International Cooperation Centre in Agronomic Research for Development

Technical Centre for Agricultural and Rural Cooperation **ACP-EU Cotonou Agreement**

Summary of four case studies on Chinese interventions in the agricultural sectors of Ivory Coast, Ethiopia, Senegal and Togo.

Report no. 2/6

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Contents

Preamble: reminder of the terms of reference of the CIRAD-CTA study, general structure of the research, authors

The purpose of this study is set out in the terms of reference shown in annex 2 of this report. In the first instance, it is to map the trade, investments and official development assistance between the six emerging countries selected and the countries of sub-Saharan Africa in the agricultural sector. The emerging countries are: South Africa, Argentina, Brazil, China, South Korea and India. China's investments and official development assistance in the agricultural sector have been recorded in a database; they concern western and southern Africa.

In the second instance, the aim is to analyse China's interventions (assistance and investments) in the agricultural sector in four countries: Ethiopia, Senegal, Togo and Ivory Coast.

The results of this study relating to the emerging countries in sub-Saharan Africa in the agricultural sector are presented in six separate reports:

- Report no. 1/6: Study of trade relations between the emerging countries and sub-Saharan Africa
- Report no. 2/6: Summary of four case studies on Chinese interventions in the agricultural sectors of Ivory Coast, Ethiopia, Senegal and Togo.
- Report no. 3/6: Chinese presence in the agricultural sector in Ivory Coast
- Report no. 4/6: Chinese presence in the agricultural sector in Ethiopia
- Report no. 5/6: Chinese presence in the agricultural sector in Senegal
- Report no. 6/6: Chinese presence in the agricultural sector in Togo

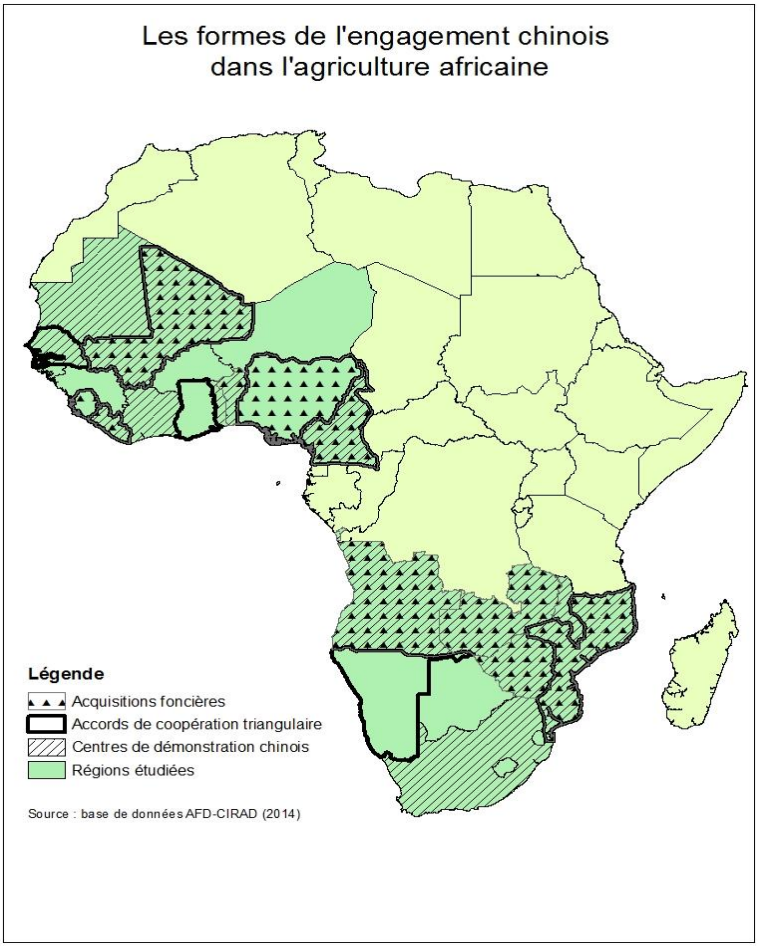
Report no. 2/6 "Summary of four case studies on Chinese interventions in the agricultural sectors of Ivory Coast, Ethiopia, Senegal and Togo" was drafted at the same time as an identical study jointly funded by CIRAD and the AFD in 2014 and which was conducted in South Africa, Benin, Cameroon, Mali and Mozambique. It follows that there are several elements of transversal analysis in both of the summaries intended for the AFD and the CTA.

This research was coordinated by **Jean-Jacques Gabas** (CIRAD) **and Vincent Ribier** (CIRAD). The database on Chinese interventions in the agricultural sector and the trade analysis were produced by **Candela Saiz Carrasco** (Sciences Po Paris). The four case studies were the subject of missions in each of the countries. The Senegal and Ethiopia case study was carried out by **Peggy Frey** (consultant), the Togo study by **Charlotte Francke** (GIZ and Sciences Po Paris) and the Ivory Coast study by **Xavier Aurégan** (Université Paris Ouest).

Summary and recommendations

The aim of this study, jointly funded by CIRAD and the CTA, is to acquire a better understanding of the public and private interventions of Chinese actors in the agricultural sector in four countries: Ivory Coast, Ethiopia, Senegal and Togo. In general terms, it is our intention to analyse how the cooperation projects initiated by the Chinese Ministry of Commerce (MOFCOM) in the agricultural sector link aid, business and trade, as well as how these different projects are seen in each of the countries by the national administrations and by producers' organisations.

This empirical analysis makes it possible to identify the realities of these interventions in an international context of agricultural financing that has changed since the 2008 food crisis. The analysis also raises the question of the feasibility of triangular operations between Europe, China and the African countries in the agriculture sector.



The leading trade partner with Africa (Sino-African trade reached over 170 billion US dollars in 2013), currently overtaking even the European Union, through the publication of the White Paper on cooperation in development in July 2014, China has reaffirmed its priority

accorded to Africa for the coming years[1], with more than 46% of its total aid. It has become the leading financial backer (all sectors combined) in a number of countries, such as Cameroon, Senegal and Togo. There can be no doubt that agriculture represents only a small proportion of Chinese aid (less than 5% of concessional inputs, a long way behind the infrastructure sector or the exploitation of mining and oil resources), while in most of the sub-Saharan countries the member countries of DAC/OECD remain the main financial backers in the agricultural sector[2]. However, this agricultural cooperation with Africa is the subject of a variety of recent initiatives. On the one hand, there has been a significant increase in the number of research projects undertaken by Chinese academic institutions[3] dedicated to agricultural cooperation policies in Africa, and on the other hand, a growing number of Chinese companies intervening in this sector in Africa.

This agricultural cooperation, neither "massive" on financial terms nor as "spectacular" as it can sometimes be in other sectors, is diversifying rapidly with regard to its objectives and affirming its specific features: the process of developing projects with the African authorities, the products concerned, and geography of the trade. Chinese interventions are diversifying; they involve a growing number of agricultural sub-sectors to meet the demands of different markets in China (cotton, manioc, soya and wine, in particular) and internationally (rubber trees, and groundnuts) and locally in the African regions (sugar, market gardening, rice, poultry, pigs, fish). China creates rules that are often different from those of other cooperation projects, and imparts its own specific features. These include in particular: i) the apparent lack of conditions, ii) the low administrative costs of assistance management, iii) the interventions by exclusively Chinese companies, iv) negotiations conducted with the highest national authorities in Africa, but without taking account of civil society, v) the low degree of consideration given to knowledge accumulated by agronomic research institutes in the countries, vi) the virtually complete absence of ex-post project evaluations. Another characteristic of Chinese cooperation in Africa is the low level of dialogue on the ground with the bilateral or multilateral backers from the DAC/OECD, in spite of the presence of China in the international fora (DAC, United Nations commissions,

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[1] Yun Sun,(2015), 'The Sixth Forum on China-Africa Cooperation: New Agenda and New Approach?', Africa Growth Initiative
http://www.brookings.edu/~/media/Research/Files/Reports/2015/01/foresight%20africa/foresight%20africa%20full%20report%20FINAL.pdf#page=13

[2] In spite of the widely recognised difficulties in comparing the statistics on development funding by the DAC/OECD countries with those for China (on this subject, see: Gabas J.J., Chaponnière J.R., *Le temps de la Chine en Afrique*, Karthala, 2012).

[3] See in particular:
- China's Sustainable Overseas Agricultural Cooperation (CSOAC). An Annotated Bibliography and Latest News. An Academic Network on China's Overseas Agricultural Cooperation, No. 12, 30 June 2015
- The researchers' network "Chinese in Africa - Africans in China"

summits on aid effectiveness including the Busan Summit, and the Addis Ababa Conference on Financing for Development).

- **Rapid mapping of Chinese interventions in Western and Southern Africa from the CIRAD-AFD-CTA database**
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- Most of the projects are in West Africa;
- In spite of the difficulty of judging the public or private nature of a Chinese company, there is not a significant difference between the number of private and public interventions. The public interventions are always associated with provincial companies in China ("one province, one country");
- Of the 25 agricultural demonstration centres, 10 are actually in operation;
- The land acquisitions made by public or private Chinese actors remain well below those made by other national or international investors;
- The main agricultural sub-sectors are: rice, cotton, corn, market gardening, viticulture, livestock farming and, to a lesser degree, fish farming. Interventions in the manioc and groundnut sectors are increasing. The exploitation of rubber trees remains an important activity in the case of Cameroon and Ivory Coast, as does that of cocoa in Ivory Coast.

The Agricultural Demonstration Centre as a Chinese cooperation model

The 2006 FOCAC[4] reaffirmed the importance of the cooperation in the agricultural sector and announced the creation of the agricultural demonstration centres. These centres, decided on by the MOFCOM and the Chinese Ministry of Foreign Affairs with the support of the Ministry of Agriculture in China, are seen as the model for cooperation in the agricultural sector in Africa. They are designed to be farms responsible for conducting experiments in farming techniques (variety tests, doses of fertiliser, phytosanitary products, etc.) in the field of crop and vegetable production (particularly rice, manioc, corn and market gardening) and livestock (cattle, poultry, pigs, pisciculture) and popularising these techniques among local farmers. In general terms, these centres are only concerned with relatively modest plots (8 ha in Togo, 20 ha in Mali, 52 ha in Mozambique or Ethiopia, 60 ha in Benin, and 100 ha in Cameroon) but can cover more than 500 ha, as is the case in Ivory Coast. In some countries, these demonstration centres have a dual management system in place; for example, in Cameroon, the Centre for the Application of Chinese Agricultural Technologies (*Centre d'Application des Techniques Agricoles de Chine* - CATAC) is managed by a Chinese expert and a representative from the Ministry of Agriculture and Rural Development as his counterpart. However, that is not yet the case in Ivory Coast or Togo. In each of these

[4] The 6th FOCAC in 2015 will take place in South Africa.

countries, the Chinese agricultural experts (between 10 and 12) all come from the same province, according to the principle *one (African) country – one (Chinese) region*. Thus, in Mozambique, all the Chinese experts come from the province of Hubei.

The case studies carried out in the different countries make it possible to identify this underlying model of cooperation that seems to take shape with the establishment of these agricultural demonstration centres in five stages: i) construction of buildings and infrastructures related to the centre funded by the MOFCOM by donations ii) experimenting with agricultural varieties, iii) conducting experiments and training/popularisation by MOFCOM donations and joint funding by the national authorities responsible for training, iv) running the centre as a self-financing unit after Chinese aid has stopped, and finally v) handover of the centre to the national authorities. Bearing in mind the recent nature of these demonstration centres, only the first three stages have been completed in the African countries, and we will have to wait a few more years before we can see how the self-funding and handover stages will work out.

The model of the centres is based on the combined structuring of aid, business and trade: the aid comes from MOFCOM, Chinese provincial companies bear the costs of the operational management of the demonstration centres, and international trade with China is developing (imports of hybrid irrigated rice seeds, phytosanitary products, fertilisers and agricultural equipment; exportation of part of the production). The whole system is strongly supported by the Chinese public banking sector and the Chinese and African political authorities at the highest level. The cases of Ivory Coast, Togo, Senegal, Ethiopia, Mozambique and Cameroon all illustrate the successive links between these multiple stakeholders, their roles in the transmission of information to future Chinese companies in search of investment opportunities.

An agricultural and technological experiment very often conducted outside national and regional agronomic research institutions

In most of the countries, and within the framework of the demonstration centres, a partnership is created with the Ministry of Agriculture (Cameroon, Togo and Ethiopia, for example) or with the Ministry of Science and Technology (Mozambique). The partnership is established at the "administrative" level, and legitimised by the "political" level of the Presidency of the Republic both in China and the African countries. In this context, the national agronomic research institutes usually have little involvement with these demonstration centres. The Institute of Agronomic Research and Development (IRAD) in Cameroon is not integrated at all in the CATAC experiment programme, which is also the case in Mozambique; in Togo, the Togolese Institute of Agronomic Research (ITRA) is involved in some Sino-Togolese research projects, but these do not include the Sanguaré Demonstration Centre. There are relationships between the Chinese agricultural

demonstration centres and the research institutes in Benin (INRAB) and Mali (IER), but the specific nature of the scientific cooperation is hard to assess. In Ivory Coast, the National Centre for Agronomic Research (CNRA) analyses, tests and then agrees or refuses to approve the varieties developed in Guiguidou. We can see this difficult (or complete lack of) coordination at the regional scale in Africa, and in particular with Africa Rice, the CGIAR Centre on rice based in Benin.

The comparative analysis of the different case studies illustrates a level of cooperation considered to be deceptive by African agronomists, who condemn the poor distribution of information concerning the results of the experiments and the failure to transfer skills related to the production of hybrid seeds, in spite of repeated requests from national agronomists. This situation results in some actors on the ground qualifying the centres as "laboratories for Chinese hybrid seeds"; they question the declared objectives of increasing agricultural productivity and improving food security, and wonder if the real goal is not to create the conditions for the large-scale commercial release of improved genetic material from China. However, these criticisms are spoken softly: China is too important as a partner in other areas to discuss these shortcomings to the point where the role, or even the existence, of these demonstration centres is called into question.

High transaction costs… as for all investors, but in spite of the problems encountered, the Chinese companies are still there and adapting

Chinese investors, when they are newly arrived in Sub-Saharan Africa, are in a learning stage and find themselves facing a multiplicity of transaction costs specific to the African agricultural economies with which they are, for the most part, unfamiliar or had at the very least underestimated. The risky nature of the investment certainly acts as a brake, but the Chinese companies develop various strategies to deal with this: one of these is recourse to the support of the Chinese government, with the acquisition of a stake by the China-Africa Development Fund (CADF) in the case of Mozambique, while another consists of relocating the activity in another African country. The Chinese companies, very often faced with the bankruptcy of the originally intended national partner within the framework of a cooperation programme, then become responsible for additional costs. This is a strategy of insourcing activities that, when the operation began, were theoretically intended for the public or private national partners. In general terms, the Chinese companies seem persuaded that their investments in agriculture will be financially and economically lucrative in the long term, and that the agricultural potential is vast. Several case studies illustrate that this cooperation may be qualified as "substitution".

These companies are mindful to varying degrees of social and environmental issues according to the country and the sector of activity. Local employment in agriculture is substantial on the major plantations (cocoa, rubber trees, sugar), and less regular and more

modest in the demonstration centres. While there have been disputes about working conditions between local employees and Chinese companies (in Ivory Coast, Togo and Mozambique in particular), these disputes do not appear to be any more significant with the Chinese companies than with companies of other nationalities, in spite of the often disproportionate media coverage devoted to them. Compliance by the Chinese companies with environmental standards is quite variable depending on the situation and depends first and foremost on their own initiative, inasmuch as the national authorities usually seem content to monitor the situation from a distance. Winning over export markets (particularly in Europe) is a powerful incentive to comply with standards. Audits currently available and relating to the implementation of these standards do not make it possible to assess their degree of independence.

Which model of cooperation?

It seems that a new model of cooperation combining aid, business and trade is being established, in which official development assistance is not intended to be a long-term factor in the funding of operations and only makes sense when taken together with the links established with the other two components. Indeed, the case studies suggest that the new wave of Chinese commitments in the agricultural sector is largely based on commercial motives. The agricultural and technological demonstration centres increasingly emphasise the constraints they will face for them to be financially self-sufficient (without aid from the Chinese government). And the question of the condition for transferring the technologies experimented on in the centres to the family farmers is constantly being asked, and currently remains unanswered. Finally, the long-term nature of the model will come under the spotlight when the management of these centres is transferred to the national authorities in the more distant future. How will this transfer be carried out? What will the conditions be? Although the demonstration centres have up to now been of a modest size (apart from the centre in Ivory Coast), they will certainly have to become much larger if they want to become financially independent, which is the basis for their long-term survival. As a result, they will undoubtedly need to acquire land, and the Chinese stakeholders will, like any other investor, risk facing land disputes with the local populations.

What recommendations?

The main recommendation is centred on knowledge and sharing experience in the agricultural sector. Firstly, we must continue to accumulate knowledge of the practices of the Chinese actors in the different African countries and multilateral institutions. Secondly, experiences of Chinese and European financial aid must be shared with the African countries.

a) *On a partnership basis, pursue knowledge of Chinese interventions in the agricultural sector.*

Gathering data on the reality of China's public and private interventions remains an absolute priority. Establishing the facts, understanding their constraints and knowing about future projects merit our continued efforts, as the practices of these actors are developing rapidly. This gives us a better understanding of the methods and motives of the interventions of the Chinese actors.

As mentioned above, the present context is marked by the renewed interest of the DAC/OECD providers in funding for agriculture, by the promotion of the agenda of the 11th EDF for agriculture, by the existence of NEPAD/CAADP programmes realised in the National Agricultural Investment Programmes (PNIA) and by the growing presence of private funds: guarantee funds, investment funds, insurance, public-private partnerships, etc. It is in this new context that the Chinese interventions are taking place, irrespective of whether they are public or private. How will this growing body of funding be absorbed by the Sub-Saharan economies? The processes for developing public policies in the African countries are significantly modified and made more complex. At the very least, this new ecosystem must be very carefully thought through.

b) *Sharing experiences of European and Chinese cooperation with the African countries*

There is still not enough willingness to share experiences on the ground, although the researchers or political and ministerial officials in China are involved in numerous networks, think tanks, conferences, international working groups, etc. The fluidity of ideas on cooperation and the issues of agricultural development in Africa is real, whereas that is not the case with ideas of cooperation practices in the African countries. Likewise, the level of coordination/cooperation between the Chinese agronomic research centres and the African national agronomic research centres remains very low. However, in spite of their losses of financial, human and organisational capacities, these national centres have been accumulating knowledge for several decades. And yet this knowledge of the technological and agronomic aspects, and, in some countries, of agricultural policies, is no longer shared, and even appears to have fallen into obscurity: we find ourselves facing a complete lack of memory. This failure of collaboration can also be found at a regional level between the Chinese agricultural demonstration centres and the CGIAR (Africa rice in particular).

The <u>sharing of experience and knowledge</u> would make it possible to build <u>trust</u> between European, Chinese and African stakeholders at a national level. For example, among the countries studied, Senegal could be a country in which one could hold a seminar at which the respective experiences of agricultural cooperation and rural development policies could be presented. These exchanges of experience would help us all to consider our own practices, while also making it possible to consider triangular cooperation.

General introduction

The objective of this transversal analysis of the four case studies carried out in Ivory Coast, Ethiopia, Senegal and Togo is to develop the common traits and the characteristics specific to each country where the Chinese actors are intervening in the agricultural sector. To establish the facts, as stated in the terms of reference of the CTA-CIRAD study, and to understand the logic of a cooperation model in development and the strategies of the numerous public and private Chinese actors in the agricultural industry or in smaller enterprises.

As with all such cooperation, China's actions fall within a complex web of geopolitical relationships that have changed significantly over the course of recent decades and in particular since the beginning of this century. The first part of this summary provides a general framework for the multiple Chinese presences in the agricultural sector in Sub-Saharan Africa. This overview deals with the contents of the different FOCACs, the place of agriculture in the Chinese cooperation policy, the diversification of Chinese interventions, the central role of China in the international trade of Sub-Saharan Africa, etc. The second part of this summary analyses the cooperation model being developed on the basis of the agricultural demonstration centres, based on the aid-trade-business triptych. Finally, the third part analyses the interventions of the public and private Chinese companies in the agro-industrial sector and the triangular cooperations most frequently conducted with a multilateral funding body.

I. Overview: the return in force of the 2000s

China's arrival in Africa

China has a long-standing presence in Africa. It began when certain countries achieved independence in the 1960s. In others, it took over the reins of major agricultural aid programmes in the 1970s and 80s that Taiwan had implemented after their independence. The withdrawal in the 1970s of a number of Taiwanese agricultural teams for political reasons was followed by the arrival of Chinese experts. In this way, the People's Republic of China sent thousands of agricultural experts to 18 African countries between October 1971 and 1983, replacing the Taiwanese teams. However, some countries, such as Cameroon, Libya, Swaziland and Ivory Coast, did not agree to the arrival of agricultural experts from the People's Republic of China at that time.

In the 1960s and 70s, Chinese agricultural cooperation was characterised by support for the creation of large State-owned farms whose main goal was the production of food or other

products, in some cases accompanied by an agro-industrial project. In all cases, the stated objective was to contribute to the national economic activity and the recovery of agricultural production. The high percentage of rice farms shows that the priority was to improve food security. This was particularly the case in Tanzania, with the farms in Mbarali and the rice farms in Ruvu, in Uganda with the Kibimba rice farm, in Guinea with the integrated farm in Koba, in Mozambique with the Matama and Moamba farms, and in Mali with the farms in Sukala for sugar and Farako for tea. Ninety Chinese projects were identified in Africa in that era, covering a total area of more than 40,000 hectares[5]. The operation of these major projects was provided by China, while the farms remained the property of the beneficiary States.

Temporary withdrawal

The 1980s saw a comprehensive withdrawal of the Chinese presence in Africa, with the cessation of funding for a large majority of the productive projects in progress, the return of expatriate experts to China and the farms handed back to the governments concerned. This pattern was to continue through the 1990s.

The business of the farms, generally good in the 1960s and 70s, saw a significant decline after the Chinese withdrawal and the return of their experts to China. Production levels fell substantially, and the production units began to show a loss. Very few farms were able to adapt to the new set-up and remain economically viable. Some farms fell into a state of neglect, while others managed to keep ticking over with injections of public funds.

Some new forms of cooperation appeared during this time, particularly with regard to training. The large programmes of previous years were cancelled and replaced by more flexible programmes on a smaller scale. Agricultural experiments were implemented at the few remaining farms still managed by Chinese experts. These forms of intervention did not yet include the current agricultural demonstration centres, and the results were far from convincing.

The return of China in the 2000s

The assertion of Chinese political and economic power in the early years of this century included, in particular, a renewed interest in Africa and the conclusion of a variety of Sino-African cooperation agreements. It was in this context that the Forums on China-Africa Cooperation (FOCAC) were established, with regular meetings beginning in 2000 and continuing every three years since then.

[5] http://www.people.com.cn/GB/channel3/21/20000912/228785.html

Jiang Zemin, then Head of State and President of the first Forum on China-Africa Cooperation in Beijing (FOCAC 2000), set out the vision of a China returned to the forefront of international relations:

> "China is the largest developing country in the world and Africa is the continent with the largest number of developing countries. At the turn of the millennium and the century, China and Africa are both faced with historical opportunities for greater development and unprecedented challenges. At this important historical juncture, an in-depth discussion between us on how to strengthen cooperation and promote common development will undoubtedly exert a far-reaching important impact on the cross-century development of Sino-African relations, closer South-South co-operation and the establishment of an equitable and just new international political and economic order"[6].

The first sentence was also used by his successor, Hu Jintao, during FOCAC 2006[7]. Mr Jintao gave a new momentum to Sino-African cooperation by publishing, in January of the same year, the White Paper on the African Policy[8], then in 2010 the White Paper on economic and trade relations with Africa[9], and especially, in April 2011, a White Paper devoted to foreign aid[10]. For the first time since 1949, the Chinese government *de facto* recognised its "solidarity" and "cooperation" with Africa in the form of "aid". This term had previously been reserved for the humanitarian aspect (and the exclusive responsibility of the Ministry of Finance).

Behind the political speeches – and these texts that in part respond to criticism from the West – a number of key points characterise the evolution of the Chinese cooperation policy. They correspond, in fact, to the Cooperation Forums of 2000, 2003, 2006, 2009 and 2012, but also to several structural facts, these foundations or bases on which and around which the cooperation is organised, particularly in the mid-1990s with the creation of the Exim *Bank of China* (Table 1 below).

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[6] JIANG, Zemin, *Address by Chinese President Jiang Zemin at the opening ceremony of the 1st Ministerial Conference*, FOCAC 2000, 10 October 2000, http://www.fmprc.gov.cn/zflt/fra/wjjh/zyjh/t168996.htm

[7] HU, Jintao, *Speech by Mr Hu Jintao, President of the People's Republic of China, at the opening ceremony of the Beijing summit of the Forum on China-Africa Cooperation*, 4 November 2006, http://www.politica-china.org/imxd/noticias/doc/1223293844DiscoursdeMonsieurHuJintao.pdf

[8] *China's African Policy*, 12 January 2006, http://english.peopledaily.com.cn/200601/12/eng20060112_234894.html

[9] *China-Africa Economic and Trade Cooperation*, December 2010, http://english.gov.cn/official/2010-12/23/content_1771603.htm

[10] *China's Foreign Aid*, April 2011, http://english.gov.cn/official/2011-04/21/content_1849913.htm ; China's Foreign Trade, December 2011, http://www.gov.cn/english/official/2011-12/07/content_2014019.htm

The landmark year with regard to the political evolution of Chinese aid to the African continent is 1994. It was in this year that President Jiang Zemin launched the celebrated mantra “Get out there! Become global players!" – and Ivory Coast obtained its first interest-bearing loan, to buy weapons. With the creation of the *China Development Bank*, the *Export-Import Bank of China*, and the introduction of these so-called preferential loans as part of an aid package, China liberalised and reorganised its entire foreign aid policy. This redirection was supported the following year by the creation of the support fund for companies wanting to invest abroad. Within two years, the central government had institutions and resources with a "profit-making" purpose, which would further the increase in Sino-African trade and Chinese public investments. This economic structuring of aid would soon receive political support in the form of the FOCAC.

Table 1: Key events and dates in the construction and evolution of Chinese aid

Event	Year
Creation of the *Agricultural Development Bank of China*	1951
Bandoeng Summit in Indonesia	**1955**
Zhou Enlai's tour of Africa and announcement of the 8 principles	**1964**
Launch of reform policy	1978
Deng Xiaoping instigates the watchword "one country, two systems"	1980
Deng Xiaoping instigates the "construction of socialism with Chinese characteristics"	1982
Zhao Ziyang's journey and announcement of the 4 principles; merger of the Ministry of Foreign Economic Relations and the MOFCOM	**1982/1983**
The concept of "socialist market economy" is adopted	1992
Creation of the *China Development Bank* and the *Exim Bank of China*	**1994**
Policy of Jiang Zemin (走出去); interest-bearing loans are included in Chinese aid	1995
Creation of a Fund for companies investing overseas	1996
First FOCAC (Beijing)	***2000***
China joins the WTO (World Trade Organisation)	2001
Second FOCAC (Addis Ababa). Merger of the MOFCOM with the MOFTEC; Political orientations of Hu Jintao (負責任的大国外交).	***2003***
Creation of the *China-Africa Business Council* (CABC)	2005
Third FOCAC (Beijing); the Chinese Council of State adopts 9 principles aimed at standardising the actions of Chinese companies operating abroad; White paper on the African policy	***2006***
Creation of the *China-Africa Development Fund* (CADF)	2007
Fourth FOCAC (Sharm el-Sheikh)	***2009***
White paper on economic and trade relations with Africa	2010
White paper on foreign aid	2011
Fifth FOCAC (Beijing)	***2012***
White paper on foreign aid	2014
Sixth FOCAC (South Africa)	***2015***

The FOCACs

China now has the political structure to realise its "African enterprise": the Forum for China-Africa Cooperation successfully. The FOCACs are:

> "conference[s] whose goals are to conduct consultations on an equal footing, enhance mutual understanding, broaden common ground, deepen friendship and promote cooperation". These summits, or conferences, bring together:
>
> "the representatives of China and African countries that have diplomatic relations with China. The FOCAC has gradually established itself to become an important platform for collective dialogue and an effective mechanism for practical cooperation between China and African countries and provides a good example of South-South cooperation"[11].

From October 2000 to July 2012, five summits were held alternatively in China and Africa (see tables 1 and 2). Held every three years, they now involve the vast majority of African nations, of which there were already 44 at Beijing for the first, from 10 to 12 October 2000. These meetings are similar to the Franco-African Summits and, more recently, to those between Japan and Africa, with the first Tokyo International Conference on African Development (TICAD) taking place seven years earlier, in 1993. During these two days in October 2000, more than 80 Ministers from 44 African States and 17 representatives from international organisations and African regional organisations, including Salim Ahmed Salim, Secretary General of the African Union (AU), acclaimed Chinese President Jiang Zemin during the opening and closing speeches. This first Forum saw the creation of a joint China-Africa Economic Council and a Human Resources Development Fund for Africa. Keen to provide a better framework for the aid system and its distribution, the Chinese authorities undertook a global revision of the system, merging the Ministry of Foreign Trade and Economic Cooperation (MOFTEC) with the Ministry of Commerce (MOFCOM), in 2003. With its broad range of skills, the latter provided a de facto centralisation of the process, based on its financial institutions (Exim Bank in particular) and administrative and technical institutions: the other technical ministries had an advisory and assisting role in the implementation of the MOFCOM projects, in particular through their development aid Departments.

Three years later, the FOCAC was held in Addis Ababa in Ethiopia, attended by 70 Ministers from 44 States and 6 African Heads of State, under the watchful eye of Wen Jiabao, the Chinese Prime Minister. Also in attendance on 15 and 16 October 2003 were Alpha Oumar Konaré, AU President, and a Special Envoy of the Secretary General of the UN. This same year saw the instigation by President Hu Jintao of the "doctrine of a responsible great power".

On 4 and 5 November 2006, back in Beijing, the Summit saw for the first time the inclusion of Ivory Coast in the large circle of African partners of China. On this occasion, 48 States were represented. Only the five countries still maintaining relations with Taiwan remained,

[11] Website (http://www.focac.org/fra/ltda/ltjj/t933524.htm).

including Malawi, which recognised in 2007 the government led by Wen Jiabao and Hu Jintao, now President. Notwithstanding their links with Taiwan, the African States recognising Taipei were invited as observers, a subtle procedure that made it possible for them to assess the power of China, while others passed on messages… Ivory Coast arrived at this large gathering at exactly the right time, as it was the year in which the White Paper on China's African Policy was published and the year of Africa in China. During this third Forum, and apart from the cancellation of debts (for 31 States and for a total sum of more than 10 billion yuan), China increased the number of products exempt from customs duties on goods exported to China from the Least Developed Countries (LDC): this number rose from 190 to 440[12]. In addition to the *China Africa Business Council* (CABC) created in 2005, the authorities introduced a new international financial instrument, the *China-Africa Development Fund* (CADF). The latter would become officially operational on 26 June 2007[13].

For the fourth Sino-African Conference on 8 and 9 November 2009, Sharm el-Sheikh in Egypt was selected to welcome 49 African representatives. This was one State fewer than in 2012, in Beijing on 19 and 20 July. In Egypt, the African States saw the protection of the environment and the fight against climate change incorporated into the wide range of areas of Sino-African cooperation. At that meeting, China also declared support for its partners within the framework of the Millennium Development Goals (MDG). The sixth Conference will be held in December 2015 in South Africa: unless circumstances change suddenly, the 54 African States will not all be officially represented there. Between the Summits of 2006 and 2012, three White papers specific to or involving the African continent were published under the presidency of Hu Jintao. China, through the White Paper of 12 January 2006, states, for example:

> "Enhancing solidarity and cooperation with African countries has always been an important component of China's independent foreign policy of peace. China will unswervingly carry forward the tradition of China-Africa friendship. Proceeding from the fundamental interests of both the Chinese and African peoples, China will establish and develop a new type of strategic partnership with Africa which features political equality and mutual trust, economic win-win cooperation and cultural exchange."

Chinese foreign aid (White Paper of 2011) is today divided almost equally between interventions in the form of donations and concessional loans on the one hand, and interest-bearing loans on the other. There is no significant difference between the latter and the loans granted by international funding bodies. 70% of them are aimed at infrastructures

[12] This mechanism was associated with the EU's *Everything but Arms* initiative launched in 2000

[13] Introduction of the China-Africa Development Fund, http://www.cadfund.com/fr/Article_List.aspx?columnID=99

(61% according to China[14]). Between 1949 and 2009, China also cancelled 312 debts on the African continent – for a total sum of 190 billion yuan (approximately 20 billion Euros). Again according to the Chinese document, Africa represented 82% of the debts cancelled worldwide, and 35 African States benefited from Beijing's solidarity. The continent appears to have been in a very privileged position, receiving, in 2009, more than 45% of total international aid (Asia 32.8%, Latin America and the Caribbean 12 and 7% respectively). The various attempts to quantify overall Chinese aid to the African continent came up against a number of obstacles. The researchers and analysts do not put together the multiple components of aid in a consistent manner (loans, donations, interest-bearing loans, debt cancellations, public and portfolio investments, etc.). As a result, estimates vary.

Table 2: Action Plans for the Forums on China-Africa Cooperation between 2000 and 2012[15]

FOCAC	Main conclusions and announcements
2000 in Beijing	Multilateral exchanges of and desire for cooperation related to politics, economy, trade, culture, education, tourism, health, finance, human resource development, youth exchanges, environmental protection, energy, etc. Cancellation of debts for 32 Heavily Indebted Poor Countries (HIPC) and Least Developed Countries (LDC) amounting to 1.2 billion dollars
2003 in Addis Ababa	Exemption from customs duties on 190 products; Training of 10,000 professionals; International "Beijing Rendezvous" Festival; "Chinese and African Youth" Festival; "Chinese Culture in Africa" Tour; Rise in tourism; Chinese and African youth volunteer programme; Increased cooperation in numerous areas
2006 in Beijing	Doubling of assistance; 5 billion dollars of preferential loans; Massive debt cancellation; Sino-African development funds (also 5 billion); Exemption from customs duties on 440 products; Creation of free trade areas in Africa; Training of 15,000 professionals; Doubling of university scholarships; **Sending 100 agronomists and opening of 10 pilot centres**; Construction of 100 hospitals; Donation of 30 million dollars to combat malaria; Construction of 300 schools; Sending 300 youth volunteers
2009 in Sharm el-Sheikh	Partnership in combating climate change; Construction of 100 renewable energy projects; 10 billion in preferential loans (*Exim Bank*) 1 billion in aid to SMEs (Small and Medium-sized Enterprises); Removal of 95% customs duties for LDC; **Opening of 10 new pilot centres (20, including *2 in Ivory Coast*)**; **Sending 50 agricultural missions**; **Training 2,000 agricultural technicians**; Training 3,000 nurses and doctors; Constructing 50 schools; Training 1,500 school heads and teachers; Reaching 5,500 university scholarships; 100 post-doctorate scholarships; 100 scientific research pilot projects
2012 in Beijing	20 billion in preferential loans (*Exim Bank*); African Union support for FOCAC; Judicial and political cooperation (parties); Cooperation on peace and security; Removal of 97% of customs duties for LDC; Additional line of credit of 20 billion dollars; "African Talents" Programme to train 30,000 Africans; Reaching 18,000 scholarships; Sending 1,500 doctors; Increasing cultural cooperation (Confucius

[14] White Paper of 2011: http://english.gov.cn/official/2011-04/21/content_1849913_4.htm

[15] The FOCAC in December 2015 will take place in South Africa.

	Institutes) and media cooperation; Increasing "intellectual" cooperation and between *Think Tanks*

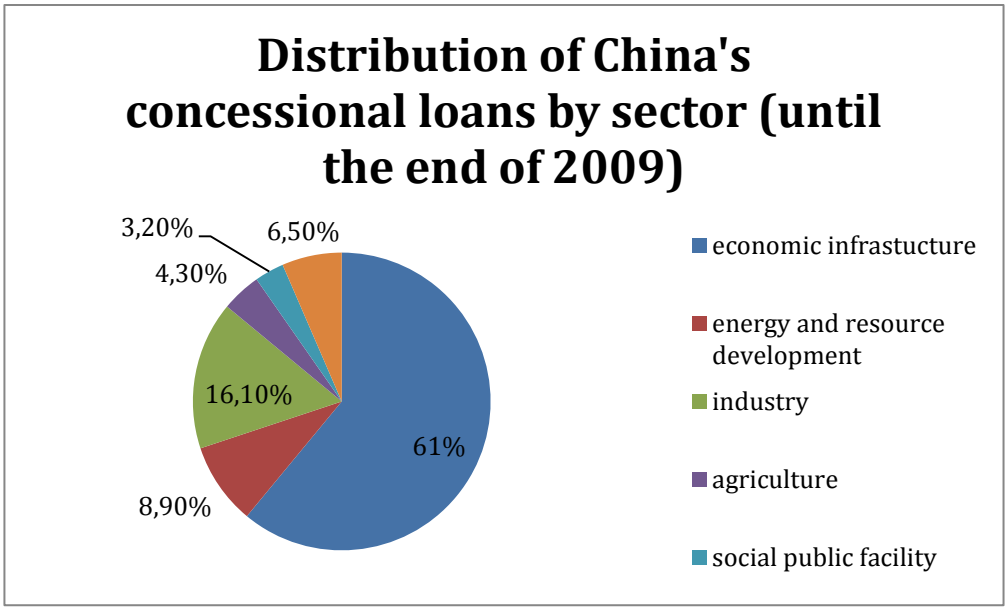
Source: http://www.focac.org/fra

As mentioned above, the different FOCACs cover a number of the sectors in which China has an interest. Agriculture is one of these (see annex 2 defining the place of agriculture in the different FOCACs), but the 2006 Summit placed particular emphasis on this sector and resulted in numerous commitments by the Chinese cooperation system in areas such as improving capacity, agro-industry and the creation of agricultural infrastructures. One of the key announcements of this Summit was the gradual establishment of agricultural and technological demonstration centres throughout Africa.

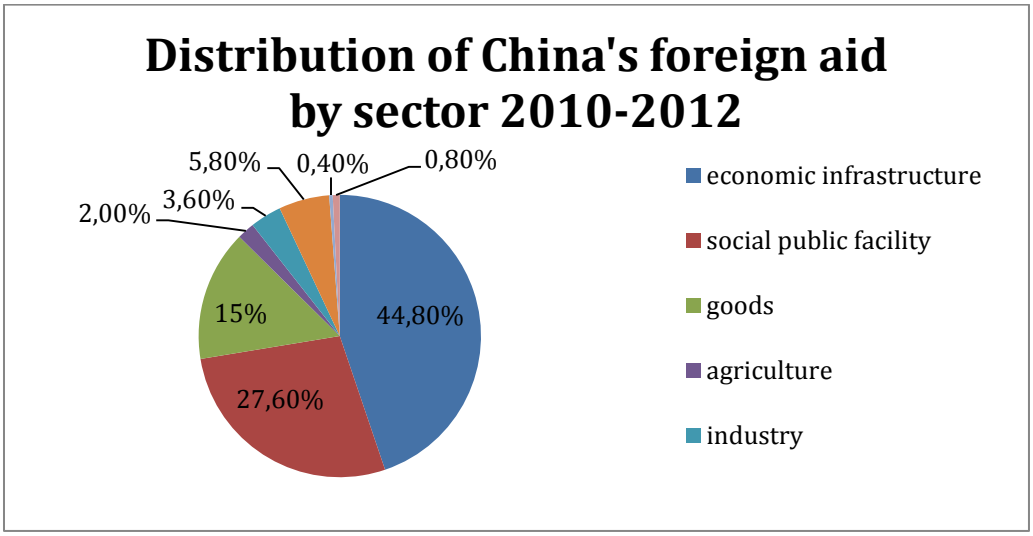
A modest but distinct place for agriculture in the Chinese cooperation framework

The figures contained in the two White Papers on aid (published in April 2011 and July 2014 respectively) show that, in the case of China, it is always difficult to obtain reliable statistics that enable a comparison with "standardised" figures such as those prepared within the DAC/OECD for the member countries. In fact, China prefers to list and add up projects that are not comparable by size rather than communicating the overall amounts that would make it possible to quantify the total aid to Africa and its distribution between sectors. However, we can see that up to 2009, China implemented 221 agricultural aid projects in the developing countries, including 35 farms, 47 centres for experimentation and the promotion of agricultural technologies, 11 livestock projects, 15 fishing projects, 47 irrigation projects, 66 other agricultural projects, as well as supplying agricultural equipment. From 2010 to 2012, China implemented 49 agricultural projects, including 25 agricultural demonstration centres, 21 irrigation projects and 2 projects for processing farm products.

Despite a very descriptive presentation of the cooperation system, the 2011 White Paper offered a few aggregated figures. Agriculture represented 4.3 % of the total concessional loans up to 2009, which equals about $US 52.6 million for all developing countries. Aid to Africa in 2009 represented almost 46% of China's total aid.



Figures from the second White Paper in July 2014[16] covering the recent period from 2010 to 2012. The Paper mentions that Chinese aid to Africa in this period was $US 7.7 billion, which equals 52% of China's total aid. We are therefore seeing a relative concentration of Chinese aid intended for the African continent. Breaking this down into sectors, the two main sectors receiving Chinese aid are infrastructures and social services, with a share of 44.8% and 27.6% respectively. The agricultural sector received only 2% of Chinese aid to Africa.



The amounts allocated to agriculture are undoubtedly fairly modest[17], but they are far from being negligible in a context of significant agricultural funding needs by the LDC due to the

[16] http://www.chinanews.com/gn/2014/07-10/6371041.shtml

[17] http://jica-ri.jica.go.jp/publication/assets/JICA-RI_WP_No.78_2014.pdf

withdrawal of DAC/OECD funders from this sector between the mid-1980s and the food crisis of 2008[18]. The Chinese agricultural cooperation is therefore not as financially "massive" or "spectacular" as it is in the realisation of urban, port and airport infrastructures. However, this cooperation is incremental, while rapidly diversifying with regard to its objectives and stating its specific features: it concerns the development processes of the projects, as well as the projects concerned and their destinations. Indeed, the interventions can be found in a growing number of agricultural sub-sectors to meet the demands of different markets – in China (cotton, groundnuts, manioc, soya and wine, in particular), and internationally (rubber trees and cocoa) and locally in the African regions (sugar, market gardening, rice, poultry, pigs, fish).

The positioning of Chinese agricultural aid takes its own agricultural and food issues into account, as well as international market opportunities. The main target for the production of manioc by Chinese companies is food for the local populations, although some of this production is intended for processing into starch (as in Cameroon) for the Chinese market, or even to be processed into ethanol (as in Benin) for the European market. China's interventions in the cotton sector, increasingly significant in Mozambique, Zambia, Malawi and Mali in particular, are directly related to the enormous needs of the Chinese textile industry. Part of the groundnut production in Senegal has recently been purchased by a variety of Chinese entrepreneurs and investors to be sold on the international markets. Finally, the notable presence of China in the rubber tree sector in Cameroon and Ivory Coast are directly connected to the international markets, as is the case with the Chinese presence in the cocoa sector in Ivory Coast.

The importance accorded by the Chinese cooperation agencies to the agricultural sector is attested by the orientations contained in the last White Paper of 2014 and by the recent statements[19] of Professor Fu Wenge of the Ministry of Agriculture. The multiples projects listed in the letter published on a regular basis by professors Xu Xiuli[20], Li Xiaoyun and Wang Yihuan show a production and circulation of ideas and thoughts between China and the rest of the world. The same applies to the large number of Chinese post-graduates and researchers working on the subject of China's agricultural cooperation in Africa and carrying out very frequent comparative analyses between Chinese and European cooperation policies

[18] There has undoubtedly been a renewal of interest since this date in several countries and by certain contributors such as the AFD and the World Bank; overall the ODA intended for Sub-Saharan Africa in 2012 in the agricultural sector represented about 5% of the total ODA of the DAC/OEC CAD/OECD countries.

[19] http://www.farmlandgrab.org/post/view/23904-china-s-engagement-with-african-agriculture

[20] China's Sustainable Overseas Agricultural Cooperation (CSOAC). An Annotated Bibliography and Latest News. An Academic Network on China's Overseas Agricultural Cooperation, no. 7, 30 January 2015.Website of Research Center for International Development (RCID) at China Agricultural University: http://rcid.cau.edu.cn/art/2015/2/6/art_7631_352487.html

with regard to Africa[21]. Another indicator can attest to the growing Chinese presence in the agricultural sector; this concerns the large amount of training provided in Africa – and in China – for technicians and engineers in agriculture and agronomics. This is also the case in Senegal, Ethiopia and Ivory Coast. Finally, the research networks[22] such as "Chinese in Africa-Africans in China" also illustrate this international flow of researchers, ideas and the interest of the Chinese authorities in these lines of research relating to agricultural cooperation policies in Africa in view of the challenges confronting the Sub-Saharan sub-continent. The academic circles in China are developing knowledge about the questions of agricultural development and cooperation[23] and participating in one way or another in the decisions taken by the Chinese government.

Strong trade growth

The development of Sino-African relations can also be seen in the explosive rise in trade flows as analysed in detail in report no. 1/6 of this CTA-CIRAD study; China's total trade (imports and exports) with Sub-Saharan Africa in 2014[24] matched that of the European Union, which was not the case only five years ago[25] (see graph 1).

Graph 1: Evolution of the international trade of Sub-Saharan Africa

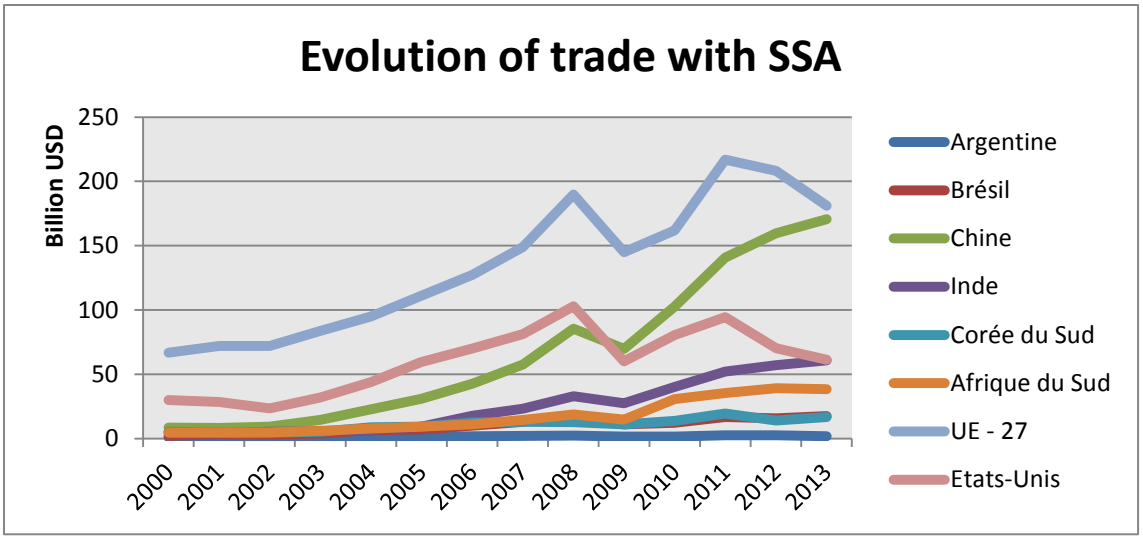
[21] See in particular the works presented during the seminar organised by D. Brautigam at John Hopkins University in May 2014

[22] https://s3.amazonaws.com/ssrc-cdn1/crmuploads/new_publication_3/%7B392EA92D-FF5E-E111-B2A8-001CC477EC84%7D.pdf, http://china-africa.ssrc.org/

[23] See for example the work of the China International Development Research Network (CIDRN).

[24] According to COMTRADE the volume of trade between the EU and Sub-Saharan Africa in 2014 amounted to $US 206 billion, while that between China (inc. Hong Kong) and Sub-Saharan Africa totalled $US 197 billion.

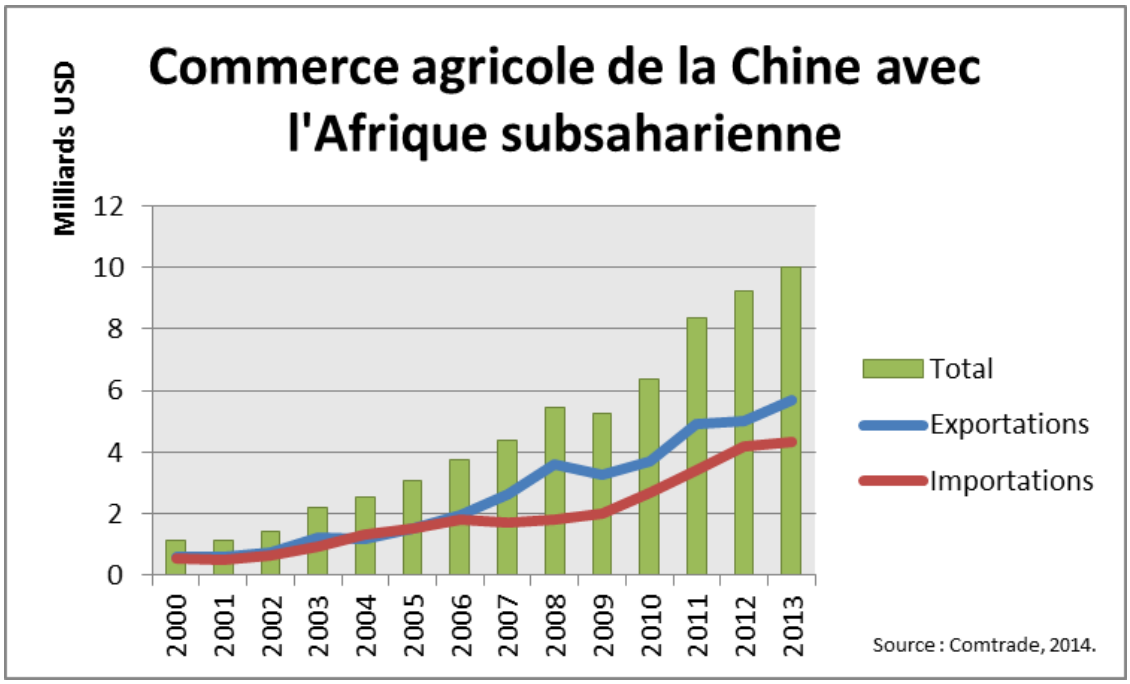
[25] The data released by the Global Trade Atlas (2014) and analysed by TRALAC show almost identical volumes. http://www.tralac.org/images/docs/4795/africa-china-synopsis.pdf



Source: COMTRADE and CTA-CIRAD report no. 1/6

Agricultural trade has also increased substantially (see Graph 2), by a ratio of 9 to 1 between 2000 and 2013, although this is lower than the overall increase in trade. In this period, Chinese agricultural exports rose from 0.58 to 5.6 billion US$, and imports from 0.54 to 4.3 billion US$. China's trade balance, in deficit overall, has therefore been slightly in credit in the case of agricultural products since 2006. Taking account of the slight relative increase in agricultural flows, the share of agriculture in Sino-African trade fell from 13.2% in 2000 to 5.8% on 2013.

Graph 2: International trade of Sub-Saharan African countries in agricultural products



Source: COMTRADE report no. 1/6

A change in the intervention protocol

China's return to Africa since the turn of the century has been accompanied by new intervention procedures. The Chinese financial aid service has reinvested in some of the productive projects it had abandoned, but the conditions of its return are very different from those that existed before. The new partnership established involves Chinese private companies benefiting from public funding and in association with national investors as joint ventures. Successive Chinese governments have learned from past experience; in particular, they have taken account of the fact that agricultural cooperation in Africa could not only take the form of aid or trade commitments (Tang, 2013), as agriculture requires more substantial investment. The return on investment is usually slow, and the commercial risk is high, as climate factors are by definition beyond control. The major cooperation projects funded by China require substantial investments (financial, technical, human, etc.), which cannot be provided by public funds alone. At the same time, private investors have no great interest in agriculture as the investments in trade or industry have a higher and faster return on investment. As a result, the 2006 Beijing Summit announced a new plan to develop agricultural demonstration centres in the African countries and support for Chinese companies to encourage them to invest in Africa. This plan is based on a combination of development aid and investment. The government hopes that the new model will be able to improve the sustainability of the aid projects and enable Chinese companies to develop in Africa.

The 2014 White Paper revealed another aspect of China's cooperation policy, which seems to indicate a significant change in the history of Chinese aid. China sent high-level agricultural experts and agricultural technology teams to developing countries to participate in the preparation of their national development plans for agriculture. This is a break with the declared policy of non-interference with construction and the choices of national policies and approximates the technical assistance methods practised by other bilateral cooperation bodies. For example, the Chinese experts in Benin contributed to drafting the agriculture bill; in Botswana and Guinea Bissau Chinese experts helped draw up the agricultural development plan and are contributing to the preparation of assessments of a number of sub-sectors (rice, sesame, sugar cane, etc.), as in Ethiopia. This is also the case in Mauritania, where Chinese experts contributed to the construction of the agricultural sector analysis centre.

Multiple intervention methods

The database (in Excel format) created by CIRAD within the framework of contracts with the CTA and the AFD in 2014 lists 250 public and private projects in the agricultural sector financed by Chinese funds[26]. It covers western and southern Africa and provides answers to a number of questions: which projects in which countries and which sectors? What are the demonstration centres? What are the land acquisitions? Does this constitute triangular cooperation? etc. But above all, this database qualifies each project according to its status: completed, ongoing or not verified. All the projects listed have been checked following a number missions to the countries or by directly contacting the CIRAD researchers present in the country.

In terms of geographic location, more than three quarters of the projects are located in West Africa.

Table 3: Number of agricultural projects per region

West Africa	Southern Africa	Total
191	59	250

Source: CIRAD-CTA-AFD database

This database contains information on public and private Chinese agricultural projects. Assessing the level of public input is proving difficult[27] as the definition of Official Development Assistance (ODA) used by the People's Republic of China does not precisely conform to the criteria of the DAC/OECD. Likewise, private input is difficult to quantify as

[26] Much of the information contained in this database was obtained through the work of Xavier Aurégan, Peggy Frey and Charlotte Francke within the framework of the CTA-CIRAD contract.

[27] For more information, see the Beijing UNDP publications: www.cn.undp.org

numerous small entrepreneurs in the agricultural sector are largely able to avoid being surveyed. This is the case, for example, in Zambia[28] where there are some thirty private farms of very different sizes, ranging from 2 hectares to around 1,000, and managed by Chinese immigrants; the oldest date back more than 25 years, but the majority are more recent (2008-2010) and have a wide variety of funding sources, types of operation and management methods. This is also the case in Ivory Coast, where there are almost 30 private enterprises in agriculture that do not benefit from public support. However, there is no exhaustive list of these farms, so the information in the database may be incomplete in this regard.

An analysis of the projects surveyed shows an almost equal split between public and private support, accepting that it is difficult to determine whether a Chinese company is public or private. Many public companies create subsidiaries and sub-subsidiaries incorporated under private law, while continuing to receive public support[29].

Table 4: Distribution of public/private projects

	ODA[30]	Private flows	Other public flows	Total
China – West Africa	96	90	2	188
China – Southern Africa	24	32	3	59
Total	120	122	5	247

Source: CIRAD- CTA-AFD database, 2014

The countries benefiting from these projects can be classified in three categories based on the frequency noted. The first group include the countries with the most Chinese projects: Mozambique, Benin, Ivory Coast, Cameroon, Ghana and Mali. Around 10% of Chinese agricultural projects were or are intended for each of these countries. The second group comprises the intermediate countries like Zambia, Nigeria, Senegal and Togo. The final group contains the countries where the number of projects is relatively low. This includes smaller countries such as Cape Verde and Malawi, and others such as Gambia, which only established diplomatic relations with China in 2013.

[28] Solange Guo Chatelard and Jessica M. Chu, "Chinese agricultural engagements in Zambia: a grassroots analysis", Policy Brief no. 04/2015

https://saiscari.files.wordpress.com/2014/10/sais-cari-brief-4-january-2015.pdf

[29] For more details on this point, see Thierry Pairault, "Les entreprises chinoises sous la tutelle directe du gouvernement illustrées par leur investissement en Afrique", *Revue de la régulation*, 13, 1st semester 2013, at http ://regulation.revues.org/10195.

[30] Public concessional loans or donations.

Table 5: Distribution of projects by country

West African countries	Number of projects	Southern African countries	Number of projects
Benin	25	Angola	5
Ivory Coast	21	Botswana	2
Cameroon	21	Mozambique	26
Cape Verde	2	Malawi	1
Ghana	22	Namibia	1
Guinea	4	South Africa	6
Guinea Bissau	4	Zambia	14
Gambia	2	Zimbabwe	4
Liberia	5		
Mali	19		
Mauritania	10		
Niger	3		
Nigeria	14		
Senegal	14		
Sierra Leone	11		
Togo	13		
Total	190	Total	59

Source: CIRAD- CTA-AFD database, November 2014

China's sectoral interventions in West and Southern Africa are quite diversified. The largest number concern productive projects in farms. Most of the projects are related to food production, mainly rice-growing in several countries, but also market gardening and, to a lesser degree, fish farming or wine-producing projects (in South Africa) or industrial projects (traditionally sugar, and increasingly manioc for the export of starch or even ethanol). The interventions in the cotton sector (Mali, Mozambique, Malawi, Zambia and Cotton 4 initiative) are increasingly significant, as are those in groundnuts (Senegal).

Agricultural production projects represent more than a third of the 250 projects, and most of these productions are, contrary to popular belief, intended for African national and regional markets, with an occasional focus on Chinese consumers, resident in these countries. Food production, market gardening and sugar cane are therefore all specifically intended for local or regional consumption and in most cases not intended for the Chinese market. On the other hand, cotton and wine production (South Africa) are more specifically aimed at China, with groundnuts targeting the international markets and rubber trees intended for the multinationals (Firestone, Continental, etc.).

Another significant part of these projects concern support for agricultural popularisation and research. This includes the agricultural demonstration centres (see below), of which there are now 25 across the continent, although not all of them are operational yet. The introduction of these centres is evolving rapidly, depending of course on the difficulties encountered, but also on political decisions. Thus, following the visits of the Malian and Senegalese Presidents to China in 2014, it was agreed that demonstration centres would be installed in these two countries. With several other training projects (scholarships, research, work placements in China, etc.), these interventions represent 20% of the Chinese agricultural projects in these two regions.

Another form of intervention concerns land acquisitions. A disputed area, since the data available is difficult to use or interpret in a reliable manner, we believe from the Land matrix and our own observations on the field that in 2014 there were about 188,000 hectares in 10 countries intended for exploitation by Chinese actors. It should be noted that these areas are quite low compared to those acquired by the USA, Europe and even the Arab Gulf countries[31]. In the four countries studied in this report, as well as in most other countries, China is not presently making large scale purchases of land.

On the other hand, one third of the projects concern agricultural development through the supply of agricultural input, the transfer of agricultural machinery and rural projects to increase or improve access to land-based or water-based resources, such as the development of river basins. These are usually one-off operations of varying sizes.

Finally, a third and relatively recent form of intervention concerns triangular cooperations. These are established between China, an African government and a bilateral or multilateral fund provider. That is also the case with the FAO (8 projects) and IFAD (1 project in Mozambique) as well as the World Bank (in Cameroon). This method of intervention, as yet used quite infrequently, is further assessed in the last part of this summary.

II. The agricultural demonstration centres, symbol of the Chinese presence in Africa

The gradual installation of agricultural demonstration centres using a standard blueprint

[31] Gabas J.J. 2014, Is China a monopoliser of land in Africa? *Futuribles* (398): 25-36. http://www.futuribles.com/fr/base/revue/398/

The history of the Chinese Agricultural Demonstration Centres in Africa begins with the FOCAC of 2006, at which their creation was announced (see above). China offered to finance the installation of a centre intended to conduct agricultural experiments to all the African countries who wanted it and to distribute the experimental techniques once they were shown to be effective. The initial announcement in 2006 concerned the creation of 10 centres, although their number subsequently rose to 14, then 20 and now 25 by the end of 2014. The changes in the Chinese offer take account of the interest shown by the African countries in seeing themselves develop this type of centre and the associated model in their own countries.

The Chinese proposal is based on the idea of transferring the techno-economic model of traditional farms in China, and defines three requirements for demonstration centres. Firstly, they must create an interest in new technologies and then transfer them. Secondly, they must therefore have a training programme aimed at local small farmers. Finally, these centres must be sustainable. To achieve these different objectives, the installation and operation of each centre is arranged according to a five-stage plan:

- Stage 1: construction of the centre, including the different buildings needed for its operation (administrative building, meeting rooms, laboratories, dormitories) and the infrastructures related to the agricultural experiment activities (experimental plots, storage and processing structures, sheds for the agricultural machinery). The construction of the centre is guaranteed by Chinese grant-based funding;
- Stage 2: starting agricultural experiments, concerning variety tests and technical processes. Funding is again provided by the Chinese party;
- Stage 3: continuing agricultural experiments and starting training/awareness activities. The funding is still at least partly provided by the Chinese party; the national authorities are requested jointly to fund the training/awareness activities;
- Stage 4: Continuing the management/running of the centre by the Chinese party, but no more funding. The centre must be financially self-sufficient by generating sufficient resources to cover its operating costs;
- Stage 5: departure of the Chinese party and handover of the centre to the national authorities.

The establishment these centres is recent, since the announcements at the 2006 FOCAC, although some of them have been operating longer due to the changes in diplomatic relations between some countries (Ivory Coast and Senegal in particular) and China. There is undoubtedly an ongoing dynamic, but taking a step back is not enough to have a comprehensive overview of the entire process. Table no. 6 focuses on the level of progress of the centres in the 25 countries.

Table no. 6: The agricultural demonstration centres in Africa

Country	Chinese company	Process	Land areas
South Africa	China National Agricultural	January 2011	The construction area is 3,000

	Development Group	handed over	square metres
Angola	Xinjiang Beixin Group	October 2012 agreement signed	54 hectares
Benin	China National Agricultural Development Group	February 2010 construction completed	60 hectares
Cameroon	Shannxi Agriculture Group, after Shannxi Overseas Investment	January 2010 construction completed	100 hectares
Central African Republic	China Shanxi International Economic & Technical Cooperation Corp.	December 2012 construction started	Not decided
Congo	Chinese Academy of Tropical Agricultural Science	March 2011	59 hectares
Ivory Coast	China Liaoning International Economic and Technical Cooperation Group (CLIC) and COMPLANT	February 2012 feasibility study	Guiguidou Centres, decided Yamoussoukro and Korhogo, planned.
Eritrea	Not decided	Feasibility study	Not decided
Ethiopia	Guangxi Bagui Agricultural Technology Ltd.	November 2012 handed over	52 hectares
Equatorial Guinea	Jiangxi Ganliang Industrial Ltd.	No data	No data
Liberia	LongPing High-Tech Group	July 2010 handed over	The construction area is 26.000 square metres
Madagascar	Hunan Academy of Agricultural Science	No data	No data
Malawi	Qingdao Ruichang Cotton Company	July 2012 construction started	50 hectares
Mali	Jiangsu Redbud Spinning Technology Ltd.	July 2012 construction started	20 hectares
Mauritania (agricultural centre)	Mudanjiang Yanlin Farm Technology Ltd.	November 2012 bases for construction	50 hectares
Mauritania (livestock centre)	Not decided	Feasibility study	Not decided
Mozambique	Hubei Lianfeng Overseas Agricultural Development Ltd.	July 2011 handed over	52 hectares
Uganda	Sichuan Huaqiao Phoenix Group Ltd.	December 2010	The construction area is 3,000 square metres
Democratic Republic of Congo	Zonergy Company Limited	July 2012 bases for construction	60 hectares
Rwanda	Fujian Agricultural and Forestry University	August 2011	22.6 hectares
Senegal	Hubei Province. Yichang	Since 2006	Podor and Sangalkam, completed

	International Economic and Technical Cooperation (ITD)		Other demonstration centres planned during the joint Sino-Senegalese commission of September 2014.
Sudan	China Shanxi International Economic & Technical Cooperation Corp. Shandong Academy of Agricultural Sciences	June 2011 handed over	65 hectares
Tanzania	Chongqing Zhongyi Seed Co., Ltd.	April 2011 handed over	62 hectares
Togo	Jiangxi Zhongmei Engineering Construction Co., Ltd	April 2012 handed over	10 hectares. Kara Region and Sanguera Centre
Zambia	Jilin Agricultural University	January 2011 handed over	120 hectares
Zimbabwe	Chinese Academy of Agricultural Mechanization Sciences	April 2012	109 hectares

Source: The authors. The countries and centres highlighted in green were subject to in-depth studies by CIRAD.

The centres are now operational in 11 countries: Ivory Coast, Ethiopia, Liberia, Togo, Benin, Cameroon, Senegal, Zambia, Zimbabwe, Mozambique and South Africa; they are under construction in Mali and Malawi and an agreement has been signed in Angola. Other centres are planned in addition to those already in place in Senegal and Ivory Coast.

The different case studies carried out in Ivory Coast, Ethiopia, Senegal and Togo describe the progress of the implementation of the centres in each country. In Togo, two research and/or agricultural demonstration projects are in progress: one in the Kara region, the other at the Sanguera Centre. A team of 3 to 4 Chinese experts, a director and an interpreter have been appointed since 2006 to the Togolese Institute of Agronomic Research (ITRA). The agricultural demonstration centre in Sanguera, in operation since 2012, does not cooperate with the ITRA. In Ivory Coast, the old centre in Guiguidou, launched in 1984, was officially inaugurated in February 2000[32], and two other demonstration centres are planned: one in Yamoussoukro and the other in Korhogo. In Ethiopia, the China-Ethiopia Agricultural Technology Demonstration Centre (ATDC) has been operational since November 2012. In Senegal, the end of cooperation with Taiwan in 2005 was accompanied by a new bilateral cooperation within the Multi-Purpose Training Centres for Producers (CPFP). Beijing has sent agricultural teams to two of the centres left by Taiwan: Guia-Podor near the Senegal River for rice-growing and Sangalkam in the Niayes for market gardening. These centres have been renamed: "Chinese Group for agricultural technical cooperation to assist Senegal".

[32] Several delays related to numerous problems encountered during the creation of this centre explain the sixteen years separating the signing of the Memorandum of Understanding from that relating to its operational status (see CIRAD-CTA report no. 3/6 China's interventions in the agricultural sector in Ivory Coast)

Functioning and governance

The location of the demonstration centres is generally determined within the framework of exploratory missions by Chinese delegations, then confirmed after negotiations – frequently strenuous on the part of the authorities of the African countries, as was especially the case in Ivory Coast and Ethiopia. The centres occasionally use installations and land belonging to agronomic research institutes of the countries in question, or certain old infrastructures that have been refurbished, as in Togo (with government funding within the framework of the Partam project), in Senegal and in Ivory Coast, where the centres were installed on former Taiwanese farms (see above).

In the majority of the countries, the agricultural experiments in these different centres are conducted on relatively modest plots, ranging from 10 ha in Togo and Senegal to 52 ha in Ethiopia, and reaching 442 ha in Ivory Coast. It can be seen that these areas are on a par with those noted in other countries: 20 ha in the case of Mali, up to 100 ha in Cameroon. The centres in Benin and Mozambique cover 60 and 52 ha respectively. However, the areas used in South Africa are even smaller, as they are fish-breeding areas.

The strategic question of land areas

The record of the generally modest areas covered by the agricultural demonstration centres could lead one to believe that the issue of the size of the centres is not a problem and that the areas allocated are sufficient for the various planned activities to take place in adequate conditions. The question is clearly not that simple. The different contracts stipulate a start-up area for the centres, but enlargements often deemed necessary for the self-financing stage are put forward "orally" for the negotiations. Covering the costs of experiments and training requires a change in scale and, in particular a marketable agricultural production far greater than that for the first stage under external Chinese funding. Enlarging the centres to achieve this "critical size" is at the heart of the negotiations between China and numerous African countries and can be a source of tension. Thus, in the case of Togo, the original agreement to increase the size of the demonstration centre from 8 to 80 hectares is now called into question by the Chinese party, who believe, with the support of the figures for the first year's operation, that the self-financing objective cannot be achieved with a land area of under … 800 ha. This land issue also crops up in other countries such as Ivory Coast, Cameroon and Mozambique. The increased land areas will inevitably be at the heart of the negotiations in coming years, and risks creating problems with the provision of new land.

The agricultural experiments usually concern a few crops such as rice, corn and cotton, and to a lesser degree some others such as sorghum, manioc, soya, mushrooms and various

fruits and vegetables. There is a fish farming activity in Ethiopia within the framework of the demonstration centre, as there is in South Africa, where it is the demonstration centre's principal activity. Pig and poultry farming are present in most of the centres, especially in Ethiopia, Senegal, Togo and Ivory Coast. The Togo, Ivory Coast and Senegal centres are the main locations for developing hybrid seeds (rice and corn in particular) and proposing new technical processes.

The construction of infrastructures is entirely funded by Chinese government grants. Without being completely standard, this funding amounts to between 5 and 7 million Euros. A contribution is usually required from the host country in the construction stage of the centre, in the form of a cash payment and/or in kind (road network, electrification, water supply, etc.). China is also responsible for the running costs during the following two stages of the start of experiments (stage 2) and the start of training activities (stage 3), at least with regard to the salaries of the Chinese experts and partial coverage of the experiment and training activities. The beneficiary country must finance the rest of the experiment and training activities. This supplementary funding often causes problems and is (very) often only paid in part. Thus, in Togo, the cooperation agreement stipulated that China would fund setting up 24 rice variety tests and 32 corn variety tests, the cost of tests for adaptability to local conditions remaining the responsibility of the Togolese party. The meagre funds released by Togo were only enough to fund the adaptability tests for 2 varieties of rice and 2 of corn, the result of the experimental protocol being abandoned for all other varieties. Likewise, the national funding contribution for training is very often lacking.

The management of the centres is provided by provincial Chinese public companies (see table no. 6), and uses public funds channelled by the MOFCOM and the China Africa Development Bank (CADB). The supervisory staff are also Chinese, around a dozen experts, or possibly a few more depending on the centre. Depending on the country, there may or may not be a dual management post shared with the host country. For example, Cameroon has this joint arrangement but Ivory Coast does not. This is, however, what the Ivoirians want, with the creation of an office in Divo for Chinese supervisors coming from the company CLIC and Ivoirians from the National Office of Ivorian Rice (ONDR).

A mixed review of the training activities

Training is one of the component activities of the agricultural demonstration centres, complementing experimentation. It features specifically among the goals of each centre as a means to contribute to improving agricultural production and increasing production[33].

[33] Training activities have not yet begun in all of the centres. In Cameroon, for example, they are due to commence in 2015.

The public targeted by this training are quite varied. The agricultural producers constitute the main target, but other audiences are approached, such as agricultural extension agents and consultants, or technical managers from the ministries of agriculture. Depending on the country and the type of training, the choice of participants may be the responsibility of the Chinese or the national party.

The training subjects are mainly technical. The organisational aspects of the producers and agricultural sub-sectors and the social and economic aspects of production are rarely covered. The main crops concerned are rice, corn and market produce. The technical subjects covered are quite varied, but they are usually suggested by the Chinese party and therefore mostly concern production techniques and the use of different types of input imported from China and that the composition of which, often written in Mandarin, is not available to the trainees. The diversity of training subjects includes, on the one hand, production techniques such as rice transplanting, the creation of nurseries for market gardening, water management and control, soil preparation, weeding, and on the other hand the use and handling of the inputs (fertilisers, insecticides, seed selection, spray techniques, etc.). Some training courses also cover driving vehicles and agricultural equipment, or the use of tractors.

The agricultural demonstration centres are usually designed to accommodate and train groups of 30 to 60 people. The volume of activity of each centre varies greatly from one country to the next, but is generally close to an amount set out in the original cooperation agreement. Thus in Togo, the Sanguera Centre should, under the terms of the contract, train 840 individuals over the course of the first 3 years of operation. This quantitative target was reached at the beginning of the third year, by means of 18 training courses each involving 40 to 50 participants. The target is now to train 180 people per year, spread over 4 to 5 courses. The volume of activity may be substantially reduced, particularly if there are problems with the training. Thus in Senegal, only two training courses, each involving 25 people, were held at the Centre in 2013, and the 2014 courses were cancelled due to the Ebola outbreak, and no programme of activity has been prepared for 2015.

The training courses mostly take place in the centres, which are equipped for this purpose with classrooms, cafeterias and dormitories. The courses, which usually last 2 to 5 days, are split into two parts: the first is theory-based and takes place in the classroom, consisting of explaining the techniques using slides and other course materials; the second takes place in the demonstration fields to show how the techniques learned in the classroom are implemented in the field.

Sometimes, however, the training courses are held on the premises of certain producers, who are selected by the Chinese experts to accommodate the demonstration fields. They are fully supplied with the inputs and equipment needed for the demonstration. The idea of holding courses outside the Centres stems from the desire to extend the range of producers involved in the training beyond those neighbouring the Centres. With so few resources

allocated to training, it is difficult for the farmers to travel at their own expense, so the trainers go to them. The demonstration points can change from one year to the next in order to reach new audiences.

Language problems are one of the main obstacles, especially in French-speaking Africa. The Chinese trainers very rarely speak French, and all of the training courses are conducted through an interpreter. This solution often results in a series of problems that prevent the training from going smoothly: i) the training is slowed down and each course takes much longer, ii) the translation inevitably leads to a loss of quality, and sometimes the partial distortion of the technical message, iii) practical problems occur when the 40 to 50 participants are divided into two rooms, and there is only one interpreter who has to go from one room to the other.

The original agreements for some demonstration centres planned for some training courses to be provided by the national stakeholders, not only by the Chinese experts, but that has never happened up to this point. As a result, there is a degree of frustration, and even resentment, on the part of the national management at the centres, who feel marginalised and given little respect when it comes to training.

The comparative analysis of the different case studies shows mixed, and sometimes rather poor, results for the training courses held at the different demonstration centres. The criticisms primarily concern the training topics, which are seen as being too remote from the concerns of the producers. Above all, the producers want solutions to the problems they encounter on a daily basis of a technical, socio-economic or organisational nature. These problems are not addressed in the training courses; nor do the national producers have the chance to bring them up. Instead, they receive training on technical packages that are mostly unsuitable for local conditions and that in any case are very difficult for them to apply. The high doses of fertiliser or insecticides suggested in the training courses certainly provide substantially increased yield, but the cost of using them is beyond the reach of the vast majority of the producers being trained. The transplantation of rice undoubtedly increases the yield by comparison with broadcast sowing, but this technique requires perforated sheets that are difficult to procure in Senegal and are very expensive when they can be found. Applying the proposed techniques will be possible provided the equipment and inputs are supplied by the Chinese mission, but this will no longer be the case once the mission has left.

It is possible that there may be no short-term solution to the problems encountered, as no plans appear to have been made in the cooperation agreements for any follow-up assessment procedure. Surveys of the participants to evaluate the usefulness and real impact of the training would, however, be extremely helpful in reformatting the form and content of the courses. The debate between Chinese and national experts on the concept of adaptability is going nowhere. The Chinese talk of adapting to modern and productive techniques; the Africans talk of adapting these to the local context. The Chinese experts see

themselves as possessing technical know-how that cannot be questioned: it has proven its value in China, so all that remains is to apply it in Africa[34]. The necessarily 'black and white' situation of implementing either the practices imported from China or the practices currently used in Africa results in a stigmatisation that does not go down well with national experts and gives rise to inevitable tensions between the two communities. In this context, a genuine and long-term transfer of techniques appears difficult.

Institutional coordination that varies from one country to the next

The links between the demonstration centres and the national agronomic research bodies vary considerably depending on the country, and it is not possible to define a general rule on the subject. The fact that different demonstration centres have been installed on the same sites as national research institutes argues for the existence of a fairly strong partnership. However, this observation should be treated with caution. The Chinese team of experts at the Togolese Institute of Agronomic Research (ITRA) makes it possible to conduct agricultural experiments, but such coordination in the case of the Sanguera demonstration centre appears more difficult.

In Ivory Coast, the CNRA is exclusively responsible for testing the varieties of rice, validating them – or not – and legalising the variety concerned so that it may then be used by the ONDR or the ANADER. In Senegal, there is no official relationship between the demonstration centres and the ISRA. In Ethiopia, the Chinese experts work together with the EIAR (Ethiopian Institute for Agricultural Research) and the Ministry of Agriculture.

The degree of distribution of information about the results of agronomic experiments is not always satisfactory, and the national managers sometime express their dissatisfaction at not having access to results that are supposed to contribute to improving the agricultural productivity of their country. Another point of tension is the difficulty in obtaining the transfer of knowledge concerning the hybrid production techniques. Requests from national managers along these lines often remain unanswered, which creates lasting disputes. The conditions of partnership and exchanges of information can prove to be quite variable from one country to the next, and it is difficult to find general reports with a universal application. The situation would be quite tense at the Centre on Sanguera, Togo, although the circulation of information would be more fluid in other cases, where the local research centres could use information and techniques brought in by the Chinese experts. That is also the case in

[34] This idea of a possible transfer of experience between China and Africa can be found in current scientific literature; see in particular Kehinde Adedeji Adekola et al. "China Agricultural Mechanization Development Experience for Developing Countries", International Journal of Agriculture Innovations and Research Volume 3, Issue 2,
http://www.ijair.org/administrator/components/com_jresearch/files/publications/IJAIR_1006_Final.pdf

Ethiopia where, within the framework of the South/South cooperation with the FAO in the livestock sector, the EIAR made a small budget available to the team of Chinese experts to encourage their research on the selection of animal varieties.

This "relative" and variable coordination with the national research institutes appears difficult to achieve on a regional scale in Africa. For example, the Chinese demonstration centres are carrying out important experiments on rice without contact with Africa Rice, an international research centre based in Benin and a member of the CGIAR, and to which, however, China provides financial support

A recurrent problem of institutional coordination undoubtedly comes from the gap in each country between the levels at which decisions are taken and executed. In general terms, the installation and establishment of agricultural demonstration centres appear to have been negotiated at the highest political level, that of the president of the Republic, while their operational implementation is the responsibility of technical bodies (the ministries of agriculture or their departments, the national institutes of agronomic research, etc.), which have rarely been involved in the original negotiations. The technical bodies are then faced with a *fait accompli*, which does not leave them best disposed fully to take on the responsibilities that fall to them. The problem is often aggravated by the fact that the political decisions taken at the highest level are not always accompanied by corresponding budgetary allocations. The Technical Department of the Ministry or National Institute of Research must then remove the operating budget required for the demonstration centre from its other ongoing operations. This explains at least in part the difficulty encountered in mobilising the locally provided budgets that are often lacking.

Another institutional problem is that of the transfer of responsibility within the administration charged with monitoring the demonstration centre. In the case of Togo, four Departments in the Ministry of Agriculture were successively responsible for monitoring the Sanguera Demonstration Centre, leading to restructuring and changes of officials. As a result, different managers within the Ministry each have partial knowledge of the Chinese agricultural cooperation without having a clear mandate of cooperation. Responsibility is therefore divided between a multitude of potentially competent actors.

A new model of cooperation?

The different agricultural demonstration centres all have the same operating logic, although the different local contexts mean that some specific adaptations have to be made. The model of cooperation promoted through these demonstration centres means combining "aid", "business" and "trade" so that they complement each other. The complementarity of these three aspects was explained by the Chinese Ministry of Commerce (MOFCOM) in 2013,

which added a new function for each demonstration centre to facilitate the entry of Chinese companies into the agricultural sector of the country in question.

The relatively modest size of the centres, between 10 and 100 ha for the countries studied, except for Ivory Coast, appears to be inconsistent with the ambition stated at the FOCACs to make these centres a showcase for Sino-African agricultural cooperation. We can only see this when we analyse the role of these centres in the overall Chinese project in Africa. On the one hand, the size of the centres should be increased to take account of the self-financing requirements (see text box above). On the other hand, the centres have only had small land areas up to now, although they have a substantial infrastructure (particularly the laboratories) and act as a platform to host Chinese companies wanting to establish themselves in the country concerned. In the case of Ivory Coast, the Guiguidou centre's declared ambition is, above and beyond its national function, to provide training at a West African regional level. These companies use the centre's infrastructures to seek trade opportunities and plan the institutional structures that will enable them to become independent. In return, these same companies will then contribute to funding the demonstration centre and will guarantee what might incorrectly be seen as its self-financing.

III. China's other forms of intervention in Africa

The redeployment of China in the African agricultural sector goes beyond the agricultural demonstration centres alone. Alongside this public cooperation, there is an assortment of small private entrepreneurs from China, a type of migrant-investors in the agricultural sector whose importance is difficult to assess; they have their own strategy independent of the Chinese authorities and are not linked in any way to the demonstration centres. Most of them are involved in niche markets such as in Senegal or Ivory Coast. They mainly produce fruit and vegetables for urban markets and usually intended for the local Chinese community. Some of them, like Senegal, market Chinese agricultural equipment under the Foland banner: tillers, rice harvesters, groundnut hullers, etc. Others in Senegal or Ivory Coast carry out agricultural development in response to calls for tenders financed by international fund providers.

Two other forms of intervention have also been observed since the early 2000s, such as the implementation of public or private agro-industrial projects and the development of a triangular cooperation arrangement using another cooperation agency, usually multilateral.

Agro-industrial projects

The deployment of Chinese agricultural companies in Africa

The first ten years of this century saw the arrival of a large number of Chinese companies[35] in the African agricultural sector, some of which were quite large and able to develop a strategy for establishing themselves in several countries. Amongst these, COMPLANT, a transnational Chinese company and a major player in the sugar industry, has a presence in a number of African countries (Ivory Coast, Togo, Madagascar, Benin and Sierra Leone) and is currently continuing to expand in the direction of Jamaica. The China-Africa Cotton Co. (CAC) is developing cotton production and purchasing activities in a number of countries in Southern Africa (Mozambique, Malawi and Zambia). The same goes for SINOCHEM, with a presence in particular in Cameroon and Ivory Coast in the rubber tree sector and the Datong Trading Enterprise group in Senegal, Mali, Ivory Coast and Burkina Faso in the distribution of inputs, and the manufacture and distribution of agricultural equipment.

Other companies focus on one country and invest heavily in it. That is the case with Wanbao Grain and Oil Investment Ltd, which arrived in 2010 to strengthen the Chinese presence in Mozambique. In Mali, the China Light Industrial Corporation for Foreign Economic and Technical Cooperation (CLECT) recently took control of the former sugar refinery in Sukala and is currently expanding it. In Togo, SINTO (the Sino-Togolese sugar refinery in Anié) a private joint venture since 1990, results from a Sino-Togolese intergovernmental cooperation at the end of the 1970s; as well as sugar production, the company makes alcohol from molasses and manioc bought from local producers and intended for the local market (for medical and hygiene use and for human consumption).

In each country, however, the importance of agro-industrial companies varies considerably, according to the nature of the products that can be promoted (Ivory Coast in cocoa and rubber), national legislation that is binding to varying degrees (Ethiopia), as well as the numerous failures they have had to deal with (Senegal and Ivory Coast).

In Ivory Coast we have identified 28 Chinese private investors in the rubber, timber and fish sectors, as well as in the import-export of agricultural machinery and the inputs sector. These companies do not rely on any Chinese public support. In the rubber sector in Ivory Coast, SINOCHEM, which invested in the Singaporean group GMG has acquired 60% of the ITCA (Ivorian rubber processing plant) and 35% of SIAT Belgium (tropical agriculture investment company) while holding more than half of the capital of TRCI (Tropical Rubber Côte d'Ivoire). This company now controls 20% of the Ivorian rubber market with 12,000 industrial hectares and more than 30,000 ha of smallholders.

[35] See the comparative analysis of two Chinese companies involved in agriculture, one in Ghana and the other in Nigeria, by Yang Jiao, "Chinese agribusiness entrepreneurship in Africa: case studies in Ghana and Nigeria", Policy brief SAIS, no. 05/2015, https://saiscari.files.wordpress.com/2014/10/sais-cari-brief-5-january-2015.pdf

In the cocoa sub-sector, two Chinese public groups, COFCO (China national cereals, oils and foodstuffs corporation) and CIC (China Investment Corporation), and a private group, HOPU investment, have created the joint venture Noble Agri through the public limited company Cocaf Ivoire SA; however, the market share of this joint venture in 2011-2012 represented less than 7% of the total production of Ivorian cocoa, i.e. 74,000 tonnes of a total of more than one million tonnes.

In Senegal, two public companies are active in the groundnut sector: Sintrade and Xin Fu oil investment. These companies currently provide grain cleaning and hulling. Approximately 20,000 tonnes were purchased of an average annual production volume of 850,000 tonnes. In other words, these companies have a relatively modest position. All of this production is sold internationally (China, Russia, etc.). The plan is eventually to build a vegetable oil factory. In Senegal, however, and certainly to a greater extent than in other countries, the rumours about these Chinese agro-industrial projects must be treated in the same way as those concerning the sunflower and groundnut operations and the creation of future joint ventures with Australian or Italian companies... These hypothetical projects cannot yet be confirmed.

A sesame production project actually started in Senegal in 2008 on the basis of a public-private partnership between the Senegalese government and the Datong Trading Enterprise on a relatively limited land area of 10 ha; the objective was much more ambitious as it concerned the cultivation of 35,000 ha and exporting 150,000 tonnes to China. For a number of reasons, however, especially including the commitments not met by the Senegalese party and a resale of seeds to Indian and Gambian traders, this project did not go ahead. Once again, in spite of this investment being effectively abandoned, rumours persist of land grabs by Chinese investors.

In Ethiopia, the situation is different to that observed in the other countries. While the Ethiopian government, within the framework of its "Growth and transformation plan (GTP)", encourages investors to become active in the agricultural sector, China has only a small involvement compared to investors from Saudi Arabia, India and Ethiopia. One of the reasons for this low level of investment by public or private Chinese companies is the difficulty in marketing agricultural products, caused by Ethiopian actors.

Bank support and political cooperation

In a number of countries, we can see a large-scale deployment of Chinese public and private companies, and this is made possible for some of them by two main conditions: the active support of the Chinese public banking system and the existence of a willingness at the highest level to strengthen political ties (see the first part of this report).

As discussed earlier, the model of Chinese agricultural cooperation is based on an interconnected structure between public resources coming from MOFCOM and companies usually linked to Chinese central government or to the provinces, whose cash flow has been provided by an assortment of financial tools since 2006, particularly concessional loans and the acquisition of interests by the Chinese government. Some Chinese institutions have been created specifically for this purpose. Thus, the China-Africa Development Fund (CADF) aims to encourage and facilitate Chinese long-term investments in those sectors that are central to the socio-economic development of Africa, with agriculture at the head of the line. For instance, the CADF has invested[36] in most of the companies referred to above. The involvement of the CADF not only consists of providing the necessary capital, but also of facilitating loans for these companies, as the CADF is affiliated to the China Development Bank. Furthermore, the CADF's involvement, announced by the then Chinese President Hu Jintao at the FOCAC of 2006, added political weight to these projects: "The very purpose of the CADF is to encourage and support well-established and reliable Chinese companies to invest in projects that will contribute to local technical advances, the creation of jobs and sustainable economic development".

The political aspect is the second component of the deployment of Chinese companies in Africa (see the first part of this report). There seems to be a reciprocal desire on the part of many African companies as well as China itself to strengthen the political ties from which both parties expect positive results. The African authorities are in general strongly in favour of the Chinese commitments, from which they expect both financial resources and a strengthening of their political legitimacy. The recent example of the joint Sino-Senegalese commission of September 2014 illustrates this willingness to develop cooperation projects at the highest level as does the meeting between Togolese President Faure Gnassingbé and the Chinese Prime Minister Li Keqiang in May 2014 The common political will to strengthen the cooperation actions is an undeniable bonus to the realisation of productive projects in each of the countries and across the region (as is the case in Togo for commercial projects, and training courses for technicians and agronomists in the case of Guiguidou in Ivory Coast, and in Senegal with the Siné Saloum University in Kaolack). The high-level African civil servants, like the Ministers and Governors, engage in often frantic competition to attract Chinese stakeholders. They give scant regard to the commercial motives of the Chinese investors to obtain only the prestige resulting from it, proportional to the cash flows attracted. A number of administrative requirements and procedures, which would seem to be deal-breakers in other contexts, are easily resolved once the administrations have taken note of the commitments at the highest level.

Chinese companies can also rely on the support of the demonstration centres when they are looking for opportunities and investments or for land purchases, as has been mentioned

[36] The amounts invested are not known.

previously in a number of countries, such as Mozambique, Cameroon, Ivory Coast, Togo and Mali.

Investment strategies throughout the sectors

The favourable conditions described above do not prevent the Chinese investors, like all investors, from being particularly mindful of the economic and political environment. The companies gradually discover the conditions of establishing themselves and the different constraints they had not necessarily anticipated and with which they are now faced: multiplied transaction costs, and the uncertainty and instability specific to African agricultural economies. The different case studies show how the companies cope with transaction costs that were initially underestimated, and reveals their strategies for adaptation.

The existence of an environment that is more challenging than expected is not usually a formidable obstacle. We were able to observe and characterise a variety of situations in the case studies. A cost overrun is sometimes absorbed by the acquisition of a stake by the CADF (in the case of Mozambique). The return of a politically unstable situation has caused some companies to relocate their business to a neighbouring country (as with the China-Africa Cotton Co. in Mozambique). In Mali, the Béwani farm stopped its production activities, but is adding value to its infrastructures by contributing to a World Bank development project and renting out its land to local producers. One reason for the tenacity of the Chinese companies is the widespread feeling that there is immense agricultural potential and that, as a result, investments in agriculture will pay off in the long run, in both financial and political terms.

One of the adaptation strategies of the Chinese companies is to extend their activities to all the segments of the value chain outside their originally planned area of intervention, both upstream to secure their supplies and downstream to secure their outlets. This leads the companies to invest along an extended value chain within the agricultural sector, going from construction and the installation of machinery to planting and storage, and from processing to transport. They are therefore developing contractualisation models with the local farmers, like the Wanbao company in Mozambique that supplies inputs and technical packages to farmers under contract, provides them with advice, buys their production, and then processes and markets it. The Chinese companies are faced with market failures and the failures of their national partner, who does not always meet the contractual obligations stipulated in the cooperation agreement (for example, infrastructures, and access to water, electricity and a telephone service). In these situations, the Chinese companies no longer expect the local budget from the national authority initially provided for in the partnership agreement, but deal with it themselves. This is a strategy of insourcing activities that, when the operation began, were theoretically intended for the public or private national partners. The electricity supply problems at the Nanga Eboko centre in Cameroon were circumvented by having a Chinese company equip the centre with solar panels.

The regulatory obstacles are also sometimes overcome. The China-Africa Cotton Co (CAC) in Mozambique was faced with cotton export quotas limiting its export options to China. The commercial activity of this company is significant, as it has a monopoly on the purchase of the cotton production in two provinces[37]. CAC's response was to perform initial cotton processing so that it could continue to export all its stocks, in processed or unprocessed form.

According to the Chinese companies, the focus on their social and environmental responsibilities is variable

There are no common general rules in different African countries governing the social and environmental responsibility of foreign investments. In general terms, the different national legislations are not especially binding, and the practices of the Chinese companies are carried out as a matter of individual initiative and on a voluntary basis. The situation therefore varies according to the company and the country, and it is not possible to draw any general conclusions on the subject.

Some Chinese companies appear to be mindful of social and environmental responsibility issues, as is the case in Cameroon with the company SINOCHEM, and in Ivory Coast. These companies have to sell their products to multinationals that have environmental, and even social, standards that are often binding. In Senegal, the marketing of some of the groundnut production by Chinese intermediaries for the Chinese market has, since the joint Sino-Senegalese commission of September 2014, been subject to a requirements specification concerning quality standards. In Mali, questions remain about the social and environmental consequences of the expansion of the sugar complex in N'Sukala. In Togo, the environmental effects of the technical package provided within the framework of the demonstration centre (high doses of fertiliser and insecticides, the use of tractors), although visibly extremely far-reaching, have not been the subject of any evaluation protocol. It is obviously not a priority on the research agenda.

Social disputes have been reported in several of the countries studied. These reports concern, in particular, the level of pay of national workers, and the lack of social guarantees for seasonal jobs; some disputes have resulted in strikes, as in Togo at the sugar refinery managed by SINTO, to force the application of the minimum wage stipulated by Togolese labour law. In most of these disputes, the national authorities remain cautious and tend to be lenient with the Chinese companies for fear of causing offence. They therefore remain on the side-line and avoid directly intervening in the disputes. The national managers in the management teams of Sino-African companies often adopt a neutral position. There is no question of denying the existence of such disputes or overestimating their number and

[37] The intervention of the Chinese company responsible for the management and purchase of cotton is based on an advance supply of seeds, phytosanitary products and fertiliser against the cotton harvest at a price fixed before the start of the crop year.

intensity: there are claims, and they are usually of the same nature as those seen in other companies of other nationalities.

Triangular cooperation

The triangular cooperation between China, an African country and a third partner is an arrangement observed in 7 West African countries and two countries in Southern Africa. This type of cooperation also exists in Ethiopia. In most cases, the third partner is a multilateral body, as cooperation between China and the other bilateral agencies has been cut back significantly (except for the DFID in Ghana, or the declared willingness to work with the GIZ in Togo). The multilateral body with the largest presence in the triangular structures is the United Nations Food and Agriculture Organisation (FAO), in 8 of the 10 cases identified: Ethiopia, Senegal, Mali, Sierra Leone, Liberia, Ghana, Nigeria and Namibia. There is also a triangular arrangement with the World Bank (Cameroon), and one other with IFAD (Mozambique).

On 18 May 2006, the government of the People's Republic of China and the FAO signed a Letter of Intent with the purpose of supporting developing countries to prepare their National Food Security Programmes (NFSP) and to achieve the Millennium Development Goals (tripartite Memorandum of Understanding).

Accordingly, in March 2009 in Rome, China provided the FAO, over a period of three years, with a 30-million-dollar trust fund in support of projects to improve agricultural productivity in the developing countries, at a rate of 10 million dollars per year. This strategic alliance was implemented within the framework of the FAO's national and regional food security programmes that China supported by mobilising and deploying more than 3,000 agronomists in the countries concerned, with a view to improving their productivity and agricultural production. The Chinese experts are assigned to projects managed by the FAO or to the national structures (Ministry of Agriculture, national centres of agronomic research).

In the case of Senegal, the triangular cooperation between China/FAO/Senegal was confirmed by an agreement signed in November 2011. As of May 2012, 22 Chinese experts were made available to Senegal for a period of 2 years in 4 regions: Richard Toll and Dagana (irrigated crops), Louga (sylvo-pastoral zone) and Kaolack (groundnut basin). Each mission worked together with a team of Senegalese agronomists and technicians. On completion of two years of cooperation a report was drawn up showing a mixed record: lack of motivation on the part of the Senegalese team, a delayed start to the project, but on the other hand, a number of training courses for Senegalese agronomists in China. Although the success of this cooperation is open to question, fund providers and the Senegalese government want to repeat it.

In the case of Ethiopia, the triangular cooperation between China/FAO/Ethiopia has been taking shape since May 2013, with the assignment of 30 Chinese experts for a period of two years. The second stage is the subject of ongoing negotiations. These experts come from six regions of China and were selected by the Chinese Ministry of Agriculture (MoA). They are present at 4 locations in Ethiopia: Woliso (11), Awasa (8), Alamata (4) and Debre Markos (7), and they contribute indirectly to the Agricultural Growth Program (AGP, supported by the World Bank) which takes place in the same regions. The training courses cover irrigation, field crops, livestock (selection of species, artificial insemination, food and animal fodder), visits to farmers following a certain programme, technical assistance, introduction of Chinese varieties and species (vegetables, animals), creation of nurseries, etc. A number of officials from the Ethiopian Ministry of Agriculture will attend a 10-day training course in China (growing techniques in China on demonstration farms). Setting up this programme was not simple, mainly due to language difficulties, material issues and problems on the part of the Ethiopians in mobilising the funds for this triangular cooperation.

Triangular cooperation with the World Bank

China supports a few projects or programmes initiated by the World Bank, as can other bilateral cooperations. In some cases, China provides additional funding. Like in Cameroon, where a loan of 100 million dollars from EXIMBANK was paid to the Investment and Development Project for Agricultural Markets (PIDMA), aimed at improving the productivity and competitiveness of the corn, manioc and sorghum sectors. In other cases, China provides the World Bank with infrastructures it originally constructed for its own companies. Also in Mali, the Chinese company COVEC constructed a complete hydraulic network for its farm in Béwani (Office du Niger) that it has now left for the use of the National Programme of Rural Infrastructures (PNIR) funded by the World Bank.

Points in conclusion

On completion of this work analysing the Chinese presence in Sub-Saharan Africa with a specific focus on four countries (Ivory Coast, Ethiopia, Senegal and Togo), some conclusions can be drawn from it.

The first concerns the method adopted throughout this research, which has given priority to detailed field studies enabling the collection of primary information that is always verified. This empirical approach, essential for an understanding of the ongoing dynamics of Chinese politics, highlights the reality of the cooperation and investment projects of the Chinese stakeholders in the agricultural sector, as well as, in a number of countries, the tenacity of rumours. The quality of the data gathered must remain the central concern.

Secondly, China's cooperation policy in the agricultural sector in Africa can be understood by analysing the different Sino-African projects in progress, as well as by taking account of those projects due to be started in the near future. The next FOCAC in 2015, to be held in South Africa, is expected to announce a substantial increase in Chinese aid to Africa. China remains, and will continue to remain, a major player in the development funding ecosystem over the coming years.

The third lesson we can draw concerns the operation of the agricultural demonstration centres, the flagships of Chinese cooperation in Africa. This analysis brings to light the ambition of this system to contribute to improving agricultural production and reducing food insecurity across the African continent. It also reveals a number of limits to the system's capacity to offer new cooperation methods that are more participatory and balanced between partners. The practices with regard to agronomic experiments, training and extension and the relations with the national structures are still used in quite traditional ways and are not fundamentally different to some of those implemented for a long time by the traditional funders. Furthermore, most of the observations are confirmed in a number of works such as those published by IDS[38], SAIS[39] or those passed on by the CSOAC[40] in China. It appears necessary to have a constructive reflection, based on dialogue between the Chinese actors, the traditional fund providers and the African stakeholders (State, administrations, civil society, etc.) on the models of cooperation that best respond to the major challenges facing the different countries of Sub-Saharan Africa in the short and medium term.

[38] http://www.ids.ac.uk/publication/china-and-brazil-in-african-agriculture

[39] John Hopkins SAIS China-Africa research initiative (CARI) http://sais-cari.org/

[40] http://rcid.cau.edu.cn/art/2015/2/6/art_7631_352487.html

Annex 1: Terms of reference

Cartography and study of the interventions of the emerging countries in the agricultural sector of Sub-Saharan Africa

CIRAD is asked to coordinate this study, undertaking its own analysis, as well as oversee the work of four country-specific consultants and then integrate their findings in an overview report. CIRAD will do a mapping to analyze trade flows, official development assistance (ODA) and investments from China, Brazil, Argentina, South Africa, India and South Korea in the agricultural sector with Sub-Saharan African countries.

Statistics indicating trends since the early 2000s will be used (COMTRADE sources (4 digit) for foreign trade. On ODA and investment, preferred sources will be specified for each emerging country because there is no single international source.

Work of country consultants (separately contracted by CTA) will analyse the actions of China in the agricultural sector in four countries: Ethiopia, Senegal, Togo and Côte d'Ivoire looking at:

Micro 1 local scale from two major issues: employment and poverty:
- Perceptions of projects by local communities
- The impacts of projects in terms of employment and income for local people

Macroeconomic level:
- The implications of these projects on state budgets. We will analyze the financial conditions of the projects, the context in which they take place and its impact on state budgets. The issue of untying aid will also be addressed.
- Impact of the project on agricultural policies in the countries concerned
- Do agricultural projects of China generate structural change: effects on local diversification? Concerns of local processing of production, development of agribusiness? Changes in the distribution of value added? etc

CIRAD Deliverables

- Mapping of the interventions of the emerging countries in the agricultural sector of Sub-Saharan Africa
- A policy brief
- A consolidated report with the results of the actions of China in Ethiopia
Senegal, Togo and Côte d'Ivoire when reports coming from CTA will be available.

Annex 2: The place of agriculture in the different FOCACs

FOCAC 2000 (Beijing)

The Ministers declare their readiness to share the experiences of their countries in the areas of agricultural development and fishing. Aware of the vital importance of agricultural development to the eradication of poverty and the guarantee of food security, the Ministers affirm their determination to take all necessary measures to ensure that the cooperation in this area is a success. Furthermore, both parties agree to explore, in greater depth, practical trilateral cooperation methods between China, the African countries and the international organisations concerned, including the FAO.

Source: http://www.focac.org/fra/ltda/dyjbzjhy/D2009/t168986.htm

FOCAC 2003 (Addis Ababa)

We recognise that agricultural development is an effective approach to ensure food security, eradicate poverty and improve people's livelihood in Africa. To strengthen cooperation in agriculture, which will facilitate experience-sharing and promote Africa's economic development, is an important measure to consolidate follow-up actions to the Forum, to develop agriculture in order to strengthen the food security of Africa and to increase its exports to China and other markets.

We take note of the positive efforts and the experience thus accumulated by agricultural institutions of the Two Sides in developing exchanges, exploring new measures for agricultural cooperation and strengthening agro-technological cooperation and personnel training. We agree that a work plan on China-Africa agricultural cooperation for the period 2004-2006 is essential for enhanced agricultural cooperation in such areas as land and water resource management, agro-infrastructure development, farming, breeding, aquaculture, food security, exchange and transfer of applied agricultural technology, skills transfer, technical assistance, manufacturing of farm machinery and processing of farm produce. China will continue to support and encourage strong and viable Chinese enterprises, through financial and policy incentive schemes, to develop agricultural cooperation projects in Africa.

Source: http://www.focac.org/fra/ltda/dejbzjhy/DO2009/t163459.htm

FOCAC 2006 (Beijing)

The two sides stressed the importance of agriculture in their respective economies and that enhanced agricultural cooperation will play a positive role in eliminating poverty, promoting development and ensuring food security for both sides. The two sides noted with pleasure the major progress made in China-Africa agricultural cooperation and resolved to intensify their exchanges and cooperation in farming, animal husbandry, irrigation, fishery, agricultural machinery, processing of agricultural produce, sanitary and phytosanitary measures, food safety and epidemic control, and actively explore new forms and ways of agricultural cooperation. The Chinese side decided to:

- send 100 senior experts on agricultural technologies to Africa and set up in Africa 10 demonstration centres of agricultural technology with special features;
- give encouragement and support to Chinese enterprises in expanding their investment in agriculture in Africa and getting more involved in agricultural infrastructure development, production of agricultural machinery and processing of agricultural produce in Africa;

- step up cooperation with Africa in extending applicable technologies and human resources training in agriculture;
- strengthen cooperation with African countries within the framework of the Special Programme for Food Security of the Food and Agriculture Organisation of the United Nations.

Source: http://www.fmprc.gov.cn/zflt/eng/zyzl/hywj/t280369.htm

FOCAC 2009 (Sharm el-Sheikh)

The two sides commended Africa's efforts in embracing a growth-oriented agricultural agenda through the Comprehensive African Agricultural Development Program (CAADP) aimed at increasing agricultural growth rates.

The two sides noted that food security is a major challenge facing the international community and it is particularly serious for African countries. Agricultural development holds the key to food security in Africa, and is essential for Africa's endeavour to eradicate poverty, ensure people's livelihood and develop the African economy. The two sides decided to prioritise agriculture and food security in their cooperation.

The two sides were pleased to see the deepened and orderly growth of agricultural cooperation between China and Africa. They pledged to maintain and strengthen such cooperation and expand, in particular, cooperation in agricultural infrastructure, grain production, breeding industry, exchanges and transfer of practical agricultural technologies, and in the processing, storage and transportation of agricultural products. The Chinese Government offered to do the following:

- In the course of the next three years, send 50 agricultural technology teams to Africa and help train 2,000 agricultural technicians for African countries.
- In the course of the next three years, increase to 20 the total number of agricultural technology demonstration centres built for African countries.
- Continue the effective management of the agricultural technology demonstration centres already built. The centres will start to carry out experiments, demonstration projects, and training programmes in crop seed selection, farming, fish breeding and animal raising.
- Implement the decision to contribute US$30 million to the United Nations Food and Agriculture Organisation (UNFAO) to set up a trust fund, and actively use the trust fund to support South-South cooperation between China and African countries within the framework of the UNFAO Special Programme for Food Security.

Source: http://www.focac.org/eng/dsjbzjhy/hywj/t626387.htm

FOCAC 2012 (Beijing)

The two sides noted that the issue of food security is particularly challenging for African countries and stressed that agricultural development is crucial for food security in Africa. The two sides decided to continue to prioritise agriculture and food security in their cooperation.

The two sides spoke positively of the important achievements in their cooperation on agriculture and food security over the years.

The two sides commended the progress of the African countries in implementing a growth-oriented agricultural agenda under the framework of the Comprehensive African Agricultural Development Programme (CAADP), and pledged to work together in support of CAADP.

The two sides pledged to engage in agricultural cooperation and exchanges at multiple levels, through multiple channels and in various forms. Efforts will be made to continue to support and help

Africa in improving agricultural production, strengthening Africa's capability to ensure food security, and expand cooperation between the two sides in technical exchanges and human resource training in agriculture, agricultural development planning and system building, agricultural processing and promotion of agricultural machinery to create a favourable environment for African countries to realise long-term food security supported by national agricultural production and processing. The Chinese government has decided to take the following steps:

- To continue to send agro-technology teams to African countries and step up efforts to train African agricultural technicians.
- To send teachers for agricultural vocational education to African countries and help Africa establish an agricultural vocational education system.
- To build more agricultural technology demonstration centres and continue to enhance the function and role of such centres and jointly carry out production demonstration and technology dissemination.
-To help African countries improve the capacity for independent development and provide technical support in grain planting, storage, processing and marketing, and provide them with technical support.
- To encourage Chinese financial institutions to support cooperation between Chinese and African companies in agricultural planting, processing of agricultural products, animal husbandry, fishery and aquaculture.
- Actively to support the agricultural development programmes of the United Nations Food and Agriculture Organisation (UNFAO) in Africa and work with African countries and regional organisations on food security within the framework of the UNFAO "Special Programme for Food Security".
- To facilitate access for African agricultural products to the Chinese market.

Source: http://www.focac.org/eng/zxxx/t954620.htm