Future Agricultures

CBAA Working Paper

Chinese Training Courses for African Agriculture: Transformational Knowledge?

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July 2015

This paper was produced as part of the China and Brazil in Africa Agriculture (CBAA) Project work stream

China and Brazil in African Agriculture Working Paper Series

http://www.future-agricultures.org/research/cbaa/8031-china-brazil-paper-series

This Working Paper series emerges from the China and Brazil in African Agriculture (CBAA) programme of the Future Agricultures Consortium. This is supported by the UK Economic and Social Research Council's 'Rising Powers and Interdependent Futures' programme (www.risingpowers.net). We expect 24 papers to be published during 2015, each linked to short videos presented by the lead authors.

The CBAA team is based in Brazil (University of Brasilia, Gertulio Vargas Foundation, and Universidade Federal do ABC), China (China Agricultural University, Beijing), Ethiopia (Ethiopian Agricultural Research Institute, Addis Ababa), Ghana (University of Ghana at Legon), Mozambique (Instituto de Estudos Sociais e Económicos, Maputo), Zimbabwe (Research and Development Trust, Harare), the UK (the Institute of Development Studies, the International Institute for Environment and Development and the Overseas Development Institute).

The team includes 25 researchers coming from a range of disciplines including development studies, economics, international relations, political science, social anthropology and sociology, but all with a commitment to cross-disciplinary working. Most papers are thus the result of collaborative research, involving people from different countries and from different backgrounds. The papers are the preliminary results of this dialogue, debate, sharing and learning.

As Working Papers they are not final products, but each has been discussed in project workshops and reviewed by other team members. At this stage, we are keen to share the results so far in order to gain feedback, and also because there is massive interest in the role of Brazil and China in Africa. Much of the commentary on such engagements are inaccurate and misleading, or presented in broad-brush generalities. Our project aimed to get behind these simplistic representations and find out what was really happening on the ground, and how this is being shaped by wider political and policy processes.

The papers fall broadly into two groups, with many overlaps. The first is a set of papers looking at the political economy context in Brazil and China. We argue that historical experiences in agriculture and poverty programmes, combine with domestic political economy dynamics, involving different political, commercial and diplomatic interests, to shape development cooperation engagements in Africa. How such narratives of agriculture and development – about for example food security, appropriate technology, policy models and so on - travel to and from Africa is important in our analysis.

The second, larger set of papers focuses on case studies of development cooperation. They take a broadly-defined 'ethnographic' stance, looking at how such engagements unfold in detail, while setting this in an understanding of the wider political economy in the particular African settings. There are, for example, major contrasts between how Brazilian and Chinese engagements unfold in Ethiopia, Ghana, Mozambique and Zimbabwe, dependant on historical experiences with economic reform, agricultural sector restructuring, aid commitments, as well as national political priorities and stances. These contrasts come out strikingly when reading across the papers.

The cases also highlight the diversity of engagements grouped under 'development cooperation' in agriculture. Some focus on state-facilitated commercial investments; others are more akin to 'aid projects', but often with a business element; some focus on building platforms for developing capacity through a range of training centres and programmes; while others are 'below-the-radar' investments in agriculture by diaspora networks in Africa. The blurring of boundaries is a common theme, as is the complex relationships between state and business interests in new configurations.

This Working Paper series is one step in our research effort and collective analysis. Work is continuing, deepening and extending the cases, but also drawing out comparative and synthetic insights from the rich material presented in this series.

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Acknowledgements

This paper would not have been possible without the introductions and academic support from Kojo Amanor of the University of Ghana, Langton Mukwereza of the Research for Development Trust in Zimbabwe, and Li Xiaoyun,Qi Gubo and Tang Lixia at China Agricultural University. Furthermore, the author is particularly grateful to Ian Scoones, Dawit Alemu and Sergio Chichava for their insightful comments on earlier versions of this manuscript.

China's Ministry of Commerce (MOFCOM) has launched one of the largest training course programmes in the world as part of its international cooperation programme with Africa. In these training courses, China's foremost universities, state bureaux, and private companies transfer their knowledge to 10,000 African government officials per year. The courses cover everything from the management of health epidemics to customs office administration, all drawing from China's most recent socio-economic development experiences. In 2013, agriculture-related topics made up a significant 15 percent of total training courses, covering courses on both policy and technology (AIBO undated).

There has been a strong narrative, from Chinese government officials and their African counterparts alike, that what is particularly appealing about China is that its agricultural sector has similarities with that of many African countries (Li et al. 2012). They talk of China's diversity of climates to match the many African environments, as well as China's dependence on smallholder farming. The logical conclusion from such narratives would appear to be: what worked for China, must work for Africa. In this context, the MOFCOM training courses consist of one of the most direct forms of knowledge transfer from Chinese experts to African state leaders and policymakers. Many of the Chinese experts involved are not just qualified in the theory of what they teach, but have had first-hand experiences of effecting the change that brought about China's own agricultural achievements.

As such, this paper seeks to understand how China's agricultural training courses have affected agricultural practices in the African countries where they train. This looks at how the training courses work, how transferable this knowledge really is for African agricultural contexts, and finally, what these training courses really achieve in the broader context of China-Africa relations. Ghana and Zimbabwe are focused on as key case studies for this paper, and fieldwork was also conducted with training institutions and lecturers in China.

Research methods

In December 2013 I conducted 14 interviews in Ghana with staff members from the Ministry of Food and Agriculture (MOFA). Thirteen of them had been on a Chinese training course, and one of them was a director at MOFA's Human Resources Department responsible for allocating training course places to colleagues. The training courses they had been on were almost all different (only two colleagues had been on the same course) and all had been attended relatively recently. Nine of those interviewed were lecturers at colleges for agricultural extension workers such as Kwadaso and Ohawu. They were an interesting group to study, but because their jobs led to similar applications of the knowledge they acquired in China, I aimed for a more diverse group of interviewees in Zimbabwe.

There I interviewed 17 staff members from the Ministry of Agriculture, including two who had not yet been on a training course to gauge their interest and expectations. Of the total 31 interviewees, therefore, 28 had attended training courses. In both Ghana and Zimbabwe, the participants ranged in age from early 20s to late 40s and women made up roughly 40 percent of the interviewees. Levels of responsibility also ranged from junior employees with one year of experience, up to departmental directors.

In July 2013, I conducted two participant observations of training courses in Beijing and one interview. I returned in July-August 2014 to conduct ten more interviews and another participant observation. It was not possible to secure any interviews with organisers within MOFCOM, or their training school, the Academy for International Business Officials (AIBO, 商务部国际商务官员研修学院). As such these interviews and attendances focused largely on the institutions and the instructors that had experience delivering training courses. I also conducted interviews with two staff members at the United Nations Development Programme (UNDP) who had cooperated with MOFCOM on delivering training courses.

Lastly, AIBO began listing details of MOFCOM's training courses from late 2012 onwards. Assuming that all registered courses are accounted for, 2013 is therefore the first complete year of training courses that has detailed information for every course. This allowed for analysis of the different types of training course offered by Chinese institutions, and provided information on where and when I could find training courses in China when conducting fieldwork. Information from these courses was gathered in Mandarin, French, Portuguese and English.

Part 1 – Training courses in context

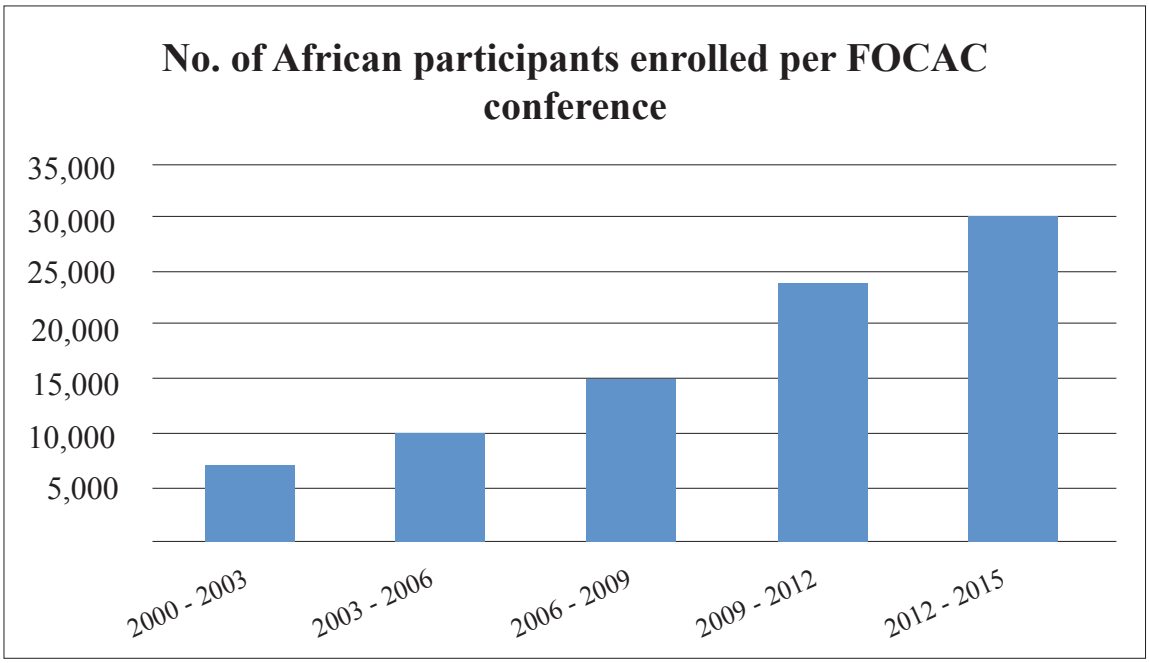
China's relationships with African countries began very soon after the establishment of the People's Republic of China, and they have grown steadily into the start of the twenty-first century. Development cooperation underpinned these relations throughout, and from 1956 to 1977 China was already committing 58 percent of its total overseas aid to African countries (Watanabe 2013: 65). Relations were eventually cemented through the establishment of the Forum on China-Africa Cooperation (FOCAC) in 2000, and this forum has held a summit every three years since to discuss matters of mutual interest between China and the current membership of 49 African countries.

Training courses are by no means the only form of China's educational engagements, and of course education has by no means been the only form of development cooperation. China has commissioned infrastructure projects in partner countries, offered loans, sent doctors and embarked on many other forms

of cooperation. However, education has always been an important dimension of Chinese cooperation. As with any country that hosts a development agency, foreign aid is effectively a form of public diplomacy, and education is one of its most direct channels of influence (Li 2013). It has been used by a number of countries, not least by the UK (Jolly 2008), Japan (JICA 2014) and Germany (GIZ 2013).

At its peak in 1973, aid expenditure hit 7.2 percent of China's annual gross domestic product (GDP) (Watanabe 2013: 66), and from there was gradually cut down to less than 0.5 percent of GDP in 1995 (Zhang 2011: 220). This dramatic reduction is partly concealed by China's rapidly rising GDP over this period, but it also reflects a shift in China's aid policy whereby grant-based aid was exchanged for concessional loans. Between 2001 and 2010, for example, Chinese EXIM Bank loans to Africa totalled US$67.2b, a sum higher than those of the World Bank (Cohen 2011). What is unique about training courses, therefore, is that they must be one of the few areas of Chinese international cooperation that remain entirely grant based, since MOFCOM covers all costs for participants' attendance, including flights.

From 2000 until 2012, FOCAC's documents record the training of roughly 56,000 African officials. These numbers grew incrementally, beginning with 7,000 officials trained in 2000-2003, then 10,000 in 2003-2006, 15,000 in 2006-2009 and 24,000 in 2009-2012. At the most recent Ministerial Conference in 2012 (FOCAC V) the target was raised to train 30,000 African officials by 2015. If met, this would mean that between 2000 and 2015, a total of 86,000 African officials and professionals will have been enrolled in training courses.[i]



Statistics gathered from public documents published by the Forum on China-Africa Cooperation's website

In terms of quantity, this now far outstrips China's previous engagements and those of other donors. ¬Some of those closest to China in terms of sheer numbers of training courses are Germany and Japan, but whereas Germany hosts roughly 5,000 participants a year in its flagship training courses, China now hosts well over 10,000 per year from Africa alone. And although Japan planned to host roughly 400 courses in 2014 with between 5 and 20 participants per class (JICA 2014), MOFCOM hosted 539 with 20-30 participants per class (AIBO undated).

Regarding China's focus on African agriculture, many Chinese officials have spoken of its importance both as assistance to African partner countries, but also as a means of boosting global food security, which may indirectly help China (Cassell 2013). As mentioned in the introduction, agriculture is also regarded as a sector in which China has both considerable experience and transferabilities for African partners in terms of affordability, climates and farm sizes . It is worth mentioning that there have also been claims that China's interests in African agriculture largely revolve around securing land to produce food for export back to China and thereby meet its own food security needs. At present, these claims can be safely dismissed as misinformation, as evidenced by studies of Chinese'land grabs'in Africa (Smaller et al. 2012) and other studies within the China and Brazil in African Agriculture project (Cook and Alemu 2015). This is partly because there are very few'land grabs'taking place, but also, even where large scale investments have taken place, their produce has largely been aimed at the markets of the African country within which they sit (Chichava 2015).

Mutual cooperation?

China often prides itself on the mutuality of its international development engagements, as compared with countries in the global North; however, these training

courses operate within a very clear donor-recipient framework. This gives rise to a tension as the courses aim to be mutual within that framework.

China offers training courses to African ministries each year, and all that the African ministries have to do is pick the participants to fill the free places. MOFCOM pays for everything involved, including flights, accommodation, food, cultural visits and even pocket money on occasion. Interestingly, the language used also shares similarities with OECD-DAC donor terms such as 'educational aid' (Fei and Chang 2009) or 'foreign aid training courses' (AIBO 2012), rather than 'cooperation'. Certainly on one level, the training courses could be seen as an altruistic element of Chinese development cooperation, as they gift knowledge and experience to African officials. As such they provide an opportunity for African officials to engage with China's development experiences, buy technology, or form closer relationships; all of which they might draw upon in driving their respective countries' political-economic and social trajectories.

However, on another level there is a very clear power imbalance in the way that this knowledge is imparted in teacher-student formats, without much interest in learning from the participants. For the Chinese state and Chinese institutions, these courses offer the prospect of shaping perceptions and agendas at the highest levels of foreign governments, and the possibility of forming strong business relations with those present.

Nevertheless, it is worth bearing in mind that the power imbalances inherent in the formats of the courses are not necessarily bad for the participants. It does not mean that they are being used as mindless vassals, but rather that there are different interests in taking part in these courses on both sides. So although China controls this framework, it is still possible for participants to operate within it to achieve their own particular interests (Lukes 2004). One could therefore argue that despite the framework, as long as both sides are satisfied then the nature of the cooperation is mutual.

Part 2 – Empirical findings on MOFCOM's knowledge transfers

Structure of the MOFCOM training courses

At the beginning of March every year, Kwabena Boateng from the human resources department in Ghana's MOFA is invited to the Chinese embassy. There he will meet with a representative from the Commercial Councillor's Office to pick up a list of all the MOFCOM training courses that have been allocated to his ministry. He will then go back and work with departmental directors to pick the right staff for the right courses. In 2013 they received a list offering 46 places on 26 different training courses and were given two months to respond. Other Ghanaian ministries receive the same letters with different courses. MOFCOM's main conditions are simply that participants cannot bring their spouses, and they cannot be older than 45 years old for standard civil servants or over 50 for directors (AIBO 2012). Other than that, they will normally approve whoever Kwabena Boateng and his counterparts in other ministries put forward.

These training courses began as a series of specialist seminars for African officials in 1998, but then exploded as a huge programme when FOCAC began (King 2013: 48). At the founding conference in Beijing in 2000, it was decided that a Human Resources Development Fund would be established (FOCAC 2009), which now sits within MOFCOM's remit and has received steady increases in funding at every triennial FOCAC summit (Fei and Chang 2009). Courses are carried out within AIBO or, more often, by providing large amounts of funding to other Chinese institutions. Flights, accommodation and lodging are all paid for by MOFCOM, and the only costs borne by the participants or their ministries are the visa fees and sometimes a stipend.

According to the information available on AIBO, in 2013, 539 training courses were offered of which 430 involved African officials, among other regions. Of these, 139 courses were aimed exclusively at African officials, 73 of those were specifically for French African officials and 10 courses were aimed at Portuguese speaking countries. Furthermore, 78 of the total 539 courses were related to agriculture, fisheries, animal husbandry or 'green growth' subjects, making up 15 percent of their courses.

As part of this programme China's Ministry of Education (MoE) set up a 'Foreign Educational Aid Base' in Tianjin University of Technology and Education, and now has them in a total of ten universities including Zhejiang Normal University, Nanjing Agricultural University and Nanfang Medical University (Government of China 2013). These 'bases' are tasked with 'organising courses on their campus and abroad, training the teachers used in foreign educational aid, and undertaking any other foreign aid work entrusted to them by various ministries' (Government of China 2008). Over 50 more centres were said to be registered in offering training courses in 2009, but this number is likely to have increased since then given the expansion of funding and courses (Fei and Chang 2009).

Courses are most often taught to a number of countries all at once under the heading 'for developing countries', and it is then stipulated which countries' officials are eligible for that particular course. The next most common arrangement is that courses are aimed at particular regions, e.g. Francophone Africa, ASEAN countries or Latin America. Occasionally, though, courses are aimed at a specific country, such as a 'Seminar on Law and Justice for Nepali Officials'.

Each course tends to accommodate between 20 and 30 participants and they last anywhere from one week to three months. All participants are required to submit a paper to their local Chinese embassy's Commercial

Councillor's Office (CCO) before arriving, outlining how the topic relates to their own country context. They will then use this as a presentation within the first week of their training course. Following completion of the course, the participants will be required to fill out a feedback form for the institution. When they return home, they are then asked to submit a review to the CCO of what they learnt on the programme, what the benefits were and what recommendations they have; they generally submit this same document as a report to their own Ministry too.

These courses are predominantly aimed at government officials and civil servants, but there are also a small number of courses aimed at particular sectors, such as doctors or school headmasters. For example, one course aimed at NGO staff is entitled 'Seminar for Leaders of Friendship-with-China Organizations from African English-Speaking Countries' [ii] and covers topics such as 'China's foreign aid', 'NGOs in Sino-Africa Relations' and 'NGOs in Sino-Africa Economic Cooperation.'

However, there are also some courses that aim to inform participants about China's own development cooperation agenda, and others that directly support China's development cooperation projects. For example, there are already training courses in French and English to invite would-be managers to learn how to run Agricultural Technology Demonstration Centres (ATDCs) effectively. This is because the intention for ATDCs is that they be handed over to local country authorities three years after their construction. In terms of just informing African officials on the nature of Chinese aid, the 'Seminar on International Technological Cooperation for Developing Countries' describes its course content as follows:

> This seminar includes presentations and field trips. All presentations are given by government officials or experts, covering topics such as 'General Review of China', 'China's Opening-up & Economic Development', 'China's Foreign Aid', 'China's Economic & Technical Cooperation With Other Developing Countries' and so on.[iii]

Courses are offered in English, French, Arabic, Spanish, Russian and Portuguese. The original delivery is almost always in Chinese, and interpreters are hired for each of the respective languages. The courses cover a wide range of topics, on healthcare, education, agriculture and so forth. Most courses will be focused on teaching China's own development experience for other countries to emulate those practices.

Respective aims and incentives

There are effectively four main actors at play in these training courses, and they all have varied aims and incentives to take part in these courses. On the Chinese side there is MOFCOM and the training institutions that host the courses, and on the African side there are the Ministries and individuals.

MOFCOM

On the AIBO website, MOFCOM has published a handbook intended for Chinese institutions planning on hosting training courses for African officials. Clause 3 tells us that the purpose of these training courses is to 'complement China's comprehensive foreign policy needs, help train the human capital of developing countries, and drive forward friendly relations and trade cooperation with developing countries' (AIBO 2012).

Knowledge transfer is obviously a key part, therefore, but MOFCOM is also keen that training institutions should recognise the importance of supporting foreign policy goals, promoting business opportunities and building relations. In 2009 for instance, MOFCOM's director of the Department of Foreign Aid, Wang Shichun, spoke of the 'important political, economic, cultural and strategic meaning' behind educational cooperation with Africa, and stressed that:

> 'from today, educational aid and training work needs to more emphatically broadcast Chinese civilization, enhance the understanding and friendship of developing countries towards China, increase Chinese influence, affinities, and inspirations in developing countries, impel developing countries to identify with China's development theory at a higher level, remove differences of opinion and misunderstandings, and together build the foundations of China-Africa friendship, to drive forward the building of a more harmonious world' (Fei and Chang 2009).

This speech was delivered at the 2009 'National Summit on Educational Aid and Human Resources Training Work for Developing Countries' where policymakers and training institutions convene each year to set the agenda for the coming months. It has been running since 2002 (two years after the founding of FOCAC), and in 2008 the sixth such conference focused specifically on agriculture. This was attended by the Ministries of Commerce, Agriculture, Education and Foreign Affairs, along with representatives from local governments and higher education institutions (Qiongzhou University 2013).

Training institutions

Regarding training institutions, the aims and incentives depend on who is hosting the course. For universities and research centres, one incentive mentioned by respondents was that they are an opportunity to build international prestige and make connections with foreign partners. Moreover, the funding from MOFCOM is not vast, but it is still of interest. To receive full payment, MOFCOM stipulates that training institutions have to pass a threshold of 20 students attending their courses, so that they are incentivised to prepare interesting enough courses. However, the training institutions are not allowed to contact potential candidates or their ministries

before the course starts. Instead, MOFCOM coordinates the invitation process which makes the training institution's task of attracting delegates more difficult.

If the training course is hosted by a private company or a research centre that represents Chinese companies, then there is also an aim to make sales. Sales could be made on the course itself, or the course could be a platform to simply advertise technology with the hope that participants would encourage their ministries or businesses in their countries to buy the technology when they returned home. Two African participants also spoke of training courses they went on where the lecturers would offer their services to be hired by the participants' governments to go to their countries and teach further. The most impressive training course that arose in fieldwork in this regard was a major research centre in Beijing that used the training courses as opportunities to pitch their expertise in sustainable bamboo production methods to participants. If participants are interested taking the relationship further, then the course organiser will bring in their industrial partners from Yunnan province. This has already given rise to projects in Ethiopia and Nepal worth roughly US$3m each, with a further project in Ghana in the pipeline.

African ministries

Several African academics and politicians have raised an interest in learning from China's experiences so as to try and emulate its economic success (Monyae 2013). Their key hope is that by sending their staff on these training courses, they will be able to bring back useful methods and build stronger relationships with relevant Chinese counterparts. As a programme paid for entirely by MOFCOM, this might also be seen as an opportunity for Ministry Directors to bestow a degree of patronage within their departments. In general, though, staff will remain fully paid while they are on these courses, which can last up to three months, so this remains a serious decision.

African participants

What was most striking about the interview process with African participants was that all of the 28 who had attended courses were extremely positive about their experiences in China. This was partly due to the opportunity to learn from China in ways that might be relevant to their own work. However, just as importantly, this was also an opportunity for professional networking at an international level they may not have engaged in before, as well as a chance to see China, the largest trading partner for many of their countries nowadays.

In summary, then, the purview of these training courses is broad in terms of their structure and the aims of all parties involved. Everything from geopolitics, to African ministries' departmental dynamics, to basic tourism play their part. At the centre of all this there remains a tangible interest in the possibility of knowledge transfer expressed by all parties. The following section draws on interviews in China to analyse how conducive to knowledge transfer this structure is.

Part 3 – Successes and constraints to the adoption of Chinese knowledge in Africa

Knowledge has such a nature that it is hard to evaluate whether or not it has been useful to those who are hoping to transfer it. For instance, someone who has learnt new knowledge might not act upon it for several years, or they may incorporate small parts of that knowledge into bigger projects that on the surface look completely disconnected. Fieldwork questions therefore had to be sensitive to teasing out these nuances from the interviewees.

Successful transfers

Of the 28 that had attended the training courses, only one had established a project directly connected to what they had learnt in China. This was a Roots and Tubers Specialist who attended a two-month course on Sugarcane and Cassava Processing in 2008. It covered different varieties of cassava and different forms of processing cassava, which inspired her to drive for greater diversity in Zimbabwe's cassava production. Upon her return she put together a proposal to her senior colleagues and successfully applied for a grant from the UN Food and Agriculture Organization (FAO) to run a pilot project on cassava production and processing from 2009 to 2011. The pilot was a success and the Ministry of Agriculture has since taken over the funding of this project. It includes training for farmers and has significantly increased cassava production across the country.

That said, there were clearly ways in which the training courses had affected others respondents' work. A group of nine lecturers in Ghana proved to be another very interesting case study. They came from several agricultural colleges across the country and their job was mainly to train Ghanaian agricultural extension workers, but also teach some university degree courses. Since returning from their respective training courses, most of them had included the Chinese lessons they learnt into the curricula they taught. This involved both theory and practical exercises. For example, one respondent recounted how he now taught environmentally sustainable composting methods that he had learnt in China with students at his agricultural college. Another told how he had summarised some of the key texts he received in China into a booklet for his students and colleagues.

From these interviews alone, it was not possible to know if the students would then take these lessons out into their everyday working lives after graduating, nor could one be sure how successfully they might subsequently be adopted by local farmers. However, eight of the nine lecturers interviewed in Ghana now

transmitted practices and theories they had learnt in China to their students on a regular basis. The only one who did not include what he learnt into his lectures was an animal science lecturer who attended a training course on tea production. Not only did his expertise not match the subject of the training course, but he also explained it was actually impossible to grow tea in the region of Ghana that he is from. This sort of issue arose among other respondents too and will be returned to below.

Nevertheless, whether or not the knowledge was ultimately useful for Ghana's farmers, these lecturers represented excellent value in terms of simply transferring Chinese knowledge to wider audiences. They were also a good group because they had the technical expertise to test these methods in their own colleges upon return.

Technology sales

I include technology sales in this section on knowledge transfer because roughly a third of the African respondents I interviewed were exposed to commercial opportunities during their training courses. Furthermore, technology sales are a salient feature of Chinese agricultural cooperation and its bid to transfer Chinese practices more broadly. It has been argued in Chinese international development literature that its agricultural technology forms a key part of China's own success, and should therefore be considered by African countries seeking to adopt similar successes (Li et al. 2012). This narrative is reflected in China's foremost overseas agricultural development programmes, the ATDCs. Narratives of China and Africa's comparable climates and similar farmland sizes may also be brought into this. Based on this understanding, a number of training courses pitch sales of China's foremost companies such as Chery Heavy Industry Co., Ltd., Yuan Longping High-Tech Agriculture Co., Ltd. and China Shenghua.

On two of the training courses attended in Beijing, participants were presented with promotional materials either as part of the lecture sessions themselves, or afterwards. They were then offered the opportunity to discuss purchases with on-site sellers for discount prices. However, of all the participants interviewed, none of them said they made purchases on behalf of their ministries on the course. Only one respondent reported seeing someone else make a purchase during the course, which she said was made by a senior politician for a tractor to be used on his own private farm.

The constraint was most commonly that participants did not have the authority to make purchasing decisions on behalf of their ministries while they were on these courses. However, as one respondent put it after being taken on several tours of machinery companies during his course, 'it was like the foundation was laid. So now that I come to Ghana, if I see that the Ministry or some private person needs that, then I can link that person to that particular company.'

Indeed, one participant who went on a course with the Chinese hybrid seed company Yuan Longping High-Tech has since returned and is looking into ways of facilitating a cooperation project between the company and his ministry. He was given seeds to take back to Ghana and is now testing them in an agricultural plot. If successful, he will look into assisting with the sale of a plot of land to the company for them to do research and development of their products in local Ghanaian soils. According to those he spoke with on the course, they would then intend to set up a contract farming project with local Ghanaian farmers for which the company would provide all the necessary inputs.

To be sure, this involves a much looser interpretation of the term 'knowledge transfer', as it is dependent on buying the technologies first, rather than teaching countries how to build technologies themselves as some other MOFCOM courses do. However, they were clearly still of interest and potential value to participants. One respondent explained casually that 'nothing is for free', meaning that while she enjoyed the opportunity to be there, it should be expected that the training centre might seek a benefit too. Another more senior Ghanaian civil servant also suggested that there should even be more exposure to commercial opportunities regarding agricultural technologies on the training courses.

Transferability constraints

Beyond the projects with more measurable impacts mentioned above, there were three other respondents who said they were still testing what they learnt, which left 15 interviewees who struggled to transfer the Chinese practices they had learnt on their courses.

The greatest impediment to knowledge transfer was courses that were not relevant, either to the unique climate or socio-economic contexts the participants were from, or to the job that they actually carried out. This was partly due to the fact that many of the Chinese lecturers had never been to any of the countries from which their participants came, nor had experience of studying their agricultural contexts. As such it was difficult for them to know how to tailor their courses appropriately.

This is compounded by the fact that many courses offered by Chinese institutions are aimed at a broad range of students from 'developing countries'. This could include participants from climates and practices as diverse as Albania, Thailand and Zimbabwe on the same course. Although some courses are broken down into groupings with some commonalities, it is more often according to linguistic groups rather than climates or comparable socio-political contexts.

By way of example, three Ghanaian respondents attended courses that involved greenhouses for their practical exercises. These courses were generally taught

in China's northern provinces, such as Shandong, where winters can be very cold. The Ghanaian colleagues said that they did not have the same need for greenhouses in their climate, and furthermore, that even though there are still some advantages to controlling temperatures they are nevertheless too expensive for local farmers.

Furthermore, training courses are not allowed to contact potential participants or their ministries before the courses start. MOFCOM will welcome the training courses' suggestions regarding which countries should be invited for a particular course, but they will ultimately make that decision themselves. In more extreme cases, training courses may not know who is attending their courses until the day their participants arrive. One respondent from a Chinese course explained that for this reason they will usually spend the first day of the training course establishing the backgrounds of each of the participants so that they can adjust the course to them as needed. Essentially, this meant that part of their courses are organised post-hoc.

Lastly, the fact that ministry directors are able to pick the candidates that go on these courses, with China paying for everything, endows those directors with a degree of political capital that is open to abuse. It was raised that this sometimes risks distorting the long-term aims of the ministry to facilitate knowledge transfer through the appropriate staff, in favour of short-term internal politics. They are also concerned that they should try and fill up their allocated spaces on these courses and so will sometimes pick people that are not necessarily relevant. From the participant's perspective, if someone is picked for a course that may not be relevant for their work they may simply take it because they are concerned about missing out on a chance to go to China.

Follow-up and absorbing the knowledge of returning students

Upon returning, the participants are required to write a one or two-page feedback report on what they learnt and what they enjoyed about the course for their local Chinese embassy's CCO. They usually give a copy of this to their superior, but beyond this respondents from both Ghana and Zimbabwe raised the issue that there was no formal system to share what they learnt within their own departments. Several suggested that this was an area that could receive funding, or at least more attention, from their own government so as to draw greater value from the knowledge transferred in the courses. The lecturers are a notable exception in this regard.

Some participants also struggled to implement techniques because the courses were so short that they could not go into much depth. This was compounded by the fact that several were not able to contact lecturers for more advice following the end of the course. Some suggested that training courses could offer follow-up training sessions several months after the first so that the same participants can come back with questions after they have tried implementing methods in their home contexts.

Financial constraints

Lastly, at least six of the respondents said that they had learnt useful methods or techniques that might be applicable to their local contexts, but were unable to implement them due to a lack of funding. Here I refer to techniques that did not require the purchase of Chinese technologies. This ranged from small cases to large. One returning participant, for instance, was unable to secure funding from his department to buy some wooden boxes to incubate mushroom spores. Another had learnt about biogas technologies, but could not purchase the materials to replicate these upon return.

Some suggested that their ministry should find the money for this follow-up process, while others suggested that China should be the one to see the knowledge transfer through by including necessary funds. It is therefore interesting to note that the outstanding exception to this constraint was the Zimbabwean cassava project involving a third party. The returning participant had been able to secure funding from FAO for the first two years of the project.

Summary

At first glance, the fact that there is only one tangible development project that came out of these 30 or so experiences might raise questions as to how transferable Chinese experiences are for African agriculture. It is certainly worth considering, but there is also a possibility that African participants might draw more from these courses if the structural constraints mentioned above were addressed. However, this should not leave the reader thinking that these courses are therefore a failure. Far from it. In fact, what is key to these courses is that the participants have often returned with extremely positive experiences and the opportunity to understand the circumstances of one of their most important economic and political partners firsthand.

Conclusions and broader implications

Returning to the idea of 'what worked for China must work for Africa' mentioned in the introduction, it is clear the training courses do not prove this in any substantial way. This may be because of the structures in place mentioned above, or it may well be down to the more fundamental issues of China and the many different African countries having very different agricultural contexts. Furthermore, although not discussed in any great depth in this paper, the process of knowledge transfer itself is fraught with difficulties if one assumes knowledge to be just like some material good that can be passed from one to another.

The Chinese lecturers' interpretations of what made Chinese agricultural development 'successful' or 'failed' is itself deeply subjective. When African officials engage with these ideas, they too will bring their own understandings of agriculture from completely different contexts. Such interactions may often lead both parties to view the knowledge they hold in a different light, but it would be highly ambitious to think that successful experiences could be seamlessly transferred. Indeed, the history of international development is littered with failed projects that took these assumptions for granted.

However, this is also what makes the MOFCOM training courses unique in the wider context of training courses offered as part of international development programmes. Whereas others may set up planned processes of knowledge transfer that may ultimately lead to some tangible project outcome, the Chinese approach appears to effectively stop at the point of participants leaving the classroom. It is up to those participants whether they make anything of the knowledge they have been presented with. Indeed, Deng Xiaoping made this point best when he told Ghana's President Jerry Rawlings in 1985, 'please don't copy our model. If there is any experience on our part, it is to formulate policies in light of one's own national conditions' (Alden 2007). This attitude also fits neatly within China's stated approach of non-intervention with regards to other countries' sovereignty.

In fact, if we were to view knowledge transfer as the only important criterion in these training courses, it would seem odd that the African officials interviewed were so positive, and that MOFCOM has increased the number of courses offered so significantly over the past 15 years. What this all points to is that these are not just a development intervention. Just as important, if not more so, these training courses are about building relationships between the countries involved. The opportunity for African officials to travel on paid leave for several weeks is certainly appreciated in itself, but more than that, they get to see China firsthand. As one of the most important economic and political partners for most African countries these days, this is a hugely important opportunity.

On the Chinese side, these processes of relationship building are key to China's wider ambitions in Africa. Despite the rhetoric of longstanding Chinese engagements with African countries, manifested in support for several liberation struggles and the Tazara railway in the 1960s, China is still a relative newcomer to African markets. In their search for good contracts for natural resource extraction they often have to compete with former colonial powers such as Britain and France, or other big players such as the USA and Japan. Several studies have already looked at the different ways in which Chinese companies have competed with established powers for those contracts in Zambia (Ching 2014), Angola (Corkin 2011) and Equatorial Guinea (Esteban 2009), to name a few.

Furthermore, Chinese engagements in Africa still face a lot of hostility and suspicion from African populations and mainstream media outlets. Some of this is due to genuinely bad experiences (Chichava 2015), while much of this is also down to pure misinformation or suspicions based on the unknown 'other' (Bräutigam 2009). Either way, painting a positive image of China and its engagements has been a struggle for the past two decades. For this reason, China has invested heavily in media cooperation projects through its state newswire, Xinhua, and supported development projects aimed at the general population such as hospitals, schools and football stadia (Wu 2012). These training courses fit very naturally within this wider programme of building a positive image and are aimed particularly at the level of government officials.

Whilst conducting research for this project, it was clear that there was still a lot of suspicion of Chinese engagements in Ghana and Zimbabwe among the press and general population. As such, it really stood out that there was such positive feedback about China among government officials who had been on these training courses. If we bear in mind that these training courses are being offered to every single government ministry in 51 of 54 African countries, we can see that this is a programme of monumental ambition and success in building relations. One human resources employee in Zimbabwe summed up the reach of these courses by saying that 'so many people from our department [in the Ministry of Agriculture] have been on these training courses that many are now going for their second round'. The medium to long term impacts of this programme are thus potentially very significant for all actors concerned, and the programme itself will likely continue to be a cornerstone of Chinese engagements in Africa for many years to come.

End Notes

i FOCAC documents from 2000, 2003, 2006, 2009 and 2012. Accessed at focac.org/eng

ii 关于2013年援非洲法语国家农业技术示范中心运营管理研修班项目简介事 / china-aibo.cn/ywpxgl/xmjj/274357.shtml

iii 关于2013年发展中国家国际发展合作中的技术合作研修班项目简介事/ china-aibo.cn/ywpxgl/xmjj/275009.shtml

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This **Working Paper** was written by **Henry Tugendhat** of the **Institute of Development Studies Brighton** for the **Future Agricultures Consortium.** The FAC Working Paper series publishes work in progress by FAC members. All papers are technical research papers which have been peer reviewed, and are available in open access format. The series editor is **Paul Cox**. Further information about this series of Working Papers at: **www. future-agricultures.org**

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FAC appreciates the support of the UK Economic and Social Research Council and UK Department for International Development (DfID)

Funded By

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