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# Cooperation in Agriculture in AAGC: Innovations and Agro-Processing

**Krishna Ravi Srinivas**

Discussion Paper # 221



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# **Cooperation in Agriculture in AAGC: Innovations and Agro-Processing**

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## **Key Recommendations**

- India's experience and success with Green Revolution may be replicated in African countries through a combination of both Green and Gene Revolution in a way that Africa benefits the most.
- Joint collaborations between Asia and Africa in seed sector, farm machinery and ICT applications may be explored.
- Interventions through cooperation by both public and private sectors in developing the seed sector as well as expanding the capacity in this sector can help benefit Africa.
- Due to the overcrowding of efforts by various countries including USA and Europe in developing agriculture machinery as well as competition from countries like Brazil and China, both India and Japan must focus on investing in unique areas and only on assessing unmet gaps in needs and developing solutions that are appropriate to the needs of the people.
- Under the ICT and ICT-enabled services in Agriculture some of the areas that both India and Japan can leverage are involving private sector in establishing linkages between farmers and market, digitalization of land records management, use of software in order to improve efficiency, integrating financial services with buying, selling and marketing, building mobile based services and providing expert advice through mobile phones etc.

# Cooperation in Agriculture in AAGC: Innovations and Agro-Processing

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**Abstract:** Agriculture, the backbone of many African economies, provides livelihood to the teeming millions and absorbs a significant fraction of local workforce. Africa remains a net food importer and its agricultural sector is underdeveloped. The level of investment in agriculture and agro-processing sectors is quite low compared to other sectors of economy. Besides agriculture infrastructure, innovations in food processing, seeds, farm machinery and implements, rural value chain infrastructure, ICT applications, *inter alia* are crucial to enhance productivity and competitiveness of agriculture sector in Africa. Investment in agriculture has increased considerably in Africa as per the Comprehensive Africa Agriculture Development Programme (CAADP) targets. Moreover, Africa's policies on agriculture are inspired by the goals envisaged in the Agenda 2063. On the other hand, India, Japan and other countries in Asia do recognize the need for promoting innovations as well as joint collaboration with other countries in Africa. Asia-Africa collaboration for innovations in agriculture in the spirit of development partnership may create virtuous cycle of growth, innovation and job creation in the two continents. This paper explores the priority areas for cooperation among the Asian and African countries to move forward in agriculture sector.

**Keywords:** AAGC, innovation, food processing, seeds, investment

## Sectoral Profile

Agriculture is crucial for African economies as it employs more than 40% of the labour force and contributes significantly to the GDP. With approximately 783 million hectares of its arable land constituting 27% of the world's total, Africa provides enormous scope for economic growth and human development (FICCI-PwC, 2016). Although the

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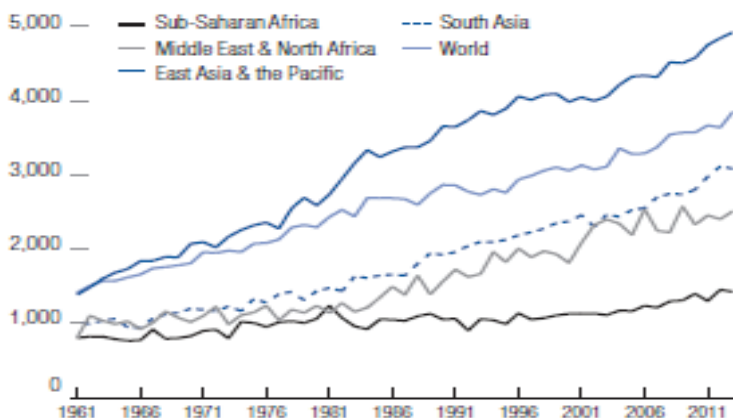
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contribution of agriculture to the respective GDPs varies across the continent, according to World Bank its share is about 32% (World Bank, 2013) (Figure 1). Africa is experiencing good growth with an average growth rate of 7% between 2011 and 2013. Although the significance of agriculture varies in terms of contribution to GDP, it ranges from 2.4% in Equatorial Guinea to 70% in Liberia as it provides employment to 50% of labour force, of which 47% are women. The rural population of Africa is 64% of the population and agriculture is the main source of livelihood and employment for a significant section of this population. The share of agriculture is declining, partially because of low productivity and limited value addition (WEF-World Bank-OECD, 2015). Comparison with other regions as shown in the graph below shows that Africa has lots to do to catch up with other regions in agricultural productivity.

It is acknowledged that Africa has missed the Green Revolution while Asia gained significantly from the same. Over the years a frequent question that had been asked and answered is that whether the success story in Asia could be replicated in Africa by a Green Revolution. The answer is yes, a qualified yes (WEF-World Bank-OECD, 2015; Otsuka and Kalirajan, 2006). This does not mean that whatever was done in Asia should be simply repeated in Africa. It means that we should combine Green Revolution and Gene Revolution in Africa to ensure that Africa benefits the most. For example, such a strategy will not mindlessly promote use of pesticides and fertilizers in Africa, although their usage is lower when compared to usage in Asia. Instead the strategy would be to adapt from the best examples.

Africa is a net importer of agricultural products , with imports of cereals (including rice, maize and wheat) and livestock products (dairy and meat) contributing to food security and the mismatch between increase in consumption and increase in production contributes to this (OECD-FAO 2014). This means that even a small contribution in increasing agricultural productivity can reduce the dependence on

**Figure 1: Cereal yields by region, 1961–2013**  
Kilograms per hectare



Source: World Bank, 2015.

imports and contribute to food security. However, there are multiple challenges that are being faced by agriculture in Africa, ranging from climate change and urbanization to low productivity and lack of modernization. Given the diversity in the crops and agricultural produce in Africa focusing on one crop or two will not be sufficient. Instead depending upon the needs of different countries strategies for increasing productivity have to be developed. As Table 1 shows that in many countries cereals are important and crops like cocoa and horticulture sector are also important. Translating this into practical terms means that increase in productivity should be a target for many crops and cereals and this should be fine tuned at the national level. This has significant implications for collaborations because collaborations based on one crop- one solution would not work in Africa. As the table below shows countries in Africa have diversity in terms of crops.

**Table 1: Major Crops Grown in Africa**

Sr. no.	Major crops grown	Country
1	Wheat, rice, maize, sorghum, potatoes, cassava, sugarcane, beans, nuts, oilseeds, cotton, tomatoes, onion, banana, pineapple, cocoa beans, fibre crops (jute, bast fibres, etc.), tobacco	Angola
2	Rice, maize, sorghum, potato and other tuber crops, sugarcane, cashew nuts, kola nuts, oilseeds, cotton, okra, maize, cocoa beans, coffee, tobacco	Côte d'Ivoire
3	Rice, maize, millet, potatoes, cassava, yams, sugarcane, beans, oilseeds, cabbage and other brassicas, onions, okra, banana, citrus crops, cocoa beans, rubber	Congo
4	Wheat, rice, barley, maize, rye, sorghum, potatoes, sugarcane, beans, peas, lentils, oilseeds, cotton, cabbage and other brassicas, tomato, onion, garlic, eggplant, citrus fruits, grapes, melons, mango, fibre crops (jute, flax, etc.), pulses	Egypt
5	Rice, maize, millets, sorghum, potato, cassava, sugarcane, beans, pulses, nuts, oilseeds, cotton, tomatoes, chillies, onion, citrus fruits, mango, pineapples, cocoa beans	Ghana
6	Wheat, rice, maize, sorghum, potato, cassava, sugarcane, beans, cowpeas, nuts, oilseeds, tomatoes, onion, beans, mango	Niger
7	Wheat, rice, maize, sorghum, potatoes, cassava, yam, sugarcane, cowpeas, nuts, oilseeds, tomato, onion, carrots, okra, pineapple, papaya, cotton	Nigeria
8	Wheat, rice, barley, maize, sorghum, potatoes, sugarcane, tobacco, nuts, oilseeds, cotton, tomato, pineapple, mango, rubber	South Africa

Source: PwC analysis

According to one report “The region’s agriculture involves diverse crops and livestock but productivity is particularly important for cereals and starchy roots, which provide two-thirds of the total energy intake for the population (three-quarters for the poor). Though there are increasing cereal yield trends in most sub-Saharan Africa countries, these yield levels remain low compared to other regions of the world. As evident from the yield numbers presented above, despite of diversified agro-climatic advantages, agriculture productivity in Africa for almost all major food product categories lags considerably behind that of other continents, including staples such as maize and important African export commodities such as cocoa” (FICCI-PwC, 2016 ).

Many reports have identified the factors that constrain the increase in agricultural productivity and a good summary of them can be found in The Africa Competitiveness Report 2015 which also discusses how Africa can benefit from a ‘Green Revolution’. Despite all problems and issues, agricultural growth and increased productivity is possible in Africa, although estimates vary on potential rates of growth and increase in productivity.



In recent years, African countries have embarked upon high growth strategies. The Agenda 2063 reiterates the importance of modernisation of agriculture in Africa to achieve inclusive and sustainable development. But the challenge lies in identifying the key areas where initiatives in co-operation should focus and among these areas which themes/issues should be prioritised and how they should be linked with the broader work programs on cooperation.

## **Cooperation Scope and Priorities**

Broadly the following sectors may be considered as potential areas for cooperation.

- Seed Sector
- Farm Machinery
- ICT in agriculture

### ***Seed Sector***

Given the importance of quality inputs to enhance/maintain productivity the need for cooperation in this sector is obvious. However, in relative terms the seed sector is underdeveloped and the formal seed sector is gaining ground in many countries and the co-existence of formal and informal seed sectors is a factor that has to be taken into account. According to one study “Africa’s seed market is estimated at 1.5 billion USD—about 3% of the world total—and is expected to double to 3 billion USD within the next 10 years. Currently, Africa is a minor player in the global seed trade, accounting for less than 2%. Approximately 80% of the seeds are distributed through informal seed systems, wherein the farmer saves and replants the seeds every year. Constraints holding back investment, progress and trade in this crucial sector include a highly fragmented seed system, inconsistent policies, standards, regulations and procedures, high costs for registering new varieties, and an inadequate infrastructure to support the development of the seed industry” (FICCI-PwC, 2016).

Literature on agriculture indicates that the bottlenecks include lack of adequate R&D, weak capacity and investment in public sector innovation system to develop new genotypes relevant for different climatic requirements, minimal or little technology transfer, and, lack of seed marketing channels which in turn constrain the access to seeds. Given the untapped potential collaboration and co-operation in seed sector has been of interest to countries such as Brazil, China and India. Obviously the big MNCs have also established a firm footing in Africa. But the reality is complex and despite claims that seeds from these countries are more suited the one provided by companies from G8 countries, the claims that they are more pro-poor and sustainable, ultimately is yet to be tested and there is scope for collaboration and knowledge sharing (Tugendhat, 2014).

Nevertheless, cooperation in seed sector cannot be assumed to be a win-win proposition always and as more and more companies/countries target the seed sector, the opportunities will increase but will also become very competitive. But the situation is getting blurred as there are many initiatives and too many actors and initiatives in seed sector in Africa (see for details, Good Seed Initiative, CABI 2014) and it is important to understand the scope for collaboration in these initiatives. Private sector firms are not averse to working with civil society groups/NGOs and capacity building in seed sector is also part of development cooperation in some cases. All this means that seed sector will be a contested arena with many players trying to promote technologies and seeds with attractive claims and compete for the growing, but limited market.

So cooperation for the sake of cooperation cannot be a reason for intervening in this sector rather relevance and value addition should be paid attention to. Given the long term implications and scope for cooperation in this sector it is essential that the cooperation should be perceived as a beneficial one right from the beginning. More important is that it should not be perceived as a move to thrust upon/promote controversial technologies or inappropriate seed varieties.

African union and the African countries have unilaterally undertaken several initiatives towards promoting agriculture. Some Indian initiatives need worth mention. For example, Indian seed companies such as Advanta India Ltd., have partnered with various local non-government organisations (NGOs) and initiatives for distribution of high yielding crop seeds. Indo-American Hybrid Seed Ltd, Nirmal Seeds, Ganga Kaveri, Ankur Seeds, Rasi Seeds and Nuziveedu Seeds have partnered with Syngenta Seeds2B/African Seed Trade Association (AFSTA). M/s Vibha Seeds has business processes for cotton, rice and vegetables seeds in Mozambique, Ethiopia, Kenya, Tanzania and Senegal. Strategic business plans such as buyout of local seed company (Zimbabwe-based Africa's largest listed seed company, Quton Seed Company) by Mahyco (Maharashtra Hybrid Seed Company). Many seed companies pursue this path or register as African seed company in order to sustain their foothold. Japanese seed company such as Nakata also has similar foot hold in Africa.

Given the bewildering range of activities and initiatives, it is suggested that cooperation in this sector should be promoted after understanding the objectives, activities and initiatives. For both Japan and India, seed sector is a key arena for intervention through cooperation. In the current scenario, private sector has taken the lead, and, still there is scope for public sector to play a key role.

In view of the fast changing scenario and the diversity in seed systems and regulations, it is suggested that a review of the current collaborations and cooperation initiatives should be undertaken to understand the scope in future, lest duplicative efforts and unproductive initiatives should be promoted in the name of cooperation. India and Japan can do this together and explore the potential for public sector in cooperation. Similarly, capacity building in regulations is another issue that needs attention as many studies are revising the regulations and increasing the capacity in the sector. What Africa can learn from India and Japan in regulations depends upon how relevant the regulations in Japan and India are for Africa.

Having said all these we should point out that as formal and informal seed sectors co-exist and will continue to do so for at least a decade, cooperation should not ignore informal seed sector including local seed production systems, farmer-centric seed networks and assume that these in any case will wither away. Instead if cooperation can demonstrate that India and Japan can contribute to meeting farmers needs through cooperation in/with informal seed sector, it will enhance the credibility which in turn will stimulate demand (Christinck, Diarra Doka and Horneber, 2014).

### ***Farm Machinery***

According to FAO (2016) “Moreover agricultural mechanization in its broadest sense can contribute significantly to the development of food systems, as it has the potential to render post-harvest, processing and marketing activities and functions more efficient, effective and environmentally friendly” (FAO, 2016). The role of farm machinery in different stages of value chain in agriculture is varied and important. Hence there is a need to take a comprehensive look at the role for farm machinery in African agriculture. There are issues like labor displacement, unaffordability of machinery but it is better not to assume that introduction of machinery will result in labor displacement or loss of employment. Hence it is suggested that AAGC should adopt a pragmatic perspective on this instead of assuming that machinery will solve all problems or is undesirable on account of loss of employment. India is making an impact in this sector.

During the 52<sup>nd</sup> session of African Development Bank Annual Meeting held in May 2017 in Ahmedabad, farm machinery suppliers from Gujarat signed agreements with their counterparts in Ghana, Zambia, Mozambique and Togo for supply of machinery, training and cooperation in mechanized agriculture. This augurs well for cooperation in farm machinery sector. However as in seed sector the competition from China and Brazil is bound to make things not easier, particularly with both states giving importance to farm

machinery and modernization of agriculture in Africa. A quick survey of literature shows that there are lessons for those who intend to transfer technology and/or market agricultural machinery in Africa. For example, Sub-Saharan Africa is the region with the least mechanized agricultural system on the planet – the World Bank reported that there are only 2.24 tractors per 100 km of arable land in Mali, compared to 1,300 in Europe. Only 5% of all arable land in Africa (excluding Egypt and Mauritius) is irrigated, whereas the average rate in countries like Brazil, China, India, Pakistan and Vietnam is 38%.

Globally, Africa is the least mechanized region in the world. It is obvious that mechanization can be an important part of cooperation given the needs. But to assume that mechanization will be a golden bullet that can be fired through cooperation is a flawed approach. In this regard, India and Japan should try to understand what have been the issues with exports and transfer of technology in this sector. It is observed that while Brazil and China have tried to export and transfer technology such efforts were not fully successful. The results are mixed but no country is withdrawing from this sector (Amanor and Chichava, 2016; Buckley, Ruijian, Yanfei and Zidong, 2017; Cabral, 2016).

Moreover, there are pros and cons to integrate farm machinery in other projects/initiatives. Hence we suggest that instead of assuming that cooperation in farm machinery will be a simple matter, and, farm machinery as part of another initiative is what Africa needs, it is better to understand the dimensions in this sector. A key question is how appropriate will be the farm machineries from India and Japan for African countries. As in seed sector, there are numerous projects involving NGOs, academic institutions/research centres, often, with private sector participation. In fact, Europe and USA are actively engaged in this. For India and Japan to successfully create or enhance cooperation with African nations in this crowded space a strategy has

to be worked out. Only assessing unmet gaps in needs and developing solutions that are appropriate to the needs can be developed.

### ***ICT in Agriculture***

ICT and ICT enabled services are sectors in which India and Japan can work together. Given the pioneering examples in India in using ICT and ICT-enabled services in agriculture and administration it is worthwhile to assess their relevance for Africa. Private sector examples that link markets and farmers through ICT and use of ICT to enable two-way communication with farmers may be suitable for adoption in Africa. Digitalization of land records management, use of software to improve efficiency and participation, and providing expert advice through mobile phones are some of the potential applications.

In India as there have been initiatives to meet different needs, mapping what are the relevant technologies/applications can be a good beginning. The ‘mPeso’ based mobile financial services in Kenya is a successful example. But for India and Japan the challenge lies not in replicating it, but in building mobile based services platforms for meeting needs of farmers and such platforms could be integrating financial services with other services including selling, buying and marketing.

### **Specific Projects & Recommendations**

In light of the above discussion, we suggest that specific projects could be developed in different sectors depending upon the context of co-operation, available resources and objectives. Listing or describing general projects will not be of much help as that will not add value in terms of specific projects.

After a thorough review of ongoing cooperation initiatives and the proposed ones, specific projects can be conceptualized and developed. Suggesting general projects or advocating more projects

in rice seed sector or projects to make available more farm machinery will not be of much relevance although they may look good in paper.

## **Recommendations**

- Given the changing nature of agricultural cooperation in Africa it is imperative to understand the challenges and opportunities for cooperation among India, Japan and Africa in each sector.
- The proliferation of initiatives and ever-increasing number of agencies/institutions jumping into the cooperation/collaboration bandwagon has made the situation complex. As countries often have more than one agency/country knocking at their doors in the name of collaboration and cooperation, offering a bewildering range of choices in cooperation may not be successful. Instead a strategy-based approach in each sector is required and building synergies across initiatives/projects is important.
- Specific projects, particularly ones that try to replicate the successful initiatives in India and Japan can be developed, ab initio, but issues relating to replicability and contextualization should be taken in to account.
- In ICT and ICT-enabled services Japan and India seem to have a competitive advantage and India's expertise in Information Technology-enabled Services (ITES) sector and successful adoption of ICT in different sectors in rural areas should be leveraged for fruitful cooperation.

## **The Way Forward**

- Africa being the net importer of agricultural products faces the challenge of food security and self-sufficiency. The African countries have to undertake policy measures to catch up with other regions in agricultural productivity.
- The synergy among various components of growth strategy of different countries in Asia and Africa should be built and

benefits from cooperation in agriculture should supplement or contribute to gains in other areas. For example the benefits from agricultural cooperation should positively contribute to reducing malnutrition and hunger.

- Both India and Japan can collaborate in building mobile-based service platforms for meeting the needs of farmers and such platforms can be utilized for integrating financial services with other services including selling, buying and marketing.
- Besides replication of the successful experiments in agriculture in India, Japan and other countries in Asia and Africa, countries in AAGC need to adapt the best practices suitably into their agricultural processes and practices.
- Weak capacity, low investment in public sector innovation system, minimal or little technology transfer, lack of adequate R&D, low productivity and lack of modernization continue to remain the major challenges in African agriculture sector. Cooperation among countries under AAGC may provide impetus to stimulate innovation, raise productivity and encourage agro-processing.

## References

- Amanor, Kojo S and Sergio Chichava (2016). “South–South Cooperation, Agribusiness, and African Agricultural Development: Brazil and China in Ghana and Mozambique”. *World Development*, Vol. 81, pp. 13–23.
- Buckley, Lila., Chen Ruijian., Yin Yanfei and Zhu Zidong (2017). “Chinese Agriculture in Africa: Perspectives of Chinese Agronomists on Agricultural Aid”, Discussion Paper, IIED, January.
- Cabral, Lidia (2016). “Brazil’s Tropical Solutions for Africa: Tractors, Matracas and the Politics of ‘Appropriate Technology’”. *The European Journal of Development Research*, Vol. 28, Issue 3, pp.414–430.
- Christinck, Anja., Marthe Diarra Doka & Gottfried Horneber (2014). Innovations in Seed Systems — Lessons from the CCRP-funded Project ‘Sustaining farmer-managed seed initiatives in Mali, Niger and Burkina Faso’, The McKight Foundation, November.



- FAO (2016). *Agricultural mechanization: A key input for sub-Saharan African smallholders* Rome: FAO  
<http://spore.cta.int/en/dossiers/article/agricultural-mechanisation-in-progress.html>.
- FICCI-PwC (2016) *India-Africa partnership in agriculture: Current and future prospects* New Delhi: FICCI
- OECD-FAO (2014) *OECD-FAO Agricultural Outlook 2014* Paris: OECD
- Otsuka, Keijiro and Kaliappa P. Kalirajan (2006). Rice Green Revolution in Asia and Its Transferability to Africa: An Introduction, *The Developing Economies*, Vol. XLIV, No.2, pp.107–22.
- Tugendhat, Henry (2014). *Emerging Seed Markets: The Role of Brazilian, Chinese and Indian Seeds in African Agriculture*. Policy Brief No.79, Future Agricultures ([www.future-agricultures.org](http://www.future-agricultures.org)).
- Tugendhat, Henry (2014a). *New Paradigms of Agricultural Development Cooperation in Africa: Lessons from Brazil and China*, Policy Brief No. 63, Future Agricultures ([www.future-agricultures.org](http://www.future-agricultures.org)).
- WEF-World Bank-OECD (2015). *Africa Competitiveness Report 2015*. Geneva.
- World Bank (2013). *Fact sheet: The World Bank and Agriculture in Africa*.

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