Future Agricultures

Policy Brief

New Paradigms of Agricultural Development Cooperation in Africa: Lessons from Brazil and China

As Africa attempts to boost agricultural productivity, many countries are turning to Brazil and China for the possibility of alternative approaches and technologies. Both countries have boasted numerous agricultural achievements, and both are increasing their engagements with African partners. The G-8/African Union's New Alliance for Food Security and Nutrition bears some similarities with China and Brazil's efforts, particularly with its aims to "increase responsible domestic and foreign private investments in African agriculture, take innovations that can enhance agricultural productivity to scale, and reduce the risk borne by vulnerable economies and communities"[1]. The UK Department for International Development (DFID) describes this initiative as targeting the creation of "new jobs and market opportunities for small and large farms in African agriculture," albeit, with a greater discussion of the importance of smallholders[2]. Brazil and China's 'cooperation' efforts in trade, aid and investments provide some key lessons for the New Alliance.

Thus far, Brazil and China's impacts on African agricultural development remain relatively small compared to those of OECD countries, but their approaches to these engagements still have some notable differences that may offer some lessons to the New Alliance partners. This policy brief will address these similarities and differences by examining the following questions:

1) How does development 'aid' differ from 'cooperation'?

2) How do Brazil and China describe their approaches to development cooperation and in what ways do they see themselves as different to "traditional donors"?

3) How do Brazil and China support African agricultural technology development in practice?

4) What lessons do these approaches offer for the New Alliance partners?

The material presented here is drawn from FAC research on 'China and Brazil in African Agriculture', supported by DFID and the UK Economic and Social Research Council.

Is there a Difference Between Aid and Cooperation?

The terms 'aid' and 'cooperation' are often used interchangeably in development circles, but the latter expression tends to be used more frequently by the Brazilian and Chinese governments to describe their relationship with African partners, as it evokes the ideas of mutuality and shared goals, rather than the possible insinuation of dependency relationships associated with the word 'aid'. By using the term cooperation they also seek to distinguish themselves from traditional Western donor definitions of aid, that generally does not allow for a mixture of aid, trade and investments in achieving goals.

Africa is important to both Brazil and China. According to the most recent UNCTAD statistics, Sub-Saharan Africa's food and agriculture exports to China stood at just under $5 billion in 2012, compared with Brazil which accounted for just $0.27 billion in the same year [3]. Chinese investments in African agriculture have been reported to stand at $82 million in 2012 (up from $30 million in 2009)[4], but a similar breakdown in Brazilian FDI into agriculture specifically is not currently available. Lastly, both countries have been providing support in agricultural technologies and methods drawing on their own development experiences, in a bid to accelerate economic growth and reduce poverty.

Brazilian cooperation moves to include trade and investment

Until recently, the Brazilian Cooperation Agency (ABC) defined its approach to development cooperation along the same lines as that used by the Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee. This stated that it would not seek to commercial profits from its engagements with African partners. More recently, however, Brazilian President Dilma Rousseff announced plans for ABC to become a "commercial cooperation [agency] that supports investments" in Latin America and Africa (June 2013) [5]. This would effectively allow for trade and investments to be made alongside cooperation projects (e.g. by selling Brazilian tractors).

The mutual benefits in China's cooperation

The Chinese definition of development cooperation has always recognised the inclusion of commercial interests. Furthermore, cooperation is expressly described as having 'mutual' benefits, which means China expects to benefit directly or indirectly from any cooperation activity, including aid. In practice, this means aid can either be 'tied' directly to commercial interests, or it can form part of a broader relationship.

The Beijing Declaration from the Fifth Ministerial Conference of the Forum on China-Africa Cooperation (FOCAC) in 2012 encapsulates the variety of Chinese development cooperation practices as follows:

"Building on the achievements we have made, we will deepen our cooperation in trade, investment, poverty reduction, infrastructure building, capacity building, human resources development, food security, hi-tech industries and other areas, and elevate our cooperation to a higher level." [6]

Rationales for Development Cooperation

Brazil's socio-economic affinities, first-hand experience, and historical ties

Brazil argues that its development cooperation is guided by principles of joint diplomacy based on solidarity, no interference in domestic issues of partner countries, demand-driven action, acknowledgement of local experience, no imposition of conditions, and (until this year) no association with commercial interests (ABC 2011: 3). These principles are claimed to distinguish Brazilian cooperation, particularly with their focus on horizontal relationships and more transferable experiences.

For *example*, the *former Director of ABC, Minister Marco Farani stated:*

> "Because of similarities in social and economic realities and challenges..., partner countries can absorb knowledge resulting from exchanging experiences with Brazil, which are more easily adapted and applied to real cases if compared to traditional solutions offered by traditional partners. (...) Affinities of historical, ethnic, cultural, linguistic and economic nature as well as shared heritage and aspirations favour the expansion and realization of south-south cooperation and contribute to its success." [7]

Despite stressing the large African heritage in Brazil, it is not clear that those communities are drawn upon in any specific way to shape Africa-Brazil cooperation initiatives. Lusophone countries however receive the greatest share of Brazilian cooperation projects and finance, reflecting linguistic ties.

Brazilian actors also often stress a process of 'mutual' learning[8]. Yet, in reality, Brazilian development actors are not actively seeking to learn methods that might be applied back home; as such the learning process is still mainly unidirectional.

Brazil's agricultural development policy: Contradiction or complementarity?

> "Here in Brazil the government has to finance both agribusiness and family agriculture and we are proud to do this because we understand the importance both sectors have in Brazilian economy." [9]
>
> *-Former President, Lula da Silva*

This dichotomy of Brazilian models is reflected in development cooperation approaches. However, it can also involve a tension between one model of agricultural development prioritising smallholder production systems, and another driven essentially by capital-intensive and large-scale commercial farming interests. The cooperation programme spearheaded by Brazil's Ministry of Agrarian Development (MDA) is tightly associated with the former, whereas most (though by no means all) of the cooperation activities of the Brazilian Enterprise for Agricultural Research (Embrapa) are associated with the latter. These institutions therefore present conflicting narratives of best farming practices based on their respective expertise.

China's economic stimulations, "win-win," and Zhou Enlai's principles

> "Traditional development actors are really out of touch with the realities on the ground. So we decided to do something radically different and very quickly, to be a catalyst for changes and reforms. This represents a radically different approach to engagement with Africa, an approach that can be called a paradigm revolution."
>
> *-China Export-Import Bank official quoted by Buckley* [10].

Chinese cooperation comes with a strong narrative of 'mutual benefit', or 'win-win'. These terms are also used with increasing frequency by African counterparts. In general though, China's narratives on aid still broadly follow the eight principles put forward by former Premier Zhou Enlai in 1964; these emphasise principles of non-conditional aid, quality of assistance, and self-determination[11].

The Brazilian and Chinese Toolkits for Agricultural Cooperation

Agricultural technology transfers

Brazil

Brazilian technology transfers regularly involve Brazilian agricultural machinery[12] manufacturers seeking to expand into the African markets, such as tractor companies or producers of bio-ethanol processing machinery This is often done via trade fairs across the continent, such as the 'Brazil in Eastern Africa EXPO 2013' in Kenya.[13]

The most prominent technology transfer cooperation project is the More Food Africa programme, whereby credit facilities are provided for African farmers to purchase Brazilian agricultural technology with the goal of improved food production and security. It is led by the MDA and is directed at 'family farming.' A total of US$640 million was approved by CAMEX for implementation of this programme in Africa in 2011-12.

Brazilian technical cooperation is distinctive for drawing mostly on staff with first-hand experience of implementing the programmes whose transfer is being attempted, rather than consultants or other specialists from outside government.

China

China has institutionalised its technology transfers in Africa through the use of Agricultural Technology Demonstration Centres (ATDCs). They are run by quasi-private companies on behalf of the Chinese state, involving the transfer of knowledge, seeds and mechanised farming equipment through intensive training courses aimed at local farmers. At present, there are 25 such centres in 24 countries[14], and a commitment to establish several more with the staffing and financing of all operations for three years in each centre.

Some agricultural machinery companies also propose follow-up visits several months after the sale of technology for their engineers to take feedback and make necessary adaptations to the technology according to those environments. Chinese agricultural machinery is also regularly promoted at agricultural trade fairs across Africa and in short-term training courses in Beijing (see below). Tractors, combine harvesters and seeds (such as hybrid rice) are common forms of technology transfer.

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Mechanisation is used in the harvesting of legumes in Brazil. Brazilian technology transfers involve Brazilian agricultural machinery.

Yet questions are raised about the appropriateness of such technology transfers by Brazil or China. Too often local contexts in Africa are not taken into account, and failures of past programmes – perhaps most notably farm mechanisation – are being repeated. The wider critique of technology transfer, and the need to enhance farmer participation in technology design and delivery has largely not been incorporated.

Joint Scientific research Programmes: Collaboration for new knowledge

Brazil

Brazil has established a number of agricultural joint-research projects between Brazilian and African institutions under what it terms 'structural cooperation'. The collaborations aim to move beyond one-off training events and exchanges towards a longer-term relationship centred on building capacity of local research systems. One such project was in Ghana where Embrapa worked with local microbiologists to devise a biological fertiliser capable of doubling cowpea production at a much cheaper cost than regular fertilisers[15].

Projects are generally still few but growing, most noticeably through the Agricultural Innovation Marketplace[16]. Brazil's most ambitious structural cooperation project yet sits within ProSavana in Mozambique (see below) where Embrapa intends to work with local agricultural research groups to foster agricultural development.

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Agricultural technology demonstration by Chinese experts

China

At the Fourth Ministerial FOCAC meeting in 2009, the China-Africa Science and Technology Partnership Programme (CASTEP) was established under China's Ministry of Science and Technology (MOST).Since then, China has "conducted 115 joint research and demonstration projects with African countries"[17].

Other collaborations include the cooperative educational programmes between Chinese and African universities involving a "mutual exchange of visiting scholars" and "information sharing in the form of exchange of research results"[18]. Some of these relationships were cemented in the 4th FOCAC meeting when it was decided to partner 20 African universities with 20 Chinese universities known as the '20+20 Cooperation Plan'.

Education and training: Building a new generation of professionals and boosting African capacity

Brazil

Training courses for researchers and practitioners from Africa are an important component of Embrapa's contribution to development cooperation. One-off courses are giving way to a more structured and strategic training programme coordinated by the recently established Centre for Strategic Studies and Training on Tropical Agriculture (CECAT). This includes training not only on technical agriculture subjects – from no-till planting to post-harvest – but also on agricultural economics, sociology, policy and institutions.

Brazil also offers a number of scholarships for students at undergraduate and postgraduate levels, which was shown to make up 10% of its cooperation expenditures from 2005-2009 (US$ 139 million).

China

Chinese short-term courses aim to transfer successful knowledge (e.g. on policies, farming methods, etc.) and promote Chinese agricultural technology in the form of: 1) training in the host countries for farmers, producers and officials, usually through the ATDCs: 2) inviting relevant African officials for training courses in China at universities and research institutes. According to pledges made in the previous four FOCAC meetings, China will have invited 63,000 African officials and professionals for short-term training courses between 2003 and 2015. This ranks China just below Germany and Japan in overall quantities of short-term training courses.

Longer term training includes higher education scholarships for African students at all levels in Chinese institutions, as well the special case of the Ethio-China Polytechnic College built in Addis Ababa in 2003. No fewer than 400 Chinese staff have gone over since its inception to train both students and their teacher in agricultural sciences.

Compared to most OECD countries, the level of investment in scientific support and training, both longer and shorter term, is considerable, and rising.

Investments: State support for private investors

Brazil

Brazilian companies' agricultural investments in Africa have been criticised for their focus on biofuels that take up land, labour and capital that could otherwise be used for crops that improve food security[19].

Brazil however has also supported food security efforts. ProSavana is Brazil's largest cooperation project abroad and is taking place in Mozambique with the aim of transforming the country's savannah into highly productive agricultural region, drawing on Brazil's own experience in the Cerrado. The project is expected to cover 14 million hectares of land along the Nacala corridor, and leverage investment from Brazilian and Japanese sources, alongside the Brazilian technology and knowledge transfers. The Nacala Fund has been set up within ProSavana's programme to facilitate these investments.

This programme has been heavily criticised given the focus on large-scale commercial agriculture, potentially benefiting Brazilian agribusiness, and the apparent neglect of small-scale farming[20].

China

Chinese investment in Africa is increasing rapidly (by 20.5% between 2009 and 2012). It covers 49 countries in a wide range of sectors by a diversity of actors including SOEs, private enterprises and individuals. Total Chinese investment in Africa through 2003 was US$490 million, rising to US$2.52 billion by 2012 from over 2000 enterprises[21]. While agriculture can be calculated at only 5.7 percent of the total in 2012, this is still a significant rise from 3.1 percent in 2009, and has been identified as a 'core' focus for future investments [22].

Chinese agricultural investments have also been confused as 'land grabs' used for cultivation and export back to China. However, increasing evidence is proving this to be untrue [23]. In

Ethiopia's case our research found that China's investors in land tended to be small-scale entrepreneurs, producing vegetables for sale to local Chinese businesses such as restaurants and hotels [24].

The relationship between the state and business in development cooperation is well established in Brazilian and Chinese engagements in Africa. This approach is now becoming more popular among OECD countries, including the UK. As a central component of New Alliance efforts, lessons on the benefits and dangers of such a strategy could be drawn from Brazil.

Conclusion: Lessons from Brazil and China

A 'new paradigm' for development cooperation is often hailed resulting from the experiences of Brazil and China. While we must be wary about the rhetoric of horizontal interaction, mutual learning and non-interference, there are some important lessons emerging:

- The combination of aid, trade and investment as part of development cooperation opens up opportunities for greater private sector engagement in development. However there are challenges with this model, as development cooperation can be seen as simply supporting the export of agribusiness and technology, representing a new form of colonialism. The negotiation of mutual benefit has to be one that takes place on a level playing field. Some African countries have been more successful at this than others. This requires a clear developmental vision for agriculture in the country, and the exertion of influence in cooperation initiatives.

- Technology transfer has become a new focus for cooperation relationships. This revives old experiences and debates about how effectively technology 'travels' from its site of development to new destinations, as well as the role of users in the development and dissemination of technology. Past experience with technology transfer programmes has not been positive. It remains to be seen whether the Brazilian and Chinese initiatives, that focus on very similar efforts (including farm mechanisation, new seeds etc.) fare better. There are important opportunities for lesson learning, and sharing of experience, including with long-established organisations like the CGIAR.

- Training and scientific exchange is another major focus of Chinese and Brazilian efforts. These are now having a major influence on the building of capacity of African research, extension and implementation agencies, largely in government. Due to structural adjustment policies over many years, such agencies have lost capacity dramatically, and such training, exchange and support activities are widely welcomed. However, questions are raised on the focus of curricula, and the prioritisation of support, and whether these meet African needs. Most OECD cooperation programmes do not emphasises training and exchange, despite the high demand and need. Learning lessons from Brazilian and Chinese experiences will be important if African state capacity for agricultural development is to be rebuilt.

Building on these three core lessons will be important as the New Alliance develops, and seeks to coordinate with Brazilian and Chinese initiatives in Africa.

The list below covers the main actors in both countries' agricultural cooperation with Africa. There are many other state owned enterprises, learning institutions, and private companies that have been subcontracted or co-operated with on projects, however this list seeks to present the most important.

Box 1: Who does what in Brazil and China's agricultural cooperation?

	Institution	Acronym	Description
China	Department of Aid to Foreign Countries	DAFC	This is the department nominally in charge of China's aid. However, in reality it is dependent on MOFCOM (below) for approvals, and aid is backed by many other institutions, working either independently or in collaboration with DAFC.
	Ministry of Commerce	MOFCOM	Ministry responsible for the funding of most cooperation projects through their own DAFC, or through other ministries such as those described below.
	Ministry of Agriculture	MoA	Includes an international cooperation department responsible for the establishment and oversight of agricultural projects.
	Ministry of Science and Technology	MOST	Includes an international cooperation department that supports agricultural technology efforts in cooperation projects.
	China Export-Import Bank	China EXIM	Responsible for the assessment of projects with concessional loans, and the allocation and recovery of loans.
	China Development Bank	CDB	Mission to improve Chinese competitiveness and the well-being of Chinese people. Also provides non-concessional loans to Africa and manages the CAD Fund (below).
	China Africa Development Fund	CAD Fund	Established in 2006 to promote the development of Sino-African commercial ties. It has a strategic agreement with the China State Farm Agribusiness Corporation to establish a joint company to make agriculture investments, but according to Brautigam and Tang (2012) these have not yet materialised.

	Institution	Acronym	Description
Brazil	Brazilian Cooperation Agency	ABC	ABC's mandate is restricted to technical cooperation, which represents only a fraction of Brazil's development cooperation activities abroad and has no mandate to distribute financial resources.
	Ministry of External Relations of Brazil	Itamarty	The ministry within which ABC sits as a department. It has control over ABC's budget and signs off on its agenda.
	Brazilian Agricultural Research Corporation	Embrapa	The dominant agricultural cooperating institution with 8,200 employees including 2,600 researchers. Has an international cooperation division, with about 50 staff on: technical cooperation, 'structural projects' and scientific cooperation.
	Ministry of Agrarian Development	MDA	Ministry for the development of large scale farming in Brazil
	Ministry of Social Development	MDS	Ministry set up in the mid-90s to support smallholder and family farming efforts
	The Chamber of Commerce	CAMEX	Responsible for the promotion of Brazilian companies abroad. ABC has engaged it for agricultural machinery in projects.
	Brazilian Development Bank	BNDES	Mainly motivated by commercial objectives for Brazilian companies, BNDES is a key ally and resource for major Brazilian corporations such as Odebrecht (construction and agribusiness), which are active in many African countries.

End Notes

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