship or research project undertaken between the first and second years of study, as well as an assistantship that would enable civil servants to support advanced research undertaken by Cornell faculty members.

Given Panama's interest in developing human capacity in technology and infrastructure, CIPA created a specialized, intensive degree focus that provides training in transportation project design, management, and evaluation. Traditionally, the MPA degree at Cornell is a two-year, four-semester course of studies. In this programme, applicants through the civil service track are able to complete the degree in three semesters of coursework, with the fourth semester spent completing an in-service research project in Panama. This three-semester option was developed as a means of making the arrangement more cost-effective for the Government of Panama, and reducing the amount of time civil servants spend out of service. Cornell and IFARHU established a cap of six students per year sponsored through the civil service track. In addition to the civil service track, Cornell and IFARHU developed a general application track

available to any applicant meeting the selection criteria of both parties. For general applicants, Cornell and IFARHU have each agreed to co-sponsor 50% of a student's tuition expenses.

The innovative nature of this PPP is rooted in the distribution of financial and operational risk across both stakeholders (Cornell University and the Government of Panama). Financial co-investment expanded graduate educational opportunities for low-income and government applicants. In addition to financial co-investment, from an operational perspective, Cornell created a specialized degree programme for civil servants that was tailored to Panama's needs, and adjusted the time to degree completion from four to three semesters for civil servants.

Results, Outcomes and Impact of the iPPP

The Cornell University-Government of Panama model was approved by both parties in April 2013. After the agreement was signed by President Martinelli and representatives of Cornell University, a delegation from Cornell travelled to Panama to meet with IFARHU representatives and finalize recruitment and selection logistics. Parties anticipate the first cohort of students from Panama to begin their MPA course in the first quarter of 2014.

Key Success Factors

Key success factors include shared values of flexibility and efficiency, as well as a comprehensive buy-in among stakeholders. Operational flexibility allowed both parties to make accommodations and concessions to ensure the cost and effectiveness of the partnership. Because this initiative was spearheaded by President Martinelli, aspects of the MOU that were controversial from the government's perspective were efficiently negotiated and resolved. Likewise, internal stakeholders at Cornell, including university administration, CIPA administration and area studies programmes, worked collaboratively to ensure an equitable distribution of benefits and risks. Administrative issues that remained problematic were addressed by peer-level collaboration between Cornell and IFARHU representatives.

Sustainability factors

No negative environmental concerns are anticipated as a result of this programme. However, the partnership will provide students from Panama with access to a wide range of research and teaching resources at Cornell focused on environmental sustainability, including the Atkinson Centre for the Environment, the Johnson Graduate School of Management's Centre for Sustainable Global Enterprise, and the Cornell NYC Tech Campus. This will enable students to learn and implement sustainability best practices in Panama and throughout Latin America.

Reproducibility in other countries

Reproducibility in other Latin American countries is anticipated to be high. Many countries either maintain a government agency or office similar to IFARHU that is responsible for overseeing grants for higher education, or work closely with non-governmental organizations that sponsor such programmes. Cornell is currently in discussions with potential government or NGO counterparts in Costa Rica and Brazil to replicate this programme. A major obstacle is funding: not all governments will be able to commit to the type of funding arrangement that was developed in the Cornell University-Government of Panama model. In these cases, a triangulated funding approach involving government, the private sector and academia might be required to sponsor students. Other potential obstacles to reproducing this programme may emerge in the MOU development stage. There were a number of legal issues concerning liability, intellectual property and controlling jurisdiction that required resolution before Cornell University counsel and counsel from the Government of Panama would finalize the agreement. There are two potential sources of incompatibility in this regard: incompatibility between academic and public sector protocols on these issues, and cultural incompatibility between the United States and counterparts on these issues.

Policy Recommendations

Cornell University and the Government of Panama have taken the lead in developing an innovative global university partnership model. If designed in the spirit of distributing benefits and risks equitably, these partnerships can make tremendous contributions to human development and local capacity building. Most of the challenges for developing new partnerships of this kind can be resolved by developing shared frameworks between universities and government partners on potentially controversial legal issues. Cornell's Office of the Vice-Provost for International Affairs and Cornell University counsel have developed a range of useful resources for understanding academic concerns regarding the risks of these partnerships: <http://www.international.cornell.edu/international-agreements>. Online resource gateways can promote best practices and common legal frameworks, and counterparts can sponsor local or regional conferences to provide academic administrators and government counterparts the opportunity to network and deepen relationships.

Since the availability of funding is inconsistent across universities and governments, counterparts should actively solicit co-investment from private donors. The next development in this type of PPP might be a triangulated model, with students jointly sponsored by government, the private sector and universities. Furthermore, government stakeholders should think strategically about their investment in these partnerships to ensure high return. For example, counterparts might make funding conditional on the student returning to their native country (to prevent human capital flight). Above all, this model requires an entrepreneurial spirit and comprehensive buy-in among stakeholders to overcome the often significant bureaucratic and logistical obstacles to partnership.

Keywords/tags: Education, higher education, Panama, human capacity building, workforce development, public-private partnership

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Case 7. Digital Health Project of the Federation of Internal Medicine (FEMI)

A public-private integration experiment in the health sector

Executive Summary

This nationwide experiment aims to develop and implement instruments using information and communication technologies (ICTs) to improve the efficiency and productivity of institutions belonging to the Social Health Insurance System of the Federation of Internal Medicine (FEMI) and public hospitals of the Public Health Services Administration (ASSE). It was developed as part of the Inter-American Development Bank Multilateral Investment Fund project entitled “Improving management and productivity in the health system in Uruguay”.

Description

The development of the Uruguayan health market is contingent on improvements to the management processes of service providers and more widespread use of information systems to enhance the efficiency and quality of the services provided and the information needed to improve healthcare and clinical management. The above-mentioned integration refers to the pooling and joint organization of resources to provide services. In terms of the health sector, integration relates to each of the essential components of the health systems, i.e. the population and institutions. A number of instances of the public and private sectors complementing one another have been observed and are still ongoing, especially in the interior of the country. These have been based largely on a degree of goodwill, prestige and interpersonal relationships and will serve as a basis for formal integration. A reform of the health system was launched in Uruguay in 2005 and will involve changes in models of medical attention, management and financing. The National Integrated Health System (SNIS), established by Law 18.211

of 5 December 2007, which was passed as a result of this reform, seeks to foster equitable access to health services and to modify the model of attention. It applies primary care strategies by prioritizing the needs and rights of citizens, with special emphasis on the development of care behaviours and social participation⁴⁵.

FEMI has had to adapt to and align itself with the changes proposed by the new SNIS. One of the requirements laid down by the health authorities was that the different healthcare institutions should provide health, clinical and epidemiological information relating to users. The changes that will be ushered in by the series of demographic, epidemiological and economic developments will make ICTs a fundamental tool not only for generating information but also for evaluating health systems, both public and private. Developing and implementing ICTs for the management of health institutions will be crucial in overcoming the shortage of accurate clinical and epidemiological information relating to the patient population. The FEMI Digital Health Project, which encompasses the FEMI institutions and ASSE hospitals, seeks to provide the requisite tools to improve the overall management of the institutions and enhance the quality and security of medical care for the benefit of users.

This project is supported by contributions from the FEMI Management Committee, whose core objective was to launch a reform process involving the establishment of a comprehensive, nationwide enterprise to standardize practices and strengthen the unity of the system without sacrificing decentralized administration or autonomous management. The proposal and design of new management tools to improve the effectiveness, efficiency and quality entailed running an initial phase to analyse the situation with reference to its structural factors. The objective of the FEMI Digital Health Project is to enhance management efficiency and foster integration between the institutions that make up the FEMI network, by developing and implementing ICT-based instruments, such as the electronic clinical record (HCE), the telemedicine network and a balanced scorecard. Under the programme agreement, documented in the donors’ memorandum, two public hospitals that fall within the sphere of ASSE have been incorporated into the FEMI experiment. A service contract has been signed with these hospitals in which FEMI, through its project executing unit, will have to decide on the implementation of the different solutions in the two hospitals.

The Uruguayan health system underwent major reforms in terms of its design and financing arrangements, and FEMI, which found itself facing new demands for information for management purposes, has had to adapt to these changes. The FEMI digital health (FSD) project is part of its response to the need for clinical and epidemiological information and its members’ requirements for new instruments, measures to promote good health and preventative targets. The most important tool for improving the comprehensive care and management process has been the implementation of the electronic clinical record in its institutions. This is expected to have benefits in terms of care provision for users and to improve institutional and federal management. To this end, the following objectives have been defined:

- Provide support and mechanisms for participation in the local data-processing initiatives of each institution
- Contribute to the preparation of human resources through face-to-face and online courses taught by national and foreign teachers
- Participate actively in setting national standards, with the involvement of the Office of the President and various technical committees in the Uruguayan Society for Standardization, Exchange and Integration of Health Services Data and Information (SUEIDISS)⁴⁶
- Establish a strategic partnership with the Uruguayan Health Information Society (SUIS) to hold the first introductory course in medical data-processing for FEMI medical and computer technicians, with the support of the International Medical Informatics Association (IMIA)
- Forge partnerships for collaboration with foreign institutions that use digital tools to boost management and medical knowledge
- Participate actively by providing technicians and knowledge in digital development in various forums and committees, together with the Ministry of Public Health, the Electronic Government and Information Society Agency (AGESIC), the National Resource Fund (FNR) and FEMI executing units
- If expansive telemedicine programmes such as this one are to succeed, access to the enhanced computing power of the cloud must not be limited by data location requirements

Achieving these goals will facilitate coordination of the FSD project with the different public and private stakeholders involved in electronic health initiatives in Uruguay. This initiative is therefore aligned with one of the main pillars of the health reform system: complementarity and integration of services.

Uruguay currently has a population of 3,286,314, of whom 40% live in the capital Montevideo and 60% in the interior. The National Integrated Health System of Uruguay is made up of subsectors comprising service providers from the public and private sectors. The network of the Public Health Services Administration (ASSE) is the principal public entity in the country and comprises hospitals, health centres and polyclinics. It provides health services for a population of 1,192,580, or approximately 36% of the total population. The private sector includes non-profit organizations, with 47 comprehensive prepaid healthcare providers, 12 of which have their headquarters in Montevideo and the rest in the interior. Twenty-three belong to FEMI, which has 800,000 users or 25% of the population of the interior, who are served by a network of 34 general hospitals, 87 polyclinics and a referral centre in Montevideo, which caters for more complex diseases.

Currently, FEMI has eight institutions that use electronic clinical records in the areas of emergency care, epicrisis and outpatients services, and two public hospitals that use them to provide emergency services. The entire care staff of the 10 emergency services were trained to use them, and two months after the system was set up in the emergency facilities, it had met the approval of 80% of senior care staff. Furthermore, a user survey of the electronic clinical record system showed that 87% of the 143 doctors and nurses surveyed responded that they were satisfied or very satisfied.

Innovative public-private partnership (PPP) model

The project provides for the implementation of three information systems in the FEMI care network: the telemedicine network and balanced scorecard (for all FEMI institutions) and the electronic clinical record in the emergency, epicrisis and outpatients departments of five FEMI institutions and two ASSE hospitals. Capacity building will be carried out at both ASSE and FEMI to provide operational support to the units set up during the functioning phase and to integrate the rest of the executing units that did not take part in the pilot experiment into the system.

The electronic clinical record system generates data that serve as inputs for administrative and clinical management. The care facilities in administrative centres in the rural interior and in core centres in other rural areas will share human, physical and technological resources so that the clinical records will be maintained in a standardized, user-friendly way.

Since national integrated health system users can, voluntarily or depending on the social insurance system, participate in the system in a variable or ad hoc manner, they will have a unified electronic health record belonging to them in any eventuality. This will enable analysis of epidemiological indicators or indicators of the provision of services and costs relating to the same population or geographical area. This is innovative since there are currently at least two different large-scale data systems used in the public and private sectors, without mentioning public and private sub-systems that are not covered by this initiative.

The institutions involved are, on the one hand, public hospitals, that essentially provide state-financed, hospitalized healthcare and are open to the general public without discrimination. They operate as a social, solidarity-based public service and include training services at the Faculty of Medicine of Uruguay, and have the same characteristics as hospitals elsewhere in Latin America. The FEMI institutions, on the other hand, trace their origins to the medical unions of the country's interior and have been developed over the past 60 years. FEMI health centres provide hospitalization and outpatients' services and are funded by more than 70% by the national integrated health system. They are comparable to social security systems regulated by sectoral laws and agreements signed with the state. All these institutions operate on a non-profit

basis and are grouped into a federation that is governed autonomously with geographical decentralization of the executing units across the country.

The vision of reform process is to integrate the two systems gradually, with a closer, more complementary relationship and with the community, education centres and non-governmental organizations. Competition for customers will be on the basis of adjustments and mutual benefits, which will improve, through concerted actions, social solidarity and the responsibility of the system in terms of providing healthcare.

Implementation strategy

The use of new information tools, among them the electronic clinical record, modifies the current clinical care processes and in many cases involves a reengineering of processes that is not expected to complicate medical procedures. Experience in this regard suggests that when such projects fail, it is usually because health professionals refuse to adopt the tools or because the institutional guidelines are too weak to push through the necessary change.

To address this issue, the FSD Project hired a consultancy to outline the strategy for implementing the change, define the organizational context in which the project would be developed, detect strengths and possible interferences or obstacles, identify appropriate components for use in handling the change, and prepare guidelines for communication and human management of the change. In light of these recommendations, a multidisciplinary team was formed with members of ASSE and FEMI and the technological partner. This team included members with different profiles: health managers with decision-making power; technical directors; doctors; computer programmers; project directors; medical record experts; and development and implementation teams that used recognized project management methodologies to carry out the survey exercises of the care processes, adapted the systems to the processes in question, validated progress and initial production methods, and provided training in the use of the systems to training staff, end users and first-level medical staff.

Financing is provided within the framework of the project through locally generated funds of the 23 FEMI member institutions and non-refundable loan funds from the IDB Multilateral Investment Fund (MIF). The operation amounted to US\$ 3 million, financed on an equal basis by the two entities. Once the electronic clinical record provider had been selected, through an international public invitation to tender, and once the agreement for installation in the two public hospitals had been signed, the latter pledged to provide US\$ 150,000 in kind. These contributions translate into man-hours of the medical and technical staff tasked with analysing care processes, adapting the original systems to make them compatible with the electronic clinical record, validating the electronic clinical record system, training trainers and end users, and providing first-level support for medical staff. However, no account was taken of the hospitals' requirements to adapt their facilities to accommodate rented infrastructure and to install networks, equipment or cables; the total estimated contribution in kind for this project will, in fact, be twice as high.

Results, Outcomes and Impact

Multidisciplinary teams made up of professionals and technical staff from both the public and private spheres have successfully been integrated. To date, the proposed objectives of setting up the systems in the two public hospitals have been successfully met, as recognized by the ASSE and MIF authorities.

The two organizations have decided to extend the pilot experiment to their other institutions. FEMI is committed to pursuing this project and is in the process of drawing up a sustainability plan. ASSE has presented an expansion project to the rest of its emergency services and is confident that assistance and support will be forthcoming from MIF.

If both of these expansion projects come to fruition, emergency clinical records will be successfully established at 57 hospital facilities in the country, divided between Montevideo and the interior, covering approximately 60% of the national population.

Key Success Factors

Success will depend on whether technology that may be effective in other sectors of the society proves efficient and effective in the health sector, and particularly in emergency services.

The effectiveness of the proposal is contingent on, among other things, its acceptance by the health system and society, and on its impact on social well-being based on knowledge of actual production and consumption of services, costs and the epidemiological map. Given that, on average, 25% of daily consultations in the system are with the emergency services, the information provided is significant for setting priorities and earmarking resources. This undertaking may be expected to be effective provided that this finding can be integrated into clinical and administrative management and that this knowledge enables improvement in the quality of care and the security of the patient at a reasonable or sustainable cost.

The technology selected is sufficiently flexible, globally acceptable and should prove to be sustainable over time. Acceptance by users is linked to the academic training mechanisms that can be put in place to help train health professionals. The FEMI Digital Health Project (PFSD) is currently developing a 180-hour medical information diploma as a pilot experiment for FEMI staff. A new module open to members of both the public and private system is being proposed for the coming year with an option to upgrade the diploma to a postgraduate diploma or a Master's.

FEMI considers that the economic support and knowledge transfer received from FOMIN/IDB, along with the actual project management, has been a key factor in the results obtained and brings credibility and trustworthiness to the organizations (and related entities) that facilitate the promotion of the benefits of this technological implementation and organizational reform.

Sustainability factors

Sustainability is understood to be the capacity to continue providing services and initiatives generated under the FEMI Digital Health Project after the support provided by FOMIN/IDB comes to an end. The project design provides for the continuity and maintenance of a coordination unit, wholly financed by the centralized FEMI office, as a benchmark for the maintenance and future development of this new technology. This unit will provide planning, evaluation and security functions and will also be responsible for selecting and including those standards that allow for maintenance of integration through interoperability and medical terminology.

In this regard, the focus should be on building technical, institutional and financial capacities and on coordinating networks to give continuity to the processes and maintain existing benefits.

The project's legal viability and expansion are governed by the regulatory framework existing in the country. Thus, a legal framework must be developed to provide guarantees and safeguard the rights of citizens and establish clear rules in the relations between the different social actors. This framework includes Decree No 396/03 of September 2003, which deems the electronic clinical record to be valid in legal medical terms; Law 18.331 or Protection of Personal Data and Habeas Data Act, which recognizes the right to the protection of personal data; Law 18.600 of September 2009, which recognizes the admissibility and legal validity of the electronic document and electronic signature; and Article 72 of Law 17.930 establishing the Electronic Government and Information Society Agency (AGESIC), which manages the national project referred to as Salud.uy, whose specific goals include the definition and introduction of a single electronic clinical record.

The economic and financial sustainability of this Electronic Clinical Record is ensured by FEMI through the actual contributions of its institutions, plus 3% of the amount paid by the national health fund to health service providers with ICT projects validated by the Ministry of Public Health. Under ASSE, a project with funding from FOMIN/IDB has been approved for the extension of this experiment to the rest of the ASSE emergency network.

A technical work team has been developed with knowledge and skills and systematized, well-documented methodologies. It applies best practices in the management of electronic health projects.

Reproducibility in other countries

The process followed during this project represents the most logical and most widely accepted course of action both nationally and internationally, as reflected in international standards and best practices of health project management. This project requires a decision to be taken at the government level regarding use of these technologies, a conviction of the possible improvements ICTs could bring, and it must be technically feasible given the communication networks and integration needs.

Other experiences of innovative public-private partnerships fostering the use of ICTs in the health sector are related to the development of telemedicine virtual networks⁴⁷ in the region. These help to broaden the coverage and quality of health and sanitary specialized knowledge as well as improve research and capacity building. Two examples are provided by the “Red Universitaria de Telemedicina (RUTE)” network in Brazil and the “SOS Telemedicina”⁴⁸ network in the Bolivarian Republic of Venezuela, involving government authorities, public university hospitals and health centres, academic institutions and the private sector.

Policy Recommendations

- Analyse current or historical information systems and health records in epidemiological, demographic and economic terms and their cost, as measured by effectiveness, efficiency, quality and security indicators.
- Governments and public authorities need data, information and knowledge that enable them to prioritize health needs and allocate resources.
- Governments should assume responsibility for ICT governance and making the corresponding recommendations and regulations.
- Criteria used to select technology should be consistent with those used by academic bodies.
- ICT user training of a sufficient quality and quantity should be provided at different operative levels.
- The purposes of these technologies should be communicated to all levels.
- Long-term, sustainable financing should be secured in advance, since these are long-term projects.

- Suppliers of reliable and secure systems that guarantee market permanency should be selected.

Keywords/tags: Improvement of healthcare processes, connectivity, semantic and syntactic interoperability, medical knowledge, quality, efficiency, security, social responsibility, standards, medical terminology

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Related websites / online material:

See [online] <http://www.eclac.cl/socinfo/noticias/paginas/3/44733/newsletter12.pdf>

See [online] <http://sos.ucv.ve/> and <http://www.eclac.cl/publicaciones/xml/7/49897/SOSTelemedicinaVenezuela.pdf>.

See [online] <http://www.sueiidiss.org>

Case 8.

Affordable Earthquake-resistant Housing

Geographical scope: Central America and the Caribbean

Executive Summary

Earthquake-resistant houses are essential for preventing tragedies caused by earthquakes. However, for these houses to be introduced in slums and poor rural villages, innovative solutions are needed. Inexpensive and easily accessible local materials have to be tested, together with the appropriate designs. The large-scale structure-testing laboratory of CENAPRED (Mexico's National Centre for the Prevention of Disasters) was used to study the seismic behaviour of the frame and brick and adobe structures common to Mexico, Central America and the Caribbean. Research was also conducted on work to repair and strengthen damaged buildings, on building foundations and on soil composition. The technology and innovative methods developed by CENAPRED were widely used in the joint El Salvador-Japan-Mexico TAISHIN project, which promoted earthquake-resistant houses in El Salvador from 2003 through 2012.

According to a study on two major earthquakes that affected El Salvador in 2001, 60% of the houses destroyed were those of poor people (those whose income was less than twice the minimum wage of the country). Low-cost houses made of improved adobe, soil cement, block panels and concrete blocks were therefore tested. The project also established technological standards for earthquake-resistant houses and increased the capacity of the government agency in charge of housing policy and construction permits. An association of private construction companies from El Salvador is currently participating in efforts to make earthquake-resistant houses more widespread.

This initiative, El Salvador's Taishin project, is regarded as innovative, firstly because it came up with a way to coordinate the efforts of public and private stakeholders as well as universities committed to making low-income families less

vulnerable to earthquakes and other natural disasters. Secondly, it is innovative because the Taishin model has been developed by years of efforts to find affordable and locally available materials and construction design of houses for low-income families by scientific and technological activities, using large scale seismic testing laboratories. And thirdly, while public institutions have established standards for earthquake-resistant houses based on scientific evidence, it is innovative because private enterprises, convinced of the importance of the resilience of low-income families, have actively participated in the spread of such houses.

Description

Building earthquake-resistant houses is one of the most important challenges for countries vulnerable to natural disasters, because low-income families of these countries run the downside risk of losing most of their savings when they are affected by such natural disasters. The Taishin project (a Japanese word meaning "quake resistant"), or the project for "Enhancement of Technology for the Construction of Popular Earthquake-resistant Housing", aimed at reducing the disaster risk for residents in low-cost social housing in El Salvador. Started in 2003, the project is a collaborative response by Mexico and Japan to help El Salvador to recover and reconstruct the country from the aftermath of two successive tragic earthquakes in 2001, which resulted in over 1,000 casualties and caused extensive damage to buildings, especially social housing for low-income groups. According to a report by the Vice-Ministry of Housing and Urban Development, 163,866 houses (12% of the total number of houses in the country), were completely destroyed and 107,787 houses (8% of the total number of houses in the country) were partly or half destroyed. Of those who lost their houses, 60% lived on less than double of the national minimum wage. Public buildings were also affected, including half of the hospitals, one-third of the schools and even the Office of the President.

El Salvador was fortunate to be able to count on the assistance of a subregional centre of excellence in disaster prevention, the National Centre for Disaster Prevention (CENAPRED) established in 1990 in Mexico with Japanese cooperation. Through a tripartite partnership, major local stakeholders, including two universities (El Salvador University and Jose Simeon Canas

University of Central America, UCA) and a local non-governmental foundation, the El Salvador Foundation for Development and Dissemination of Housing (FUNDASAL), have jointly developed and piloted earthquake-resistant construction methods for social housing and compiled manuals and drafted guidelines.

Innovative model of iPPP

Taishin is an innovative model, because first of all, technological innovation took place in that inexpensive and affordable earthquake-resistant houses were designed using locally available low-cost materials and tested in large-scale university laboratories. The following four Taishin houses are among the most promising: houses made of reinforced adobe (bricks baked at a low temperature, generally by the sun). This method is eco-friendly and labour-intensive and has the advantage of the local availability of the basic construction materials, although the soil (clay) needed for this method is only available in certain regions. The preparation of soil-based cement (baking) takes slightly more time than concrete blocks and block panel. Two other methods, houses made of concrete blocks and of block panel, have the advantage of taking a shorter time to construct but are comparatively expensive.

Second, an innovative public-private partnership system was established. The Vice-Ministry for Housing and Urban Development is in charge of coordinating the TAISHIN initiative and establishing official standards. A private sector association, the El Salvador Association of the Construction Industry (CASALCO) has participated, together with ASIA, in activities to foster the spread of earthquake-resistant houses. Fundsal, an NGO in legal terms but with strong private sector involvement, is one of the key actors, producing and distributing construction materials in low-income communities, in particular by providing reinforced adobe and block panels, which are the most important materials in Taishin houses. Other NGOs, such as Caritas and Habitat, participate by implementing social housing projects. The two universities are in charge of research and development.

The Japanese government, through JICA, has facilitated this initiative throughout the process of formulation, execution and progress monitoring. It assisted partners in both managerial and financial aspects of the initiative including the provision of necessary equipment and facilities for Taishin experiments, by sending experts from Mexico, Peru and Japan and inviting Salvadorans for short-term training as well as long-term fellowships. Partner institutions in Japan include the Building Research Institute, the International Institute of Seismology and Earthquake Engineering (IISEE). Some national universities have also been engaged in the programme with the provision of training opportunities in Japan as well as the fellowship opportunities in partnership with JICA.

Results, Outcomes and Impact of the iPPP

All planned activities for the transfer and adaptation of Taishin assessment technology to the National University of El Salvador and the UCA have now been completed. These two universities are now capable of carrying out scientific seismic capacity assessments using large-scale laboratory equipment and facilities provided by Japan. As part of the Taishin programme, in collaboration with FUNDASAL, the two university laboratories have already finished testing the four low-cost housing construction methods. It is also noteworthy that in 2012, both universities established a Master's degree programme in earthquake engineering, which takes advantage of the capacity and expertise the universities have built up through the Taishin initiative. Although the adoption of these programmes is not wholly attributable to Taishin, this nevertheless shows that the universities are now in a position to offer such postgraduate programmes in a field closely related to that in which Taishin provided its expertise.

Secondly, the project succeeded in refining the four low-cost housing construction techniques to make them more earthquake resistant. In collaboration with FUNDASAL, the project undertook an experimental housing construction pilot project, based on the refined quake-resistance methods. With regard to the soil cement method – one of the four technologies appropriate for use in building low-cost housing – the project improved the soil-based cement by adding locally available volcanic ash.

Furthermore, in collaboration with El Salvador's "Chagas disease project" and JICA, the TAISHIN project also introduced the technique of mixing cement plaster into adobe, which is effective in preventing the insect that spreads Chagas disease (the "kissing bug") from encroaching into the walls and floors of adobe houses. The introduction of such an improved, yet low-cost technique to make adobe building methods more earthquake-resistant and repellent to insects is particularly beneficial for low-income groups. Following the satisfactory results of these pilot projects, manuals and training materials on the quake-resistant construction methods were developed and distributed widely. Several training events for their dissemination have also been organized.

In addition, there were other notable achievements, which were not fully envisaged at the beginning of the project. One such achievement was the organizational change in the management of the housing sector. Partly inspired by this tripartite programme, the Ministry of Housing and Urban Development's Bureau of Housing (VMVDU), the national policy-maker in the housing sector, voluntarily took the initiative to establish the Department of Standard Formulation and Investigation (UNICONS) and the El Salvador Construction Institute (ISC), with a view to modernizing the country's construction industry. UNICONS is currently reviewing relevant regulations and drafting standards pertaining to the four construction methods.

Key Success Factors

The key factors behind notable achievements of the Taishin initiative include: the strong demand for know-how matched by the provision of appropriate knowledge; the engagement of major key stakeholders committed to the cause; and institutional innovations for effective knowledge transfer and mutual learning.

The demand for know-how was matched by the timely and adequate provision of arrangements for exchanges of relevant experience. The desire to acquire relevant knowledge on safe earthquake-resistant housing in the post-earthquake period in the country was matched by the supply of know-how and technology from Mexico and Japan. Prior to the earthquakes in El Salvador, Mexico had acquired and adapted know-how from Japan over the years, following its tragic earthquakes in the mid-1980s. In other words, the fact that all three countries in this initiative had

shared experiences of recent tragic earthquakes became an underlying driving force in uniting them in this triangular cooperation programme. In El Salvador, the aftermath of earthquakes specifically highlighted the reality of low-income groups residing in social or self-constructed housing as the most affected population due to the inadequate construction methods used.

The need for the Taishin programme's know-how was then stressed at the emergency consultative group meeting for reconstruction, and repeated with the formulation and launch of a national development plan after the meeting. At the meeting, donors including the IDB pledged support, which included policy actions on housing issues with the provision of temporary housing and other related schemes such as special housing loans. The policy environment surrounding this initiative was further consolidated by the formulation and launch in 2004 of "Safe Country (2004-2009)" a coherent government development plan, soon after the start of Taishin. The plan clearly stressed the importance of the role of the state in ensuring adequate access to houses for the people in low-income brackets. The demand for Taishin know-how was also evident among implementing organizations. One such indication was the construction of a building by the UCA, which could accommodate the facilities for the experiments using its own financing. In this case, Mexico played the role of supplying knowledge to El Salvador via CENAPRED, its national disaster prevention centre.

Sustainability factors

Earthquake-resistant low-cost housing based on the Taishin model is highly sustainable because committed public and private partners, together with universities and NGOs, are collaborating through an established institutional set-up. Furthermore, Taishin construction methods are now about to be enshrined as standards by Vice-Ministry for Housing and Urbanization. Taishin's commercial sustainability is facilitated by these standards and by the active participation of private enterprises and, as mentioned above, the association of the construction industry.

Reproducibility in other countries

The following are some examples of reproducibility in other countries.

- Assistance to Nicaragua: From 2010, the UCA and other El Salvadorian organizations started to jointly host specialist training programmes for the Nicaraguan counterparts on the Taishin techniques as part of the ongoing project in Nicaragua for the improvement of earthquake-resistant housing construction technologies.
- Assistance to the Dominican Republic and Haiti: A special seminar was organized in the Dominican Republic in March 2011 to disseminate the El Salvadorian experience to counterparts of the Dominican Republic as well as Haiti, which were affected by an earthquake in January 2010.

Multistakeholder PPP for Post-Earthquake Emergency Reconstruction and Economic Reactivation in Chile

In the immediate aftermath of the earthquake that struck south-central Chile on 27 February 2010, a successful innovative PPP was set up for an emergency economic reactivation and housing reconstruction programme in the Maule and Bio-Bio regions. It involved a broad range of actors that teamed up in a flexible and efficient ecosystem, including the United Nations, as a multilateral donor organization, through its International Organization for Migration (IOM) in Chile; representations of the Government of Chile at the national, regional and local levels; two NGOs; families and individuals affected by the loss of their housing and jobs; and various private local firms related to the housing and construction sector.

After the earthquake, the United Nations quickly made a call for projects to be financed by its Central Emergency Response Fund (CERF), a humanitarian fund established by the UN General Assembly in 2006 to enable more timely and reliable humanitarian assistance to those affected by natural disasters and armed conflicts, managed by the IOM in Chile. In this framework, Fundación AVINA and Fundación Proyecto Propio, two NGOs, devised an inclusive local development recovery and reconstruction plan aimed at providing housing to

affected families. This initiative deliberately placed emphasis on a participatory approach involving affected families, local municipalities and private firms to elaborate and carry out the recovery and development plan aimed at reactivating the local economy, and kick-started the design and reconstruction of private housing.

Its socially innovative features rely on the following factors:

- A decentralized and participatory process for the design, organization and implementation of the reconstruction through 22 working groups, directly placing the affected families at the centre of the process and involving municipal government representatives and local firms for the supply of material (logging, hardware store, roofs, etc.)
- Fine-tuned emergency housing using high-quality construction materials to ensure sustainability and safeguard people's livelihoods (resistance, ventilation, space); they were adapted to family requirements through the participation of families in both the design and the building of their homes at a reasonable cost
- An immediate impact to kick-start local economic recovery with the development of eight plans for job creation to involve affected inhabitants in the productive process – thus also implying direct impact on their income – and by relying on four locally developed community “building factories” and local private firms related to construction; the systematic use of monitoring and evaluation practices with stakeholders and beneficiaries
- The initiative enabled the construction of 1,472 houses of 30 m² and may provide a positive example of sustainability and replicability in the post-natural disaster reconstruction and recovery process in the region and beyond

Source: AVINA.

Policy Recommendations

Some countries in Latin America have shown themselves to be forerunners in devising solutions to such urgent issues as earthquake-resistant affordable housing for low-income families after years of effort. Innovative solutions, including know-how, technologies, and good practice cannot be achieved overnight. Moreover, such knowledge is not available in traditional donor countries.

On the other hand, many of the innovative solutions should be based on both academic research and experience of practical application for dissemination. This process could be facilitated by an innovative partnership among public and private actors as explained above. This type of innovative public-private partnership should be encouraged by public policies.

Keywords/tags: Low-cost earthquake resistant housing affordable for low-income families, reinforced adobe, soil cement, Chagas disease, resilience, South-South/triangular cooperation, public-private partnership

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Case 9.

Agroforestry in the Amazon Rainforest

Geographical scope: Amazon rainforest in Brazil and other Amazon basin countries

Thematic area: Sustainable and inclusive development

Executive Summary

An ecologically friendly agroforestry programme in the eastern Amazon rainforest with its focal point in Tome Acu, state of Para, Brazil, has improved the livelihoods of farmers and alleviated poverty through the increased production of foods and other crops. The renowned “Tome Acu model” received the first regional development award (first “Brazil Regional Development Contribution” Prize from the Federal Government of Brazil) from President Lula da Silva. The model is based on an innovative combination of crops and trees and the sequence of planting them. It is regarded as innovative firstly because it came up with a way to ensure the coordinated succession of productive plants and trees in such a way that the amount of water and nutrients absorbed by different kinds of plants and trees is automatically adjusted to an optimal level, that shade created by taller plants protects smaller plants, and that crops provide farmers a steady annual income. Secondly, it is innovative because this model was developed by years of efforts of the farmers of an agricultural cooperative of the region and supported by scientific and technological activities of the Brazilian Agricultural Research Corporation (EMBRAPA), through its eastern Amazon branch. Thirdly, it is innovative because private enterprises, convinced of the importance of the tropical rainforest agroforestry, actively participated in the processing and marketing of products of the region.⁴⁹

Description

Tropical rain forests, a “natural asset”, are extremely important for safeguarding the environment and ecology. They are rich in biodiversity and function as huge reservoirs of carbon dioxide, but are now endangered. Indeed, significant losses have already occurred worldwide. The challenges are at least threefold: illegal logging needs to be stopped to avoid any further destruction of the rain forests, sustainable and inclusive agroforestry needs to be introduced and established and the lost forest needs to be regenerated. Brazil’s forest area is 520 million hectares, where the primary forested area is estimated to be approximately 490 million hectares, with 360 million hectares in the Amazon region, making Brazil the country with the largest rain forests in the world. At the same time, Brazil is also the country suffering from the worst deforestation in the world.

One of the main turning points in Brazilian environmental policy was the incorporation of environmental issues into the new federal constitution drafted in 1988. In 2003, the “Action Plan for Protection and Control of Deforestation in the Amazon (PPCDAM)” was drawn up as a major policy and action plan. It aimed to reduce the rate of deforestation the Amazon by setting up a partnership between federal organizations, state governments, and citizens groups. Thanks to this policy and the related efforts, illegal deforestation has been decreasing, reaching its lowest ever point from 2009 to 2011 in the Amazon rain forest.⁵⁰

However, major progress has been made on the other two aforementioned challenges. Agroforestry has been a key to this progress. In the mid-1990s, when forest clearing sharply increased in the Amazon, agroforestry was often perceived as a way to slow deforestation by breaking the predominant slash-and-burn cycle practised by most farmers in the region. (Smith, Nigel and others, 1998, p. 1) Shifting agriculture was thought to account for about one-third of deforestation in Amazonia, while cattle ranching was responsible for at least half of the forest retreat in those years (Serrao and others, 1996, cited by Smith and others, 1998). It often happens that after some years of using illegally deforested land as pasture for cattle ranching and for other purposes, the devastated land, no longer fertile, is abandoned. Therefore, the establishment of sustainable and inclusive agroforestry for small farmers on the one hand, and the regeneration of abandoned land, also by agroforestry, “an agriculture that cultivates

trees and forest”, on the other, are major challenges in the Amazon rainforest.

Innovative model of iPPP

In the Tome Acu model, a combination of crops and trees and the sequence for planting them are key. For example, cacao needs 40% shade, so banana trees are its ideal neighbour because they grow faster than cacao and provide protection from direct sunlight, heavy rain and strong wind. Between the rows of banana and cacao, at 24-metre intervals, tabereba (*Spondias mombin*) fruit trees, acai palm trees, and/or mahogany can be planted. Among these tree species, corn and rice can also be planted. When planting diversified species, it is necessary to take special care to ensure that the spacing between the different species is appropriate. Perennial and arboreal species tend to compete for space to grow. Some consume a lot of water while others need more fertilizer. Michinori Konagano, a leading figure in Tome Acu Multipurpose Agricultural Cooperative (CAMTA), who has greatly contributed to the development of the Tome Acu model, has devised a long-term cultivation plan, featuring crop species that are all economically reliable.⁵¹ In this way, the Tome Acu agroforestry model provides for a succession of productive plants, providing farmers with steady annual income. Which species are planted and when depends on the farm and the farmer. Factors affecting the decision include location, soil condition, water availability, management efficiency and the optimum harvesting period.

In 2004, a local municipal office, CAMTA, Embrapa Eastern Amazon, the poverty and environment in the Amazon programme (POEMA), carried out by a local NGO, POEMAR) and JICA together launched a project in Tome Acu to establish an agroforestry training centre for young owners of small family farms. In 2005, Sambazon, a US-based customer of CAMTA, facilitated organic certification of acai products, which in turn led to doubling the capacity of the cooperative’s fruit juice factory, and it encouraged CAMTA to disseminate agroforestry techniques among small family farmers of the region, teach them how to organize marketing cooperatives and buy products from these cooperatives for processing at the CAMTA juice factory. (Yamada, M. and H. M. L. Osaqui, 2006, p. 315). Partnerships with private enterprises have been widely developed. For example, in March 2011, Meiji Seika Co. launched a product called “agroforestry chocolate” processed from Tome Acu cocoa beans.

Fruta-fruta Co. has been selling 12 different kinds of tropical fruit juice in affiliated shops in Tokyo since 2002. Brazil's largest cosmetics company, Natura, has been providing financial and technological support to foster the spread of agroforestry techniques in Brazil and other Amazon basin countries.

Results, Outcomes and Impact of the iPPP

The feasibility of the Tome Acu model was confirmed by a study which has shown 25 ha of agroforestry under this model yields the same income as 1,000 ha of cattle ranching. The former therefore produces 40 times as much from 25 ha than the latter from the same amount of land. Moreover, the former creates jobs for 10 to 20 workers with 25 ha while the latter needs 50 to 75 ha to create a job for one worker (Yamada, Masaaki 2003, p. 105). EMBRAPA Eastern Amazon has carried out in-depth research on agroforestry.⁵² Economically viable species adapted to the local environment have been developed and distributed to farmers. In one of its recent research projects, EMBRAPA Eastern Amazon found striking similarities between the characteristics of local "agroforest" soils and those of the natural forest soil of the Amazon rain forest. As such, agroforestry is helping the Amazon ecosystem to recover and safeguarding farmers' livelihoods.

Key Success Factors

Key success factors appear to be the development of innovative solutions, and the provision of coordinated public and private support to farmers, especially through partnerships among the agricultural cooperatives, local government, EMBRAPA, local NGOs and private enterprises, as well as through the international cooperation of JICA. This has led to a virtuous circle of rainforest conservation through environmentally friendly agroforestry, the coordinated certification of agroforestry products and their sale and marketing, and has improved the income and livelihoods of farmers. Among other things, it should be highlighted that the project promoted with partnership among local municipal offices, an agricultural cooperative (CAMTA), Embrapa Eastern Amazon, POEMA and JICA, the organic certification of products facilitated by SAMBAZON, a US-based customer of CAMTA, and the active participation of private enterprises in sales and marketing efforts.

Sustainability factors

Agroforestry based on the Tome Acu model is highly environmentally sustainable as a result of its innovative model developed over years of efforts by farmers with the scientifically and technological support of the national agricultural research corporation, BMBRAPA. Its commercial sustainability is facilitated by the organic certification, and by private enterprises, as mentioned above.

Reproducibility in other countries

The project is considered to be very easy to replicate in other Amazon Basin countries. This model has been shared with various countries by means of South-South or triangular cooperation by the Brazilian Cooperation Agency (ABC) and JICA. In 2006, JICA, along with Embrapa eastern Amazon, launched the five-year third country training programme (TCTP) to host seminars to expand agroforestry skills to neighbouring countries such as Bolivia, Colombia, Ecuador, Peru and Venezuela. These seminars highlighted the Tome Acu model and included a visit to agroforestry fields in Tome Acu. Based on the experience of this TCTP, in 2011 Brazil and Japan launched a new TCTP programme entitled "international training course on agroforestry systems technology" as part of the five-year Japan-Brazil partnership programme (JBPP). In the northern regions of Bolivia, where the rate of poverty is high, a project to increase the added value of farming products is being carried out by Bolivia, Brazil and Japan. In this project, Brazilian experts in agroforestry are being sent to Bolivia to share agroforestry technologies and practices, including those gained through the Tome Acu model.⁵³

Policy Recommendations

Some countries in Latin America have become forerunners in developing solutions to such urgent issues as the conservation of ecology and the environment after years of effort. Innovative solutions, including know-how, technologies and good practices, cannot be achieved overnight. Moreover, the relevant know-how is not available in traditional donor countries. On the other hand, many of the innovative solutions should be based on both academic research and experience of practical application for dissemination. This process could be facilitated by an innovative partnership among public and

private actors as explained above. This type of innovative public-private partnership should be encouraged by public policies.

Keywords/tags: Agroforestry, Amazon, rainforests, South-South/triangular cooperation, public-private partnership

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Related websites / online material:

Related websites jica-net.jica.go.jp/lib2/07PRDM008

Case 10. The Olmos Project

A comprehensive Model of Regional Development

Geographical scope: Latin America/ Olmos, Lambayeque province, Lambayeque state, Peru

Thematic area: Energy generation, employment, productivity, regional development, poverty reduction

Executive Summary

The Development Bank of Latin America (CAF) supports the sustainable development of Latin American countries through a holistic approach integrating different components so as to be able to provide simultaneous support to several projects in different areas and thereby to have a significant impact. In the Olmos Project, CAF has put in place an approach to foster the development of a poor region on Peru's north coast through work in sectors such as irrigation, energy generation and agricultural businesses, complemented with an urban planning model for a new city. The project includes a trans-Andean tunnel for which an innovative financing scheme was developed by CAF. The financing scheme has been planned and executed with the participation of the central government, the regional government, private companies, local authorities and citizens and CAF, as a multilateral development bank. The importance of their contribution to the Peruvian agribusiness industry is key to consolidating non-traditional export sectors, increasing the quality of life of the region's population and continuing to generate skilled jobs.

The complexity of the project and participation of the different actors has demanded their coordination requiring an innovative perspective.

Description

The Olmos region, in the Peruvian state of Lambayeque, is an area with favourable climatic conditions for agricultural production. It includes vast expanses of land with high-quality soil. However, the region faces a reduced amount of yearly seasonal rainfall which stops it from realizing its full agricultural potential. This water scarcity has shackled its economy and

curtailed the overall development of Lambayeque. While the region as a whole has social indicators that are close to the national average, Lambayeque province, where the project is located, is less well developed, with a poverty level of 52%, an illiteracy rate of 9.4% and an unemployment rate of 50%.

The economic potential of the region came to light in the early 20th century. In 1924, the Olmos Project started as an irrigation scheme, with the goal of channelling water from the Huancabamba River in the Atlantic basin towards the Pacific basin through a trans-Andean tunnel intended to irrigate the lands of the Olmos region, and thus increasing the agricultural output of the area. In later studies, a hydroelectric component was added to the irrigation project and, more recently, an urban development component was also included (see Diagram II.1).

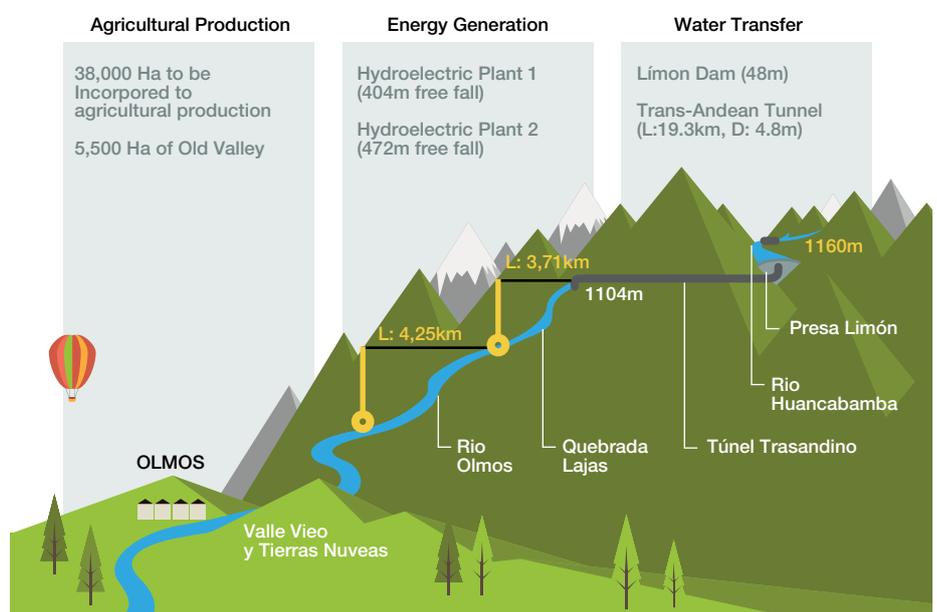
The Olmos Project started in the 1970s with the construction of the trans-Andean tunnel but ground to a halt owing to a lack of financial resources. The project was resumed on July 2003, when the Olmos-Tinajones special project (PEOT) was created as a decentralized body reporting to the regional government of the state of Lambayeque. The new objective of the project was to improve the quality of life and the living conditions of the citizens of Lambayeque, by virtue of the opportunities that this new cluster of agribusiness activities would create. The creation of this cluster and the use of new technologies were also expected to increase agricultural output and lead to agricultural export activities becoming a

major driving force for development in the region. This boost to the productive potential of the region, it is expected to lead to greater employment opportunities and increased demand for ancillary services from the new contingent of workers who either live already in the region or will arrive to take advantage of the employment opportunities. In practice, an increase in the demand for housing, utilities and other related services are expected as a result of this transformation.

These changes are expected to bring major improvements in social and economic indicators, such as a reduction in the poverty levels, an increase in the employment rate – and consequently in the household incomes – of large parts of the population of the Lambayeque region.

The Olmos project is still ongoing. The construction of the trans-Andean tunnel started on 2004 and was completed on July 2012. During this period, a dam was also built to regulate the flow of the Huancabamba River. Work in preparation for the construction of the hydroelectric plant has not yet started, but the plant is likely to be completed within the next four years. Finally, the irrigation component of the project, which started in September 2012, is underway and is almost 50% finished; completion is expected by November 2014.

Diagram II.1



This irrigation component will open up a new area of 38,000 hectares for agro-industrial activities and will improve 5,500 hectares already in use by the rural community of Santo Domingo de Olmos. The main value chains expected to benefit from this project are: sugar cane (for the production of ethanol), asparagus, grapes and citrus, while poultry and cattle milk are also considered to be potentially benefitted. Furthermore, the project is also expected to attract new capital to the area. This will eventually lead to the development and use of modern technological processes.

As already stated, the expected increase in the demand for labour will attract new workers and their families to the Olmos area, leading to the creation of a new urban centre. To address this situation, the Peruvian Government, in association with CAF, designed a comprehensive urban system for the new city – named Charles Sutton, after the engineer who foresaw the project in 1920 – and is intended to become a model for city planning in Peru. The design includes urban development that will lead to a transformation of production, environmental sustainability, institutional strengthening and public safety. Moreover, this city will host a research and innovation centre for agricultural businesses, in an effort to promote technological development in a pivotal sector for the Peruvian economy.

Innovative model of iPPP

The project entailed the development of an agribusiness sector, as well as watershed management, energy generation and irrigation in the Lambayeque region. The regional government of Lambayeque, through the PEOT, and with the support of the national government, encouraged the development of the Olmos project through an innovative public-private partnership involving the granting of self-sustaining concessions to private companies, which require no funding or guarantees from the Peruvian state. The concessions were granted for all the components of the project in a novel area such as irrigation. One of the most innovative aspects of this project was the issuance of bonds for a greenfield initiative with the guarantee of a multilateral financial institution. It is also noteworthy that this project was the first of its type to be financed in local currency and that it was considered for the project finance of the year award. Another feature of this iPPP is the creation of a trust, whose trustee is the PEOT, in order to ensure the

efficient use of the money obtained in the auction of the aforementioned 38,000-hectare area. The participation and support of a multilateral organization such as CAF – in close coordination with PROINVERSION, the Agency for the Promotion of Private Investments for Peru, as the governmental entity responsible for the promotion of this PPP – was essential to ensure that the project was feasible.

The main stakeholders involved in the iPPP are the national and regional governments, the private sector, the multilateral financial system (through CAF), and farmers from the local community. PEOT is at the head of the organizational structure, representing the regional government of Lambayeque, and is responsible for monitoring and supervising the Olmos project. The concessions are granted to private companies through public invitations to tender which have the financial support of the national government and CAF.

Once a concession is granted to a private company, it has the responsibility to carry out and maintain work on the component it was assigned by PEOT. The first component (water transfer) was granted to Concesionaria Trasvase de Olmos (CTO) in 2004, which has been mandated to operate the service for a period of 20 years and will charge a tariff for the transfer of water. The second component (energy generation) was granted to Sinersa (Sindicato Energético SA) in 2010, which will operate the hydroelectric plant in perpetuity and will charge a tariff for the sale of energy. The State will receive 4.7% of the sales of Sinersa, resources that will be reinvested in the project. Finally, the third component (irrigation) was granted to H2Olmos (an Odebrecht company) in 2010 to operate the service for a period of 25 years, in return for the right to charge a tariff for the irrigation service. The new lands to be irrigated by the project were auctioned and sold in a public international auction to private companies for a total of US\$ 180 million under a concession to operate them in perpetuity. Part of the earnings emanating from the sale of the newly irrigated land will be deposited in the trust, and the rest will be left for the concessionary.

The cost of the water transfer component of the Olmos Project totalled US\$ 299 million, from which CAF financed US\$ 50 million through a direct loan to CTO and US\$ 77 million through a co-financing loan scheme with the Republic of Peru. The rest of the funding was obtained through equity contributions and a bond issue by the company, as well as a loan from the Central Bank of Peru. However, the cost of the irrigation component is estimated to be US\$ 258 million, with US\$ 128 million secured through the issuance of bonds (supported by CAF with a partial guarantee of US\$ 50 million), US\$ 13 million provided by contributions from the shareholders of the company and US\$ 117 million obtained from the capacity payment (i.e. the fixed portion by way of right of use of the infrastructure to be built). In the case of this component, the added benefit of State involvement was its contribution related to the land's public auction and that part of the funding was achieved through a bond issuance by the concessionary backed by a partial guarantee. The grant component was promoted by Proinversión.

Results, Outcomes and Impact of the iPPP

The main objective of the Olmos Project is to reduce the poverty levels of the region and to increase the quality of life of its inhabitants, through the creation of new jobs and the establishment of a productive area.

Among the expected results and outcomes of the iPPP, a key target is growth in annual agricultural output of US\$ 345 million, while the new land is expected to generate US\$ 1 billion-worth of total agricultural exports. This increase in the annual production will raise local public revenues by US\$ 130 million, while national public revenues will increase by US\$ 82 million. On the other hand, the project is expected to create 15,600 new jobs, of which 11,500 are direct jobs in the agricultural and agro-industrial sector, and 4,100 are indirect jobs related to urban services. The total number of inhabitants of the new city is projected to be some 62,500 by 2021, which will require the construction of 21,000 new homes, 44 schools and five health centres. These new homes will generate an additional US\$ 4.2 million annually in municipal and property taxes.

Key Success Factors

One of the main key success factors of the Olmos Project has been cooperation and coordination between the three levels of government – national, regional and local – that has enabled the creation of a regional development strategy that is in line with national interests. Additionally, the technical and financial support of CAF has been fundamental developing the various components of the project, from financial support for the water transfer component to technical studies for the irrigation and urban plans.

The social responsibility that has prevailed throughout the project is another key success factor. The families that were affected in the first stages of the project were relocated to new areas with an educational centre and complete housing modules with basic services. In addition, a training programme was established for young farmers that encompasses management and modern irrigation systems, as well as new agricultural technologies. Finally, the farmers that currently live in the Olmos region will reap the benefits of the project with the construction of irrigation infrastructure at no cost; they will have to pay for only the water they use. Another success factor was the development of a capital market by issuing local currency by means of an innovative structure.

Sustainability factors

The scheme used in the innovative public-private partnership of this project is self-sustaining. The concessions to the private companies require no direct investment or guarantees from the Peruvian state. However, the participation and coordination of the different actors involved in the project have been key to its success. Nonetheless, the Peruvian government is working closely with the companies involved in the project, giving them technical advice and financial support in developing each of the components described above.

Reproducibility in other countries

The Olmos Project is an integrated effort between different levels of government, private companies, citizens and multilateral organizations to achieve a social goal that will benefit a large amount of local people, but will also positively impact the whole country. This kind of irrigation projects with a national scope is easily replicated in other countries, especially those with similar conditions.

The concession scheme for the entire project, with the support and supervision of the government, is also a noteworthy feature that is easy to replicate in other countries. Close cooperation between the public and the private sector can give rise to large-scale projects that in other circumstances are hard to develop. The incentives that are associated to the concessions encourage the private sector to participate in this kind of project that, with the supervision of the public sector, can have numerous positive results.

Policy Recommendations

- To create a specialized institution related to the promotion of private investments in high-impact social sectors
- To promote and to establish a stable and reliable legal and regulatory framework
- To establish the appropriate institutions to successfully carry out the PPP agenda
- To promote independent and technical professional regulators in the institutions involved
- To coordinate the different actors involved in the project

Keywords/tags: Irrigation, partnerships, Proinversión Perú

Case 11.

Multistakeholder Partnerships for the Conservation of the Amazon Biome

Geographical scope: Amazon Biome, six countries: Bolivia, Brazil, Colombia, Ecuador, Peru and Venezuela

Thematic area: Sustainable development, environment

Executive Summary

The Skoll-Avina alliance contributes to efforts to conserve the Amazonian biome by bringing together local and regional actors and strengthening their efforts to mitigate climate change and ensure the sustainability of the ecosystem and the quality of life of its inhabitants. Its goal is to localize, strengthen and connect initiatives to build a shared agenda and vision for the sustainability of the Amazonian biome. Together with its allies, the alliance has been able to bring together scientists, business and political leaders, socio-environmental organizations and representatives of indigenous communities to discuss and act on emerging trends in the pan-Amazonian area. The initiative has led to the development of joint actions based on a common vision of sustainable development that aspires to generate mechanisms for discussion and cooperation between civil society groups from the various countries of the region to forge a common agenda that creates shared, cross-border solutions. The efforts undertaken highlight the interdependence of the countries of the region. The Skoll-Avina alliance has collaborated to create a culture of sustainability by empowering indigenous, local and urban communities to monitor deforestation. It has also provided incentives to governments of the region to embrace international commitments to reduce greenhouse gas emissions.

Description

Nicknamed “the lungs of the world” for its contribution to breathable air through photosynthesis, the Amazonian biome is made up of diverse ecosystems including rivers, lakes, jungles, forests and grasslands. The immense and rich biodiversity of the Amazon was built up over the course of millions of years, but today it is on the brink of collapse. The rapid destruction of the tropical rainforest and degradation of its biodiversity have weakened the biome’s resilience to drought, fire and flooding at a time when temperatures are rising and climate change is accelerating. The threat to the Amazon would become a direct threat to the human race if this massive global “lung” is lost.

Considered by many as a public good, a world heritage site from which all of mankind benefits, the Amazon biome nonetheless suffers as a result of the controversial uses it is put to. Mostly seen as a wellspring of numerous natural resources and services, interactions between the biome and human beings take on a different meaning for each of the different stakeholders of the region. Some treat it as a matter of national sovereignty, development, endless resources, connection with the country and interconnection between the Atlantic and Pacific oceans. Others see it as their own territory, their way of life and their own conception of “well-being”. The conflicts between stakeholders arise not only because of their different visions of development and conservation, but also because of the fears and prejudices of each of them, their obsessed-over “truths” and confrontations between them.

What is at stake is the Amazon itself. Social and environmental conflicts in the region over recent years have led to thousands of deaths, the displacement of people, legal uncertainty in respect of local investments and a weakened state. Billions of dollars of investments have also been paralysed owing to conflicts, illegal activities and a lack of governance.

The context:

- A recent analysis of deforestation at the Amazon Basin carried out by the RAISG network shows that between 2000 and 2010 an area equivalent to Great Britain (around 240,000 km²) was destroyed. The “Amazon under pressure” atlas warns that if the planned road projects (highways or combined transport routes), oil and gas drilling, mining and hydroelectric plants come to fruition in the near future, up to half of

the current Amazonian rainforest may vanish. According to recent declarations from the Brazilian Government, the rate of deforestation rose by 28% between 2012 and 2013, dramatically bucking the trend towards reduction in this rate between 2008 and 2011.

- According to RAISG, the pressure on forests from infrastructure projects is increasing. Roads are being built across swathes of forest, providing access for loggers, farmers, ranchers and land speculators to once-remote areas. Large areas of the Amazon have also been granted for mining (52,000 mining areas covering 1.3 million km²) and oil and gas development (327 lots covering 1.1 million km²). Meanwhile, some 246 dams, including 67 larger than 30 megawatts, are planned for the region, threatening to choke off rivers that play a key role in the Amazon’s ecosystem.
- Considering Brazil’s influence on what happens to the Amazon, it is important to make a specific comment here. As we know, comprehensive governmental policies and civil society actions initiated at 2004, and reinforced in 2007, have helped Brazil to consistently reduce deforestation. This progress in reducing deforestation, however, was followed by a weakening of environmental protection regulations by reducing the size or downgrading the type of protected areas, as well as changes in the environmental crimes law and the forest code. These new policies and infrastructure investments, combined with the incapacity of the government to reorient investments towards sustainable activities in deforested areas are liable to make forests even more vulnerable.

Innovative model of iPPP

The Skoll-Avina alliance works at biome level, with regional activities aimed at strengthening pan-Amazonian processes and alliances, as well as local or sub-regional activities at the countries that compose the biome: Bolivia, Brazil, Colombia, Ecuador, Peru and Venezuela. The Skoll-Avina alliance impact thesis is composed of three interrelated fields of action: envisioning sustainability through an effective pan-Amazonian platform of key players addressing social and environmental safeguards (PAN); informing decision-making with rigorous, independent and timely data (FT) and transforming Amazon development models by replicating and scaling successful territorial management experiences (TM).

To achieve these impact goals, favourable conditions were created so that diverse actors could together contribute towards the common good of the Amazon, with a focus on collaborative processes. This strategy allows the building of a common vision for the future, looking for ways to positively influence decision-making to create social changes. These changes can be political, institutional, technological, scientific or cultural in nature and at a large scale. Leadership is essential to innovate processes, innovation is essential to improve results and face adversity, and diversity is needed to integrate the majority of postures.

The whole strategy is built considering all the different stakeholders as essential to better address the challenges the Amazon biome faces. Each strategic line of action and initiative combines different kinds of stakeholders, depending on the intended results.

The Skoll-Avina alliance's strategy is chiefly implemented through Fundación Avina's local presence and network of allies in all the countries listed above. Fundación Avina has a history of almost 20 years working with sustainable development in the Latin American region, which has helped it to build a network of approximately 5,000 ally organizations. Considering only organizations that focus and work on the Amazon biome, it has a network of 146 allies. By knowing the local context and having close relationships with all the main stakeholders from each country – from civil society, government or the private sector – a favourable environment for the construction of a collaborative process is fostered.

This initiative is supported by funding from Fundación Avina and the Skoll Foundation, which signed an alliance pledging to match one another's funding on a 1:1 basis. In addition, Fundación Avina has a close relationship with other foundations, and other organizations are often called upon to pool their resources with funds invested by the Skoll-Avina alliance. This underlying rationale of aligning investments and leveraging partners' strengths has attracted a considerable amount of new resources in support of the goal of holding the line on deforestation in the Amazon, allowing the alliance to enhance its financial influence by a factor of five.

Results, Outcomes and Impact of the iPPP

The RAISG network has consolidated its capacity to independently map strategic information on deforestation and other pressures on the nine-country Amazon. RAISG provides strategic information, which can be used by the hundreds of members composing the Latin American network of environmental prosecutors to improve law enforcement, or by ARA (Articulación Regional Amazónica) members to advocate better policy-making. Some of this information is also used by www.oecoamazonia.com, the first news media outlet in the region with the specific aim of using reporting to promote an un-fragmented, multi-country vision of the Amazon simultaneously in three languages. RAISG member IMAZON has developed a geotechnology centre providing state-of-the-art deforestation mapping training to

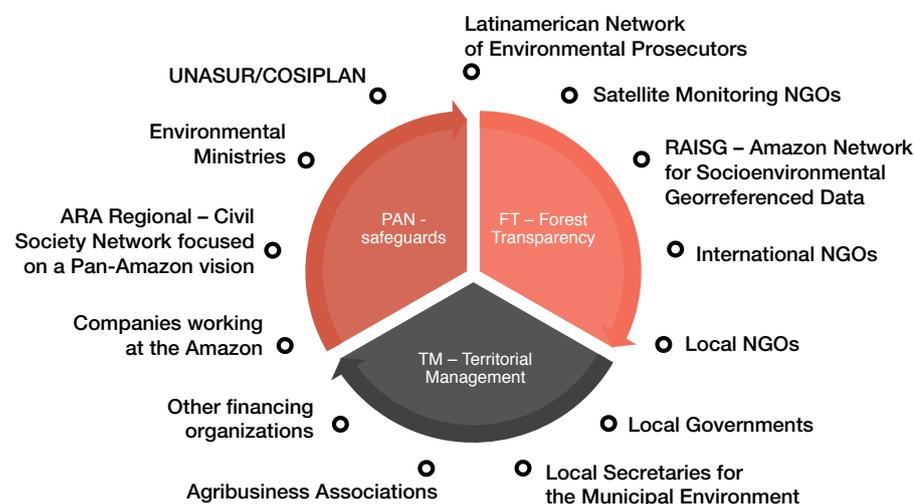
hundreds of federal prosecutors, municipal managers, university students, rural labour unions, cooperatives and NGOs.

In Brazil, the US\$ 1 billion Amazon fund to avoid deforestation has been set up, and Brazil's voluntary commitment to binding targets for emissions reductions has now been enshrined in Brazilian law. Dozens of municipalities that formerly had poor track records in terms of deforestation, such as Alta Floresta, are now using IMAZON's blueprint for green municipalities, recently enacted in state law, with a view to complying with regulation and avoiding further government sanctions. In so doing, they are pioneering ways of providing local development with minimum impact on forests. The Skoll-Avina alliance has worked to disseminate this model in other similar initiatives outside Brazil, such as in Bolivia, Ecuador, Colombia and Peru, which have their own specific characteristics, but follow the same logic as the green municipalities programme.

At regional level, Skoll-Avina's allies have negotiated with UNASUR/COSIPLAN to gain approval for the creation of the Citizen Participation Forum. UNASUR has also decided to hold a series of meetings next year, the first of which will aim to set out guidelines for citizens and hold a debate to raise awareness on social actors information and participation mechanisms.

ARA has grown to more than 50 organizations, bringing together the most prominent national players concerned with deforestation. It has mapped Millennium Development Goals throughout the Amazon, and involved the Amazon Cooperation Treaty Organization in publishing them. In Brazil, Forum Amazônia Sustentável has now has 239 members from all sectors of society, and today is the main forum for discussing development models in the Amazon. Both ARA and Forum Amazônia Sustentável bring together the most important networks for discussions on the Amazon as an integrated, interdependent biome, and on how to work collaboratively in order to hold the line on deforestation.

Diagram II.2 : Skoll-Avina Alliance Stakeholders



Key Success Factors

- Fundación Avina's local presence means it is familiar with the local context and actors.
- Its relevant network of quality allies work at the local level in all pan-Amazon countries.
- Its pan-Amazonian vision integrates countries and cultures.
- It promotes open dialogue between actors.
- There is local government leadership and commitment to sustainable development.
- It involves the capacity of local partners.
- There is trust and a common purpose among stakeholders.
- There is donor proximity to local communities and openness to risk.

Sustainability factors

Collaborative processes are built together with civil society, the private sector and governments at local and regional levels. Its close relationship with other organizations provides funding. The real commitment of the private sector, government and the civil society will ensure a reduction in deforestation.

Reproducibility in other countries

The Amazon biome Strategy of the Skoll-Avina alliance has been taught to make the most of the opportunities that arise from the Amazon countries regarding this biome. It therefore recognizes viable opportunities at pan-Amazonian level and tries to make them affect the whole biome. In other cases, it believes that it is important to recognize local opportunities that can be scaled, respecting each country's specific characteristics and adapting best practices from one or another country to make them more suitable at the local level. It understands that the strategy can be replicated relatively easily, but participants must remain aware that each country has different legislation, cultures and institutional frameworks that need to be respected.

Policy Recommendations

Governments:

- National legislation to punish those responsible for deforestation by blocking access to credit, and legislation to incentivize good forestry practices and environmental services
- Training for local staff responsible for taxation of deforestation
- Legislation to guarantee social and environmental safeguards for local people
- Rules for financial institutions regarding transparency and safeguards

Private sector:

- Commitment to best practices at the Amazon biome
- Commitment to work together with the state and civil society to discuss and better address the issue of deforestation

Keywords/tags: Conservation, Pan-Amazon, integration

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Related websites/online material

See [online] <http://www.avina.net>.

See [online] <http://www.raisg.socioambiental.org> .

Case 12. Inclusion of Carbon Footprint Measurement in Export Development Strategies

Geographical scope: Colombia, Ecuador, Dominican Republic, Nicaragua

Thematic areas: Climate change, export development, sustainable patterns of production in the agrifood sector

Executive Summary

The reduction of greenhouse gas (GHG) emissions has been enshrined by the United Nations Framework Conference on Climate Change (UNFCCC) and the international community as a priority in efforts to address climate change, particularly global warming, and mitigate its impact. In recent years, various countries have identified measures or proposed targets for emissions reductions. This, in turn, poses the challenge of adapting and “greening” production and consumption patterns in the context of new growth models that require greater sustainability and inclusiveness.

In parallel, governments and firms – mostly in the industrialized world – have progressively established new requirements to quantify GHG emissions related to the production and distribution of goods and services to ensure their traceability and inform consumers in this regard. Among those requirements, the measurement of the carbon “footprint” and the development – and potential harmonization in the European Union – of environmental labelling measures, are becoming increasingly prevalent in some countries, particularly for agrifood products. This agenda and its implications for business are already well known in the countries of the Organisation for Economic Co-operation and Development (OECD) but less so in developing countries.

In the area of international trade, requirements such as carbon footprint measurement have a direct effect on market access conditions with which exports from developing country must comply. In the case of agrifood products, of which many Latin American countries are net exporters, such requirements can translate into non-tariff barriers for their exports to industrialized countries. The dilemma for Latin American food exporters is therefore whether to be reactive to these new requirements by adapting to so-called “green protectionism” or to turn this agenda into a positive one by attempting to redefine their business and export strategies and investing in patterns of production that are more sustainable and efficient both for business and the environment.

Thanks to the establishment of public-private partnerships in specific agrifood sectors, various export industries in Latin America are currently increasing their ability to measure their carbon and environmental footprints and, more importantly, are beginning to increase their understanding of existing synergies between business competitiveness, production efficiency and environmental sustainability.

Objective

The objective is to strengthen the capacities of public authorities and private stakeholders in the agrifood export sectors to meet climate-change-related requirements, in particular the measurement of their “carbon footprints” and “environmental footprints”, and turn them into an opportunity for making their business strategies more competitive and environmentally sustainable.

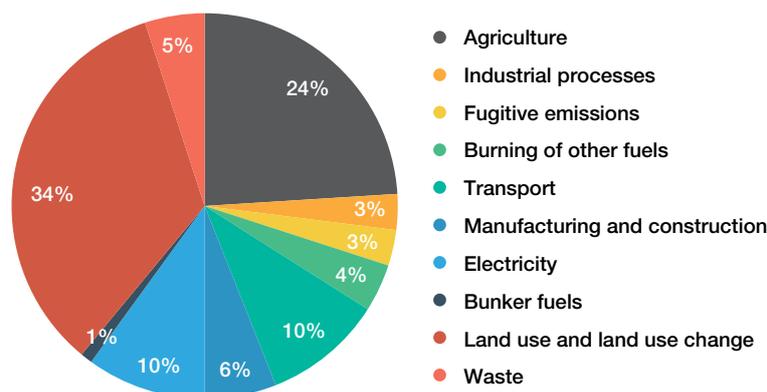
Description

The reduction of GHGs has been enshrined by the UNFCCC and the international community as a priority in efforts to address climate change and mitigate its impact. Various countries have progressively identified measures and proposed targets for emission reductions, in turn affecting production and consumption patterns. In parallel, governments and firms – mostly in the industrialized world – are increasingly establishing new requirements to measure GHG emissions related to the production and distribution of goods, to ensure their traceability and allow consumers to make more informed purchasing decisions. Latin America and the Caribbean is a relatively minor contributor to global GHG emissions: in 2008, Latin America and the Caribbean accounted for 8.6% of the world’s population, 8.2% of global GDP and 12% of global GHG emissions. Although in absolute terms the region accounts for a small amount of emissions, on a per capita basis, the region contributes more GHG emissions than other developing countries, including China and India. In the region, emissions caused by changes in land use still represent a significant higher proportion in comparison with the contribution of this sector in total emissions worldwide, but have declined significantly in recent years.

The carbon footprint is an indicator of the amount of GHG generated and emitted by a company or during a product’s life cycle throughout the production chain and, in some cases, its consumption, recuperation and elimination. The carbon footprint considers the six types of GHG identified by the Kyoto protocol and is measured in ton equivalents in a common

Figure II.5 : Latin America and the Caribbean: Distribution of Sources of GHG emissions, 2010

(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

unit. The measure of CO₂ is obtained by multiplying the emissions from each of the six gases by their respective potential to global warming after 100 years.

The measurement of the carbon “footprint” and the progressive development – and potential harmonization in the European Union – of environmental-labelling measures are part of these requirements and becoming increasingly prevalent in many countries, although still on a voluntary basis. In the area of international trade, such requirements have a direct effect on imported goods, which must comply with them in order to avoid loss of market access. For food exporting countries of the developing world, which is the case of many Latin American countries, such requirements can translate into non-tariff barriers for their products. Various countries of Latin America which are net food exporters therefore need to take into account these requirements and incorporate them into their production and export strategies to avoid facing entry barriers to their exports and losing market share in key export destinations.

The measurement of the carbon footprint associated with the production and distribution of goods and services has been identified as a relevant indicator for assessing contributions to climate change through GHG emissions. It is also an important indicator to inform consumers whose awareness of climate change and of the need to reduce carbon emission is an increasingly significant factor in the selection of goods and services, mainly in industrialized countries. Such requirements may progressively turn into non-tariff trade barriers as goods and services with more significant contributions to carbon emissions are likely to see their access to industrialized markets limited. In some industrialized countries, various initiatives have already put in place environmental-labelling schemes informing on the carbon footprint of goods and services.

The agriculture and transport sectors account for a significant share of emissions and are therefore likely to be affected by climate change-related requirements and restrictions on imported products. Given that Latin America is a major provider of agrifood products to industrialized countries (more than 33% of US agricultural imports in 2011 and possibly up to 40% in 2013), measuring the carbon footprint is a key element of any export strategy in this sector to avoid facing the so-called “green protectionism” of industrialized countries.

More importantly, this requirement also goes hand-in-hand with the growing awareness among producers and consumers of, and sensitivity to, the need to take into consideration their carbon footprint in order not only to make their production patterns more efficient and competitive but also to enhance their business and environmental sustainability. Various countries of Latin America which are net food exporters therefore need to take account of these requirements and incorporate them into their production and export strategies to avoid facing entry barriers to their exports and losing market share in these export destinations.

In sum, such an approach implies turning the above-mentioned issues into a positive agenda in which both industrialized and developing countries benefit from climate change-related concerns. In this framework, measuring and reducing the carbon footprint associated with the processes of production and export of agrifood products should be seen as an opportunity for exporting firms to improve their image and avoid losing access to key destination markets on the one hand and identify and start addressing inefficiencies in their production processes and value chains on the other. The latter may imply identifying quality and efficiency gains such as reducing energy consumption, optimizing logistics and distribution processes, and overall cost reductions and improved competitiveness.

Characteristics of PPP

Over the 2012-2013 period, ECLAC implemented the project, “strengthening capacities of governments and food exporters to adapt to the requirement of climate change” in collaboration with the Development Account of the United Nations. The Commission has worked closely with governments and representatives of food exporting sectors in Honduras, Colombia, Ecuador, Nicaragua, Peru and the Dominican Republic to support the development of innovative public-private partnerships in the agrifood sectors to:

- Enhance the capacities of actors to measure and reduce the carbon footprint associated with their production patterns and value-chains
- Turn the climate change agenda into a positive agenda for improving competitiveness and business sustainability aimed at increased participation in global value chains
- Adjust production patterns towards greater efficiency and environmental sustainability

- Identify and disseminate good practices related to environmental footprints with a positive impact on export development along with contributing to environmental management and sustainability

In each country, specific food sectors likely to need to adjust their export strategies to industrialized countries’ market requirements were selected. Private sector actors included chambers of commerce, business associations and private companies, whereas public actors included ministries and public institutions related to international trade, export promotion, and the environment, as well as academia. Partnerships between the private sector and public export development agencies were seen as a key element in achieving a common understanding of climate change-related issues and requirements. The ECLAC project included capacity building on methodologies for measuring the carbon footprint of food and agricultural products, and incorporation of these aspects into export development strategies.

The pivotal stakeholders involved in the project are export promotion agencies, which are often public-private entities, bringing together export sectors from business with public authorities related to international trade and export development. An addition to these institutions, representatives from the private agrifood sector and the ministries of trade are often involved. In each country, a specific public-private roundtable, coordinated by the export promotion agency, was set up to bring together these actors and promote long-term sustainability of the national export promotion and international trade strategies in the framework of the climate-change agenda.

To turn the climate change-related requirements into a positive agenda of climate change, public and private actors involved in export development have placed emphasis on shifting towards the following objectives:

- To increase their knowledge of non-tariff environmental barriers to food imports such as measurement of the carbon and environmental footprints and traceability
- To incorporate and put into practice methodologies for measuring their carbon and environmental footprint measurement

- To adapt their production patterns to improve their international competitiveness and ensure sustained market access by complying with import requirements and non-tariff environmental barriers
- To rethink their production patterns to enhance their business strategies and contribution to sustainable management

From the environmental perspective, these projects:

- Can contribute directly to emissions reduction
- Serve as an incentive for the business sector to improve market access to export destinations and commit to environmental protection
- Increase competitiveness
- Differentiate products

The project has:

- Engaged in capacity building initiatives for government representatives and the private sector on issues related to climate change and international trade, as well as carbon footprint and food exports
- Promoted 55 carbon footprint case studies of nine export products in six countries to serve as a benchmark for public and private strategies related to carbon emissions and exports
- Analysed and shared with the project's stakeholders 11 Latin American best-practice cases of public and private initiatives for dealing with carbon emissions; this study also examined two best-practice cases from outside the region: the French environmental labelling pilot project (Grenelle Law) and a benchmark food industry initiative in Spain

- Enabled dialogue and exchanges of experiences have been held at ECLAC international seminars, bringing together experts and stakeholders from Latin America and other regions

In each of the four countries, public-private roundtables and workshops have been established as the key institutional mechanism to sustain dialogue, capacity building and formulation of strategies. Table II.4 provides a summary of the actors involved in each country.

In each country, this public-private roundtable conducted specific "case studies" to measure the carbon footprint of exported goods, either with external resources or through self-funding arrangements. The development of public-private mechanisms in these areas has been instrumental in:

- Measuring and reducing carbon footprints
- Addressing and assessing environmental requirements in export destinations,
- Improving the branding and corporate image of specific companies and industries
- Identifying areas of inefficiency in the production processes, supply chains, logistics and transportations, etc.
- Identifying opportunities for increased competitiveness of specific agrifood products,
- Making traceability progressively compulsory
- Fostering innovation
- Introducing other environment management tools (e.g. water footprint) into agrifood sectors

- Creating environmental or sectoral "labels" of sustainability and environmental management
- Positioning brands internationally.

Results, Outcomes and Impact of the iPPP

Private sector

- Positioning the issue of climate change
- Inclusion of environmental concerns in business strategies
- Capacity building for 800 private firms on climate change and exports; 55 companies were able to measure the carbon footprint of their export goods and identify measures to adapt their production process in order to comply with export market requirements
- Strengthen industry associations
- Addressing environmental issues in collaboration with the public sector and identify joint strategies

Public sector

- Placing the issue of carbon footprint on the policy agenda
- Training for state institutions in measuring the environmental footprint and providing a comparative analysis of main export goods from the agrifood sectors: capacity building of 200 public officials on climate change and exports
- Identify structural issues related to the production patterns that affect the carbon footprint: energy mix, transport and infrastructure, etc.
- Improve collaboration and trust with the private sector
- Identify areas of improvement for public policy in the area of trade and climate change

Table II.4 : Key Stakeholders and Sectors

	Colombia	Ecuador	Nicaragua	Dominican Republic	Honduras	Peru
Main food sector	- Stevia - golden berry	- Shrimp palm oil	- Coffee - cocoa	- Bananas - cocoa	- Palm oil	- Citrus fruit - asparagus
Direct counterpart	- ProExport (public)	- CORPEI - (public-private)	- CEI - (public-private)	- CEI-RD - (public)	- SNV - (international development agency)	- Promperu - (public)
National ministries and other entities	- Ministry of Environment and Sustainable Development	- Ministry of environment - Ministry of Industry and Production - Proecuador	- Ministry of Industry and Trade - Ministry of Energy and Mining	- National Council for Climate Change	- Ministry of Agriculture - Ministry of Foreign Relations	- Ministry of Trade and Tourism - Ministry of Environment
Private sector representatives	- ASOCOLFLORES - Bogota Chamber of Commerce	- National Chamber of Aquaculture		- ADOEXPO - ADOBANANO - National Cocoa Commission	- ANDI	- ADEX

Key Success Factors

- Common design and understanding of the “positive agenda” of climate change and the carbon footprint requirement
- Identification of key actors in the agrifood export sectors
- Common methodology and training
- A third party (ECLAC) promoted the PPP as the way in which to address trade-related carbon footprint calculation and mitigation
- Leading role of a national entity with both public and private stakeholders
- Project outcome was considered relevant by both public and private partners

Sustainability factors

- Relevance of climate change-related issues in the public sector and business associations
- Leading role of a national entity with both public and private stakeholders
- Financial support of carbon reduction projects through public and private funding

Reproducibility in other countries and sectors

- Peru (cocoa, coffee)
- Ecuador (cocoa, tuna, bananas)

Policy Recommendations

- Providing incentives for enhancing the measurement of the carbon footprint and improving environmental management through tax, subsidies, regulation, local organization
- Leading and disseminating pilot programmes for carbon footprint measurement in key export sectors
- Mobilizing resources for international cooperation in the area of trade and climate change
- Articulating systematic public-private dialogues
- Leading the development of national emission factors and carbon calculators for the purpose of certifying companies measuring their carbon footprint

- Disseminating information on environmental good practices and successful initiatives related to trade and climate change
- Having a third party (ECLAC) promote the PPP as the modality to address trade-related carbon footprint calculation and mitigation
- Promoting the leading role of a national entity with both public and private stakeholders
- Considering the project outcome as relevant by both public and private partners

Keywords/tags: Carbon footprint, export development, climate change

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Related websites / online material

See [online] <http://www.cepal.org/comercio>

See [online] el Seminario Huella de carbono: <http://www.eclac.org/cgi-bin/getProd.asp?xml=/noticias/calendarioActividades/6/49346/P49346.xml&xsl=/tpl/p43f.xsl&base=/cooperacion/tpl/top-bottom.xsl>

Case 13. Enhancing the Production and Dissemination of Weather-related Indicators to Adapt Agricultural Production to Climate Change by Means of ICTs

Geographical scope: Chile, Colombia, Mexico

Thematic area: ICTs, agricultural production, climate change, food security

Executive Summary

Information and communication technologies (ICTs) can make a powerful contribution to agricultural development, either through their application in virtually every sphere of agricultural production and farm management or by transforming production and marketing and, even more importantly, the flow of information and knowledge within the sector. Additionally, they play a key role in adaptation to and mitigation of climate change related dimensions. The case described here displays various examples of how countries of the region, through public-private partnerships and use of ICTs, have enhanced the production and dissemination of weather-related data and indicators to improve the capacities of the agrifood sectors to adapt their production patterns to climate change.

Description

The United Nations Framework Conference on Climate Change (UNFCCC), the main multilateral body created to assess the dimension and impact of climate change, has placed early emphasis on the need for relevant and accurate information, data and indicators regarding climate variables in order to help policy-makers and private sector actors make well-informed decisions aimed at adapting to the consequences and mitigating the effects of climate change.

In the area of agricultural development, the availability of accurate and comparable weather data and indicators – such as on temperature or humidity – and of related historical data sets is particularly relevant for the assessment and forecasting of agricultural production. Such figures are essential to analyse changes in climate patterns, forecast future evolutions and assess their effects on crops, soil and related agricultural variables.

The occurrence and magnitude of extreme natural events related to weather has also turned out to be an important factor in more recent years. Among its main recommendations on how to address climate change, the Intergovernmental Panel on Climate Change has highlighted the importance of early warning systems, the enhanced use of ICTs, technology for the management of water resources, improvement and preservation of natural resources, as well as institutional innovation among which the use of agrifood insurance schemes and improvement of access to financing in agriculture.

The availability, production, processing and dissemination of statistics and indicators are often a major hurdle in countries of the developing world in which statistics in general and weather-related data in particular may often be limited, inconsistent or lacking historical series. The following barriers and limitation traditionally characterize developing countries such as those of Latin America: a lack of and/or integration of accurate information and data regarding environment, climate and social areas; the fact that the data production process has traditionally been top-down and geared by supply rather than demand; and the perception that the development of new information and data is of low added value.

In the field of agriculture, given the complexity of production systems and the need to reduce the gap between global and local scales, the analysis of the impact of climate change is particularly important and the amount of variables to consider very broad. Moreover, to properly address the complexity of climate change, producers require data and indicators not only related to climate but also on biophysics and socio-economic information (such as water resources, biodiversity, productive infrastructure, institutional capacities, vulnerability levels of agro-food producers, and so forth).

In Latin America, agricultural production accounts for a significant share of GDP and various countries are also net food exporters. The region also includes subregions that are among the most vulnerable in the world to extreme natural events. The countries of Central America and the Caribbean basin are particularly vulnerable to hurricanes and tropical storms, but there are also areas at risk of flooding in other countries such as Argentina, Bolivia and Paraguay. Recent analysis by ECLAC shows that the occurrence of extreme natural events and the magnitude of related damage and losses has sharply increased over the past decade. Moreover, there are considerable differences between local and sub-national territories within single countries in respect of both climate patterns and the availability of information and data.

In the field of agriculture, given the complexity of production systems and the need to reduce the gap between global and local scales, it is particularly important to analyse the impact of climate change and there are many relevant variables. Moreover, to properly address the complexity of climate change, producers require data and indicators not only on the climate but also on biophysics and socio-economic variables (such as water resources, biodiversity, productive infrastructure, institutional capacities, and vulnerability levels of agrifood producers).

In Latin America, weather and climate-related information is usually generated by a broad set of actors ranging from research institutes and academic centres, public institutions, private service providers, as well as groups and unions of agrifood producers. The provision of data and indicators has traditionally been guided by the requirements of research and data generation centres but these do not necessarily meet the exact information needs of agricultural producers or are delivered in a complex mode or with inadequately processed data. The new opportunities offered by ICTs have enabled wider dissemination of data but have not necessarily improved its quality, accuracy and relevance for the purposes of better forecasting a more efficient agricultural production process. These facts, together with the ever-increasing need for more effective assessment of the impact of climate change in agriculture, call for a better design, processing and delivery of data and indicators as a strong support tool to adjust agricultural production patterns and environmental management, particularly at the local and micro levels.

ECLAC has identified examples in which countries of the region have set up successful and innovative Public-Private Partnerships aimed at improving the production and dissemination of data and indicators related to climate change with the support of ICTs. As described below, in Mexico, Chile and Colombia, different actors have teamed up through innovative institutional arrangements in order to enhance the generation and efficient dissemination of accurate agro-weather information to enhance the capacities of their agrifood producers. In each case, synergies have been identified among agriculture sector and related corporations, public authorities at the national and local levels, weather-forecasting, academic and research institutions to turn these information systems into a public good. The cases of Chile and Mexico highlight the benefits of collaborative action between public and private institutions in the generation of agro-weather information. In the case of Colombia, it represents a consortium of institutions working in the field climate change with strong emphasis on information sharing and efficient use of resources aiming at shared achievements.

Innovative models of PPP

National network of state agro-climate stations in Mexico

Mexico and Central America have been increasingly vulnerable to the volatility of weather conditions and extreme natural events over the past decade which, in turn, has implied a significant increase in the costs of loss and damage. In Mexico alone, the patterns of rain in different seasons have for instance evolved dramatically: the autumn-winter cycle in 2010-2011 represented one of the worst droughts in recent history which affected 800,000 hectares of cultivated land. The drought of 2011 represented an historical record which affected 2.56 million acres, led to a loss of 6 million tons of crops, and caused dams and reserve utilities to operate at 18% of their capacity. Other examples include structurally lower temperatures in fruit production areas of the North of the country or a record early cold and freezing vague in February 2011.

The national network of state agro-climate stations in Mexico, which was launched initially in 2000 with 10 stations, currently encompasses 825 stations and benefits from overall investment of MXP 80 million. The network's objective is to provide information to agriculture producers fine-tuned to the needs and characteristics of local conditions. Each

station registers information and data in real time on the following variables at the local level: rain, temperature, humidity, solar radiation, wind speed and direction, soil humidity. Based on this information, it produces related indicators including evapotranspiration, barometric pressure, dew point and heat units and cold hours. The system enables to access recent and historical statistics as well as recent cumulated and average data, maximum and minimum figures, etc.

In this scheme, the pivotal institution is the Fundación "PRODUCE",⁵⁴ a non-profit organization grouping producers of the agro-industrial and agrifood chains, which coordinates their work with that of national and regional government authorities, research centres, and specific sectoral representatives. It places particular emphasis on enhancing the use of new technologies. Regarding the specific network of agro-climate stations, it is responsible for carrying out the following actions:

- Maintenance and operation of the network
- Repairing or updating of stations
- Training and capacity building of technical personnel
- Fund-raising and partnerships with from states' institutions
- User support (state governments, producers, agrifood groups)

The network of climate stations currently has 5,500 high-quality stations including complete data series, of which 3,500 report on daily basis to the *National Oceanic and Atmospheric Administration* (NOAA). Regarding adaptation to climate change and risk management, it has also set up a catastrophic insurance system aimed at supporting the most vulnerable and low-income producers in the case of extreme natural disasters affecting agriculture. A federal subsidy accounts for 75% to 90% of the insurance premium. Basic agriculture insurance aimed at reimbursing farmers affected by climate-related events.

Agroclima.cl network in Chile

The Agricultural Development Foundation (FDF) is private non-profit technological institution created in 1992 by producers and exporters of fresh fruit. The initiative was launched with the objective of overcoming technical limitations in a participatory manner. Among its current responsibilities, it runs and manages the virtual online network Agroclima. FDF began its activities in 1997 with 12

stations, co-financed by the public innovation fund CORFO. In 2009, it launched a master plan to increase its scale and coverage with funding from Innova CORFO and the Agrarian Innovation Foundation (INIA-Chile) of the Ministry of Agriculture of Chile which helped it expand to 185 automatized stations and cover 95% of fruit production areas in the country. As in the previous case, every five minutes stations register and compile data and information on seven key parameters: temperature, relative humidity, rain, atmospheric pressure, global radiation and wind speed and direction. The information is disseminated in real time and is made available online and via GPS. The network was designed to be a public good providing free access to easily interpreted data. It works through the ongoing association of FDF, INIA-Chile and the Chilean weather forecasting directorate and currently has 235 automatic stations transmitting information by GPRS, of which 91 are owned by agriculture producers and agrifood companies.

Inter-institutional network on climate change and food security in Colombia (RICCLISA)

RICCLISA was founded in 2009 based on the recommendations of a national workshop on climate and agrifood sectors held by the Ministry for Agriculture and Rural Development with the participation of more than 100 specialists and experts from a broad range of public and private entities. Among the needs identified at the workshop were the development of a network aimed at reducing the existing institutional vulnerability which resulted in a lack of coordination between climate programmes on the one hand and agriculture-related policies and requirements on the other, along with the inefficient pooling of human, technical and financial resources, as well as isolated knowledge and use of data and information.

Table II.5 provides a summary of various examples of initiatives related to implementations of ICTs in agriculture to deal with adaptation to climate change (CC):

Table II.5 : Implementing ICTs in Agriculture to Adapt to Climate Change (CC)

	Addressing drivers of vulnerability	Building response capacity	Managing climate risk	Confronting climate change
implementations	<ul style="list-style-type: none"> - Zoneamiento agrícola de riesgo climático" - Description: Public loans and private insurance to farmers based on climate risk zoning developed by a pool of agricultural research institutions - Country: Brazil - Institutions: Embrapa, Brazilian Ministry of Agriculture, several universities, public banks, private insurance companies - Advantages: Incorporates climate risk variables to investment decisions and to public loan policies in agriculture, with an additional impact on mitigation strategies - Drawbacks: PPP not clear/innovative. Private insurance companies use risk indicators but not sure they participate in its development process. - <i>Other possible case studies:</i> "Infraestructura de datos espaciales" (CIREN, Minagri, CONAF, FIA – Chile) - "Red Interinstitucional de Cambio Climático y Seguridad Alimentaria - RICCLISA" (MDAR, DNP, Cenicafé, Universidades, others – Colombia) 	<ul style="list-style-type: none"> - Agroclima" - Description: Networks of agro-climate stations - Countries: Chile and Mexico (other countries possibly have similar initiatives) - Institutions: INIA, Dirección Meteorológica, farmers' organizations and private companies (Chile); Fundación Produce, agricultural research institutes (Mexico) - Advantages: Open data generation, feed other CC projects and can also support farmers' decision-making. - Drawbacks: PPP not clear/innovative in the Mexican case (Fundación Produce is financed by the Federal state and farmer's associations, but they are not stakeholders) - <i>Other possible case studies:</i> "Modelación de los impactos del cambio climático en la agricultura" (Embrapa – Brazil) 	<ul style="list-style-type: none"> - Agricultura/riego de precisión" - Description: Tests, training, promotion, technological development and funding of PA/PI tools - Countries: Argentina and Chile - Institutions: INTA, Fundación CIDETER (Argentina); INIA, CORFO (Chile) - Advantages: Local development/adaptation of foreign PA/PI technologies, development of clusters of national private producers of these technologies. - Drawbacks: PPP not balanced, strongly public. - <i>Other possible case studies:</i> AQUACROP – FAO (Worldwide) 	<ul style="list-style-type: none"> - Sistema de alertas tempranas Centroamérica" - Description: Network that integrates data from multiple sources on disaster (floods, droughts, hurricanes, earthquakes and volcanoes) assessment and warning in Central America countries - Institutions: UN-WFP, US institutions (NASA), University College London, national focal points - Advantages: Supranational network - Drawbacks: PPP not balanced, strongly public. - <i>Other possible case studies:</i> "Ayuda a América Latina y el Caribe para la gestión de los riesgos de desastres naturales" (BID)
Small-scale implementations	<ul style="list-style-type: none"> - "Todo Chile Conectado" - Description: Rural Internet network - Country: Chile - Institutions: Subtel (MTT), Entel - Advantages: Since the project considers the connectivity of most rural areas, it will allow farmers even in remote locations to have access to the climate information services (that are not available on cell phones) and other services to support their decision-making. - Drawbacks: It is a more traditional PPP in infrastructure investment, the innovativeness comes from the inclusion of rural areas and the recognition of the impact it would have on national development. 	<ul style="list-style-type: none"> - "Platicar: Plataforma de Tecnología, Información y Comunicación Agropecuaria y Rural" - Description: Virtual platform for the interchange of knowledge and technological transfer among farmers - Country: Costa Rica - Institutions: INTA, Fundecooperación (Costa Rica), FAO, South-South cooperation - Advantages: It allows farmers to exchange knowledge on adaptation strategies that work for them. 	<ul style="list-style-type: none"> - "SoftwareTriguero, Sojero y Maicero" - Description: Software to support decision-making in the fertilization of crops, based on soil and water availability information - Country: Argentina - Institutions: AACREA, Profertil SA, Universidad de B. Aires - Advantages: Free software developed by a non-profit organization of agricultural producers together with technicians from a public university and a private agrochemical company. 	

Key Success Factors

Key success factors are dialogue in the framework of a long-term partnership between public and private actors to identify relevant data to be measured, identified and disseminated. The local, regional and territorial dimensions are key factors and must bring in specific agricultural sector representatives and local authorities together with national telecommunications authorities and private companies. A sound and flexible institutional design enabling the coordination of the different actors within a long-term framework has proved key to the development of the network and ensured the following:

- Human resources and capacity building
- Economic and financial sustainability
- Quality, accuracy and relevance of information and data
- Timely dissemination

Reproducibility in other countries

As mentioned in the present case, such experience is replicable in all countries of the region.

Keywords/tags: Agriculture, ICT, climate change

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Case 14. Innovation in Public Services in Brazil (“Project Juntos”)

Geographical scope: Municipalities in Brazil

Thematic area: Healthcare, education, e-Government, design thinking, fiscal efficiency

Executive Summary

“Progress is only possible through cooperation. Project Juntos is an example of this: how coordinated actions between the private and public sectors can bring innovative solutions focused on citizens.”

– Fernando Henrique Cardoso, Former President of Brazil and partner of Project Juntos

Juntos Project is the largest coalition of Brazil’s most prominent business leaders focused on innovating and improving local government and public service management. It represents an innovative PPP model that brings together philanthropic capital, technical expertise and public leadership to develop new services in areas such as education and healthcare, designed and co-created *for and together with* citizens.

The project, led by Comunitas, a non-partisan civil society organization, focused its work on the municipal level, with the main objectives: to increase fiscal efficiency and the investment level of the city, design and co-create new public services, in a collaborative effort with citizens and build leadership and managerial capacity among the senior staff of the municipality.

In its first project, with the city council of Campinas (a city of 1 million inhabitants), the undertaking succeeded in increasing the municipal investment budget by 182% (from R\$ 77 million to R\$ 217 million annually), without tax increases or a reduction in social entitlements. It has also led a public service co-creation process between the municipal staff and citizens, through *design thinking* workshops and an Open-Innovation Web platform.

Project Juntos is now being replicated in three cities in Brazil and has the goal of expand to a total of 10 municipalities within three years.

Description

Despite Brazil’s bumpy but positive economic growth over recent years, surpassing the United Kingdom for a brief moment as the seventh largest economy in the world, Brazil stills ranks as the 17th most unequal country, according to the GINI Index. This level of social discrepancies is evident in comparisons between the two cities taken as examples here. The city of Curitiba has a Human Development Index (HDI) score of 0.823 – better than Portugal – while Ingazeira in Pernambuco has an HDI of 0.608, a similar level to Namibia. Just like Ingazeira, Brazil has another 1,608 municipalities ranking below this African country in terms of social development.

Three principal reasons for this situation lie in a lack of investment capacity by municipalities, often owing to bad management; the scarcity of public staff technical expertise to implement innovative, or merely efficient public services; and a lack of public leaders with a true commitment to results, transparency and social change.

Project Juntos focuses on having a real impact in those structural and human development problems.

Innovative model of PPP

The strategic model of Project Juntos PPP (Figure II.6) is designed to allow philanthropic investors to finance the development of innovative and strategic programmes concerning local governments that would not otherwise be carried out. Comunitas, as coordinator and proponent of the project, firstly chooses a municipality (i.e. mayor) willing to be a partner and work together with the private sector and the technical partners selected to implement four strategic actions, as described below.

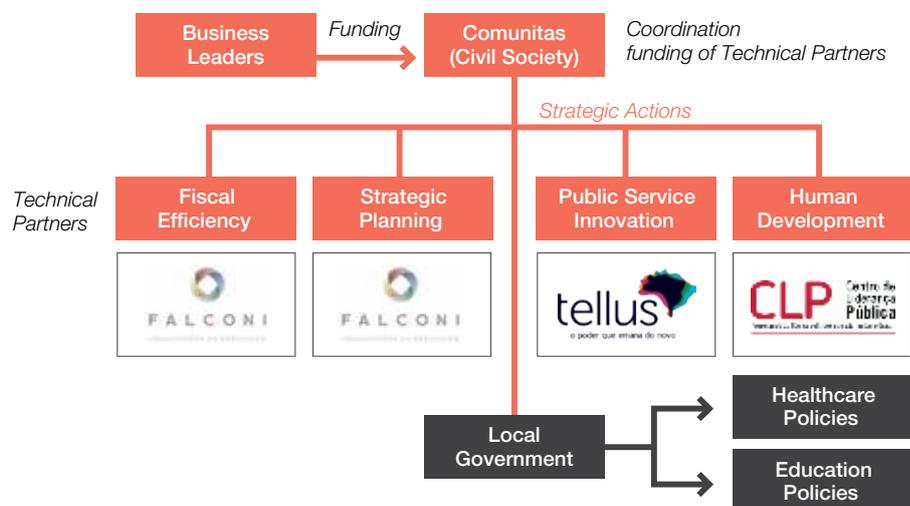
(1) Fiscal efficiency

The initial focus of Project Juntos is providing fiscal gains for the municipality, by increasing revenues (without raising taxes) and reducing expenditure (without decreasing social entitlements). This process is carried out by a specialized management consultancy firm, Falconi, in an 18-month project, which generates, on average, significant increases in the city’s investment. A steering committee made up of the mayor himself and his senior personnel meets weekly to oversee and engage with the fiscal programme.

(2) Strategic planning

In parallel to the fiscal efficiency programme, Project Juntos also conducts strategic planning sessions with the mayor and his key personnel. This process establishes governance practices, key success metrics and priorities for public services in education and healthcare, which will be implemented with the increased investment capacity, generated by the Fiscal Efficiency programme.

Figure II.6 : The Strategic Model of PPP



Source: Comunitas.

(3) Public service innovation

The next strategic action focuses on mobilizing and engaging citizens and the municipal public staff to design and co-create innovative public services, based on preliminary diagnostics and the strategic planning done with the consultancy firm. Also, Project Juntos utilizes Open Innovation Web platforms to enable thousands of citizens to generate ideas and proposals on how to enhance public services. This strategic action is implemented by Tellus, an organization that specializes in Design Thinking and Open Innovation for public services.

(4) Human development

Finally, the fourth strategic action of the project involves developing human capital, i.e. the leadership and managerial skills of the senior public officials. The renowned not-for-profit organization Centro de Liderança Pública (CLP) is the partner appointed to conduct a series of workshops and practical courses to foster a managerial culture, focused on results and leadership.

The first city to start implementing the project was the city of Campinas, in Brazil, which became a partner in January 2013. In May and August 2013, two new cities started replicating the project model, with the support of local investors and philanthropists.

Stakeholders involved and organizational structure

Project Juntos is proposed and coordinated by Comunitas, a not-for-profit civil society organization created in 1995 with the purpose of contributing to Brazil's social development by strengthening collaboration across different sectors.

Comunitas is responsible firstly for leveraging the resources necessary to fund the project, which comes from the widest possible network of collaboration between Brazilian business leaders: CEOs, family business members and their respective foundations. This network of supporters provides philanthropic capital to fund Comunitas contracts with Project Juntos technical partners – Falconi, Tellus and CLP – three of the most prominent consultancies in Brazil specializing in implementing the *strategic actions* described above with the municipality and its citizens.

Comunitas, finally, conducts screening and due diligence processes in order to identify a local political leader, i.e. a mayor, who meets a set of pre-defined criteria complete ethical profile, a commitment to action and results, openness to transparency and innovation and has recently been elected on a first mandate (which allows possible project continuity).

Strategy for implementation

Comunitas, as proponent and coordinator of Project Juntos, establishes a schedule with five clear phases, for each chosen city to implement the project.

First phase: Establishing an initial support network

Comunitas has been working on various different collaborative projects in recent years, which has helped the organization build a strong support network of Brazilian business leaders. With the initial support of this network, Comunitas was able to secure 100% of Project Juntos funding, without the need to rely on governmental sources.

Second phase: Selecting the right mayor

Comunitas then draws up a political map of municipalities in Brazil and their respective elected mayors, cross-checking multiple sources of information in order to screen and compile a list of political leaders that fit the four aforementioned main criteria. From this shortlist, Comunitas must identify for its network at least one local and one strategic supporter each willing to commit at least 25% of the financing of the project for that municipality. This financing decision finally determines which mayor and city is chosen to start implementing the project. This process takes from four to six months.

Third phase: Implementation – Fiscal efficiency and strategic planning

The initial phase of implementation, conducted by Falconi, is focused on working together with the mayor and senior staff, through a weekly steering committee meeting that aims to identify opportunities to increase municipal revenues and decrease expenditure. Ensuring results in the short-term helps gain the confidence of the mayor and cement his commitment to the project. Together with the strategic planning, this phase lasts for 18 months, and initial fiscal optimizations and results are seen within six months of kick-off.

Fourth phase: Implementation – Public service innovation

The fourth phase runs in parallel with the third and breaks down into four different steps, according to Tellus' design thinking and open innovation methodology. Firstly, Tellus runs a diagnostic in order to assess the quality of public services and the feasibility of, and potential for, improvements in both education and healthcare. Next, during the *deep dive* moment, Tellus engages – by means of design thinking workshops and an open innovation platform – public agents, citizens and other relevant stakeholders to collaborate and co-create possible solutions to those areas. The third step involves *prototyping* those solutions and then implementing in it full scale. Finally, the whole innovation process is systematized by Tellus so other municipalities can replicate it easily.

Fifth phase: Replicating to other municipalities

The experience drawn from Comunitas over the first project implemented in the city of Campinas in January 2013, the strong role-model effect and the initial results generated within six months of the kick-off have been sufficient arguments to inspire other mayors, local business figures and philanthropists to replicate the innovative PPP model of Project Juntos. In fact, in September 2013, two new cities besides Campinas began implementing the project.

Financing scheme

The financing of the project was wholly (100%) drawn from private investors, with philanthropic capital, which ensures flexibility in hiring the technical partners and avoids political and partisan influences that could undermine Comunitas' credibility as an impartial partner.

The total average budget needed for implementation of the entire PPP project is R\$ 2 million, or US\$ 800 million, per year for each city. The financing scheme is divided among three different categories of partners: Comunitas provides 50% of the financing, which comes from its own support network; a strategic sponsor, one of the members of Comunitas support network, provides 25% of the resources; the local support network, a number of entrepreneurs and philanthropists that reside in the chosen city, provides the remaining 25% of the financing.

Results, Outcomes and Impact of the iPPP

From a fiscal efficiency standpoint, Project Juntos has delivered initial results with the city of Campinas. Six months into the project, the best estimates see a 182% increase in the city's investment capacity, soaring from R\$ 77 million in 2012 to R\$ 217 million in 2013, as shown in Figure II.7.

In respect of innovation in public services, the project has so far been able to engage dozens of municipal collaborators and citizens, leading to 85 inspiring cases of innovative public services, 63 project proposals, and the city's Open Innovation platform (www.campinasevoce.org.br) has welcomed 14,805 visitors in its the first month (September 2013). As the diagnostics identified Campinas main priority as healthcare, the ideas generated ranged from improvements in the design of public health centres, to technology solutions to make the system more effective and new ways to train and motivate healthcare staff.

In terms of project replication, two other cities (Pelotas in Rio Grande do Sul and Paraty in Rio de Janeiro) were chosen by strategic supporters and began implementing the project in September 2013. Comunitas has received an ever increasing amount of funding for the projects and requests keep coming from mayors and local supporters alike to start implementing Project Juntos in other cities. Its replication roadmap expects to see 10 cities implementation the project in the next three years and the development of on-line educational and training tools to expand the project's impact to an even larger number of municipalities.

Key Success Factors

The key success factor of the project is the exceptional collaborative network established by Comunitas, which brings together many of the community's most prominent chief executives, family business members and younger generation leaders. This support network provides not only the flexible finance scheme necessary to fund the initiative, but also significant soft power which has boosted the level of commitment of local mayors.

Another success factor is the assessment of hundreds of mayor profiles to ensure that a candidate with the political will to implement the project was chosen, along with some of the best technical services providers in the country, in the form of Tellus, CLP and Falconi.

Sustainability factors

The first factor to be considered is the municipality's own economic sustainability. This is by the initial focus on generating fiscal efficiency, which creates additional budget that can be invested in more innovative and better quality public services. Fiscal equilibrium is a fundamental pillar to be sustained, to allow increased investment capacity to improve and innovate social and human development areas, such as education and healthcare. Another sustainability pillar of the project is the high level of transparency agreed with the mayors, which assures legitimacy with the multiple stakeholders of the project.

Reproducibility in other countries

As stated above, the Project Juntos model is already being replicated throughout other cities in Brazil. It is also possible to imagine the project's replication in other countries. It is important to consider success and sustainability factors to reproduce the project in other countries. Naturally, it is fundamental to build strong support network, identify the right technical political partners and political leaders and ensure a high level of transparency with all stakeholders.

Policy Recommendations

Below are summarized recommendations to the project's main stakeholders.

For corporate foundations/philanthropic institutions: Consider channelling philanthropic investments to solutions that can be highly scalable and sustainable, partnering with the government in a transparent manner.

For governments: Improve and innovate public services using *design thinking* and fiscal efficiency tools, which can reduce expenses, increase revenues and improve the quality of services.

For businesses: Engaging in PPP projects can help change a city in which the company in question might have workers or operations, thus producing a win-win situation and increasing its influence and brand awareness.

Keywords/tags: Public service innovation, design thinking, open innovation, education, healthcare, fiscal efficiency, public-private partnership

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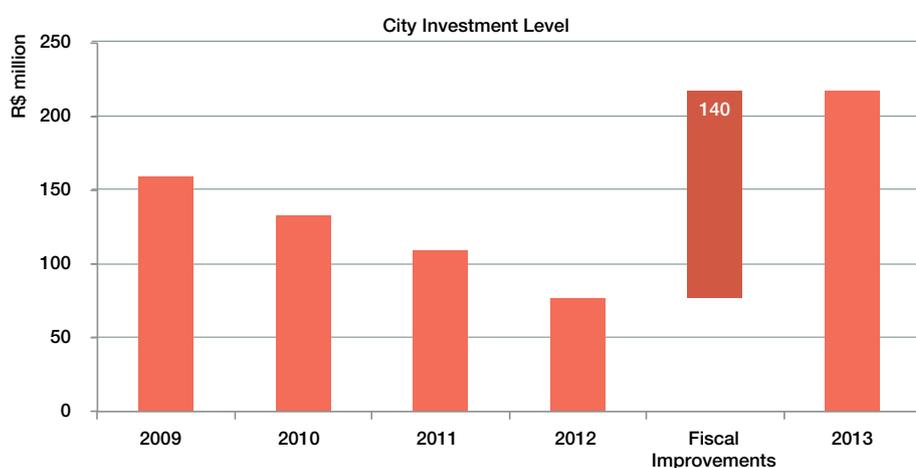
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Figure II.7 : Fiscal Improvements Generated by Project Juntos



Source: Comunitas, Falconi.

Case 15. Regional Broadband Dialogue

Geographical scope: Latin America

Thematic area: Telecommunications, regulation, broadband, connectivity

Executive Summary

The Regional Broadband Dialogue is a forum for discussing and sharing experiences to formulate public policies and concrete initiatives aimed at lowering the cost and improving the quality of broadband in Latin America, to make the economic and social benefits of this service available on a mass scale.

The Dialogue includes a forum for public-private debate. The members of this forum are representatives of 11 governments in the region, the main telecommunications firms, academic experts and international organizations working in this field.

Description

The Internet has revolutionized the economy and society and will continue to do so at an ever-faster pace. The cross-cutting use of this technology, in particular broadband and its applications, has an impact on economic growth, labour productivity, employment and quality of life. The digital paradigm is driving a new industrial revolution, which is in turn bringing structural changes to production patterns. According to a recently conducted study by McKinsey, 75.4% of the value derived from the Internet goes to non-Internet sectors of the economy and society. Advanced manufacturing, supply-chain tracking, and the so-called “Internet of things” have allowed for efficiencies that historically could only have been dreamt about.

The widespread availability and adoption of broadband, based on an interaction between various complementary assets (skills, devices, digital applications and infrastructure networks) create a dynamic that has a strongly positive effect on economic growth and social inclusion. Studies in developed countries estimate that a 10% increase in broadband penetration can boost GDP by up to 2.5%, although the impact may be only 0.16% in Latin American countries.

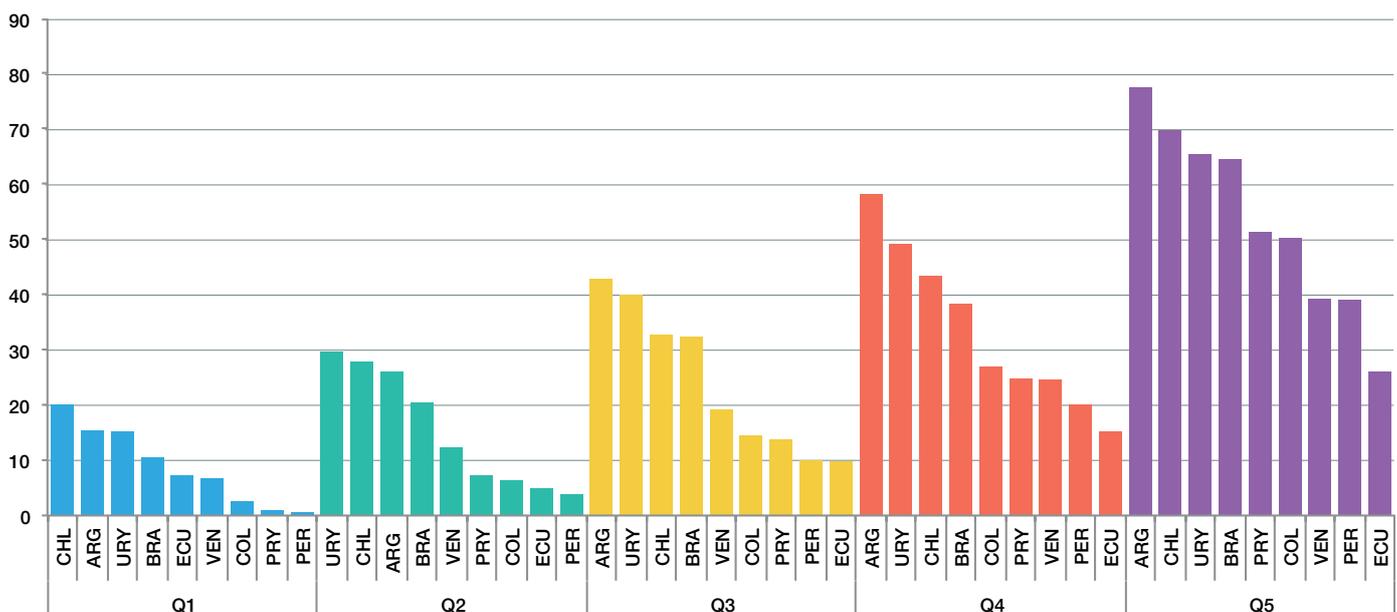
The reason for this difference is that broadband operates with very high returns to scale once certain access and use thresholds have been reached. The potential of this technology is thus only fully realized when it is accessed and used intensively by most of the population and by a majority of firms, public agencies and civil society organizations.

Broadband penetration is low in the region primarily because of factors associated with the income level of different segments of the population. The lack of broadband in far-flung rural areas is another challenge. Figure II.8 shows the disparity in broadband penetration by income quintile, illustrating that the poorest segments of the population are also the least likely to enjoy the benefits of broadband use.

According to some experts, in general no more than 2% of income should be spent on a broadband service for it to be considered accessible. The estimated cost of a 1 Mbp-speed fixed broadband connection in the region represents on average almost 6% of income as a proportion of monthly per capita GDP, based on data from the Regional Broadband Observatory (ORBA) of ECLAC.

Figure II.8 : Households with Internet Access by Income Quintile, Data to 2011

(Percentages)



Source: Economic Commission for Latin America (ECLAC), on the basis of household surveys.

In the context of the Regional Broadband Dialogue, studies have been conducted to identify the cost determinants in the region and assess how the related costs can be reduced. One relevant factor is the region's high dependence on international Internet traffic and limited direct connectivity with other regions. An estimated 85% of Internet traffic passes through the United States, which drives up the final price of the service by around 20% to 40%. Estimates indicate that an average reduction of 10% in the price of a broadband service would result in a rise of almost 19% in the penetration rate.

Reducing the region's dependence on international traffic would thus result in lower costs and higher levels of broadband penetration.

Opportunities Related to Cloud Computing

The mass development of broadband, together with progress in virtual data and information storage may pave the way for a new information technology (IT) supply model: cloud computing. This new paradigm appears particularly relevant and attractive in terms of cost efficiency, given its ability to combine savings with greater flexibility in the management of the IT requirements of companies and governments. Cloud computing enables reducing entry barriers and therefore provides easier market access for new players. As such, it will generate innovation and creation opportunities for new players and new business models and modify the landscape for all economic sectors requiring IT services, which may in turn become powerful tools for reducing access gaps. Like any paradigm changer, cloud computing also poses challenges in terms of its implementation in ICT environments that are used to having "everything under control".

Currently, issues related to data mobility, privacy and security limit the expansion of cloud computing services and must be analysed thoroughly by public and private actors. In this context, ECLAC and the European Commission have launched a public-private dialogue initiative aimed at seeking solutions to these issues that are of concern for the industry, governments and users. This initiative will enable the formulation of proposals for common visions and actions between business and governments from Latin America and the European Union in order to accelerate the adoption of cloud computing and favour sectors with limited access to the benefits derived from new technologies.

This initiative has been supported in Chile by "Fundación País Digital", a non-profit foundation grouping private network operators and telecom companies with the aim of coordinating efforts by the public and private sectors with a view to developing a common national digital agenda. It brings together the private ICT industry and governments and regulators to design and implement public policies by national ministries, and regional and local governments, with the purpose of broadening access to digital connectivity and scaling up the use of ICTs. Its areas of action are: smart cities; education and digital development; incentives for the development and use of ICTs in production processes. Its initiatives range from the development of technical dialogue roundtables between public and private actors to the design and implementation of specific projects.

Innovative PPP model

The goal is to cut the cost of broadband in the region by reducing dependence on international Internet traffic.

Characteristics of the PPP, with emphasis on its innovative features: The Regional Broadband Dialogue is a forum for cooperation and public-private debate that focuses on very concrete and specific themes on which action can be taken in the short term. Meetings of the Dialogue take place in two settings: an open forum in which governments, firms, academics and other organizations in the sector participate, and a closed forum, in which representatives of the telecommunications sector of the governments of the region discuss the policies to be adopted and decide on the priorities. Only in a multistakeholder environment can the technical and technological options be fully understood.

Stakeholders involved and organizational structure: ECLAC is the technical secretariat of the Regional Broadband Dialogue and is responsible for conducting studies and organizing the Dialogue's meetings and events. Eleven governments in the region are represented in the Dialogue – Argentina, Bolivia, Brazil, Chile, Costa Rica, Colombia, Ecuador, Mexico, Paraguay, Peru and Uruguay – and the International Telecommunication Union.

The main telecommunications firms in the region have participated in Dialogue events, such as Telefónica, Telmex, CISCO, AKAMAI, Google, Yahoo Research, Huawei and Ericsson, in addition to various institutions linked to the sector such as AHCET, REGULATEL, ISOC, LACNIC, ICANN and EuroIX.

Results, Outcomes and Impact

In view of the goal set by the Dialogue, the main result was the formulation of policies and proposals for reducing the dependence on international traffic. At the national level, proposals and policies were geared towards determining the conditions for attracting content hosting, by, for example, establishing content distribution networks (CDN) through companies such as Google which are responsible for a very significant proportion of the traffic that is accessed from the region. In addition, as an outcome of the discussions and studies, public policy recommendations have been formulated for the development of Internet exchange points (IXPs), which some countries, such as Bolivia, had already incorporated into legislation.

At the regional level, options for improving connectivity between countries were analysed and the Dialogue is working with the South American Infrastructure and Planning Council (COSIPLAN) of the Union of South American Nations (UNASUR) to support the establishment of a fibre-optic ring to link up the countries of South America. In addition, in the framework of the Dialogue, meetings have been held between government representatives of the countries of the region and representatives of the European Commission to discuss the possibility of laying a new undersea cable to connect Europe directly with South America.

Broadband tariffs have fallen significantly since the Dialogue was set up. For a fixed broadband connection with a download speed of 1 Mbp, the tariff measured as a proportion of average per capita income fell by an average of 64% in a nine-country sample during the period December 2010 to May 2013. The sharpest drop was seen in Ecuador, where tariffs fell by 84%.

Another important result was the generation of information that was transparent and comparable at the regional level on the impact of international traffic on broadband costs and quality and tariff trends. In this regard, the Regional Broadband Observatory (ORBA) was set up, which is responsible for generating and analysing that information.

Key Success Factors

The success factors identified included clearly defined goals, assigning roles to the participants, the stability of funding sources and the continuity of the process.

Policy Recommendations

- The problem and the objectives should be clearly defined.
- The tasks to be carried out by each person should be clearly identified from the beginning.
- If a PPP is possible, it should be institutionalized and the process formalized.
- The source of financing must be sustainable.

Keywords/tags: Broadband, telecommunications, social inclusion

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Part III

A. Key Success Factors

The different cases of innovative PPPs discussed in this report reveal that there are common features that should be considered in any public-private partnership, regardless of the area of social, productive or sustainable development on which it focuses.

In the first place, the PPP should be well accepted by both the private and public sectors and any other civil society actors that may be involved, thus ensuring that a positive agenda is set with a view to establishing a win-win situation for all parties. In other words, it is essential to take account of the interests of the social group targeted and the capacity of the government at different levels, and to identify the appropriate economic incentives for the private sector when drawing up and implementing innovative PPPs. To establish a lasting relationship across the private and public sectors, it is crucial to understand the expectations that the parties have of the programme, to identify the specific expectations each of them has in terms of value creation to clarify and reach a consensus on each party's responsibilities in implementing the project.

Identifying the right stakeholders to be involved in the partnership, according to the expected outcomes, is essential to successful implementation. This must be done meticulously to determine the appropriate institutional setting, incentives and level of action, and to ensure legitimacy with the target population. The parties involved should reach a common understanding on the long-term vision of the programme to ensure common ground is found at the policy formulation stage. This avoids misunderstandings among the parties during the policy implementation phase and may ensure greater sustainability. Through a process of consensus building, governments, the private sector and civil society should set a balanced, positive agenda in which the parties involved should be aware of their individual responsibility towards the programme.

A positive joint agenda can be created by a participatory platform in which a group of leading figures from civil society, the private sector and governments can discuss their different points of view concerning the issue to be addressed and

the policy to be implemented, bringing fresh ideas to the table that reflect their unique voices and perspectives. It is important to be aware of and capitalize on any synergies between the parties involved and seek the development of a long-term relationship of trust. Structuring PPPs, particularly in the social and environmental spheres, requires overcoming prejudices and establishing a culture of dialogue to set common goals. It is also important to take stock of the comparative advantages and roles of each actor involved in the partnership and identify the most relevant skills that they can bring to the partnership. In the same vein, a common understanding needs to be reached of whether actions are most appropriate at the local, regional, national, transnational or global level. Given the cultural heterogeneity of the actors involved, it is critical to spend time framing the policy and its implementation phase to establish a clear picture of the balance of power, the responsibilities of each party and potential conflict zones.

In short, a key factor for success in a PPP is how to address the cultural heterogeneity of actors from different organizational backgrounds. Therefore, it is essential to not only focus on the goals and structure of the policy, but also foster reciprocal understanding among the actors. Other relevant factors to be assessed when identifying specific actors to be involved include leadership capacity and influence, governance, legitimacy, prestige, functions, skills and abilities, and the availability of resources, both human and financial.

Although partnerships among these actors are not obvious and imply overcoming organizational and cultural shortcomings, they can ultimately provide a qualitative leap in terms of process and in contributing to social and sustainable development. The setting up of a collaborative network structured across governments at different levels, private sector, civil society, community, non-profit organizations and academic institutions will not only multiply sources of funding but also extend the outreach of programmes, reaching vulnerable or marginalized populations that otherwise would not have access to the programmes.

To ensure the financial sustainability of the partnership, governments, the private sector and any other actors involved should determine the funding sources at the inception of the programme. The participation of multiple actors enables co-funding partnerships to be created,

reducing the burden on any single actor. When possible, the establishment of financing mechanisms or frameworks ensuring medium- to long-term commitment and continuity of work should be considered to avoid dependency on political cycles, among other objectives.

Furthermore, programmes focused on the social domain must be adaptable, given the dynamic nature of the field. The actors involved must be willing to accept a certain level of operational flexibility and to make accommodations or concessions to ensure the effectiveness of the initiative. Adaptability and flexibility are particularly important in overcoming bureaucracy and possible obstacles during the implementation of social policies. Indeed, PPP initiatives have shown the importance of the role played by governments in the creation of new institutional frameworks to address social, productive or environmental issues, expanding the outreach of programmes with less bureaucracy by integrating them into long-term national plans or strategies. The creation of specific institutional mechanisms to ensure the articulation of the different public and private stakeholders over time is essential in this regard. Reliance on or creation of a specific institutional setting – picking the pivotal and most legitimate actors – can significantly facilitate the channelling and sustainability of resources, regular convening of the different stakeholders and provision of progressive training and capacity building activities.

Finally, the implementation of results-based tools, cost-effectiveness analysis, evaluation mechanisms and constant monitoring are also essential to ensure the continuous improvement of PPP projects in Latin America. PPP projects bring together multiple parties with diverse interests, and different evaluation tools are therefore needed to monitor their progress. The implementation of a bottom-up – rather than a top-down – strategy is essential to obtaining feedback from the target populations and to making programmes more transparent and their actors more accountable. PPP initiatives, by and large, place emphasis on a participatory approach involving the affected population, local municipalities and private firms to carry out the programmes. Some initiatives adopt a decentralized and participatory process for the design, organization and implementation of programmes, thereby putting the target population at the centre of the process.

B. Policy Recommendations

As mentioned in this report, the different levels of the state should retain a key role in supervising, providing incentives, maintaining regulatory frameworks and ensuring the provision of quality goods and services. The state must also be involved in identifying new opportunities and governance mechanisms to deliver these goods and services jointly with the private sector, seeking higher levels of outcome, impact and sustainability.

In the first place, government agencies at the national, regional and local levels can play a vital role by stepping up monitoring and evaluation of existing innovative practices to assess their scalability and whether they can be replicated elsewhere through policies, programmes and public-private partnerships. Further efforts should therefore be made to standardize oversight and field evaluation practices and to widely disseminate their results among government and business actors, particularly from the local to the national levels. Multilateral organizations, the academic sector, local communities and civil society actors are powerful partners to support evaluation and dissemination exercises.

Public authorities should also aim to generate greater incentives and create favourable climates for actors from business, communities and civil society to share ideas regarding potential partnerships and new forms of policy-making and programme creation in the social, productive and sustainable development spheres. Such efforts can be provided through traditional incentives such as tax exemptions, as in the case of ProUni mentioned in this report. There is also much scope for encouraging innovative financial mechanisms, such as social impact bonds which could have significant potential for development in the region. Multilateral development institutions can also act as a catalyst, not only providing financing, but also helping to create an appropriate environment for these different actors to share their views and knowledge and translate the relationship into need partnerships.

As further incentives, public-private spaces bringing together a combination of actors and skills are increasingly being created to foster the exchange of ideas on innovative approaches, the generation of integrated visions and trust. Innovation laboratories – geared to both social and production sectors – providing convening opportunities and equipped co-working spaces as well as training and capacity building activities are interesting platforms in this respect and help to generate small ecosystems that may foster public-private partnerships.⁵⁵ In the same vein, social innovation contests and crowdsourcing platforms are being promoted to enable public authorities and the private sector to identify potentially scalable projects from civil society, communities and youth organizations. These approaches could be further encouraged.

A fourth area of potential development is for governments to establish, in consultation with the private sector and civil society actors, regulatory dialogues and institutional frameworks that deepen common understanding of specific development issues, define shared values and provide clear schemes for relying on other actors in the implementation of specific policies and programmes with a long-term vision. In the social sphere, and health services the quality of education really can rise in a solid, well-regulated framework through new forms of public-private partnerships. In the area of new technologies and the information society, regional dialogue on broadband is a powerful tool for keeping governments up to date with technological developments and adapting their regulatory frameworks accordingly, without losing sight of their commitment to providing quality public goods and services. Long-term partnerships are required for the implementation of programmes using the most appropriate skills of each actor.

C. Conclusions

Bridging Cultural Gaps to Optimize iPPPs

Building public-private partnerships among government, business and civil society is no easy task, as it requires overcoming prejudices and fostering a culture of dialogue and consensus-building that necessitates identifying a set of common goals. It also implies defining the respective comparative advantages and roles of each actor working together instead of separately. Traditionally, there has been a natural divide in areas of action and world view, but these visions have evolved as all actors have progressively moved closer to understanding the need for a new state-market-society equation to address development issues.

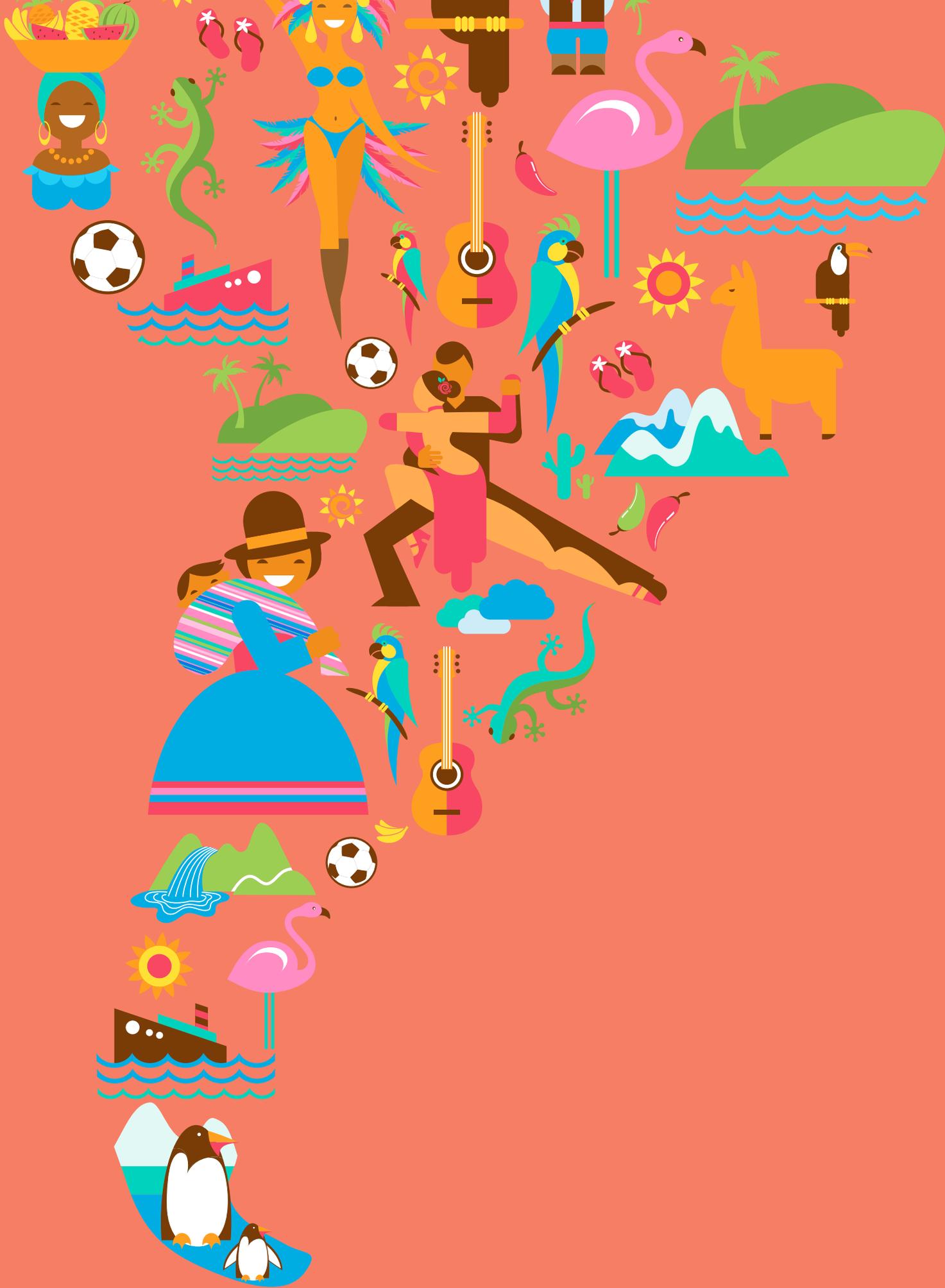
Developing a partnership requires not only dialogue and consensus-seeking among actors involved in solving a development problem, but also establishing a dynamic process that involves a broad set of factors: political will, political structure, institutional framework, balance of power among actors, the quality of leadership involved, and the related visions and need for urgency that sustain the partnership ensure it is successful, balanced and sustainable. The preparation process must carefully take into account these factors through a strategic analysis of the actors involved in the PPP, have a clear picture of the balance of power, respective agendas and of possible conflict zones, analyse key resources, define the methods of supervision and allocation of resources and clearly determine the accountability of the different actors in the partnership. Other relevant factors to be duly assessed when identifying the actors to be involved are capacity to influence, governance, legitimacy, prestige, functions, skills and abilities and the availability of resources, both human and financial.

Lastly, an underlying but key aspect to take into account in a PPP is the cultural complexity of setting up a partnership between different actors with different organizational backgrounds. When designing a PPP, it is therefore essential to place emphasis not only on the objective and content of the issues to be addressed by the partnership but also to foster

reciprocal understanding of the ways of thinking and working of the different actors involved. Each actor embodies a specific mental model, internal paradigm and system of values and, what is more, a vision of the world. Various existing models may facilitate this process by helping make an accurate diagnosis and cultural mapping of groups and individuals, such as those proposed by cultural anthropologist Jean Gebser (Schuschny, 2007), the dynamic spiral model of the humanist psychologist Claire Graves (2005) and the integrated approach of Ken Wilber (2001). These models or conceptual maps propose an integrated approach to psychological, sociological and cultural perspectives in the framework of value systems or visions of the world. They can also help identify and prevent possible bottlenecks or cultural inadaptabilities among actors.

Therefore, the effectiveness of the design and formulation of a PPP requires prior cultural diagnosis. Interaction among the actors involved may even be facilitated by specialists who take into careful consideration assertive knowledge and methodologies to enable actors to participate in a manner that maximizes their potential.

It has been shown that Latin America is among the most innovative regions in the world in terms of social development practices and, to a lesser extent, sustainable development. The region's longstanding shortcomings in the public provision of quality goods and services in the social sphere have given rise to an innovative and entrepreneurial mindset among its societies, particularly from actors at the community and local levels. This should provide an incentive for governments, business and civil societies to seek new sources of value creation geared to societal, human and social development in a rights-based approach to create an enabling environment for the generation of more innovative public-private partnerships.



Acknowledgements

The preparation of this report was supervised by **Enrique García Rodríguez**, President and Chief Executive Officer of the Development Bank of Latin America (CAF), and **Alicia Bárcena Ibarra**, Executive Secretary of ECLAC, United Nations, respectively Chair and Vice-Chair of the Global Agenda Council on Latin America of the World Economic Forum, jointly with **Marisol Argueta de Barillas**, Senior Director, Head of Latin America, World Economic Forum, and **Fernando J. Gómez**, Associate Director, Latin America, World Economic Forum..

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The report benefited from the valuable inputs and comments from Olga Lucia Acosta, Vianka Aliaga, María Elisa Bernal, Caridad Canales, Ana Ferigra Stefanovic, Andrés Fernández, Sebastián Herreros, Martin Hilbert, James Ireland, Juan Pablo Jiménez, Valeria Jordán, Rodrigo Martínez, Marco Ortega, Wilson Perés, Andres Schuschny, Sally Shaw, Guillermo Sunkel, Cecilia Vera, Pamela Villalobos (all of ECLAC), Andrés Rugeles (Development Bank of Latin America – CAF), Marcus Fuchs, Carlos March, Guillermo Scallan, Nias Vadhat (Fundación Avina), Margareth Flores (Red eAmerica), Juan Luis Nuñez (Fundación País Digital) and Laura Lattanzi (SOCIALAB).

The document was edited by the ECLAC Publications and Web Services Division.

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Appendices

1. Methodology and Case Selection Criteria

Necessary Conditions

Authenticity

- Does the initiative involve both private (or philanthropic) and public capital?
- Can the benefit in either economic, social and/or sustainable development or human capital be clearly identified?

Impact

- Does the initiative have tangible impact in its target area?

Robustness

- Is the value of the initiative recognized by a broad range of stakeholders?

Sustainability

- Can the environmental, social and economic sustainability of the initiative be verified?

Transparency

- Is the execution of the initiative a transparent and open process?

Differentiating Criteria

Innovation

- Is this a model known in a conventional, known area but applied in a different field?
- Does it involve a novel partnership element (financing, actors, timeframe, deliverables, quality) that is new to an established area?
- Has it required the establishment of new sets of performance dimensions (quality criteria) which maximize value delivered?

Impact

- Does the initiative have tangible impact in additional areas beyond the main target?

Diversity

- Are non-conventional stakeholders participating, beyond the parties normally engaged in projects with similar objectives?

Transferability

- Is the model portable so that it can be transferred to other countries?

Reach

- Is the initiative a response to major inequality risks in the region?

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Endnotes

1. See the World Economic Forum's reports on strategic infrastructure.
2. See "Breeding Latin American Tigers" ECLAC/World Bank, 2010, and ECLAC, 2008.
3. See Mariana Mazzucato, *The Entrepreneurial State*, 2013.
4. Over time, ODA flows to Latin America and the Caribbean have declined significantly, as a share of overall ODA flows, as a percentage of regional GDP, and as a share of total financial flows. The region's share of global ODA flows has fallen from a peak of 10% in 1996 to 5.6% in 2011 (latest available data). The share fluctuated between 12% and 15% during most of the 1960s.
5. At the global level, the amount from private donors amounts to nearly US\$ 60 billion per year, equivalent to almost half the net ODA disbursed in one year by DAC donor countries.
6. The Latin American and Caribbean region is home to one-third of the world's freshwater reserves and 12% of its arable land, one-third of world production of ethanol, around 25% of the production of biofuels and 13% of oil production. Global mineral reserves in the region include: 65% of lithium, 49% of silver, 44% of copper, 33% of tin, 32% of molybdenum, 26% of bauxite, 23% of nickel, 22% of iron and 22% of zinc. The region also accounts for 48% of world output of soybean and 21% of the global area of natural forest, and has an exceedingly rich biodiversity.
7. Such a vision is outlined in ECLAC's call for a new equation between state-market-society to bridge the traditional and structural gaps that still hamper the region's development. See: *Time for Equality. Closing gaps, opening trails* (2010).
8. "Strategic Infrastructure Steps to Prepare and Accelerate Public-Private Partnerships" (2013), World Economic Forum.
9. "Breeding Latin American Tigers" (2008), ECLAC and World Bank and ECLAC (2010).
10. See *The Entrepreneurial State. Debunking Private vs Private Sector Myths* (2013), Mariana Mazzucato.
11. C. K. Prahalad (2011), *The Fortune at the Bottom of the Pyramid*.
12. Eggers and MacMillan (2013).
13. For instance, every year from 2004 to 2009, the Kellogg Foundation and ECLAC organized a "social innovation contest" in Latin America and the Caribbean, which identified and analysed 4,800 initiatives contributing to achieving the MDGs at the local and community levels (<http://www.cepal.org/dcs/InnovacionSocial/>). Ashoka has also implemented its "changemakers" programme (<http://www.changemakers.com>).
14. See [online] <http://www.redeamerica.org> and <http://www.redeamerica.org/PremioLatinoamericano>.
15. See [online] <http://www.fundacaoilemann.org.br>.
16. See [online] <http://www.unglobalcompact.org> and http://www.unglobalcompact.org/docs/news_events/8.1/GC_brochure_FINAL.pdf.
17. See [online] http://sustainabledevelopment.un.org/content/documents/833glob_dev_rep_2013.pdf.
18. See [online] http://www.cepal.org/rio20/noticias/paginas/6/48936/2013-123-Sustainable_development_WEB.pdf.
19. See [online] <http://www.effectivecooperation.org>.
20. See [online] <http://www.povertyactionlab.org>.
21. More information is available in the INEP report "Resumo Técnico do Censo da Educação Superior 2011", see [online] http://download.inep.gov.br/educacao_superior/centso_superior/resumo_tecnico/resumo_tecnico_censo_educacao_superior_2011.pdf.
22. In 2009, the monthly average income per capita of the north-east was almost half (R\$ 396.00 = US\$ 171.67) of the monthly average income per capita of the south-east of Brazil (R\$ 759.00 = US\$ 329.04). See [online] <http://www.todospelaeducacao.org.br/>. Exchange rate of 21 November 2013. See [online] <http://www4.bcb.gov.br/pec/conversao/conversao.asp>. Accessed on 21 November 2013.
23. The PNE is currently pending in Congress (Substitute to the Bill 8,035/2010).
24. See [online] <http://www.globalinnovationindex.org/content.aspx?page=gii-full-report-2013#pdfopener>.
25. Exchange rate of 21 November 2013 (US\$ 1.00 = R\$2.3067). See [online] <http://www4.bcb.gov.br/pec/conversao/conversao.asp>. Accessed on 21 November 2013.
26. INEP. "Sobre o ENEM." See [online] <http://inep.gov.br/web/enem/sobre-o-enem>. Accessed on 9 September 2013.
27. Bill initially proposed by the Executive branch to implement ProUni. See [online] <http://www.abmes.org.br/abmes/publicarquivos/publicacoes/Cadernos13.pdf>. Accessed on 21 September 2013.
28. There are concerns that ProUni could perhaps help entrench social bias by channelling academically qualified students from low-income families towards less prestigious private tertiary education universities, rather than finding ways to democratize access to the most renowned public universities in Brazil by means of affirmative action. Additionally, most private tertiary institutions are located in the wealthiest regions of the country (the south, south-east, and central-west). As a consequence, while the wealthiest regions have approximately one private institution per 9,000 people between 18 and 24 years of age, the north and north-east have less than one private tertiary institution per 16,000 people between 18 and 24 years of age, according to information obtained in the INEP further education survey of 2011. Nonetheless, it is noteworthy that in 2012, Brazil passed Law No. 12,711/2012, regulated by Decree 7,824/2012, which states that 50% of students accepted in federal universities must be from public high schools. Fifty percent of these students must be from families whose per capita income is up to 1.5 minimum wages. The deadline for compliance with this requirement is set for 30 August 2016. ProUni is one of several programmes launched by the federal government to facilitate the access of low-income students to tertiary education.
29. According to information obtained from the citizens information system of the Ministry of Education, on 22 July 2013 in response to a personal request by the author on 29 April 2013.
30. Exchange rate of 21 November 2013 (US\$ 1.00 = R\$ 2.3067). See [online] <http://www4.bcb.gov.br/pec/conversao/conversao.asp>. Accessed on 21 November 2013.
31. IBOPE. "Sumário Analítico – Pesquisa de Opinião Pública sobre o Programa ProUni e Assuntos Relacionados à Educação." The study was obtained from the citizen information system of the Ministry of Education (on 31 May 2013) in response to a personal request by the author on 29 April 2013.
32. TCU. "Relatório de Auditorial Operacional – Programa Universidade para Todos (ProUni) e Fundo de Financiamento ao Estudante do Ensino Superior (FIES)." 2009. See [online] http://portal2.tcu.gov.br/portal/page/portal/TCU/comunidades/programas_governo/areas_atuacao/educacao/Relat%C3%B3rio%20de%20Auditoria_Prouni.pdf. Accessed on 21 September 2013.
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35. MEC. "Processo de supervisão encerra 1.766 bolsas e desvincula instituições" (2009). See [online] http://portal.mec.gov.br/index.php?itemid=86&catid=212&id=14681:processo-de-supervisao-encerra-1766-bolsas-e-desvincula-instituicoes&option=com_content&view=article. Accessed on 21 September 2013.
36. TCU. "Acórdão 637/2012." See [online] http://portal2.tcu.gov.br/portal/page/portal/TCU/comunidades/programas_governo/areas_atuacao/educacao/RELATORIO_PROUNI.pdf. Accessed on 21 September 2013.
37. Exchange rate as of 21 November 2013 (1 US\$ = R\$ 2.3067). See [online] <http://www4.bcb.gov.br/pec/conversao/conversao.asp>. Accessed on 21 November 2013.
38. TCU. "Relatório de Auditorial Operacional – Programa Universidade para Todos (ProUni) e Fundo de Financiamento ao Estudante do Ensino Superior (FIES)." 2009. See [online] http://portal2.tcu.gov.br/portal/page/portal/TCU/comunidades/programas_governo/areas_atuacao/educacao/Relat%C3%B3rio%20de%20Auditoria_Prouni.pdf. Accessed on 21 November 2013.
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41. Compensation funds are tax-funded institutions financed by worker payroll contributions to provide welfare services to its affiliates (chosen by companies). They have developed high-quality schools for their affiliates and have become enthusiastic participants in the project, as a form of social responsibility.
42. Barrera, Felipe, "The Impact of Private Provision of Public Education: Empirical Evidence from Bogotá's Concession Schools", World Bank Policy Research Working Paper 44121, February, 2006.
43. Bonilla-Angel, "The effects of Charter School on Academic achievement, Evidence for Colombia", February, 2010.
44. According to a new World Bank report on Latin America, the region will grow 3.5% in 2013, a slight increase from last year's 3% growth, but significantly below the 5% annual growth rates of the past decade (de la Torre et al, 2013).
45. Article 2 of this law states: "It is incumbent upon the Ministry of Public Health to implement the National Integrated Health System, which will coordinate public and private comprehensive healthcare providers identified in article 265 of law No. 17.930 of 19 December 2005."
46. This is a non-governmental organization made up of public and private stakeholders involved in electronic health. For further information, see [online] <http://www.sueidiss.org>.
47. For more information, see [online] <http://www.eclac.cl/socinfo/noticias/paginas/3/44733/newsletter12.pdf>.
48. See [online] <http://sos.uccv.vt/> and <http://www.eclac.cl/publicaciones/xml/7/49897/SOSTelemedicinaVenezuela.pdf>.
49. This note was prepared by Akio Hosono, JICA (Japan International Cooperation Agency) Research Institute. The author would like to thank the JICA Brazil Office for its valuable comments on an earlier version of this note. Any errors or omissions are the responsibility of the author.
50. One major reason that illegal logging is difficult to stop is because rain forests are both vast and hard to access and patrol. However, Brazil's National Institute for Spatial Research, the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA), the Japan Aerospace Exploration Agency (JAXA) and JICA have together achieved a breakthrough in patrolling using satellite monitoring. Although the Brazilian satellite monitoring system was very advanced, since Brazil used optical sensors, observation was hindered by the heavy clouds often present during the rainy season, when most illegal logging took place. Since then, the observation system has been dramatically improved with the use of Pulsar radar mounted on an advanced land-observing satellite (ALOS) of JAXA, a system that is not affected by clouds and that operates 24 hours a day regardless of the weather. JAXA began providing satellite images to the Brazilian institute in 2007. The institute relays this information to the federal police and to the Chico Mendes Institute for Biodiversity Conservation, both of which are involved in monitoring and managing the Amazon. Thanks to improved real-time data, Amazon deforestation has been decreasing, reaching its lowest ever point from 2009 to 2011. See Hosono, A. (2013). As for sharing Brazil's experiences and innovative solutions, based on Pulsar radar on the ALOS, with other countries that face similar challenges through SSC/TrC, see Aida, Y. and C. Kobayashi (2012).
51. This and the following paragraphs are based on information provided by JICA-Net (<http://jica-net.jica.go.jp/lib2/07PRDM008,2008>).
52. Embrapa Eastern Amazon and JICA have implemented research cooperation projects on agroforestry.
53. Web Page, JICA Brazil office 20120207.
54. See [online] <http://www.fps.org.mx>.
55. See the examples of Movistar Innova in Santiago, Chile, Ruta N in Medellín, Colombia, and CIADE in Jalisco, Mexico.



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