India - Brazil
New Models for Cooperation

Estefanía Marchán
Researcher, Latin America Studies Programme
Gateway House: Indian Council on Global Relations

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About the Author

Estefanía Marchán is a Researcher in Gateway House's Latin American Studies Programme. A graduate from the University of Southern California with BAs in International Relations and Political Science, she has worked in research and strategy roles in the private and public sector in the U.S., Latin America, India and Europe. Previously she was a new media specialist at Rubin Postaer & Associates in Los Angeles and an activist for Collège Universitaire Henry Dunant in Geneva, training Latin American leaders on human rights policy and implementation.

At Gateway House, Estefanía has launched the Latin American Studies Programme, the first research program of its kind in India. She writes on topics ranging from India-Brazil and India-Latin America relations to the role of the BRICS and IBSA groupings in international affairs.

Introduction

We no longer debate the notion that the world order is being reshaped by nations long considered peripheral. Partnerships that were once deemed weak and fruitless are gaining renewed traction. Developing nations are turning increasingly towards each other in search of new models, new investments and creative solutions to their developmental challenges. Their engagements, characterized as South-South cooperation, are driven mainly by India, Brazil and China – the giants of the Global South. Each country has prioritized South-South cooperation, investing zealously throughout the developing world. But will today's South-South cooperation yield the growth and equity that old models and engagement patterns failed to deliver?

Will today's South-South cooperation yield the growth and equity that old models and engagement patterns failed to deliver?

This paper examines the possibilities of India and Brazil to fulfill their potential for equitable development – where one country's homegrown and well-honed strategies can be a welcome aid in the other; and how together, they can influence the development of a vast swathe of the underdeveloped and still-developing world. Acknowledging local conditions, this paper does not aim to fully analyze each area related to poverty reduction, food security and healthcare. Rather, it seeks to highlight lessons that can be considered in a partnership for cooperation and knowledge-sharing that provides broad social benefits. This paper will analyze common characteristics and challenges that make India and Brazil appropriate partners in development.

A look at 4 key areas:

- Brazil's Zero Hunger strategy dedicated to reducing poverty and malnutrition through developing profitable small farms and delivering cash to families with new payments systems.

- India's success in using market solutions to raise living standards for families at the bottom of the income scale through an entrepreneurial approach called 'inclusive capitalism.'

- India's successful development of affordable housing through private companies who have created family sized apartments in cities that sell for $4,200.

- India and Brazil's efforts to combat AIDS and malaria with low cost drugs developed by national pharmaceutical companies.

Why India and Brazil?

There are compelling reasons for India and Brazil to collaborate in each other's development. First, through systematized knowledge-sharing, India and Brazil can improve their domestic performance. By learning from Brazil, India can improve the reach of some of its social schemes by up to three times, while also improving efficiency.[i] In other cases, there are financial opportunities worth over $3 billion to consider;[ii] and potential for both countries to jointly invest up to $100 million in cross-sector partnerships.[iii]

Second, as these nations grow into their roles as global diplomats, their combined lessons can be powerful tools to share with the developing world. Increased international clout has the potential to translate into broader support (particularly from African countries) for India and Brazil's bid for a seat at the United Nations Security Council; and it can also lead to stronger South-South support in other international governance institutions, such as the International Monetary Fund.

Shared Characteristics

India and Brazil are among the foremost emerging powers of today, projected to be among the world's top five largest economies by 2050.

But this is not the only thing they have in common. Although there are marked differences in their domestic environments, India and Brazil share many characteristics which make them apt partners for cooperation on development.

Both countries are flourishing, though the road to prosperity has been long and arduous. Having risen from a position of disadvantage, India and Brazil feel compelled to advance inclusive development, domestically and internationally. Both countries are former colonies and have suffered from lagging, uneven development until recently. Their experience has influenced their outlook on international issues, with them often serving as the voice of developing nations in multilateral forums. At home, India and Brazil govern over pluralistic – and generally cohesive – societies. While India is arguably the more diverse of the two, with religion and caste playing a large role in social stratification, both nations aim to foster stable, democratic environments where their diverse populations can develop.

Demographically, India and Brazil enjoy youthful populations. India's population is more so than Brazil's—with 50%[iv] versus 42% of the population under the age of 25[v]. While both countries' population growth rates have decelerated, India's faster growth rate will ensure that its population remains youthful even as Brazil's ages. It is important to note that although India and Brazil are among the top five most populous nations in the world, India's total population far eclipses Brazil's at 1.2 billion versus 190 million people[vi]. Large and youthful populations are a blessing and a challenge for developing nations. To an extent, they ensure future productivity will be high and spending on social security for the aging will be comparatively low. But they also place added pressure on government to ensure that basic goods, services and jobs are available to meet growing demand.

Largely as a result of rapid economic growth, the socio-economic compositions of India and Brazil's populations have been transforming, with significant segments entering the middle-class. From 1990-2008, India added 205 million people to its middle class, around 50% of the Brazilian population is now part of its middle-class.[vii] This promises to be a future engine of private-demand growth and increased productivity.

Urbanization has followed industrial development in both countries, albeit to a much lesser degree in India than in Brazil. Brazil already has one of the world's most urbanized populations with 87% in cities,[viii] while only 30% of Indians live in urban areas.[ix] India's urbanization rate has been tempered partly as a result of the National Rural Employment Guarantee Act (NREGA), a public-works program that guarantees employment for 100 days a year to every rural household that enlists for work. However this may be a temporary phenomenon due to low growth in the Indian agriculture sector. India already has 10 of the 30 fastest growing urban areas in the world;[x] and the scale of India's cities are comparable to Brazil's: the population of São Paulo and Rio de Janeiro, Brazil's most populous cities, is 19.9 and 11.8 million, while India's most populous cities, Delhi and Mumbai, have a population of 21.7 and 19.7 million respectively.[xi] Urbanizing populations bring with them their own rewards and challenges to development.

Common Problems

Just as they share similar characteristics, India and Brazil face similar problems that threaten growth – poverty, inequality and inadequate resources are just some of their common challenges.

Poverty: For both countries, poverty persists as one of their biggest challenges, despite unprecedented improvement on this front over the last two decades. According to a study published by the World Bank in 2009, 'A comparative perspective on Poverty Reduction in Brazil, China and India,' poverty in India declined from 60% of the population to 42% between 1981 and 2005. In Brazil, the proportion fell from about 17% to 8% of the population.[xii] The study uses a poverty line of $1.25 per day, adjusted for purchasing power parity given 2005 prices, making the comparison clear and meaningful.[xiii]
But measuring poverty by its percentage increase or decrease can be misleading – especially in India, where the population is so large. Using World Bank estimates, poverty fell as a share of the population, but the absolute number of poor actually increased from 420 million people in 1981 to 455 million people in 2005 – a number that is more than double the entire Brazilian population.[xiv]

Inequality: Alongside poverty, persistent inequalities limit the ability of large segments of India and Brazil's populations to participate in, and benefit from, aggregate economic growth. Although resources from recent growth are being broadly invested in an effort to reduce inequality gaps, India stands at a low 121 of 187 on the Human Development Index, and Brazil at 73.[xv] According to the Gini index, which uses a country's distribution of income or consumption to evaluate inequality, India's inequality rose from 0.303 to 0.325 between 1981 and 2005. Though inequality has shrunk in Brazil, it still remains one of the most unequal countries in the world, with a Gini coefficient of 0.542 on a scale of 0 to 1.[xvi]

Inadequate resources: Even as the economies of India and Brazil flourish, millions of people in both countries continue to lack adequate access to basic resources. The sharp increase in world population together with the aggressive integration of emerging economies into global markets has resulted in an unprecedented demand for resources, from energy to water to food. Increased demand, coupled with rising food and commodity prices, will put added pressure on the Indian and Brazilian governments to strengthen fragile infrastructure and secure proper delivery systems for goods and services – especially for the poor.

As they find themselves in similar developmental stages, now is an opportune moment to examine India and Brazil's responses to common afflictions to see what can be learned and where collaboration can be expanded. If past collaboration can serve as a guide, engagement between these nations will grow out of the opportunities and challenges presented by their respective economic positions.

Growing Linkages

The India-Brazil relationship has not been one characterized by obvious, hard economic or geopolitical interests, though such opportunities are growing. Their geographic isolation has resulted in few economic and political interactions, with trade hovering below $400 million (INR 2,000 crores, R$6,180) for decades – a sign of their mutual indifference. Yet bilateral engagement has intensified in the last decade, deepening just as their presence on the global stage has become more visible.

Complementary political outlooks, typically linked to development, have underpinned collaboration between these powers.

Complementary political outlooks, typically linked to development, have underpinned collaboration between these powers. Their parallel inclinations can be loosely traced back to 1964, with the creation of the G77 coalition of developing nations, whose aim, albeit frustrated, was to articulate a collective position at the United Nations Conference on Trade and Development.[xvii] Years later, as part of the India-led Non-Aligned Movement, intermittent interactions continued in the spirit of solidarity between developing countries; though Brazil never formally joined the group.

Systematic and sustained engagement did not begin until 2003, when India and Brazil joined forces during the World Trade Organization's Doha trade negotiations in Cancún, lobbying for more equitable international trade agreements for developing nations. After the Cancún negotiations failed, the India, Brazil and South Africa trilateral forum (IBSA) was born, with the goal to institutionalize cooperation and jointly exert greater influence on issues of shared importance. HIV/AIDS proved to be an early rallying point. Faced with high incidences of the disease, the three countries jointly broke a European patent on an antiretroviral drug and provided badly needed generic treatment domestically.[xviii] In the longer term, IBSA's declared priorities were the strengthening of diplomatic and economic ties between member countries, mutual support for United Nations Security Council expansion and bolstering of cooperation on development-related issues.

As India and Brazil gained worldwide recognition as major economic powers, their relationship expanded significantly. Following Jim O'Neill's now famous 2001 prediction that Brazil, Russia, India and China, or the BRIC economies, would eclipse the combined economies of the richest countries by 2050, India and Brazil began to recognize each other as strategic partners.[xix] In 2006, Prime Minister Manmohan Singh was the first Indian head of state to visit Brazil in 38 years. Yet by 2010, the two governments had officially renewed their commitment to a 'strategic alliance.'[xx]

Greater trade and investment has followed increasing political ties. Trade between India and Brazil grew from $488 million (INR 2,450 crores, R$861 million) in 2000 to $9.2 billion (INR 38,600 crores, R$ 13.6 billion) in 2011, and bilateral investments have now surpassed $2 billion (INR 10,000 crores, R$3.5 billion).[xxi] While this is a small share of both nations' economic pies, what is striking is the pace at which engagement has accelerated. The continued growth of both economies will surely create further incentives for a deepening relationship. India will continue to diversify its sources of energy, minerals and agricultural products, which Brazil has in abundance, and both countries will look increasingly to each other for new markets for their goods. To date, while Indian companies have been more enterprising, there has been two-way investment across the automotive, IT, mining, energy, pharmaceuticals and agri-business sectors.[xxii]

New Models for Collaboration

In the early 1990s, India and Brazil suffered severe financial crises, forcing both to adopt systemic reforms. In the years and decades following reform, India and Brazil have had to, in a sense, adopt diverging strategies. India freed its private sector of Soviet-style restrictions, spurring rapid growth, while Brazil has done the opposite: it has increased government intervention to tackle the problems of pervasive inequality and poverty that policies of privatization could not solve on their own. Today, India and Brazil are meeting each other somewhere in the middle of their journeys. Where complementary, lessons from each country's homegrown development strategies can be learned to help address each other's individual challenges.

Poverty and Hunger Alleviation: The Brazilian Example

In India and Brazil, where much of the population remains poor, the inter-related issues of poverty reduction and food security are of grave economic and political concern. Although the two countries are among the world's top producers of agricultural products, significant shares of their populations suffer from malnourishment or lack access to basic food. Both countries have taken ambitions steps to eradicate poverty and hunger – but success is varied.

Aided by the strong political will to execute ambitious and effective programs, Brazil has made impressive strides in this respect, engineering groundbreaking social programs which have allowed it to reach the Millennium Development Goal of reducing extreme poverty and hunger by half – years earlier than anticipated. Conversely, India's government programs aimed at reducing poverty and bolstering food security have been ineffectual, and here, there are lessons for India.

The outcome of Brazil's policies is visible in the country's statistics. Between 1993-2005, Brazil cut poverty at a greater rate than India despite having lower economic growth (just over 1% versus 5% a year). For each unit of GDP growth, Brazil's rate of poverty reduction was five times that of India's[xxiii]. According to Martin Ravillon in 'A comparative perspective on poverty reduction in Brazil, China and India,' this phenomenon can be largely attributed to India's rising inequality. As assets and opportunities in the country have been increasingly concentrated away from the poor, the poverty-reducing effect of growth has been limited.[xxiv]

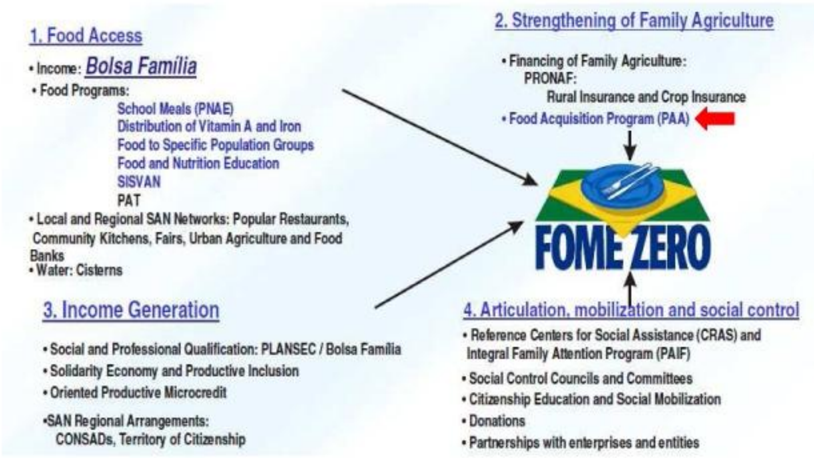
In this context, India's already problematic social policies have had even less of an impact on poverty. Although India has more equality than Brazil, Brazil's redistributive social policies have been instrumental in reducing inequality thereby aiding poverty reduction. A 4% reduction in income inequality between 2001 and 2004, for instance, was responsible for lifting 5 million Brazilians out of poverty – a significant share for Brazil. The country would have had to grow at a rate of 6% per year to achieve that same result through economic growth alone.[xxv]

Fome Zero

Brazil has arguably one of the most successful anti-hunger and anti-poverty strategies in the world. Fome Zero (Zero Hunger) is the umbrella strategy for a series of more than 20 government programs aimed at alleviating poverty and bolstering food security. Recognizing that a successful anti-poverty policy should provide both immediate relief of poverty and hunger and tackle its structural causes, Fome Zero's flagship program, the Bolsa Família, transfers cash to poor households conditional on children attending school and families accessing basic healthcare. To that end, another important initiative highlighted here is the Programa de Aquisição de Alimentos (Food Acquisition Program), which procures food directly from small-scale farmers to promote social inclusion in rural areas. Largely as a result of Fome Zero programs, the number of Brazilians living in poverty has decreased by 20 million (2003-09), extreme hunger has been halved and the Gini Coefficient has shrunk from 0.59 to 0.51 (2001-08).[xxvi]

Brazil has arguably one of the most successful anti-hunger and anti-poverty strategies in the world.

Fome Zero was conceived when President Luiz Inácio Lula da Silva (Lula) took office in 2003. Prior to Fome Zero, Brazilian social schemes had been less successful in reducing poverty and inequality, and large segments of the population suffered from hunger even as the country transformed into the world's fourth-largest food exporter. In its initial stages, Fome Zero loosely incorporated several schemes, including Bolsa Escola, Bolsa Alimentação and Auxílio Gas – which had been the hallmarks of the Cardoso administration – and Lula's own cash transfer program, the Cartão Alimentação. All programs subsidized basic commodities such as food and gas.



Source: ***Zero Hunger The Brazilian Development Strategy: Economic Growth with Social Inclusion*** **, Adriana Aranha, MDS**

But the Fome Zero schemes had one serious flaw: although they provided services to the same target group, they were run independently from one another and lacked coordination. Separate administrative structures resulted in poor targeting and significant overlap. Some families could legally receive multiple benefits while others were excluded from the schemes.[xxvii] This also meant that the programs missed important synergies in jointly promoting different aspects of human development such as primary education alongside basic healthcare.[xxviii]

Bolsa Família

In 2004, when it was clear that even an emboldened approach to poverty reduction was not enough to catalyze concrete improvements, the Lula government consolidated all cash transfer programs into the

Bolsa Família. Although Bolsa Família is relatively modest in terms of cost when compared to other social programs, such as Social Security, the program is having an impact on the lives of low-income Brazilians.

To qualify, families must be in a situation of poverty, defined by a monthly per capita income below $80 (INR 4,000, R$140). Through the program families can earn up to $114 (INR 5,700, R$200) per month, depending on the level of poverty and the number of children in the household. When possible, the money is transferred to the mother of the family via an electronic card.[xxix] According to the World Bank – which has been involved in the design, financing and refinement of the Bolsa Família since 2003 – studies prove that most Bolsa Família funds are being used for their intended purpose: to buy food, school supplies and clothes for children.[xxx]

Bolsa Família has wide reach, covering over 12.4 million families, and it is extremely efficient. The program spends about 0.5% of GDP a year and it is among the world's best targeted social programs: 94% of the funds reach the poorest 40% of the population.[xxxi]

A concern in the system is that Bolsa Família may have a rural bias. In 2006, 41% of rural households were enrolled in Bolsa Família, against 17% of urban ones. Although Brazil's two largest cities, São Paulo and Rio de Janeiro, have some of the worst levels of poverty in the country, fewer than 10% of households are in the program.[xxxii]

Even with this drawback Bolsa Família's success has inspired similar programs worldwide. The scheme has been adapted in almost 20 countries, including Chile, Indonesia, South Africa, Turkey and even the United States. In 2007, New York City Mayor, Michael Bloomberg, launched "Opportunity NYC," a conditional cash transfer program modeled on the Bolsa Família, with an educational, health and work component. This was the first conditional cash transfer program to be adopted in a developed country, learning from the experience of a developing one.[xxxiii]

Four important changes are responsible for Bolsa Família's success.[xxxiv]

1. *Administrative efficiency*: To reduce administrative inefficiencies, cash transfer schemes were merged across all levels of government and ministries, under the aegis of the new Ministry of Social Development and Fight Against Hunger (MDS).

2. *Standardization of eligibility criteria and targeting processes*: A central database, the Cadastro Único, was rebuilt and is now used to determine and monitor eligibility for all programs by all levels of government. To register participants in the Cadastro, municipalities interview willing families using the Cadastro Único Questionnaire, which includes information on household composition, income and living conditions. (Pre-reform programs used varied means to determine eligibility, resulting in poor targeting and overlap.)

3. *Accountability and decentralized delivery:* A new set of guidelines was created to improve transparency and accountability across all levels of government. States and municipalities now enter into a contract with the federal government, outlining each party's responsibilities. Apart from registering families in their jurisdiction for Bolsa Família, municipalities are responsible for updating the Cadastro Único with information regarding compliance to conditionalities and for ensuring the delivery of benefits to participants. State governments provide technical support and training to municipalities, and they are responsible for providing identification documentation for all families in the Cadastro Único. The central government determines the eligibility of families and transfers funds directly to recipients. States and municipalities can top up the transfers and use the Cadastro Único to provide complementary programs to beneficiaries.

4. *Incentives:* To ensure that Bolsa Família is administered effectively, the Decentralized Management Index (IGD) was created to gauge municipalities' performance. Municipalities that perform well receive additional funding as an incentive, and if they perform poorly, they received no administrative subsidy. In 2006, less than 1% of municipalities scored less than the desired score on the IGD.[xxxv]

Programa de Aquisição de Alimentos

In Brazil, 30% of rural farms are classified as 'family farms.'[xxxvi] They are responsible for 38% of the agricultural value produced in the country and a significant share of the food produced for the domestic market. Family farms employ over 70% of all workers in the agricultural sector, many of whom belong to the vulnerable, low-income population and include land-reform settlers, indigenous and traditional populations and *quilombolas,* or descendants of slaves. To promote their social and economic inclusion and to energize rural economies, the Programa de Aquisição de Alimentos (Food Acquisition Program) procures crops and milk from these farmers, which are then used to build food stocks (and regulate prices) and are donated to government food programs such as school meals or food banks.[xxxvii]

The Food Acquisition Program provides important market opportunities and sources of income for small farmers – though currently only about 3% of family farms benefit from the program. Farmers can earn up to $2,000 (INR 1 lakh, R$3,500) per year through the program. In 2009, 138,000 family farmers sold products through the Food Acquisition Program, and these were donated to about 13 million food-insecure people. From 2003 to 2009, the program spent more than $1.5 billion (INR 7,500 crores, R$2.65 billion) to buy nearly 2.6 million tons of food. A 2009 law established that at least 30% of the funding given by the federal government to states and municipalities must be used to buy food directly from family farmers.[xxxviii]

Studies show that there have been significant benefits to family farmers. Aided by greater resources and a guaranteed market, farmers have expanded and diversified production, particularly of fruits and vegetables. Participation in the Food Acquisition Program has also led to greater employment of permanent and temporary rural workers on beneficiaries' farms, and an increase in the use of fertilizers, pesticides, seeds, machinery and irrigation systems.[xxxix] Furthermore, the program has linked food production to local food habits by favoring purchases of foods featured in local cuisines.

The Food Acquisition Program promotes the organization of small family farmers into cooperatives and associations by providing financial resources as stimulus. Greater organization has, in turn, facilitated more credit for participating farmers, and has opened access to more distant markets.[xl] Nevertheless, there are indications that the program has been less able to reach remote areas of the country where the poorest and most marginalized populations reside. In these areas, family farmers have difficulties in meeting the technical and procedural requirements of the program, such as organizing themselves in cooperatives and associations, as this requires information, time and financial resources which these farmers often lack.

Lessons for India

In India, government support for food security and poverty reduction is broad, with the central government administering several schemes supporting agricultural production, the distribution of food, health and nutritional services and rural employment. Yet broad support has done little to address poverty and food insecurity in the country, which continues to suffer from it. According to the Food and Agriculture Organization, the country is also home to the world's largest population which suffers from chronic hunger: 238 million people. Conditions in India have worsened since 1995, even in the face of rapid economic growth.

Nevertheless, malnourishment in India is not necessarily caused by a lack of food. India typically produces enough food to meet domestic demand, and is in fact a food aid donor to the United Nation's World Food Program.[xli] Pervasive food insecurity is instead the result of a combination of high food prices and poor infrastructure and distributions systems, which means food often fails to reach the poor. For instance, India produces around 600 million tons of fruit and vegetables out of which 25% to 30% is wasted due to inadequate infrastructure and poor distribution systems.[xlii] India has a critical need for roads, but also basic elements such as cold storage facilities. Additionally, subsidies intended to increase the poor's access to food are more often than not ineffective. The Public Distribution System (PDS), which distributes essential commodities to people living below the poverty line, is the most obvious example.

The PDS distributes wheat, rice, sugar and kerosene to people living below the poverty line. Around 20-25% of the population participates in the program (based on the actual drawing of grains by beneficiaries), yet there is widespread recognition that it is in critical need of reform.[xliii] The scheme is riddled with problems ranging from official corruption and misrepresentation to high diversion of food to private traders and waste caused by rotting. Annual leakages are estimated between 44% and 58% nationally, depending on the source, but vary by state.[xliv] According to the 2011 World Bank report, 'Social Protection for a Changing India,' losses range from 27% in the state of West Bengal to 91% in Bihar. A scant 23% of commodities reach the poorest quintile of the population, and the government spends an estimated 1% of GDP a year on the program – twice what Brazil spends on Bolsa Família.

The National Food Security Act (NFSA), which aims to make access to food a basic right, is currently under discussion in India. The NFSA has been subject to sharp disputes centering mainly on reforms proposed for the PDS, altering the quantity and sales price of the foods being distributed; the cost and cost-sharing schemes between central and state governments proposed by the bill; and its intention to introduce cash transfers in lieu of food entitlements. Moreover, as the current PDS procurement of grain is concentrated among a few states (Punjab, Haryana, and some areas of Uttar Pradesh and Andhra Pradesh), resulting in high transportation costs and bearing some responsibility for the high loss rate, the act also proposed the introduction of local procurement of food grains. Because of the current debate taking place in the country, it is important to examine the Brazilian response to food insecurity to see if there are any lessons for India.

One of the most critical failures of the PDS is its poorly designed and executed approach for targeting the poor. The Indian government has been severely criticized for the method it uses to identify people living below the poverty line (BPL). According to National Sample Survey (NSS) data from 2004-05, for instance, only 53% of rural households belonging to the poorest quintile of the BPL population had a ration card to receive PDS benefits. These exclusion errors can be attributed to the Planning Commission's low poverty estimates and a poor implementation of the BPL survey.[xlv] If its social schemes are to be successful, India will need to establish a higher poverty line. But the government can also consider four reforms to improve efficiency in the PDS and related schemes based on the Brazilian example.

1. India can look to Fome Zero's Programa de Aquisição de Alimentos, which has been successful at reconciling food distribution with targeted procurement from farmers in a decentralized context. By decentralizing purchasing, India will not only reduce inefficiencies in the PDS, but also energize local economies and bolster the production of locally-preferred foods. To boost production in states where agricultural production faces constraints, the government can promote crops such as millets, pulses and oilseeds. Unlike the grains currently preferred by the PDS – rice for example – these crops grow easily in dry-land areas and are not water intensive.[xlvi] Government can still insure the movement of food grains from surplus areas to areas where access to food is an issue. Of course, this will not reduce the need for India to bolster its hard infrastructure, including roads and cold storage facilities to facilitate transportation and reduce food waste. Some Indian states have already begun to procure locally, including 'lagging' states such as Chhattisgarh and Orissa but implementation is limited.[xlvii]

2. To improve the overall efficiency of its social protection schemes, India can look to consolidate central and sub-national schemes into a core strategy like Fome Zero, with key

flagship programs. There are now vast disparities in the effectiveness of programs across state lines. These can be ameliorated with a different organizational structure that will reduce overlaps, as well as improve accountability. In India, central and state governments have, in certain cases, been unwilling to collaborate in the delivery of social programs since they compete for the political benefits gained from these policies. States' compliance is also affected by their capacity: while poorer states tend to receive more financial support, they have the lowest ability to spend increased funds effectively.[xlviii] With a unified strategy, overlapping aspects of national and sub-national programs could be merged so that the latter can re-direct their funds to complementary schemes. The central government can also enter into contracts with Panchayats, municipalities and states, which will delineate institutional responsibilities for all links of the service delivery chain, while at the same time complying with the law. As in Brazil, additional support can be given to states or municipalities based on performance. Creating a system resembling Brazil's Decentralized Management Index will be critical for India to improve compliance across states.

3. India can look to build a unified database similar to the Cadastro Único to promote effective and standardized targeting across schemes. The government is already sponsoring the development of national database through the Unique Identification Authority of India (UIDAI). The Aadhaar identification database aspires to facilitate public transfers of food or cash to below the poverty line individuals. However, there is substantial debate surrounding the legitimacy of its design. While questions of its validity are outside the scope of this paper, it is important to reiterate that Brazil's Cadastro Único uses data for households gathered from extensive questionnaires, not fingerprint and biometric data as proposed by Aadhaar. Nevertheless, the fact that there is broad awareness of the need for a central registry is a sign of progress.

4. India can start an in-depth study of the mechanisms of cash transfers, and pilot the program in willing, better connected areas. The National Food Security Bill's option to provide cash transfers or food coupons as alternatives to direct food grain entitlement is widely criticized. Many argue that cash allowances may not be enough to pay for basic foods or services, especially given India's extremely low poverty line and ineffective distribution systems. It is also said that in Brazil, conditional cash transfers have been a complement for the existing public provision of health, education and other basic services, quite unlike India where such services are not as widely available.[xlix]

   If the cash provided by government is not enough to meet the needs of those living in poverty, cash transfers may not be the best solution to tackle pervasive food insecurity in India. But difficulty in accessing complementary services such as schools, hospitals and banks may not necessarily prevent cash transfers from being an option. Cash transfers need not be conditional to be successful and they need not be universal. India can begin piloting cash transfers in willing municipalities with greater connectivity. Furthermore, although access to banking facilities may be a constraint in India – with an estimated 135 million households without access to banking facilities – India does have a large network of post offices which are widespread even in rural areas and which can be pressed into use. These are already being used by other social programs such as NREGA to transfer wages directly into worker accounts. NREGA alone has a created 23 million accounts in post offices and banks throughout the country.[l] As debate on the soundness of cash versus in-kind transfers for public services rages in the country, India would benefit from serious learning on Bolsa Família and other programs. It is clear that bold action is required if India is to solve the grave challenges of hunger, poverty and growing inequality.

Recommendations

A partnership is needed between Brazil's Ministry of Social Development and Fight Against Hunger (MDS) and India's Central Planning Commission to institutionalize technical cooperation on social protection programs between both countries. A special body should be created through which Brazilian experts can extend technical assistance to develop new social protection programs in India such as conditional or unconditional cash transfers, and to improve existing initiatives such as food acquisition programs. Experts from both countries should undertake missions in Brazil and India, and a website should be launched in English and Portuguese to disseminate information and facilitate distance learning.

It will be important for the MDS and Planning Commission to foster cooperation not only at the national, but also at the sub-national level, as there is great variance between Indian states' needs, ability and will to execute social programs. Technical cooperation on cash transfers may be more suitable for states like Rajasthan, for example, where efforts are already underway to build around 13,000 rural Points of Service to provide banking and other financial services through biometrically identified smart cards to 4.4 million rural citizens.[li] Rajasthan also has experience with using unconditional cash transfers to deliver social pensions to the elderly and widows, which points to its willingness to try the platform as a means of social protection. As Brazil did, India should seek funding from the World Bank to develop and pilot cash transfers. Other states and the central government may benefit more from receiving technical assistance for targeting methodologies and know-how on initiatives such as the Brazilian Decentralized Management Index, Cadastro Único or the Food Acquisition Program.

Moreover, the central government can also benefit from learning about Bolsa Família and its targeting methodologies to improve the efficiency of the Janani Suraksha Yojana (JSY), a national conditional cash transfer scheme launched in 2005 which transfers cash to women on the condition that they deliver their children in a health facility. The JSY is promising; it has been associated with a reduction of 3.7 perinatal deaths per 1000 pregnancies and 2.3 neonatal deaths per

1000 live births. But the program only reaches 5-44% of women giving birth (depending on the state), and fails to reach the poorest and least educated women.[lii]

Inclusive Capitalism: The Indian Example

The idea that poverty and social inequality can be addressed through private sector, market-driven solutions is gaining worldwide interest. Private players, from established corporates to small, independent entrepreneurs, are finding creative ways to provide the world's low-income population greater access to products, services and employment that improve their quality of lives and livelihoods. India, with its large low-income population, has become a natural laboratory for such ventures; and today, entrepreneurs are investing heavily across the country in sectors ranging from microfinance to affordable housing, energy, agriculture and healthcare, focusing on the needs of the low-income masses.

Private players… are finding creative ways to provide the world's low-income population greater access to products, services and employment that improve their quality of lives and livelihoods.

There are many interpretations of what defines 'inclusive capitalism' – and various names for such activities (such as social enterprise, corporate social responsibility). These initiatives can be set up as for-profit or not-for-profit organizations, or a hybrid of the two; they can have the primary goal of promoting social change or the sole goal of earning a profit. For the purposes of this paper the term chosen to describe these activities is 'inclusive capitalism,' and its definition is purposefully broad: it covers the activities of all businesses that explicitly promote the economic inclusion of those living at the bottom of the income pyramid, as well as those for whom social inclusion is a by-product. This paper is not concerned with narrowing the definition

of what constitutes inclusive capitalism; rather it seeks to highlight the positive effects that private sector engagement can have on poverty alleviation efforts and development.
The Bottom of the Pyramid concept was born in 2004 when C.K. Prahalad wrote the now-famous book, *Fortune at the Bottom of the Pyramid*, arguing that the fastest growing markets and entrepreneurial opportunities can be found among the world's largest but poorest segments of society – the 2.5 billion people who live on less than $2.50 per day. Prahalad presents case studies from countries including India and Brazil, arguing that, by adopting and implementing market-based tools and concepts such as high technology, competition and innovative business models, private enterprises can create solutions which improve the social conditions of a population in ways that are not often possible through public sector initiatives.

India has developed a strong supporting ecosystem for such ventures, which has made it a pacesetter among developing nations. It has a vibrant NGO sector (over 3 million now), dynamic entrepreneurs and a diverse pool of angel investors. Already, businesses that deliver developmental benefits have attracted much investment. Acumen Fund, for example, a prominent non-profit global venture fund, has invested $21.8 million (INR 109 crores, R$38 million) in social enterprises in India since 2001,[liii] while large Indian corporates like Tata have introduced affordable products to the low-income masses, including the world's cheapest car. These enterprises are achieving tangible results: they can provide clean drinking water at one-fourth the cost of the least expensive alternative, private education in urban slums that outperforms government schools for as little as $3 (INR 150, R$5.29) a month and safe births for less than one-fourth the cost in private hospitals.[liv]

While these enterprises are promising, large-scale success does not come easy. Predicting the success or failure of any one business model or product is challenging: markets for low-income consumers can be fragmented, financing is difficult and returns on investment slow – often taking decades to return profit. Here, India's entrepreneurs can serve as role models for Brazil's. They can share lessons on business models, distribution channels and innovations that have been proven to be commercially viable and scalable, as well as those that have failed.

There is no single solution for low-income groups. For businesses that reach the poor as consumers, for instance, urban markets represent a distinct problem from rural ones. The cost of serving consumers can also vary significantly across countries. Yet the bottom of the income pyramid can still be a powerful source of innovation which can be shared.[lv] Emerging countries like Brazil and India are prime ground for breeding these innovations. As reducing the cost of a product often means reducing resource use, sustainable solutions may emerge. Because there is a shortage of skilled talent among the poor, work is often deskilled. If the design of products and services takes into account skill levels, jobs can be created. Getting the right combination of scale, technology, price, sustainability, and usability requires innovation at all levels; such knowledge can be beneficial across countries.[lvi]

This paper highlights two successful Indian examples that could be illuminating for Brazil: one in which the poor serve as suppliers and another in which they serve as consumers.

Aggregating the Poor as Consumers: Affordable Housing

As of 2008, India faced an urban housing shortage of 24.7 million units, mainly for the poorest segment of society. Due in large part to constraints in financing and the high cost of land, Indian developers have traditionally been focused on more lucrative, middle to high-end markets. Increasingly, however, developers – from small, traditional developers to larger established ones and corporate players – have turned their attention to the profits waiting at the bottom of the income pyramid and are now investing in the affordable housing market.

In Mumbai, for example, there are a growing number of successful projects. In Karjat, a suburb 90km east of Mumbai, Matheran Realty is building 24,000 small apartments ranging from 300 to 700 square feet, starting at just $4,200 (INR 2.1 lakh, R$7,390). Matheran's

Tanaji Malusure City is India's largest planned social housing project and is a partnership between Matheran Realty and the Mumbai Metropolitan Region Development Authority, which seeks to develop Karjat as a satellite town to ease congestion in Mumbai. When completed, the venture will have schools, hospitals, shops, malls and be connected by road and rail to major employment regions in and around Mumbai. Residents will also have access to basic but rare amenities such as regular electricity and water supply. The home design is innovative and environmentally sustainable, using new technology that virtually eliminates the use of bricks and reduces carbon emissions by about 2 tons per unit.[lvii] The city has won the UN Habitat Business Award for sustainable urbanizing, which supports socially and environmentally sustainable towns and cities with the mission of providing shelter for all.

Other successful examples of low-cost housing projects in the area include the Swarajya Project, being built in Ambivali, 100km from Mumbai. Since its launch in March 2009, 80% of the units have been booked. Large Indian corporates like Tata Housing are also investing in the low-income sector. Tata Housing is building 1,300 units priced at $7,765 – $15,800 (INR 3.9 lakh – 7.8 lakh, R$13,630 – R$27,127) in Boisar and Vasind, suburbs near Mumbai.[lviii] Today there are over 25 developers building or planning to build affordable housing in seven Indian states.[lix]

Developing affordable homes for customers with an average monthly income of $260 – $300 (INR 12,000 – 15,000, R$420 – R$524) has forced developers to introduce completely new business models, from sourcing to distribution and pricing to margins. These developers are constantly testing construction technologies and designs.[lx] In the case of Tata Housing, for example, the company sees itself as a manufacturer, assembling homes quickly and efficiently. Since the most expensive part of development is buying land, Tata partners with landowners on a revenue share basis, with 10% to 15% of the cost being paid upfront and the rest paid out as a percentage of sales. Moreover, to ensure that its homes would be attractive to customers, the team spent a month researching 100 low-income families in Mumbai and Bangalore with an annual income of no more than $5,970 (INR 3 lakh, R$10,550).[lxi]

According to a study published in 2010 by Monitor Inclusive Markets, 'Building Houses, Financing Homes,' there is strong commercial feasibility in the low-income housing space, with some developers' internal rate of return as high as 40-50% in cities like Mumbai. Nevertheless, the difficulty of getting financing has been the biggest impediment to growth in the sector. Traditional lenders like banks are aware of the commercial potential of the market, but the risk of serving the poor is still perceived as too high, especially for customers in the informal sector. Developers also agree that the low-income market is viable, but are dissuaded by high transaction costs and customer credit risk.[lxii] Micro financing Institutions, on the other hand, are interested in lending to low-income individuals and have an advantage over large banks because they already serve these customers. However, most micro lenders do not have enough capital.[lxiii]

In response to growing demand, Micro Finance Housing Corp (MFHC) was established in 2008, combining the advantages of a bank and micro lender in one entity. MFHC gives loans of about $10,000 (INR 5 lakh, R$17,600) to low-income customers, for a tenure of 15 years and at a prime-lending rate of 12%.[lxiv] MFHC has partnered with developers including Tata Housing and Matheran's Tanaji Malusure City project. 'Building Houses, Financing Homes' concludes that despite a high perceived credit risk, housing finance companies are seeing strong returns on equity: 17.5% to 22%.[lxv] Public and private banks such as HDFC, ICICI and the State Bank of India have stepped in to provide larger loans of $20,000 (INR 10 lakh, R$ 35,000) to customers within the formal employment sector, while organizations like MFHC and Self Employed Women's Association, an established union for poor, self-employed women workers in India, provide smaller loans of $6,000 – $10,000 (INR 3 – 5 lakh, R$10,550 – R$17,600) to informal workers.

Aggregating the Poor as Suppliers: Fabindia

Fabindia is India's biggest private retailer of traditional handicrafts, with revenues of $84 million (INR 420 crores, R$147 million) and a net profit of $8 million (INR 40 crores, R$14 million) in 2010-11 alone.[lxvi] A 50-year old company, Fabindia started as an exporter of hand-woven fabric to Western markets, but in the last two decades has transformed itself into a chain of 146 retail stores and now draws more than 90% of its revenues from Indian consumers.[lxvii] The company links over 40,000 rural producers of diverse handicrafts to modern urban markets, creating a base for sustainable rural employment.

Fabindia's growth is due in no small part to its innovative business model and strategy, both of which can serve as a model for Brazil and other developing nations.

Fabindia is a community-based business, through which 17 regional companies source products from communities that are historically skilled in a particular craft. Under the model, the communities themselves own a share of the companies – craft workers hold a minimum 26% share in each, the company owns a 49% stake and investors own the rest. Besides their regular earnings, workers also receive dividends as their equity stakes in the community owned companies appreciate in value. Today, around 15,000 artisans have become shareholders.[lxviii] At the same time, Fabindia also benefits: by aggregating the poor as suppliers, the Fabindia business model has achieved scale while reducing cost and risk.

Through this unique model, Fabindia promotes inclusive capitalism. Since workers are not formally trained but inherit skills from their families, the company works closely with them, providing inputs on design, quality control, access to raw materials and production coordination.[lxix] These communities usually operate in a small geography and have very limited access to broader markets; Fabindia acts as an intermediary and brings their products to urban consumers worldwide. There are extraordinary stories: Mohammad Yaseen Chhipa, for example, who dyes fabric for Fabindia in Pipar, a village in Rajasthan, has seen his yearly income grow as Fabindia has grown, from $8,500 (INR 4.3 lakh, R$14,900) in 1989 to $170,000 (INR 85 lakh, R$300,000) in 2009.[lxx]

Lessons for Brazil

Brazil's robust social programs could be complemented by market solutions that improve the poor's access to products, services or employment. With a market of about 40 million low-income consumers, Brazilian entrepreneurs have ample opportunity to create viable businesses despite low profit margins.[lxxi] Following India's example, Brazil can also advance leading private-sector models for social innovation.

Although the presence of enterprises that promote social inclusion is growing significantly in Brazil, they are not yet as numerous nor have they proved as innovative as India's. Casas Bahia, a Brazilian furniture retailer that attracts low-income customers by charging interest on installment plan purchases, is one of the better-known, successful examples. But for the most part, instead of being generally self-sustaining initiatives like they are in India, Brazilian social enterprises rely heavily on the Brazilian Social Development Bank (BNDES) for funding, which is dependent upon strict conditions.[lxxii]

Still, the recognition of the importance of such enterprises is palpable in Brazil and across Latin America. The Inter-American Development Bank (IDB), for example, plans to invest $100 million (INR 502 crores, R$176 million) in 2012 in Brazil, as well as across the continent, to develop businesses that improve the earning opportunities for the region's low-income population.[lxxiii] Given this momentum, Brazil can benefit by collaborating with and learning from India's experience.

Of course, Brazil's markets contain nuances that make direct replication of Indian models problematic. Distinct legal, regulatory and taxation rules, as well as cultural factors, will affect the development of these enterprises in Brazil. But transferring lessons from one system to another will help to create a large knowledge base for the sector, enhancing its potential impact. Regardless of the country, these businesses face difficulties finding adequate financing, resources and a host of other challenges. Sharing experiences with Indian entrepreneurs can catalyze the expansion of such enterprises in Brazil, and potentially lead to new bi-lateral investment.

The affordable housing sector is a clear example. Today, Brazil suffers from a housing shortage of about 6 million homes, with low-income individuals accounting for 90% of the deficit.[lxxiv] As a way of reducing the property shortage, the Brazilian government introduced the Minha Casa Minha Vida (MCMV) social housing program in 2009. It aims to build 3 million homes over 5 years, giving Brazilians earning less than six times the minimum wage the chance to purchase a house at low interest rates.[lxxv] MCMV has a budget of $64.4 billion (INR 322,000 crores, R$100.6 billion), presenting large investment potential for developers and investors.

Although developers must meet several technical requirements to be approved for these projects, investments by or partnerships with Indian entrepreneurs can be beneficial. Acknowledging that the costs differ between India and Brazil, it is still clear that Indian entrepreneurs have succeeded in building very affordable homes. The average price for a Minha Casa Minha Vida apartment in Rio de Janeiro, for example, is $36,000 versus $4,200 for a Tanaji Malusure City home or $10,000 for Tata Housing's most expensive unit.

Additionally, by learning from India's experience with affordable housing projects, Brazil can increase the reach of future projects. The Minha Casa Minha Vida project has been criticized for excluding workers in the informal sector, as prospective homebuyers must submit official proof of income. India, on the other hand, is developing systems to include such workers – the creation of Micro Finance Housing Corp is a good example. With Brazilian officials predicting that there will be a deficit of 23 million homes among families earning between zero and three times the minimum wage in the next 20 years,[lxxvi] the long-term opportunities for Indian and Brazilian entrepreneurs in the affording housing space are significant.

Recommendations

Cooperation in finding market solutions to tackle poverty and social inequality can be made a part of the larger India-Brazil cooperation program on social development. The objective of this initiative should be to create an ecosystem that allows these enterprises to thrive and to raise public awareness of their importance. To this end, both countries should initiate exchanges of entrepreneurs and investors, and employ best practices.

As inclusive capitalism is a young phenomenon, Indian and Brazilian entrepreneurs will naturally continue to focus mainly on the domestic market. To incentivize the sharing of models, partnerships with organizations that already have a presence in both countries will be necessary. The Inter-American Development Bank (IDB), which has a broader interest in strengthening economic ties between India and Latin America, can be the body through which investments are channeled. It already has a partnership with The Schwab Foundation for Social Entrepreneurship, which provides global platforms for social enterprises and promotes leading examples. Alongside the IDB, the Schwab Foundation can be approached to match leading Indian and Brazilian entrepreneurs and investors, and to facilitate exchanges. The role of the IDB should ultimately be to forge a self-sustaining network of in-country funding with the help of angel networks – which have flourished in India but are still relatively rare in Brazil.

Chambers of commerce should also be actively engaged, as their mandate is to enhance trade & investment flows and strengthen technological cooperation between both countries. The Federation of Indian Chambers of Commerce and Industry and the India-Brazil Chamber of Commerce, established in 2006 in São Paulo, for example, can connect businesses and entrepreneurs with each other and raise funds for projects undertaken by the partnership. These organizations can provide opportunities for Indian businesses to network with their Brazilian counterparts.

In India and Brazil, lack of access to information often inhibits the growth of these types of enterprises. Most entrepreneurs are unaware of the benefits provided by government and lack the appropriate know-how to set up their enterprises. Enterprises seeking to gain the certificates and licenses necessary to operate face onerous procedures that are time-consuming and expensive. Therefore both governments should set up multilingual forums to explain the procedures and regulations by which these enterprises should abide, and highlight the assistance that is available to them.

A website would offer both a financially viable and self-perpetuating platform for engagement. Through the website, interested entrepreneurs, researchers, academics, NGOs, development organizations and policy makers can share business models and technical know-how, and be linked to sources of funding and expertise. Through this professional association, companies should be encouraged to be partners in the creation of an open source information network. As an incentive, both governments should reward innovative and successful enterprises and publicize their work. India and Brazil should seek the endorsement and partnership of other international development organizations such as the World Bank, United Nations development agencies and global social venture funds for their work.

Healthcare is an area where collaboration between India and Brazil has already begun in the face of common challenges.

Tackling the Disease Burden: Lessons for India and Brazil

Healthcare is an area where collaboration between India and Brazil has already begun in the face of common challenges. Stringent international patent laws and the high cost of medicine have long limited developing countries' access to life-saving treatments. But today, India and Brazil are reversing this trend. India, in particular, is a well-known leader in biotechnology– especially in manufacturing low-cost pharmaceuticals – but Brazil's biotechnology sector is also promising.

In recent years, Brazil has been promoting its biotechnology sector by increasing funding for research and development and by building scientific talent. According to the Inter-American Development Bank, Belo Horizonte, the capital city of the southeastern Brazilian state of Minas Gerais, is the most important biotechnology center in Latin America.[lxxvii] Additionally, through the São Paulo State Research Foundation, Brazil has become one of the major contributors to gene sequencing for public databases, and the government is investing in promising pharmaceutical research in the Amazon – a hotspot of biodiversity.[lxxviii] Despite these efforts, however, Brazil's biotechnology sector still requires outside support to supplement its nascent technological and human resource base. Partnerships with foreign governments and companies have thus been welcome. Recognizing synergies between them, in 1997 Brazil's then-health minister, Jose Serra, invited Indian pharmaceutical companies to invest in the country, using it as a production hub rather than simply an export destination.[lxxix] Pharmaceuticals are now a major source of trade and investment between the two countries: Indian investment in Brazil expanded to $470 million (INR 2,360 crores, R$830 million) between 1996 and 2006, making up 45% of the total Indian investment. Indian drug and pharmaceutical exports to Brazil in 2007 reached $165 million (INR 830 crores, R$291 million), or around 3% of India's total exports for the sector.[lxxx]

Against the backdrop of increasing investment, the Department of Science and Technology of India and the Brazilian Ministry of Science and Technology launched the India-Brazil Science Council in 2007. Through the Council, the countries engage in joint research and development projects and exchange senior and junior scientists. Cooperation spans biosciences, marine sciences, computer sciences and others.[lxxxi] In healthcare, India and Brazil have already invested $1 million (INR 5 crores, R$1.7 million) each for joint research on common diseases such as malaria, HIV and tuberculosis.[lxxxii]

Building on Past Collaboration: The HIV/AIDS Example

Cooperation on HIV/AIDS is a salient example through which to examine the benefits of an India-Brazil partnership and to explore how such a partnership can be expanded in the future. Faced with a common problem and limited resources, India and Brazil have extended their collaboration on HIV/AIDS to include bilateral and multilateral government initiatives, as well as private sector participation.

Despite the enormous progress that has been made by the global scientific community on AIDS treatment, those living in poverty – particularly in developing nations – have derived few benefits.[lxxxiii] Western pharmaceutical companies have historically had a monopoly over antiretroviral drug patents, making treatment egregiously costly for developing nations. Throughout the 1990s, when the annual cost of drugs for AIDS treatment often exceeded $10,000 (INR 5 lakh, R$17,650) per patient, the World Bank and other development agencies discouraged developing countries from implementing treatment programs, favoring what were seen as "cost-effective" prevention strategies. Yet India and Brazil, with thriving pharmaceutical industries of their own, have defied this wisdom by producing generic antiretroviral drugs and challenging international patent laws – or the Trade-Related Aspects of Intellectual Property Rights (TRIPS).

The TRIPS agreement emerged at the end of the Uruguay Round of international trade negotiations in 1995, and standardized intellectual property protection for all World Trade Organization (WTO) Member States. Previously, patent regimes for intellectual property were governed at the domestic level. India, for example, classified drugs under process patents rather than product patents, thus different producers were able to manufacture the same product through a different processes at a lower cost. Under TRIPS, however, countries were required to classify pharmaceutical drugs under product patents, making it difficult for countries without sophisticated manufacturing capacities to produce their own drugs.

The India-Brazil partnership on healthcare emerged out of concerns about how the TRIPS agreement would affect their ability to tackle HIV/AIDS, and has since extended to the WTO, the World Intellectual Property Organization (WIPO) and the India, Brazil, South Africa forum. Here, India and Brazil have repeatedly called for a more equitable intellectual property regime.

Their cooperation has not been limited to lobbying: India and Brazil have used each other, and certain flexibilities within TRIPS, to their advantage. In 2007, Brazil issued a compulsory license for the antiretroviral drug, efavirenz, produced by Merck Pharmaceutical. Compulsory licensing is a provision within TRIPS that allows a government to issue a license for the use of a patented invention to a third party or government agency without the patent-holder's consent in case of an emergency.[lxxxiv] Efavirenz was the principal component in a 17-drug cocktail to treat AIDS in Brazil, and was used by 38% of AIDS patients. The Brazilian health ministry at the time predicted that Brazil would save $30 million (INR 150 crores, R$53 million) by buying a generic version of the drug, and would cut $237 million (INR 1,190 crores, R$418 million) from its AIDS drug bill through 2012.[lxxxv] Only Indian firms produced generic versions of the drug, and Hyderabad-based Aurobindo ultimately provided Brazil with the active ingredient to produce it.

Meanwhile, Brazil has also been developing low-cost bio-technology to aid in treating the disease. Government-owned labs have engineered HIV/AIDS diagnostic kits at a 60-70% lower cost than in India, though these have not yet been produced for commercial purposes.[lxxxvi]

Brazil has been able to take advantage of the campaign for access to life saving treatments and seen an extraordinary decline in the prevalence of the disease. Despite World Bank objections, the country has provided free universal access to treatment and prevention for all people living with HIV/AIDS since 1996.[lxxxvii] The impact has been palpable. In the 1990s, the World Bank estimated that 1.2 million people would be living with AIDS in Brazil by 2000, but the actual figure came in at less than 600,000 as a result of government intervention.[lxxxviii]

Recommendations

India and Brazil's joint action within multilateral institutions has proven influential in shaping the debate around international trade agreements and intellectual property law and should continue. Bilaterally, however, joint research on common diseases has yet to realize its full potential and should be prioritized. To this end, while the India-Brazil Science Council is a promising step, the partnership needs to be bolder, particularly at a time when multinational companies have all but abandoned research into cures for these developing country diseases. By working together, India and Brazil can bring affordable treatments and technologies to solve some of the developing world's most pressing healthcare challenges.

In the case of HIV/AIDS and malaria, for example, the opportunities for joint research are evident. So far most HIV/AIDS research in the world has focused on sub-type B of the HIV virus, but India and Brazil have a higher incidence of sub-type C of the virus, providing the impetus for research that serves their common need. In the case of malaria, each country has access to unique genetic strains of the disease and is an attractive partner for the other. Presently Brazil is providing samples from Amazonian people who are resistant to strains of malaria not found in India, giving Indian researchers vital insights into the factors that affect resistance and causes of the disease. Cooperation on research can have positive spillover effects for India's healthcare system. The Indian and Brazilian Ministries of Health should also take part in exchanges to learn from the evolution of the Brazilian HIV/AIDS program, and other healthcare delivery mechanisms.

Given the opportunities to create ground-breaking and affordable treatments, Indian scientists should pay greater attention to cooperation with emerging markets. The country's research community has historically been more focused on collaborative efforts with Western countries. For instance, Indians have co-authored far fewer papers with scientists from developing countries than China or Brazil.[lxxxix] If India and Brazil are to create the conditions for fruitful research, continued cooperation through bodies like the Science Council, the India, Brazil, South Africa forum, the World Health

Organization, WTO and WIPO, as well as the private sector is essential.

India and Brazil: Towards a Joint Model in Africa

The African development story is one riddled with hardship and disillusionment. Africa has long remained at the periphery of global economic engagement and been reliant on Western aid to meet many of its development challenges. Much has been heard about China's infrastructure-building in the continent and its competitive edge in the race for natural resources. But India and Brazil have also been engaging tactically with the region, offering unprecedented levels of development assistance under the banner of enhanced South-South cooperation.

India and Brazil have also been engaging tactically with the region, offering unprecedented levels of development assistance under the banner of enhanced South-South cooperation.

Unable to compete with China's hefty contributions, India and Brazil have identified agriculture – on which two-thirds of Africa depends for its livelihood – as their comparative advantage. Here, India and Brazil are providing important support in the form of affordable technology and badly needed technical expertise. Together, their venture into Africa's agriculture sector can reignite a primary engine for African growth and prove vital to the region's food security and long-term growth.

Individually, India and Brazil have leveraged their strengths in affordable low-tech and scientific research to boost Africa's agricultural productivity. India provides what it calls Triple A – adaptable, appropriate and affordable – technologies and Brazil has launched research and food security initiatives throughout Africa. The

Indian government's increasing lines of credit – up to $5 billion (INR 25,000 crores, R$8.8 billion) now – are driving investment, such as a $15 million (INR 75 crores, R$26.5 million) loan to develop commercial agriculture in Sierra Leone.[xc] Through Embrapa, the state's pioneering research institute, Brazil has stationed personnel in Ghana, Mozambique, Senegal, and Mali to share the skills that transformed its own dry savannah into one of South America's most fertile regions.[xci] And through the Africa-Brazil Cooperation Program on Social Protection, Brazilian experts share knowledge on successful social development policies, including Fome Zero.[xcii]

Combined, it seems to be just what Africa needs. Senegal, for example, has long been dependent on food imports, particularly of rice. Between 2001 and 2005, more than 80% of domestic rice consumption in the country depended on imports, making Senegal the world's tenth largest rice importer.[xciii] Today, India and Brazil are working unilaterally to help Senegal become agriculturally self-sufficient. Low-cost irrigation pumps provided by the Indian firm Kirloskar Brothers have boosted rice production and allowed Senegal to meet twice as much of its domestic demand. Simultaneously, Embrapa has partnered with Senegal, investing in technical training and experimenting with upland rice varieties. This kind of interlocking investment by India and Brazil could be the new investment model for Africa.

Investments by India and Brazil could not have come at a better time. Agricultural productivity in Africa has been declining just as traditional sources of aid have shrunk. Today, one-in-three Africans are malnourished. Yet Africa has great potential for agricultural transformation. After South America, Africa possesses the largest share of uncultivated cropland in the world, and currently only 14% of arable land is being farmed.[xciv] But agricultural growth is hindered due to limited access to capital, agricultural inputs and technology. India and Brazil are filling this void.

Recommendations

Without hindering India or Brazil's individual efforts, a partnership for Africa's food security can have positive effects both in Africa and for broader India-Brazil relations. The cooperation of India and Brazil with South Africa though IBSA shows a willingness to join on issues of shared importance beyond their borders. The IBSA Trust Fund's Facility for Poverty and Hunger Alleviation program, for example, pools $1 million (INR 5 crores, R$1.76 million) from each member to implement small development projects in interested countries. The fund is a pioneering initiative in South-South cooperation and has been implemented in Cape Verde, Burundi, Haiti and Palestine.[xcv] But it is neither systematic nor targeted enough to have far-reaching impact. Because the fund focuses on one-off projects, it also does little to encourage lasting political and economic ties between the donor and patron countries.

To maximize the impact, what is needed is a formalized India-Brazil partnership. Memorandums of Understanding can be explored jointly with the Comprehensive African Agriculture Development Programme, the African-led program for improving food security and agriculture, or regional bodies like the Southern African Development Community, for cooperation appropriate to specific economic or agricultural climates.

While Brazil's topography and climate more closely resemble Africa's, making it an apt partner in scientific research, India's agricultural ecosystem also has many lessons to offer. The average Indian farm is smaller than its Brazilian counterpart (1.3 ha versus 68 ha), and the sector employs more people in India than it does in Brazil. Labor-intensive farming is what Africa needs, as it does India's expertise in small farm mechanization and experience in helping women farmers through microfinance and cooperative enterprises. African institutions will benefit from hosting Brazilian and Indian scientists as well as private and social sector leaders to share their know-how.

Funding for this and similar partnerships should be sought from international development organizations. In Senegal, for example, the World Bank spent $10 million (INR 50 crores, R$17.5 million) to support food security initiatives in 2010. Some of the funds can be used as seed money to develop programs jointly created by India and Brazil.

Institutional and people-to-people exchanges will allow India and Brazil to build mutual confidence at a time when their bilateral and global interactions are increasing. International organizations such as USAID and others already collaborate in Brazilian-led agricultural projects throughout Africa. The Indian Council of Agricultural Research or the forthcoming Indian Agency for Partnership in Development should seize the opportunity to participate. If the partnership works, India and Brazil can extend knowledge-sharing on agriculture and food-security programs to other developing countries, providing the world's 900 million poor with powerful tools to reshape their future.[xcvi]

Conclusion

History has shown that it is no longer sensible to suggest that one country's model for development can serve as the blueprint in another. Different contexts require different solutions to solving common problems. Yet this does not mean that important lessons can't be learned. Not so long ago, India and Brazil seemed destined to play the role of the recipients of foreign aid and technical assistance. Today, however, these nations are engaging internationally with marked confidence, offering their leadership and resources to bear global challenges. Their increasing engagement in Africa is just one sign that both countries are emerging in new roles as global diplomats, leveraging the unique tools they have learned at home to develop stronger ties with other nations.

The recent manifestation of South-South cooperation is historic. Since the end of World War II, with the creation of the Bretton Woods institutions, global governance has been a Western-led enterprise. Decisions over the rules that govern aid and influence the development of other nations have been made by the victors of the war and have evolved to rest within a small group of powerful countries.[xcvii] But today, with the rise of India, Brazil and China as global players, it is clear that new alliances and new paths to development are possible. And now, existing rules need to be re-examined.

South-South cooperation has long been a popular catchphrase within the Indian and Brazilian diplomatic lexicon, used to distinguish the mutually beneficial interactions developing nations can have with one another versus the often-unfavorable ones they have historically had with Western powers. It is only now, with the emergence of these countries as economic powers, that the expression is beginning to carry any real promise. By joining forces to champion equitable development, India and Brazil have the chance to break ground on a tangible South-South agenda that could have a far-reaching impact.

Citations

[i] Based on the recommendation that schemes such as India's Janani Suraksha Yojana can learn from Brazil's Bolsa Família program which increased its levels of coverage from 3.8 to 12.4 million families in 8 years.

[ii] Based on the recommendation that Indian companies can invest in building up to 100,000 affordable houses in cities such as Sao Paulo where the average price per apartment for Minha Casa Minha Vida is currently $37,015 (INR 18.5 lakh , R$65,000). See, Obelisk International website, http://obeliskinternational.blog.com/2011/07/19/phase-two-of-minha-casa-minha-vida-investment-underway-obelisk-international-news/

[iii] Based on the recommendation that the two countries can have aim to have alliances similar to The Millennium Alliance: An India-US Innovation Partnership for Global Development that alone seeks to raise $50 million in seed capital, grants, loans, guarantees and technical support for base of the pyramid solutions for poverty.

[iv] India Online Pages website, http://www.indiaonlinepages.com/population/india-current-population.html

[v] Brasil Government website, http://www.brasil.gov.br/sobre/geography/population/general-numbers-1

[vi] GoI ibid, Brasil ibid

[vii] Wogart, Jan Peter. 'Global Booms and Busts: How is Brazil's Middle Class Fairing?' *Brazilian Journal of Political Economy* 30.3 (July-September 2010): 381-400

[viii] Brasil Government website, ibid

[ix] CIA Factbook website, https://www.cia.gov/library/publications/the-world-factbook/fields/2212.html

[x] Poddar, Tushar, and Evi Yi. 'India's Rising Growth Potential.' Global Economics Paper 152 (January 2007)

[xi] India Online Pages, ibid

[xii] Ravallion, Martin. 'A Comparative Perspective on Poverty Reduction in Brazil, China and India.' *World Bank Development Research Group* 5080 (2009)

[xiii] It is important to note that there has been growing concern about the official poverty estimates released by India's Central Planning Commission. According to official measures, poverty fell from around 50% of the population in the 1970s to 27.5% in 2005 (GoI, 2007). These estimates use calorie intake as a measure of poverty and have been severely criticized for

under-reporting the number of poor. The Indian government has since formed an independent committee to re-evaluate its estimates. Using a cost-of-living index, the Tendulkar Committee shows that poverty in 2004-2005 was at 37.2% of the population (GoI, 2009). But these estimates continue to be criticized on similar grounds. Since many of the government's poverty alleviation schemes are based on these figures, their ability to accurately identify the poor has impacted their success.

[xiv] When comparing India and Brazil's efforts at poverty reduction, it is also important to acknowledge that India is coming from a much lower base. Although the country has grown at a faster rate than Brazil since the 1990s, India is a poorer nation when GDP is adjusted by purchasing power parity. In 2010, Brazil's GDP PPP was $10,800 (INR 5.4 lakh, R$19,000) for example, while India's was $3,500 (INR 1.75 lakh, R$ 6,180).

[xv] UNDP website, http://hdr.undp.org/en/statistics/hdi/

[xvi] Ravallion, ibid

[xvii] Stuenkle, Oliver. 'The Case for Stronger Brazil-India Relations.' *Indian Foreign Affairs Journal* 5.3 (July - September): 290-304

[xviii] Chaturvedi, Sachin.'South-South Cooperation in Health and Pharmaceuticals: Emerging Trends in India-Brazil Collaborations.' *Research and Information System for Developing Countries* 172 (March 2011)

[xix] O'Neill, Jim. 'Building Better Global Economic BRICs.' *Goldman Sachs Global Economics Paper* 66 (November 2001)

[xx] Stuenkle, ibid

[xxi] India's main exports to Brazil : Diesel oil, equipments related to wind energy, coke of coal, lignite or peat, naphtha, cotton and polyester yarns, pigments, medicines and chemicals, vaccines for human medicines and aviation fuel. India's main imports from Brazil : Raw sugar, crude oil, copper sulphates,
soya oil, denatured alcohol, other minerals of copper and its concentrates, asbestos, valves, motor pumps, airplanes, wheat, precious and semi-precious stones.

[xxii] See Embassy of India in Brasilia note at, http://mea.gov.in/mystart.php?id=50042451

[xxiii] Ravillon, ibid

[xxiv] Ravillon, ibid

[xxv] Rocha, Cecilia. 'Developments in National Policies for Food and Nutrition Security in Brazil.' *Development Policy Review* 27.1 (2009): 51-66

[xxvi] 'Fighting Hunger in Brazil: Much Achieved, More to Do.' *Oxfam* (2010)

[xxvii] Soares, Fabio Veras. 'Brazil's Bolsa Família: A Review.' Economic and Political Weekly XLXI.21 (21 May 2011)
[xxviii] Lindert, Kathy et all. 'The Nuts and Bolts of Brazil's Bolsa Família Program: Implementing Conditional Cash Transfers in a Decentralized Context', *The World Bank* 0709 (2007)
[xxix] Rocha, ibid
[xxx] Lindert, ibid
[xxxi] ibid
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[xxxiii] See World Bank website, http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/LACEXT/BRAZILEXTN/0,,contentMDK:21447054~pagePK:141137~piPK:141127~theSitePK:322341,00.html
[xxxiv] Lindert, ibid
[xxxv] It is important to note that a municipality's underperformance is seen a sign of its inability to deliver the service, not as a sign of its unwillingness. In these cases, the central and state governments investigate the problem and provide additional support, if needed.
[xxxvi] About 4.3 million farms.
[xxxvii] Rocha, ibid
[xxxviii] Chmielewska, Danuta, and Souza, Darana. 'Market Alternatives for Smallholder Farmers in Food Security Initiatives: Lessons from the Brazilian Food Acquisition Programme.' *International Policy Centre for Inclusive Growth* 64 (June 2010)
[xxxix] ibid
[xl] ibid
[xli] Price, Gareth. 'Diversity in Donorship: The Changing Landscape of Official Humanitarian aid: India's Official Aid Programme.' *Chatham House* (2005)
[xlii] Bhowmick, Nilanjana. 'India's food crisis has many ingredients.' *The Guardian* (19 July 2011), at http://www.guardian.co.uk/global-development/poverty-matters/2011/jul/19/india-food-crisis
[xliii] 'Social Protection for a Changing India' *The International Bank for Reconstruction and Development/The World Bank* 1.61275 (2011)
[xliv] Khera, Reetika. 'Trends in Diversion of Grain from the Public Distribution System.' Economic and Political Weekly xlvi.21 (21 May 2011); Social Protection for a Changing India, ibid

[xlv] Khera, ibid
[xlvi] National Food Security Act: An Introductory Primer on the Legal Guarantees Demanded by the Right to Food Campaign.' *Right to Food India* (August 2010), at http://www.righttofoodindia.org/data/national_food_security_act_primer.pdf
[xlvii] Social Protection for a Changing India, ibid
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[xlix] Drèze, Jean. 'The Cash Mantra.' *Indian Express* (11 May 2011), at http://www.indianexpress.com/news/the-cash-mantra/788791/0
[l] Prabhu, Seeta. 'Can Conditional Cash Transfers Work in Rural India?.' The Wall Street Journal (15 July 2009), at http://online.wsj.com/article/SB124695317824004689.html
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[lxi] Srivastava, ibid
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[lxx] Kripalani, ibid
[lxxi] Kempner, Randall. 'Social Entrepreneurship Takes Off in Brazil.' *Stanford Social Innovation Review* (2011)
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[lxxv] Minimum wage in 2011 = $326 per month, INR 16,000, R$545
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