

Travelling Technocratic Rationality: Historical Narratives of China's Agricultural Development and their Implications for China- Africa Agricultural Cooperation

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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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Abstract

Contemporary China-Africa agricultural cooperation (CAAC) has been internally dominated by three streams of narrative: promotion of food security for state building in the post-war landscape; productivity enhancement through technocratic modernisation; and promotion of aid sustainability through business engagement in the new era of globalisation. This paper explores the domestic drivers and strategies underpinning these narratives, as well as their respective implications for CAAC, using a historical review approach. The paper summarises three elements entrenched in the narratives of CAAC – state leadership, productivity-centrism and the government-business nexus – which are examples of travelling technocratic rationality. These differentiate China's aid, focusing on developmental state building, from the established aid consensus, with its marriage of orthodox neoliberalism and a new institutionalism.

Key Words: China, Africa, narrative, historical review, agricultural cooperation

Contemporary China-Africa agricultural cooperation (CAAC) has been internally dominated by discourses of 'improving Africa's food security via prioritising its independent agricultural development'; 'enhancing productivity via technological improvement'; as well as 'ensuring aid sustainability via business engagement'. These three strands of discourse are scattered throughout policy documents and in the public media, and were typically articulated by Mr. Han Changfu, Chinese Agriculture Minister, in his vision for the future of CAAC at the first China-Africa Agricultural Cooperation Forum in 2010: 'compassing food security, we will fully explore new areas for CAAC; strengthening technological communication and cooperation to improve Africa's self-development capacities; and promoting trade and investment with stronger policy support' (Cen 2010). The three streams of framing highlight China's perspectives on its agricultural overseas engagement, particularly with African countries. They are not necessarily logically self-consistent, single-layered or static. Rather, their effectiveness is to be tested in the future; their connotations are shaped by different stakeholders at various levels; and above all they are dynamic, having originated from China's own agricultural development experiences with a long historical process of adjustment through trial and error.

However, the aforementioned narratives and their associated logic that originated from China's internal agrarian transformation experiences have long been concealed or invisible in the international debates on CAAC. The prevailing approaches in the international media, academic and policy circles are exploring the histories and modalities of the cooperation (Alden 2013; Buckley 2013; Bräutigam and Tang 2009; Spring 2009); examining its mechanisms and approaches (Xu et al. 2014; Buckley 2013; Scoones et al. 2013; Yan and Sautman 2010); and discussing the impacts of the engagement,

particularly related to the concerns of land and resource grabs or 'neo-colonialism' (Bräutigam and Zhang 2013; Cotula et al. 2009; Spring 2009). These inquiries have not yet linked China's domestic rural modernisation experiences and discourses strongly enough to its current overseas engagement to reveal what elements of China's agricultural development have travelled to African countries, and what is the nature and significance of the travelling elements.

This paper thus provides the Chinese side of the CAAC story to make the invisible narratives and associated inherent logic generated and evolved in China's context visible in the international discussion. It examines what has historically driven agricultural development in China through different periods; what the narratives have been; and how these narratives with their associated political ideologies, interests and images of the Chinese state have been built into its development cooperation efforts both explicitly and implicitly. It brings in a rich and critical analysis of changing interests, politics and state ideology in relation to agriculture, both at home and abroad. The exercise reveals Chinese perspectives and concerns on agriculture, China-Africa relations, the global system and globalisation, business and the market economy, as well as the government's role in development.

Promoting Food Security for State Building in the Post-War Landscape

Unpacking the narrative

Promoting Africa's food security and independent agricultural development have been reiterated as the ultimate goal of CAAC, described as 'teaching a man to fish rather than giving him fish' (授人以鱼不如授人以渔) (Han, 2010) by China's Agriculture Minister (Han 2010). According to a 2010 White Paper on CAAC, 'The fundamental goal of CAAC is to support African countries to improve their food security as it involves the national stability and poverty reduction' (Pan and Liu, 2010; China State Council 2010). The high level of these narratives discloses how China views the importance of food security as well as the significance of independent agricultural development in Africa's development process.

The nature of the food security and self-independence narrative has actually penetrated China's internal agricultural development histories since its early state building process in the post-World War II politico-economic landscape, although with variations in different stages. For example, in Mao's era the narrative was embodied as 'the principle of ensuring food security via grain self-production needs to be the top priority of the development strategy' and this principle 'should never be slackened' (决不放松) (Wang 2009); in Deng's era as 'whoever has food has everything' (谁有了粮食, 谁就有了一切) (Deng 1989:78); in Jiang's era as 'keep close

attention on food security as always' (始终抓得很紧很紧)(Jiang, 1998); in Hu's era as 'the food issue is always a top priority' (粮食问题始终是头等大事)(Hu, 2008); and in Xi's era as 'the heart is at peace if there is food in the hands' (手中有粮, 心中不慌)(Xi 2013). The last of these was actually coined by Mao in 1959, but revived in the new era to emphasise the importance of food security. The narrative continues as 'food is the paramount necessity of the people' (民以食为天) and 'the country is based on agriculture' (农业立国), both of which permeate China's agricultural development policies.

With this narrative, agriculture was basically perceived as a source of food, capital and material for national industrialisation and modernisation. In other words, agriculture was primarily reduced to a source of food and industrialisation. This process of prioritisation and simplification was best represented in Mao's narrative of transforming goals from 'building up the family fortune' (发家致富) to 'enhancing productivity in patriotism' (爱国增产) after the land reform in 1951. Said Mao,

We cannot simply tell farmers to make fortune. Alternatively, we need to repeatedly explain to them that their efforts should contribute to building the nation as a foundation. To achieve this goal, the productivity of staple food needs to be improved; the material for industry has to be increased; and the export goods need to be enhanced for more capital accumulation. Once the nation fulfils industrialisation, it can in return improve the all-around agricultural production and improve farmers' livelihoods (in Bo 1951).

This logic was inherited down to the present day in the form of a strong emphasis on national food security for both China and African countries participating in CAAC.

Drivers behind the narrative

The core of China's agricultural development policy, particularly in Mao's era, was to ensure national food security and the primitive accumulation of industrialisation. The drivers underpinning this perception of agriculture in China originated from both historical experiences and evaluation of the post-war politico-economic global context, within which it was deemed by the Communist Party of China (CPC) and Chinese central government to be a basic approach to maintain its sovereignty and self-determination after the establishment of New China in 1949.

As an ancient agricultural country, China had suffered several periods of hunger and famine since the Tang Dynasty (618-917) resulting from the identified basic national condition (基本国情), 'big population with limited lands' (人多地少). These were further aggravated in the Qing Dynasty (1644-1911) and fully erupted with the invasion of the Western powers from the 1840s.

Twelve million people suffered from the famine of 1928 resulting from drought, while floods that followed in 1931 led to millions of people losing their homes and many deaths (Wu and Zheng 2004: 79). Anti-imperialist wars against Western powers and Japan, along with the subsequent civil war, destroyed agricultural production, and food security became a serious challenge to a broken China. In this context, both Sun Yat-sen, the founder of the Kuomintang, and Mao Zedong, the leader of the CPC, paid high attention to the issue of 'feeding' (吃饭问题), and regarded solving the hunger problem as the foundation of their governing legitimacy in the modern state building process.

Meanwhile, when facing New China's fragile and weak state of 'poverty and blankness' (一穷二白), industrialisation was deemed as the overwhelming dream for Chinese leaders and ordinary people. Mao summarised the hundred years of painful historical lessons leading up to 1944 thus: 'The reason for China's backwardness is that we have not been industrialised.... therefore, to eliminate the backwardness is the task for the whole nation.' (Wu and Zheng 2004: 459). After the birth of New China, Mao sighed, 'what can we make now? We can make tables and chairs, tea pots and bowls. We can produce grains, and grind them into flour. We can also make papers. But we can not make even one car, one plane, one tank or one tractor' (Mao 1999: 329). Based on the path of 'encircling the cities from rural areas' (农村包围城市) taken by the CPC for its success in the civil war, Mao once again turned to farmers for accumulating the funds for the whole nation's industrialisation. Mao stipulated, 'the Revolution could only win the victory with the aid of farmers, and the industrialisation of the state can only be possible to succeed with the aid of farmers again' (Mao, 1950).

Strategies underpinning the narrative

During this period, on the one hand, the CPC and the State Council took a series of measures to maintain the minimum food security with a mono-agricultural strategy concentrating on food crops, though interrupted by natural disasters and political struggles during the 1950s-70s. The land reforms, firstly privatised to small farmers in the early 1950s, and then collectivised in the commune system in the late 1950s, were also accompanied by a series of policies which saw the collective mobilisation of labour in small-scale irrigation system construction, establishment of agricultural universities, the development of national and local research institutions and the development of agro-input industries. These initiatives led to an increase in agricultural production, particularly in food crops (Li et al. 2012: 35). The output of food crops increased almost 2.7 times between 1949 and 1978 and average output of food crops per capita went from 208kg to 299kg during 1949-1958 (NBSC 2009: 161, 637).

On the other hand, following the principle of 'taking agriculture as the base, and industry as the lead' (农业

为基础，工业为主导), a rigid system of central control and command was established characterised by two typical sub-systems: 'the state monopoly for purchase and marketing' (统购统销), and 'the urban-rural dual structure' (城乡二元结构) maintained by the residence registration system (户口). Under the governing system, farmers were strictly fixed on the land in people's communes (人民公社) which mobilised all the production factors for collective farming. The surplus generated by the communes was transferred to the industrial sector via the mechanism of 'price scissors' (剪刀差), which lowered the prices of agricultural products and increased the prices of industrial ones. According to the calculations of Feng and Li (1993), from 1952 to 1990 China's agriculture provided a total of 1.1594 trillion RMB of capital for industrialisation. They believe that about 1/3 of the national income in China's industrialisation process came from agriculture, fully indicating the important role of agriculture in the capital accumulation for China's industrialisation.

Implications for CAAC

Overall, particularly in China's early development period before the reform, agriculture has been taken as the base of the national economy by both ensuring basic food security and by accumulating capital for industrialisation. This became embedded in China's domestic politico-economic context in Mao's era: the approach was chosen by the CPC based on their early revolutionary experiences, and was able to operate with the strong and pervasive mobilisation capacity of nationalism developed over 100 years of trial and error for competing with the Western powers, as well as with the support of the rigid, systematic and highly political governing architecture. Ensuring food sovereignty and agriculture-based industrialisation were deemed basic and compulsory components in China's catching-up strategy and in strengthening state building in the global system after the war. With collective farming, the commune system, the planning economy and the centralised political system ran for almost 30 years before going fully bankrupt at the end of the 1970s.

Not surprisingly, the ideology of nation building via food self-sufficiency travelled to African countries during the period of CAAC in Mao's era. China emphasised state building and endeavoured for sovereignty and self-determination on both sides in setting its aid goals. African countries and China have been in 'a community of shared destinies' (Xi 2013) since their early independence. As members of the Third World or the global South, China spared no efforts to provide foreign aid, even beyond its own capability, to African countries' anti-imperialist and anti-capitalist efforts. This was to fulfil its international responsibilities on the one hand; and to enhance its legitimate identity as an independent country, and help to create an enabling environment for its own national economic development after its political independence, on the other. The motivations behind the aid in this period can be summarised as a combination

of internationalism (国际主义) and patriotism (爱国主义) (Zhou 2008). Food self-sufficiency is perceived on China's side to be the key contribution to the nation building of African countries.

Accordingly, the aid modality during this period focused more on large state farms, which were believed to be an effective way to mobilise resources to attain food self-reliance and to promote industrialisation in the host countries. For example, the Chinese government announced they would contribute to the development of African countries in achieving 'self-dependence' to solve the food insecurity problem in 'taking over' aid from Taiwan during the 1970s (Jiang 2013). Forms of collective farming such as *Dazhai* (大寨), salient in domestic China as well during the socialist period, were practiced in African countries. Through working shoulder to shoulder with locals, Chinese agricultural aid workers and experts presented the *Dazhai* spirit of hard work, perseverance, self-dependence, equality and collectivism.

Productivity Enhancement in Technocratic Modernisation

Unpacking the narrative

Science and technology (S&T) has been deemed as one key to China's economic miracle and a recipe to help African countries to step out of 'Agro-Afro-pessimism' by both Chinese side, African counterparts, as well as the international community in the new era. The newly revived endeavor on African agricultural development such as the Millennium Village Project and the Comprehensive Africa Agricultural Development Program (CAADP) aims to stimulate African green revolution. China's success in 'feeding more than 20 percent of world population with less than 10 percent of the world's arable land and one fourth of world per capita water availability' (Huang and Hu, 2004) creates greatest momentum for China sharing development experiences on productivity improvement via technology with African countries in CAAC.

Looking inside, productivity enhancement via technology improvement has been one of major secrets about China's internal agricultural development embedded within a broader technocratic modernisation trajectory particularly since the reform and open-door policy initiated in Deng's era. The importance of modern technology in agricultural development is best represented by Deng's narrative, 'the development of agriculture relies firstly on policy, and secondly on S&T... but the solutions ultimately rely on science' (农业的发展，一靠政策，二靠科技……但最终要靠科学解决问题). He continued his doctrine of technology-development nexus by arguing that 'S&T is the No. 1 productive force' (科技是第一生产力) in 1988, and then 'invigorating agriculture by relying on S&T, and education' (科教兴农) in 1991. The technocratic rationality has been consummated when the S&T-centered development

ideology has been entrenched into the nation building priority by announcing 'rejuvenating the nation by relying on S&T and education' (科教兴国) in 1995.

With the narrative, agriculture S&T has been perceived to be the top one engine for agricultural modernisation. Since *the Reform and Open-door Policy* initiated in the end of 1970s, a faith in the ability to transform the countryside through application of S&T underlies China's agricultural and rural development discourses and policies. This faith and ideology, i.e. scientific agriculture (科学种田), is the systematic application of scientific techniques to improve agricultural productivity, including new seed strains, land management systems, cropping techniques, as well as fertilisers, pesticides and irrigation systems. The pragmatic nature of the S&T narrative also constructs one of the key elements of Deng's reform ideology, 'seeking truth from the facts' (实事求是), which focuses on the instrumental and economic side of the development approach while abandoning the debates on political ideology. China's agricultural development started a depoliticised process of expansion of technocratic rationality within the broad modernisation context of catching up.

Drivers behind the narrative

The narrative of productivity enhancement via S&T can be traced back to China's ancient intensive cultivation system, which included breeding, land use, cropping systems, tools and fertilisation along with corresponding governing systems, social values and knowledge accumulation via books and publications. The tradition of agrotechnique production and extension was further strengthened with the introduction of Western agricultural S&T along with its own governing system due to the 'backwardness' of Chinese traditional farming practices in the Qing Dynasty (1616-1912). 'Science', later being translated into 'technology', coupled with pragmatic and evolutionary ideology, was regarded as one of the principal recipes for China's modernisation against the Western powers.

Aside from its historical legacy, the ideology of technocratic development has been formally ingrained in China's reform process due to the difficult realities prior to the reform at the end of the 1970s. China's agricultural development had long stagnated. Almost 80 percent of the population were stuck in absolute poverty, rural income per capita was only 63.34 RMB, and grain output per capita was under 300kg (Li et al. 2012: 54). According to data from the World Bank (1982: 21), China's share of global GNP in 1980 was reduced to almost half of that in 1949 after thirty years of development. The GNP per capita in China in 1980 lagged even farther behind that in 1949. This is what led Deng (1978) to comment on the realities by the end of the 1970s by saying, 'our country will be dismissed from the Earth if we do not reform now' to change the grievous and nearly bankrupt situation. Learning from Western S&T, which started in the late Qing

Dynasty and was disrupted in Mao's era, once again became the key instrument for the reform.

Strategies underpinning the narrative

The strategies underpinning the second narrative include both 'soft technology' transformation and 'hard technology' promotion since the reform. During the end of the 1970s and early 1980s, intensive field investigations were carried out by Deng's team which confirmed the seriousness of the poverty issue and revealed the deep crisis of the strict control and command system in mobilising the incentives of neither farmers nor local governments. In Deng's visit to Guangdong Province in 1977, he stressed the importance of the policy and gave space for innovation to the local governments by saying, 'you can start if you think it is effective. You do not need to wait for central permission' (Deng 1977 in Deng 2004). Eighteen farmers in Xiaogang Village, Anhui Province quickly initiated a bottom-up reform to distribute their collective lands to households on contracts in the spring of 1978, even under risk of death, seeming to respond to Deng's openness. With the local and central governments' strategy of 'keeping one eye open and one eye closed' (睁一只眼, 闭一只眼), this small and furtive trial was later silently but quickly extended to other areas and thus triggered the famous Household Responsibility System (家庭联产承包责任制) policy, which was later perceived to be the commence of the Reform Policy in Deng's era.

The above mode of trial, farmer-government interaction and learning characterised China's agrarian transformation process, including the fertiliser market liberalisation, emergence of Township and Village Enterprises (乡镇企业), grain market reforms, etc. are all 'surprises' arising partly from the bottom, and endorsed finally by the upper level of decision-makers. This process was articulated by Deng as 'feeling our way across the river' (摸着石头过河), coupled with the intellectual approach of 'seeking truth from facts' (实事求是), indicating that no blueprint was available for the reforms in the initial stage, but these more depended on a pragmatic approach of continual learning from trial and error.

Intertwined with the 'soft technology' development trajectory, i.e. the institutional transformations described above, the development of 'hard' agricultural technology was also well instigated and enhanced. Deng's initial step was to reverse the public bias against scientists in the Cultural Revolution of Mao's era, when the research and extension system was destroyed by sending all the researchers and intellectual elites to the rural areas to 'learn or regain education from the middle and poor farmers' (接受贫下中农再教育). Since the reform, the social status, income and opportunities in capacity development of agricultural researchers and extensionists were enhanced, and the importance of their technologies was stressed officially. Accordingly, China has invested vigorously in the agricultural research and extension

system, particularly during the 1970s-1980s, resulting in the biggest research team in the world in terms of staff members by 1999 (Huang 2002). Various specific research and extension programs and projects were initiated in the 1980s such as the Spark Program (星火计划) by the Ministry of Science and Technology in 1986 to stimulate the appropriate agricultural technology extension in rural areas; the Harvest Plan (丰收计划) by the Ministry of Agriculture in 1987 to promote advanced high-productivity and high-quality technology extension to improve agricultural economic, social and environmental impacts; and the Prairie Fire Plan (燎原计划) by the Ministry of Education in 1988 to provide training services to farmers to enhance their capacities in technology adoption (Xu 2004).

The growth rate of China's investment in agricultural research was 4.86 percent during the period of 1981-2000, while the global average was only 2.11 percent, and the average rate in developing countries was 3.14 percent (Pardey et al. 2006). World Bank (2008: 65) data shows that in the past two decades, China's investment in agricultural R&D increased nearly twofold. Chinese scientists developed hybrid rice in the early 1970s and a number of successful varieties in the 1970s and 1980s. The contribution of agricultural S&T to agricultural growth gradually increased, reaching up to 40 percent (Zhu 1997: 135). Accordingly, at the micro level, inputs of chemical fertilisers, agricultural machinery and improved seeds became a large share of family expenses for small rural households, a trend which started with the Household Responsibility System.

Implications for CAAC

The endeavour of transferring China's agricultural technologies to African countries was initiated in the end of the 1950s, and intensified as a return gift to African countries during the 1970s and 1980s due to diplomacy competition with Taiwan (Bräutigam and Tang 2009). Since the 1980s, technology transfer has gained new momentum in CAAC. China's ideology of technical solutions to African agricultural development has been gradually established. African agriculture has much potential for development with its endowment of rich resources and 60 percent of Africans working in agriculture. However, so far Africa is still the only net food-importing continent in the world. Low productivity has been perceived to be the main pitfall of African agricultural development. Therefore, technology transfer has been set as one of the key elements of CAAC.

In the 1980s, CAAC adopted the principle of 'being responsible to the end' (负责到底) with the consolidation or rehabilitation of the dozens of former aid projects that had collapsed or were barely limping along. This was joined with the guideline of 'making the best efforts and acting on capacity' (尽力而为, 量力而行). Delivering aid for human resource development and technology transfer was an interpretation of Chinese perspectives on aid sustainability, as were approaches to how to

achieve that delivery with limited resources in the transitional context.

Principally, the role of technology transfer in CAAC during that period needs to be understood within the broad political-economic context of domestic China at the time. In Deng's period, differing from the large budget of aid in Mao's time, which peaked at 6.92 percent of total government expenditures (Zhou 2009), the guidance of 'doing more with less' (花小钱办大事) in aid was adopted. The major efforts were put into domestic economic development. Thus the limited aid resources would pursue the best results by decentralising and rationalising the aid governance structure; inviting African co-funding, particularly in local operations; and promoting the participation of China's companies and banks in CAAC.

Accordingly, the aid modality has been redefined. The technical aid though an apprentice system (师傅带徒弟), particularly in the rehabilitation programs, was greatly highlighted as it was believed to be more cost-effective and sustainable (Zhou 2009) and thus ensure 'the real benefits of the local people' (真正使当地人受益). During this period, concepts such as 'turn-key projects' (交钥匙工程), 'mutual benefits' (互利), 'teaching a man to fish rather than giving him fish' (授人以鱼不如授人以渔), as well as 'combining aid and investment with market mechanisms' (投资和援助相结合, 引入市场机制) were first introduced and piloted. The effectiveness and quality of aid was stressed in project formulation, implementation and management.

In summary, the faith in S&T for solving agricultural development pitfalls domestically has been travelling to African countries via CAAC for the past 50 years, informing the Agricultural Technology Demonstration Centres (ATDCs) initiated in the new century. It reflects Chinese perceptions of African agricultural development solutions. As stated by Wei Jianguo (2011: 232-234), the former Minister of Commerce, 'Why is it that Africa boasts such rich resources, but is still plagued with food shortage? Because the local farmers lack technology. They do not know how to cultivate. So our aid mission is to teach them how to produce food.' These technical solutions encountered challenges during the process. For instance, the 'good practices' of Chinese experts that bring high productivity cannot always be sustained after the experts depart, and the curse of 'quick starting, quick results and quick decline' (Yun 2000) recurs in China's agricultural aid to African countries. However, the reasons for failure are continuously framed as technical problems or attributed to low adaptation capacity by African locals. 'The African farmers need a revolution on their mindset to accept Chinese technologies,' concluded Wei (2011: 226). Hence, consciously or unconsciously, China's evolved agricultural aid policies and practices not only deliver specific technologies to the African continent, but also transfer a technocratic development ideology. This ideology prioritises productivity improvement and economic development via technological solutions in the development sequence.

Business Engagement for Development Sustainability in the New Era of Globalisation

Unpacking the narrative

Since the new century, particularly with the initiation of the ATDCs as one of the eight policy instruments of China's aid to African countries at the 2006 Forum on China-Africa Cooperation (FOCAC) summit in Beijing, CAAC has arrived at a new stage featuring a combination of aid and business in public-private partnership (PPP) to attain aid sustainability. This comprehensive scheme for transnational technology transfer originated from China's internal reform trajectory with its mixture of public and private agencies to create sustained momentum for development, and it represents a new modality for sustainable development in an increasingly mutually intertwined landscape of globalisation.

The policy narrative of 'detaching government intervention from enterprise operation' (政企分开) actually originated from the early reform era, indicating the deconstruction of highly political mechanisms. It was the first step to liberate and foster the economic actors from the overweeningly political social organisations in Mao's era. The narrative was fully spread to guide the reform process of all the sectors, such as the agricultural state-owned enterprises (SOEs), state farms and the public agricultural research and extension system. The reform process, in this sense, is a process of creating mutually independent public and private sectors on the one hand and promoting cooperation between these sectors on the other.

After three decades of pilot reform processes, a call to enhance the determinant role of the market in resource allocation came in the Third Plenary Session of the 18th Central Committee of CPC in November 2013. Along with this the Committee voiced a further call to promote the participation of private actors in the reform of China's SOEs for 'mixture of ownership' (混合所有制) and continue endeavours for cooperation between the public and private sectors for a more comprehensive development. With a new development ideology emerging in China in the new century, including 'scientific development' (科学发展), 'establishing a harmonious society' (建设和谐社会) and fulfilling 'China's dream' (中国梦), the welfare of disadvantaged groups and the environmental costs of economic growth have been gradually taken into account. The participation of private or individual actors in the reform, and their benefits, are more often stressed. PPP has thus, to an extent, supported the shift in ideology.

Additionally, the third stream of narrative is also related to China's increasingly intertwined engagement in globalisation, particularly with the 'going out' (走出去)

strategy initiated in the new century. The narrative of 'going out' was first coined by Deng in the 1980s, mainly for promoting trade to earn foreign currency. It was not until the end of the 1990s that it was formally announced as one of the main national strategies, and it was then strengthened in the new century, particularly with the slogan of 'fully utilising both domestic and international markets and resources' (充分利用两个市场和两种资源).

Drivers behind the narrative

Evidently, the third narrative goes beyond agricultural development goals and strategies, and is actually motivated by China's internal agricultural development challenges and opportunities within the global context. After more than three decades of development, China has gained success in raising 250m of its population out of absolute poverty under its national standard (The Leading Group Office of Poverty Alleviation and Development, 2014). Cereal production and farmers' incomes have also seen great enhancement. However, other fundamental changes in China have impacted on its agricultural development. On the one hand, consumption patterns have shifted dramatically with an increasing middle class, while on the other, a decrease in fertile lands has accompanied rapid industrialisation and urbanisation over the last few decades. To this can be added land degradation and water pollution due to heavy utilisation of petroleum-derived fertilisers and pesticides. According to published data from the Ministry of Lands and Resources, almost 30 percent of arable lands have been polluted (Lin 2014).

Therefore, despite achievements in raising domestic production in agriculture, food security is again becoming an area of great concern for China. The 'going out' strategy thus encourages Chinese firms, including agricultural parastatals and companies, to invest abroad to increase global food supply and balance the global markets, thus ultimately improving Chinese food security. With the new trends, China has become a major importer of food since 2005, and in 2010 China led the region with its import share of 44 percent of the world's commercial soybeans, 35 percent of the world's commercial cotton, 20 percent of the world's commercial palm oil and 2.5 percent of the world's rice (Alden 2013).

The second driver underpinning the narrative of seeking development sustainability via PPP came from China's evaluation of the global business regime. China is the only country so far without globally competitive corporations in its rising (Nolan 2012). With international agribusiness giants such as Cargill and ADM from the USA, Bunge from the Netherlands and Louise Dreyfus from France dominating the global agribusiness regime, China decided to find a solution to foster and train its own business champions overseas along with aid efforts with the principle of 'win-win' (双赢) in south-south cooperation. Obviously, when China talks about development sustainability, it not only refers to African

countries' development but to China's own progress as well. The mutual benefit is believed to be sustainable in the long run of CAAC for both sides.

Strategies underpinning the narrative

China's internal reform is a process of diversifying social actors to stimulate divergent agencies for development. Cooperation, particularly between public and private actors, underpins the developmental state in China. There were no private spaces or business units before the reform. In Mao's era, social organisation was dominated by the SOEs, work units (单位) in the cities and communes in the villages. With annual plans and quotas delivered from the state, and the production inputs and outputs of the SOEs, for instance, manipulated by the government, individual workers or farmers did not have much space to manoeuvre for their own benefit or innovation (Xu et al. 2014). However, with the gradual reform since the end of the 1970s, a more flexible, dynamic and diversified private sector and social system have been established. Economic development has become the new focus for the whole nation from the macro level down to individuals. The participation of private actors such as enterprises was promoted to develop increasing engagement in public project construction, particularly in the infrastructure building area, or provision of public services, such as agricultural extension.

For instance, China's market-oriented reform of its research and extension system aimed to promote the sensitivity of the system to the needs of small farmers and agricultural enterprises by distributing public support funds via competition grants and focused research programs which started in the mid-1980s. The policy also encouraged researchers and extensionists to commercialise their research products and extension services, particularly for those easily translated into business opportunities such as seeds, fertiliser and machines, allowing them to retain profits and reinvest in their follow-up activities (Huang and Hu 2004). The reforms not only streamlined staffing and cut the excess burdens of the stagnant system, but also injected client-oriented market ideology and mechanisms into the system, as well as created a large group of agricultural institutes-cum-enterprises boasting technology production and extension capacities.

Aside from the strategies underpinning PPP in the reform trajectory, China's increasing engagement in globalisation also created huge momentum for formulating strategies and measures to meet the need to unify overseas resources and markets. With China's accession to the World Trade Organization the primary 'bringing in' (迎进来) policy reached its peak. China has been essentially integrated into the new global regime. Thereafter, China's agricultural development was increasingly influenced by global market. For instance, the newly issued 'No.1 Document' in 2015 (CPC and State Council 2015) indicated that China's agricultural

development is facing 'double pressure' (双重挤压), i.e. internally with increasing production costs and externally with comparatively higher price disadvantages. Therefore, the food security strategy was redefined in the new context by promoting appropriate import.

Implications for CAAC

In the new century, China has dramatically increased its presence in African countries via aid, trade and investment links with the principle of 'common development' (共同发展) or 'win-win' under the South-South cooperation framework. This continues alongside the key issues accumulated in previous generations, such as food security in nation building and productivity enhancement via S&T. However, it has also adopted the new element of PPP which is typically represented in the ATDC scheme starting in 2009. The scheme combines elements such as infrastructure construction, cross-border technology transfer, capacity building and partnership with business profit-seeking. The physical buildings have so far been constructed in 23 African countries. The details vary in different countries, but the operation of the ATDCs is basically divided into three stages: one to two years of infrastructure construction, three years of technical cooperation, followed by a sustainable development stage. The most prominent feature of this modality is the mandate of the company in delivering aid. With the Chinese government providing financial support to the infrastructure construction and technical cooperation, combining to a total investment of US\$5-6m for each centre, the undertaking companies are expected to explore resources themselves to provide the public goods of training, demonstration and extension to African countries after the technical cooperation period is completed.

From the above description of the ATDCs, the nature of PPP is deeply rooted in the design and operation of the technology transfer scheme. Chinese policymakers believe that PPP could serve as an effective instrument in pursuing aid sustainability. For instance, Wei Jianguo, the key person in ATDC design as the former vice minister of the Ministry of Commerce, wrote:

Is existing international aid able to solve the food insecurity problem in Africa? According to my 36 years of observation based on China-Africa economic and trade cooperation work, I would conclude, 'Absolutely Not!' ... Alternatively, I am assuming the ATDC is the best model to deliver Chinese agricultural technology to stimulate the local development.... First the state can provide aid funds to support the centre for several years, then the company should operate with autonomy via individual business or joint ventures. The seeds, fertiliser, as well as experts can be supported in some way for some certain years until the centre reaches long stable sustainable development. (Wei 2011: 227, 232)

The aid-business nexus, coded as 'the government sets the stage and the enterprises play the drama' (政府搭台，企业唱戏), is expected to work better in underpinning sustainable ATDC operation due to the nature of agricultural development and South-South cooperation. As highlighted by Wei,

Firstly, agricultural investment is characterised with high risks, but heavy investment with long payback term (therefore it is hard to attract private investment particularly at early stage). So the pilot (of investment) is necessary before extension (creating more business opportunities in Africa). Once the actual benefits are presented with experiences being accumulated (via ATDCs), the big scale of China-Africa agricultural cooperation can be carried out. Secondly, ATDC is an appropriate model to make the best use of our limited aid finance. It can extend our agricultural development experiences and technologies at biggest scale with less money. (Wei 2011: 234)

The confidence in ATDCs to solve the above dilemma, i.e. using limited resources to promote sustainable agricultural aid, arose from China's internal developmental state construction experiences. The pilot also reflects China's innovative solution to promote the construction of a new global business system which is more balanced, pro-poor and mutually beneficial, i.e., a 'harmonious world' broadly.

Conclusion

This paper historically reviews China's internal agricultural development trajectory with an analysis framework of narratives, drivers and strategies, and discusses the implications of these narratives to CAAC principles and modalities in different stages. Generally, it examines what has historically driven agriculture development in China through different periods; what the state narratives have been about; and how these narratives and associated political ideologies and interests, and with them images of the Chinese state, have been built into its development cooperation efforts both explicitly and implicitly. It brings in a rich and critical analysis of changing interests, politics and state ideology in relation to agriculture, both at home and abroad.

Specifically, three streams of narratives are identified: promotion of food security for state building in the post-war landscape; productivity enhancement in technocratic modernisation; and promoting aid sustainability with business engagement in the new era of globalisation. Through revealing the drivers behind these narratives and the strategies underpinning them, three elements are summarised to wrap up CAAC through the last 50 years: state leadership, productivity-centrism, and the government-business nexus.

The paper identified the three key elements as examples of technocratic rationality penetrating China's internal agricultural governing regime, which have taken

shape particularly in the last three decades of its development trajectory, but which have been entrenched in China's agricultural aid to African countries for the past 50 years. Chinese perceptions of African agricultural development pitfalls and opportunities are based on its own development trajectory, as are the solutions: to improve the national food security of African countries for independent state building; to put productivity enhancement and economic development as the priorities in modernisation; and to create synergies between the public and private sectors to foster a developmental state. The emergence of ATDCs in the new century consummates this travelling technocratic rationality from China to African countries via an evidence-based learning process and a pragmatic approach.

China's travelling technocratic rationality differentiates the country's aid, focusing on developmental state building, from the established aid consensus that marries orthodox neoliberalism with a new institutionalism (Mosse 2011:4). Typically, the established aid emphasises institution-building for good governance, particularly for smooth operation of market mechanisms. China's travelling technocratic rationality stresses more the technical solutions to development issues. With the principle of non-intervention and no strings attached, China's aid avoids imposing or transferring institution-building in African countries. However, during the implementation of China's aid policies and practices, it not only delivers specific technologies to the African continent but also unconsciously transmits a technocratic development ideology in a way which does not appear well planned or organised. This ideology prioritises productivity improvement and economic development via technological solutions in the development sequence, and emphasises the role of the governments of African countries in organising and promoting its own development, and particularly in coordinating the relationship with business in the development process.

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