

---

**ISSN:**

Print - 2277 - 0755

Online - 2315 - 7453

© FUNAAB 2017

---

---

**Journal of  
Agricultural  
Science  
and Environment**

---

---

# HELPING PEASANT FARMERS IN NIGERIA THROUGH AGRICULTURAL COOPERATIVES: LESSONS FROM JAPAN AGRICULTURAL COOPERATIVE MODEL

---

<sup>1</sup>E. FABUSORO , <sup>2</sup>M. MARUYAMA, <sup>2</sup>H. Y. FU AND <sup>1</sup>C. I. ALARIMA

<sup>1</sup>Department of Agricultural Extension and Rural development  
Federal University of Agriculture, Abeokuta, Nigeria

<sup>2</sup>Department of Advanced Social and International Studies  
The University of Tokyo, Japan

\*Corresponding author: [efabusoro@gmail.com](mailto:efabusoro@gmail.com)

---

## ABSTRACT

Japan agricultural cooperative known as JA in Japan is the citadel of small farmers' livelihoods. For almost 60 years, JA was the driving force behind small farmer-supportive policy in Japan. The reverse is the case in Nigeria where agricultural cooperatives are not tailored towards organized support; therefore Nigerian farmers face the brunt of the market, policy and economy. While there are emerging challenges for JA, its relevance remains undaunted in marketing, farm guidance, credit, insurance, and subsidy among others. The paper examines the need for adapting the JA agricultural cooperative model in Nigeria and the needed institutional contexts. Alleviating rural poverty in Nigeria requires building farmers capacity through cohesive farmers' organizations that will act as channels for introducing agricultural technologies for production and processing, gaining access to quality inputs, credit and technology, reduce farm gate losses and enhance farmers access to market and generally improving their capacity for negotiating better deals in the political system and gaining more control over their socioeconomic position in the Nigerian social system. The JA model of agricultural cooperatives is a relevant case study to building an organization that would meet farmers' needs and help in agricultural development.

**Keywords:** agricultural cooperatives, JA, small farmers, Nigeria, Japan

## INTRODUCTION

In Nigeria and Japan agricultural production is still in the hands of peasant, small farmers. Japan, a developed country, has 4,536,111 farmers, representing 4% of the population (Ministry of Agriculture, Forestry and Fisheries MAFF 2011) among which over 90% cultivate less than 3ha (Godo 2007). These farmers produce over 90% of its domestic food production. The same

situation is the case in Nigeria; Nigeria has about 39,385,000 farmers of which about 99% are small-scale farmers cultivating about 2ha of land (Food and Agriculture Organization FAO 2010, World Bank 2011). The average farm size in Japan was 1.6ha (MAFF 2003, Godo 2007) while that of Nigeria ranges from 1.3ha to 1.9ha (Obamiro et al. 2003, Fabusoro et al. 2010). Despite the level of development, small farms in Japan are

inefficient and less profitable (Yamashita 2005, Godo and Takahashi 2008) just like the Nigerian peasant farmers described as low-skilled, inefficient, unproductive and lacking basic modern inputs (Okuneye 2001, Omotayo 2010). In Nigeria, agricultural holdings are generally small and scattered, rural based, subsistence and characterized by simple tools and shifting cultivation.

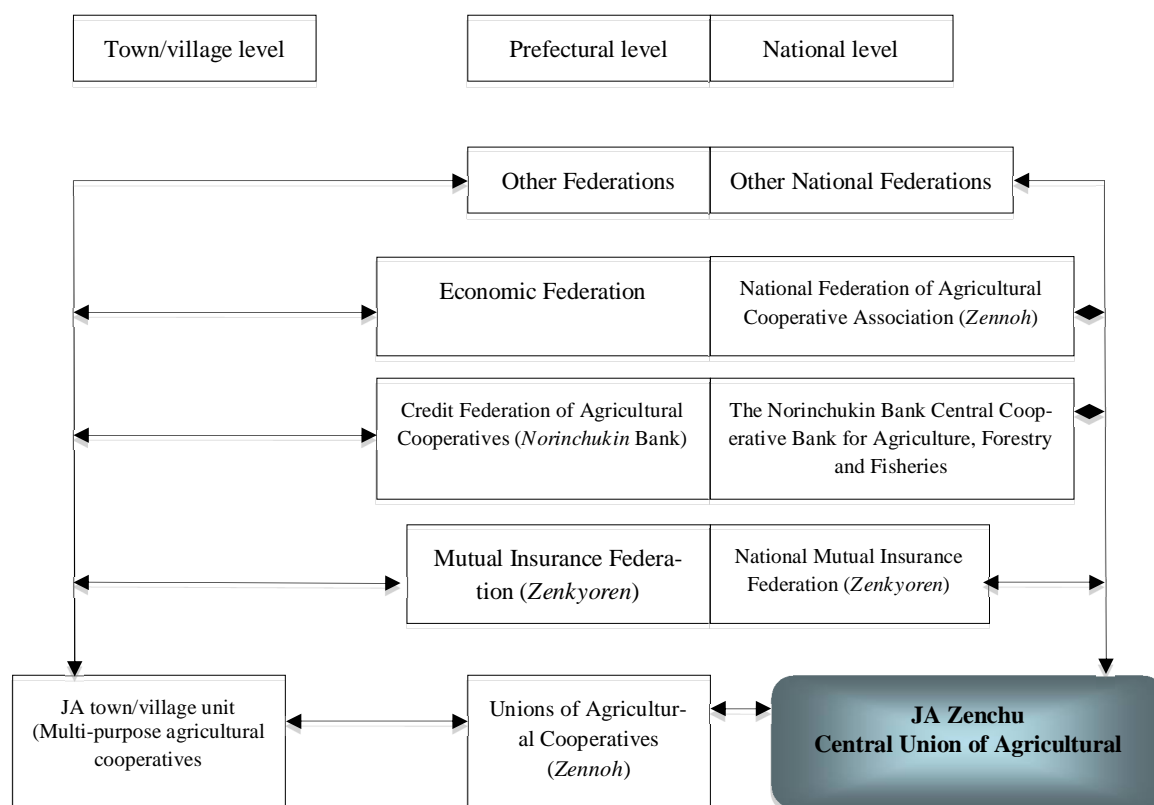
Since the end of World War II, support for small farmers dominates policy perspectives in Japan's agriculture. The Food and Agricultural Laws since 1961 till the recent review in 2010 have the family farm and its preservation the centerpiece of the government's policy on agriculture (Riethmuller et al. 1996, MAFF 2010). Small farmers in Japan have enjoyed much policy protection and received support than any farmer in the Organization for Economic Cooperation and Development (OECD). Japan's small farmers are as twice protected as farmers in Europe and five times as farmers in America (OECD 2009). Many scholars have criticized the protectionist approach for Japan's farmers as it hinders competitiveness and rewards inefficiency (Riethmuller et al. 1996, Godo 2006, Yamashita 2005, Koyama & Kobayashi 2007). Although, recent events have showed a turning point in agricultural policy as government has reviewed its policy in line with Foreign Trade Agreements (FTA), the underlining principle is still towards supporting small farmers in the face of impending deregulation. Their counterparts in Nigeria do not have similar experience. They produce the bulk of Nigeria's domestic food production but are faced with numerous production challenges, not faced by their Japanese counterparts, resulting in poorly efficient production system and pervasive poverty.

The driving force behind small farmer-supportive policy in Japan is the agricultural cooperative, often called JA (Japan Agricultural Cooperative) or *Nokyo* in Japanese. JA has a long history; traditionally, it has its root in the cooperative attitude of Japanese peasants through the traditional system of mutual labour exchange among farm families, called *Yui* in Japanese, for rice transplanting. In Japan, rice transplanting was normally done with the cooperation of several households of the same *yui* party (Suehara 2005). Legally, the Farmers Association Law of 1899 led to the establishment of Farmers association in all villages in Japan. With rice at the core of Japanese agricultural policies and its use for tax payment, the associations were used as organs for rice collection and to implement agricultural policy and for introducing agricultural technologies (Koyama and Kobayashi 2007). Later laws that led to the metamorphosis of these associations into cooperatives were the Industrial Association Law of 1900, Agricultural Organization Law of 1943 and the post World War II Agricultural Cooperative Law of 1947. The Agricultural Cooperative Law of 1947 formally established the cooperatives and reorganized existing cooperative and associations into state bodies to strengthen the control of farmers.

JA has demonstrated its economic, social and political strength through organizational and management capacities. It functions in the systematic application of technologies, consolidating their marketing, supply and credit services, provides a continued supply of food, which in a way gave a strong boost and confidence to Japan's economic and industrial development and has made the farming profession equally remunerative and honourable as the industrial profession (Prakash 2000). JA has as its main motivation in helping peasant farmers that are vul-

based on a two-tier arrangement, with the merger of the Prefectural federations with their national bodies (Figure 1). The merger process was adopted in the 1990s to create financial and managerial capacity. This has seen JA unit cooperatives declining from 3,574 in 1990 to 1,411 in 2000, 878 in 2005, 719 in 2010 and 715 in 2011 (Kurimoto 2004, JA 2011). The central body of JA is called *Zenchu* (Central Union of Agricultural Cooperatives), which is the central administrative arm and power hub that negotiates with the government and participates in MAFF policy making (Godo 2001). The Norinchukin Bank and Mutual Insurance Federation (*Zenkyoren*) operate both at the prefectural and national level providing savings, credit and insurance services to JA

members and non-members. The basic units are the village/town cooperative units that are in direct contact with farm households and have their own operational and territorial jurisdiction. The prefectural and national level provides direct corporate services to the village/town JAs. The organizational structure shows a horizontal structure of power relation between the town, prefecture and national bodies. Membership of JA comprises both the regular and associate members; the regular members are full time farmers that have voting rights while the associate members are part-time farmers and other users of JA's services without voting rights.



**Figure 1.** Diagrammatic representation of JA operational structure. The two-way representation of the arrows shows a two-way flow of communication, from the local to national level, for different activities/services, through the federations.

agriculture, Nigeria needs to invest more in improving the situation of its teeming small scale farming population. Agricultural cooperatives, like in Japan, could serve as a conducting pipe through which policies are implemented, supports provided and capacities improved. One immediate answer to poverty and food security questions of Nigeria is improvement in living condition of small farmers that account for at least half of its population.

### **Institutional arrangements for Agricultural Cooperative in Japan and Nigeria**

The conditions under which cooperatives emerge, the strategy to apply for emergence and the role the cooperative would play are based on the institutional frameworks of the society. The institutional framework has a fundamental influence on the formation and the evolution of cooperative organizations that need to operate under given set of rules. The institutions include the legal and administrative system, socioeconomic policy and culture and pervasive practices (Kurimoto 2004). North (1990) affirms that institutions matter in the evolution of organizations. Institutions are the conventions, norms and formally sanctioned rules of a society. They provide expectations, stability and meaning essential to human existence and coordination. Institutions regularize life, support values and produce and protect interests (Vatn 2005, 60). Institutions include both formal constraints (legal and administrative system, contracts, property rights) and informal ones (convention, codes of conducts, values, culture and tradition) (North 1990).

Agricultural cooperatives are a significant form of business enterprise and in many respects, similar to, but distinctly different from the investor-owned, profit-

maximizing firms (Cotterill 1987). Cook (1995) gave two economic justifications for forming agricultural cooperatives:

1. individual producers need institutional mechanisms to bring economic balance under their control, usually because of excess supply-induced prices; and
2. individual producers need institutional mechanisms to countervail opportunism and holdup situations encountered when market fail.

This means that agricultural cooperatives are being formed to strengthen bargaining power, maintain access to competitive markets, capitalize on new market opportunities, obtain needed products and services on a competitive basis, improve income opportunities, reduce costs and manage risk (Ortmann and King 2007).

JA in Japan and cooperative associations in Nigeria were formed for these purposes but differ in performance based on institutional contexts and the strength of cooperative principle. They also hold the principle to develop local community and functions to improve agricultural production by creating favourable environment for small farmers in local communities. The differences in the effectiveness of agricultural cooperatives in Nigeria and Japan are in the policy, social, traditional, political, legal, economic and market institutions, property rights, bureaucracy and administrative institutions and social orientation towards cooperation and relationship with external institutional environment. Japan has a well-structured, nationally organized system for agricultural cooperative, instituted in JA. Riethmuller et al. (1996), Godo (2001), Aoki (2001), Koyama and Kobayashi (2007) and Yamashita (2009) have discussed the contribution of these factors to the present state of JA. Through the

political institutions, JA initiates, influences and implements agricultural, financial and trade policies. Its political strength was undaunted for about six decades, acting both as a state agent and as a farmers' cooperative, enabling its growth and business.

The informal social environment in Japan is such that cooperation and group orientation is promoted. Grubel (1999) asserts that there are unique aspects of Japanese society, which make cooperation successful. Japanese accept the notion of cooperation, and are willing to join efforts to maintain order and stability. According to Etzioni (1988) and Vatn (2005), the will to cooperate and act in 'we' terms will depend on cultural experience and traditional values. Informal social institutions therefore offer meaning and frame communication, defining whether it is acceptable for individuals to act in a self-regarding way or if they are expected to take the interests of others into account. Institutions are hence 'rationality contexts, solving coordination problems by emphasizing common goals and facilitating peoples' willingness to share and cooperate (Vatn 2007).

The historical root of cooperative in Nigeria dated back to 1922 when the Cocoa fermenting scheme was established and the formation of a cocoa cooperative union in 1934 (Ilebani 2010). The Cooperative Federation of Nigeria was established in 1945, as apex institution for cooperative activities in Nigeria however there was no coherent framework for agricultural cooperatives like Japan. Since the first agricultural cooperative around 1934, four forms of agricultural cooperatives have existed:

- a. the commodity-based,
- b. the credit and thrift cooperatives,
- c. community organizations and

project beneficiary-based cooperatives. Before independence and up till early 1970s, most farmers' cooperatives in Nigeria were commodity based, working with different marketing boards, that served to collect and market agricultural cash crops such as cocoa, rubber, cotton, and groundnuts, among others. The credit and thrift based appeared more resilient but has no supportive institutional framework. The successful ones operated independently but lacked a strong capital based for sufficient supports for small farmers. The project beneficiary-based cooperatives were formed based on hasty arrangements, responding spontaneously to government's calls for farmers' cooperatives to meet the requirements of externally funded projects. Farmers hurriedly organized themselves in order to be enlisted as projects beneficiaries without any long-term goal for sustaining such cooperative. In most cases, the lifespan of such cooperatives do not extend beyond the projects.

Apart from cooperatives, there are numerous farmers' community-based organizations operating in Nigeria similar to labour unions for political agitations but not for direct support to farmers. They aim at helping small farmers but they differ significantly from JA in their structure and functions. The organizations were not tailored towards organized support for farmers and had no policy commitment from government to sustain their relevance. The notable ones are the National Farmers Association of Nigeria, Apex Farmers Association of Nigeria, All Farmers Association of Nigeria and Nigeria Farmers Association among others. All these are independent entities whose interests in helping small farmers are not well articulated and advocated to achieve positive change.

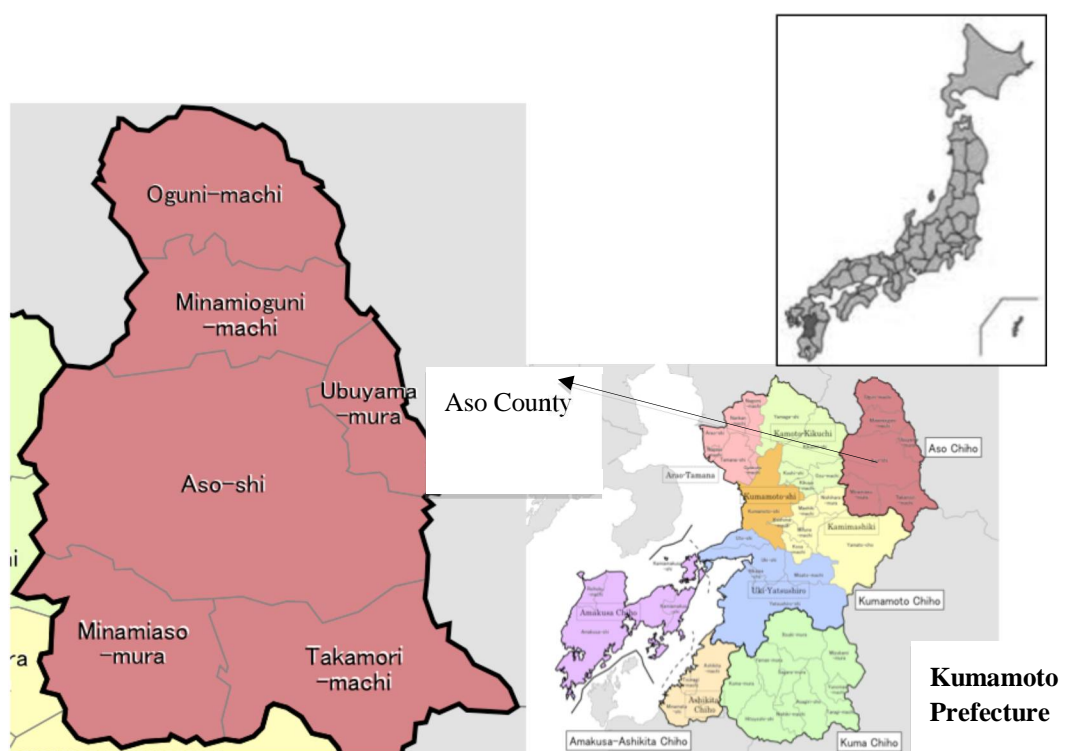
The structural organization of JA is presently

### Case Study of JA in Oguni-go, Aso County, Southern Japan

#### Study setting and data collection

The study was set to examine the ways through which JA is helping small farmers in improving agricultural livelihoods, based on the activities of JA Oguni-go. JA Oguni-go was formed in 1992 after the merger of JA units of Oguni and Minami-Oguni. Oguni and Minami-Oguni are two separate communities located in Aso County of Kumamoto Prefecture but the two towns are closely related in social relationships, political structure and economic activities. They are located north to the Aso caldera in Kumamoto Prefecture (Figure 2) with Oguni sharing border with Oita Prefecture. Oguni covers 13,700ha while Minami-Oguni co-

vers 11,586ha of land; plantation forests occupy 79.1% of the total land area of the two communities while agricultural land occupies 10.8%. Of the total households population, 26.8% and 12.3% were engaged in agriculture in Oguni and Minami-Oguni respectively. Agricultural households were 1,587 of which 223 were full time (*Sengyonoka*) and 1,364 were part time (*Kengyonoka*). Major crops grown in the communities are rice (802 households), Radish (22 households), cucumber (82 households), spinach (159 households), mushroom (113 households) and potatoes (11 households) (Kumamoto Prefecture 2010). Dairy and beef production (21 households) also form significant aspect of the agricultural activities in the communities.



**Figure 2:** Map of Aso County, southern Japan, showing Oguni and Minami-Oguni, with an inset map of Kumamoto Prefecture and Japan. **Source:** Kumamoto Prefecture, 2010 Agricultural Statistics

The population of the study comprises the 2,914 regular and associate members of JA Oguni-go, eight JA's farm advisors and two agricultural officials. Data collection was based on field level survey and desk review. The field survey involved questionnaires for farmers (91 farmers), personalized interviews (PI) with 22 farmers, focus group discussions (FGD) with 12 group leaders, representing each commodity group and four JA/city officials. The interviewees and discussants were selected to represent different opinion groups. The discussions were centred on the structure of JA, perceived relevance of JA, marketing channels of agricultural produce, present challenges, opinion on way forward and personal suggestions for adaptation of JA model in Nigeria. Secondary data were collected through desk review from available statistics over the last 10 years. Data collected have been discussed within text and also summarized into Tables. Statistical analysis and presentations were based on descriptive methods including tabular and graphical presentations.

## RESULTS AND DISCUSSION

### *Benefits of JA agricultural cooperative model to small farmers in Oguni-go*

At the village level at Oguni-go, there were numerous activities provided by JA among which are:

1. Collection and marketing of agricultural produce
2. Input services on credit purchase
3. Credit and loan services
4. Equipment hire, maintenance and repairs
5. Farm guidance/extension services
6. Insurance and banking service
7. Arrangement of subsidy and price support for farmers

8. Political involvements
9. Direct selling of agricultural produce and household goods
10. Availability of processing factories, e.g. milk processing into yoghurts and milk
11. Packaging materials such as labeled boxes and plastic bags
12. Gas station
13. Events management - funeral and wedding ceremonies;
14. Travel agencies and tourism

Most of these services are linked to agricultural production but there are a number of non-agricultural services that generate greater profits for JA (Godo 2001). These services make JA a multi-purpose organization. Based on the data obtained from farmers and officials, seven direct benefits of JA to small farmers in Oguni-go are elucidated. The general opinion of farmers expressed during the FGD and PI is reported in Table 1. The positive opinions expressed for each of the services indicate the sustained relevance of JA to small farmers in Japan.

### **Collection and marketing of agricultural produce**

Collection and marketing of agricultural produce is one of the primary functions of JA since inception in 1948. JA at community level, collects, sort, grade, package, label and market the produce. The marketing channels commenced from the community shops and supermarkets to the county, prefectural, regional and national markets. This function gives Japanese farmers security against market risks which Nigerian farmers are vulnerable to. In its early days of establishment, the JA controlled the nationwide market for most agricultural products particularly rice but as farmers become independent and more equipped with marketing information, JA's marketing share started to drop from

Credit and loan services and agricultural insurance	<ul style="list-style-type: none"> <li>◆ Obtain loan for children education, housing, car and equipment</li> <li>◆ Can offset losses through loans</li> </ul>	<ul style="list-style-type: none"> <li>◆ The expansion of this business distanced JA from farmers</li> </ul>	<ul style="list-style-type: none"> <li>◆ Every farmer, including those not using JA marketing channel have access to loan</li> </ul>
Arrangement for subsidy and price support	<ul style="list-style-type: none"> <li>◆ Receive producer subsidy for rice and vegetables and special subsidy for irrigation canal maintenance.</li> </ul>	<ul style="list-style-type: none"> <li>◆ The merger has reduced marginal subsidy support</li> </ul>	<ul style="list-style-type: none"> <li>◆ JA provides information and education for farmers to understand the various subsidy programmes</li> </ul>
Processing, storage and value addition	<ul style="list-style-type: none"> <li>◆ Can use joint facility for chilling, grading and farm-gate processing</li> </ul>	None	None
Policy and political negotiation	<ul style="list-style-type: none"> <li>◆ Provide needed information for local politics</li> <li>◆ Make policy advocacy at both local, regional and national level</li> </ul>	<ul style="list-style-type: none"> <li>◆ Dwindling political influence since 1995.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Still play important role in policy negotiation with national government</li> </ul>

**Source.** Field survey, 2010

Table 2. Share of JA in sales of vegetables in Oguni, 2001-2010 ('000)

Year	Vegetables			Dairy products		
Year	Total sales (Y)	Sales marketed by JA (Y)	% Share of JA	Total production (kg)	Total market supply by JA (kg)	% Share of JA
2000	na	na	-	4,067,006	4,000,139	98.4
2001	na	1,889,610	-	4,277,109	4,181,901	97.8
2002	na	1,984,970	-	4,441,269	4,340,830	97.7
2003	1,583,921	1,509,987	95.3	4,356,982	4,300,416	98.7
2004	1,406,996	1,406,995	100.0	4,419,014	4,343,496	98.3
2005	1,184,511	1,129,513	95.4	4,594,033	4,498,754	97.9
2006	1,291,019	1,230,223	95.3	4,304,625	4,251,275	98.8
2007	1,310,786	1,248,522	95.2	4,497,785	4,478,189	99.6
2008	1,231,806	1,173,393	95.3	4,445,293	4,434,300	99.8
2009	1,139,714	1,087,078	95.4	4,416,543	4,369,446	98.9
2010	1,096,103	1,065,937	97.2	4,634,403	4,553,022	98.2
<b>Total</b>	<b>10,244,856</b>	<b>9,851,648</b>	<b>96.2</b>	<b>43,819,659</b>	<b>43,198,746</b>	<b>98.6</b>

Source. JA Aso, 2010. Data Compilations for various years



nerable to vagaries of market and politics by providing a support system that transcends agricultural production. The support received by farmers from JA is from 'cradle to grave' (Godo 2006, Koyama and Kobayashi 2007). While JA is facing many challenges today, its relevance is still overwhelming. With its long history, it has gone through several stages of transformation, from a completely socialist approach to a market oriented system, allowing for competition and individualism. The success as well as its challenges over the 63 years of existence becomes relevant for adaptation of such system in a developing country such as Nigeria.

Coming out of the World War II, Japan reconstruction efforts were built on agricultural revolution, which led to the development of relevant land, agricultural, food control and industrial organizations policies from 1948-1952. The land reform of 1948 and the agricultural land law of 1952 were successful policy decisions that affected the practice of agriculture in Japan and had great impact on the political and social stability of postwar Japanese society (Dore 1969, Kawagoe 1999). While Nigeria practically neglected its agriculture in the wake of the oil boom in late 1970s, the commitment of Japan's government towards the small farmers was not reneged as the country became industrialized. For about five decades since end of World War II, small farmers in Japan, organized under JA, enjoyed protection and supports, which made farming lucrative. The gamut of technological advancement was brought into agriculture but Nigeria followed the pessimistic course on agriculture, through dwindling capital expenditure and policy failure.

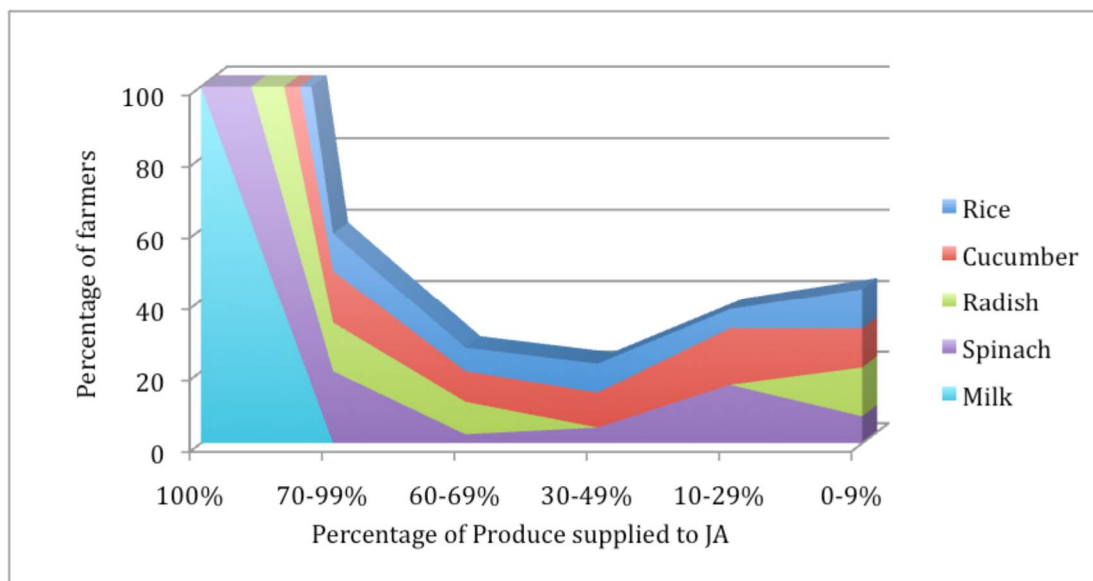
This study examines the activities and ser-

vices provided by JA to small farmers in Japan and draw lessons for Nigeria in adapting JA's model. The study also highlights needed institutional context for adaptation of the cooperative in Nigeria. The need for an organized system for helping small farmers in Nigeria is not far-fetched from the need for poverty alleviation, increased food production, reduction of farm-gate losses, enhanced access to market, increased income margin for farmers and generally improving their capacity for negotiating better deals in the political system and gaining more control over their socioeconomic position in the Nigerian social system. Poverty in Nigeria is predominantly a rural phenomenon, with rural poverty increasing from 28.3% in 1980 to 63.8% in 2004 (Omonona 2010). Alleviating rural poverty in Nigeria requires building farmers capacity through cohesive farmers' organizations that will act as channels for introducing agricultural technologies for production and processing, gaining access to quality inputs, credit and technology. The JA model of agricultural cooperatives is a relevant case study to building an organization that would meet farmers' needs and help in agricultural development.

The discussions in this paper are guided by these research questions:

1. In what ways is JA helping farmers in Japan?
2. Which of the aspects of JA structure and activities could be adapted to the Nigerian agricultural cooperative system?
3. What institutional components are needed to successfully adapt the JA model of cooperative in Nigeria?
4. How can Nigeria overcome the present challenges of JA?

The discussions rest on the opinion that for progressive and meaningful development of



**Figure 3.** Percentage of produce supplied to JA in Oguni-go

**Table 3.** Percentage of farmers based on influencing factors for alternative market

S/n	Influencing Factors	Percentage of farmers
	Increased accessibility to market information	20-30
	High input costs and interest charges of JA	10-12
	Size of farm and extent of outputs	
	Large farm (5ha and above)	10-15
	Small farms (less than 2ha)	5-7
	Age of farmers	
	Old	Less than 1.0
	Young	10-20
	Full/part time farming	
	Full time	15-17
	Part-time	2-5
	Ownership of restaurant	2-5
	Increasing competitive spirits	10-15
	Organic producers	2-5
	Percentage of farmers seeking alternative markets (N=2914)	
	Rice	43.2
	Vegetable	12.0
	Milk	0.0

It was found that about 43.2% and 17.2% were using alternative channels for rice and vegetables respectively (See Table 3). The actual quantity or value supplied to these alternative sources could not be determined, as most farmers were not keeping records. The concern of few farmers using alternative markets for rice and vegetables was that the income margin from JA is lower than other marketing channels. The reasons adduced for the low margin were the longer marketing chain, the higher handling costs of JA, lack of price premium for high quality product and high cost of input among others. During the various discussion sessions with farmers and officials, it was found that the tendencies to seek alternative market sources are dependent on the following reasons:

1. Accessibility to market information through several media, particularly the internet has more tendencies to influence more farmers (20-30%) to seek alternative markets (Table 3). Tachiki et al. (2004) asserts that there is an increasing trend of users of e-commerce in the food industry. Although the use of the Internet for supplying food products is lower in rural Japan (Ogawara et al. 2003), the use of internet for getting marketing information, communicating local and regional marketing agents and for fulfilling some supply procedures is on the increase in rural Japan.
2. High input costs and high interest charges of JA, which yield lower returns for farmers compared to returns from other marketing sources. This factor influences marketing decision of about 10-12% of farmers (Table 3). Most of the farmers, including those that sell their products through JA reported that the costs of inputs (seed, fertilizer, chemicals) at the JA store were higher than that of private stores. This disparity in input prices is one of the outcomes of the deregulation of the input market and distribution. Opinion during the FGD (Table 1) shows that the disparity is not so much important to the numerous small farmers that depends solely on the JA's services and constitute a large percentage of JA membership. JA's handling costs was 12.5% while that of alternative markets in the region was about 6%, which creates a margin that may get wider with larger outputs.
3. Size of farm and extent of outputs. For some farmers with large output, marketing through alternative channels may be burdensome and with a lot of procedural bottlenecks, contrary to the JA system which offers easy market access to farmers. However, some other vegetable farmers with bigger output tend to source for alternative market such as large consumer cooperatives in order to maximize profit. On the other hand, farmers with smaller farms and output considered the relative easiness to supply through JA.
4. Age of farmers: Younger farmers (less than 50years) tend to seek alternative market sources while older ones (above 60) are more attached to the cooperative. In the communities, 45% of farmers were older than 60years of age. As farmers get older, involvements in agriculture tend to decrease and they depend more on JA for marketing activities.
5. Full/part time farming: It was observed that many of part-time farmers that were in the majority (about 85.9% of total farming households) depended solely on JA marketing network because of their engagement in other non-farm livelihoods. The full-time farmers could have

around 1980s. The findings of Egaitso (2008, 85) show that JA market share in 2005 for cereals (including rice) was 69%, 96% for milk, 66% for beef and 65% for vegetables and fruits. The findings of Kurimoto (2004) shows that JA has 97.8% market share of government control rice; 93.4 for vegetables, 92.7 for liquid milk and 87.9% in total for agricultural produce marketing.

Based on value of vegetable and milk produced in Oguni-go against the value sold by JA, result on Table 2 shows that JA's market share was 96% and 99% for vegetable and milk respectively in the last 10 years. Vegetables such as radish, cucumber and spinach and the dairy Jersey cow were the main agricultural enterprises in these two communities. This result implies that per-

formance of JA Oguni-go in marketing the major agricultural produce of these communities was very high and provides evidence to the existence of a functioning marketing network. Most of the farmers during PI agreed that JA has a large marketing network that guarantees the sales of their produce. It was however discovered that about 58.4%, 63.6% and 100% of farmers supplied all their produce of rice, radish and milk respectively, to JA-Oguni-go (Figure 3). The results show that JA still controlled a large share in marketing members' produce and had majority of farmers depending on its marketing network. The dairy farmers were of the opinion that the market competition for milk product is stiffer and will be better handled by the group through JA. Also, they could promote and sell their processed milk as a brand from Oguni-go through JA.

**Table 1. Opinion of farmers on relevance of JA services both at local and national level**

Services	General opinion of farmers during focus group discussion		
	Positive opinion	Negative opinion	Fair opinion
Collection and marketing of agricultural produce	<ul style="list-style-type: none"> <li>◆ Market network useful for small, new and part-time farmers</li> <li>◆ Market network big enough to sell the entire output of all farmers</li> <li>◆ Income security</li> </ul>	<ul style="list-style-type: none"> <li>◆ Smaller income margin relative to direct sales</li> <li>◆ Grading system not rewarding quality production</li> <li>◆ No direct relationship with consumers</li> <li>◆ Higher handling charges</li> </ul>	<ul style="list-style-type: none"> <li>◆ JA only earns 2.5% of the 12.5% handling charges. The marketing company earns 10%.</li> <li>◆ JA has a principle of equal sharing of profit and loss irrespective of quality of production of a single farmer</li> <li>◆ JA now has a direct sale centres in each community</li> </ul>
Farm Guidance	None	<ul style="list-style-type: none"> <li>◆ Irregular contact with farm advisors</li> </ul>	None
Input services	<ul style="list-style-type: none"> <li>◆ The credit service for inputs very useful for small farmers</li> <li>◆ Rental of mechanical equipment and joint use of storage facility</li> </ul>	<ul style="list-style-type: none"> <li>◆ Relatively expensive input</li> </ul>	<ul style="list-style-type: none"> <li>◆ The input comes through prefectural and national federation, creating additional cost on the input supply channel</li> </ul>

- the motivation in seeking alternative marketing sources (15-17%) but it seems the higher number of part-time farmers sustains JA relevance and its higher market share.
6. Ownership of restaurant: In the community, some part-time farmers own restaurant where they utilize their agricultural produce. Farmers opined that dishing their produce yields higher returns than any market sources, including JA.
  7. Increasing competitive spirits: Farmers opined that competition among farmers is needed to meet the challenges of a competing market. This realization is coming at the heels of increasing liberalization of agricultural trade. Also the domestic market competition among communities and regions producing same products is getting stiffer and the need for farmers to produce high quality products that can be rewarded with high demand and price premium. Consumers' awareness for healthy, organic food in Japan is also becoming high and a factor in demand for agricultural products from units JA.
1. Despite these factors, farmers opined that with better pricing system and increased competitiveness, JA can capture more of its members' supplies. There is a growing concern for the relevance of JA in Japan and its ability to survive impending trade liberalization agreements as the protectionist policy is giving way for a more competitive market-oriented policy environment. However, seeing this from a positive stand could help JA enhanced its competitiveness among the emerging alternative markets.
- 2 *Input services*: One major constraint to farmers in Nigeria is unavailability of improved farm inputs such as seed, fertilizer, agro-chemicals and farm implements among others. JA has alleviated this constraint as farmers collect farm inputs on credit services and also utilize farm machineries. The importance of this service is the access it creates for farmers to carry out farming operations without delay. The bulk procurement of inputs also allows JA to maintain quality standard of seeds. The service also avail JA the opportunity to provide high quality fertilizers and agro-chemical, with no harmful effect on the environment and at no health risk to consumers. While some farmers utilized the private input sources the general view was that the opportunity to '*pick and pay later*' is of more advantage to timeliness of operations.
  3. *Credit and loan services and agricultural insurance* Credit is often considered an effective instrument for improving the production and distribution of agricultural commodities and for promoting social welfare while insurance provides needed security. In the case of Japan, the farmers have access to loan services for production, acquiring equipment and machineries, building farm structures, investment in non-agricultural ventures and paying for farm losses. Other loan services for non-agricultural aspects are loans for housing, car/truck purchase and children education. They also have access to the whole-farm insurance, which covers against all climatic and natural hazards. Data obtained from JA office in Oguni-go reveal that the volume of loan given to farming households from 2008 to 2010 in the entire Aso County was Y58.2billion. Although the loan figures were not broken down into different categories to ascertain specific portion for agriculture, the loans were significant sup-

raw materials needed for industrial development. Farmers in Nigeria never experienced such political influence at the local level and national farmers' organizations are merely formalities. The institutionalization of JA makes it an important public organ that no government could ignore. Its effectiveness in organizing farmers and the success achieved by MAFF in implementing policies through JA's mobilization contributed to its political affluence. In Oguni-go, the political influence of JA is significant as farmers depend on their leaders for political information and decision.

***Aspects of JA structure and services that could be adapted to the Nigerian agricultural cooperative system***

The foregoing discussion has shown that JA remains relevant at local levels and patronage of its services is high and its main goal of helping small farmers will continue to sustain this relevance. Having such a system in Nigeria to achieve a cohesive farmers' organization that will serve the needs of farmers and advocate for policy-friendly environment is desirable. While its adoption into Nigeria may be constrained due to different institutional contexts, some of its aspects and services could be adapted into the Nigerian cooperative system without much apprehension.

First and foremost is the cooperative based agricultural extension system popularly known as farm guidance in Japan. Despite the level of telecommunication in Japan, farmers at local level still rely on these farm advisors as they are more informed and specialized experts that can help farmers alleviate production problems. The present extension system in Nigeria is based on the expired World Bank project of Agricultural

Development Programme, which is now instituted into the public sector of the country. This system has been largely constrained by funding, linkage problem with research institutes, inadequate and inadaptable technological innovations and several other issues within the Nigerian system (Fabusoro and Adebayo 2008). The main concern is that the system is presently inactive and opaquely existing. The cooperative extension system (farm guidance) as it is operated under the JA system targets members with the aim of improving their production capacities. The farm guidance advisors are regarded as consultants; engaged in scientific research, farm management plan and marketing survey. They also help farmers in building cohesive social organizations and linkages with relevant organizations to promote common interest. In recent years, they are active in promoting environment-friendly agriculture and health-safety measures in food production.

Adapting this system in Nigeria can immediately be achieved through the University/research institute-based extension outfits that have required experts in different fields of agriculture. This can also be done by unbundling the present public extension system and creating community level extension advisory services. This way, more community level agricultural specialties and peculiarities can be integrated into the regional and national system. Agricultural extension is still relevant in this modern world to facilitate access of farmers, their organizations and other market actors to knowledge, information and technologies; facilitate their interaction with partners in research, education, agri-business, and other relevant institutions; and assist them to develop their own technical, organizational and management skills and practices (Christoplos 2010). The overall aim of agricultural extension in this

port to farming households in the region. Table 4 provides data on the distribution of JA trend of gross business income from 1998-2002. The figures show that the credit and mutual insurance services accounted for over half of the gross income over the five-year period.

In Nigeria, agricultural credit policy for helping small farmers is implemented by the Nigerian Agricultural Bank (NAB) and the Agricultural Credit Guarantee Scheme (ACGS). NAB lends money to various categories of farmers including the small-scale operators while ACGS provides credit guarantee. ACGS insures agricultural credit given by Nigerian banks and to encourage their participation in agricultural credit system. With over four decades of operations, the major problem with the policy schemes is the lack of access by Nigerian small farmers. The credit schemes often require collateral in form of fixed asset from the farmers that are poor and possess no fixed asset. The small farmers are therefore left to secure funding through informal sources.

This informal sources' level of interest rates are close to usury but most times unable to satisfy the credit requirements of farmers. There is the need for significant involvement of agricultural banks in supporting small farmers. The formal credit institutions have huge capital outlay that supersedes that of the informal sources and can therefore accelerate development in the agricultural sector of the country.

The opinion of the farmers at Oguni-go to the banking and insurance service of JA is that the services have distanced them from JA. They felt that these two organizations made JA big and sublimed, distracting it from its primary mission. On the other hand, they opined that these services are important in helping farmers and other community dwellers to access fund for business activities and agricultural production. The availability of fund for business and agriculture contribute to local and regional development and sustains local livelihoods in most countryside of Japan.

**Table 4.** Trend of gross business income of JA in Japan (Amount in ¥1million)

Business activities	1998		1999		2000		2001		2002	
	Amt	%	Amt	%	Amt	%	Amt	%	Amt	%
Credit	835,667	36.3	798,885	35.6	771,959	35.2	701,697	33.3	745,886	35.0
Mutual insurance	589,353	25.6	581,602	25.9	582,563	26.6	579,275	27.5	574,386	27.0
Supplying of inputs	585,668	25.4	564,058	25.1	536,032	24.5	530,784	25.2	504,756	23.7
Marketing of produce	313,628	13.6	286,730	12.8	137,641	6.3	132,641	6.3	134,926	6.3
Others	218,881	9.5	215,556	9.6	195,291	8.9	194,628	9.2	197,779	9.3
Total*	2,304,384		2,245,328		2,190,420		2,107,258		2,128,231	

**Source:** JA 2006c. Factsheets No 30: Main Figures of JA Business Management, [www.zenchu-ja.or.jp/eng/ja\\_fact\\_sheets/pdf/30.pdf](http://www.zenchu-ja.or.jp/eng/ja_fact_sheets/pdf/30.pdf)

\*The total gross income includes the negative income from the farm guidance activities

*4 Arrangement for subsidy and price support*

OECD (2009) reports that the subsidy programme of Japan government for small farmers gives fairer treatment and support compared to their counterparts in America and Europe. There are numerous subsidy programmes for agricultural activities in Japan in form of direct financial supports and indirect non-financial supports. The overall objective is to provide support for Japanese farmers from the effect of market eventualities and competition arising from international trade, natural disaster and some policy restrictions among others. It also aims at supplementing farmers' income and indirectly subsidizing the cost of production. The total subsidy received by farmers in Oguni-go over the period was Y201,420,000 from 2008-2010 as producer

support subsidy (Table 5). JA was the channel through which the subsidies were paid to farmers.

The trend of discussions in the existing trade agreements, including the Doha round, Trans-Pacific Partnership and other World Trade Organizations (WTO) agreements such as General Agreements on Tariffs and Trade (GATT), point to the direction of increased cuts in subsidy support to create an international competitive environment for agricultural products. These moves, if successfully implemented will help agricultural producers in developing countries to compete internationally. However, the present state of agriculture in Nigeria requires a level of supports to build needed capacity for competition.

**Table 5.** Total subsidy granted to farmers in Oguni-go in 2008-2010

Sources	Amount (Y)
MAFF/Prefecture/JA	89,420,000
City office (Yakuba)	56,319,000
Other sources	55,681,000
Total	201,420,000

**Source.** Oguni town office, 2010. Data compilations for various years

*Processing, storage and value addition*

The processing, storage and value addition services prevent farm gate losses, which is plaguing the Nigerian agricultural industry. The Nigerian experience with post-harvest losses is grave. For most crops, losses often exceed one-third of harvest and between 30-50% annually for fruits and vegetables and substantial losses occur in fresh tomatoes, pepper and onions during storage and transportation across regions of the country (Aworh 2011). The poor marketing system, the dilapidated infrastructure and the lack of processing and value addition technolo-

gies and processing equipment are major factors in post-harvest losses in Nigeria. JA at each local level, including Oguni-go, has storage facilities for chilling, grading and processing facilities for joint use. This joint ownership bring about cost sharing for the capital-intensive facility and particularly, it helps in controlling and maintaining quality of produce.

*Policy implementation and political negotiation*

In every society, farmers' organizations have at one time or the other, exerted political influence due to their key role in producing



JA-adapted system would be to improve the capacity and build knowledge consistent with modern practice and tailored towards improved production, increased market access and better livelihoods outcomes.

Secondly, one of the functions to be served by the cooperative-based agricultural extension outfit in Nigeria would be to facilitate farmers' access to modern inputs that are environment-friendly and have relative economic advantage. Improved seeds, organic fertilizer or inorganic fertilizer with low active ingredient, pest and pesticide protection technologies among others are essential inputs needed by farmers. The approach of JA is joint purchase and then distribution; this approach may be difficult to adopt in the Nigerian JA-adapted system but the existing input service outfits can be utilized and they can perform effectively in this regard.

An important aspect of farm input is farm machinery that alleviates drudgery in farming. Nigeria, just like Japan, has been experiencing reduction in active population in agriculture but as at 2007 Japan has 441.7 tractors and 225.5 harvesters/threshers per 1000ha while Nigeria has 0.7 and 0.0 tractors and harvester/threshers respectively (FAO 2010). With lack of farm machineries, farm activities would continue to decrease. Introduction of simple farm machineries from mechanized hand tool to motorized implements can cause leapfrog in production. For relevance, the JA-adapted in Nigeria would need to facilitate joint purchase and utilization of capital-intensive machineries. This can be achieved through direct purchase, joint hiring from private and public farm machineries outfits. Agricultural development efforts in Nigeria that give opportunity to farmers to acquire and or

utilize mechanized implements would go a long way in alleviating land preparation, weed removal and harvesting operations.

The third aspect of JA that could be adapted in Nigeria is the credit services. Although, the Nigerian JA-adapted cooperative may not be able to acquire sufficient capital for credit institution and may not be able to operate this within its organizational structure, it would be necessary to build strong linkages with credit institutions such as credit and thrift cooperatives, community banks, NAB, commercial banks and even non-governmental organizations (NGO). Such linkages would assist in providing access to credit services for farmers, which will in turn enhance farming investment, asset acquisition and smooth running of operations.

The fourth aspect to be adapted in Nigeria is the collection and marketing role of cooperative. Nigeria has a large market network for food as the most populated country in Africa. Its share of world food consumption was 2.21% in 2007 (FAO 2010). Although, most farmers in Nigeria are subsistence, they rely on sales of farm surplus for meeting other needs of the households. Gaining direct access to market at better prices would improve livelihoods and provide capital for production. The existing system is controlled by a cartel of middlemen accused of exploiting Nigerian farmers. The middlemen actually play important roles in food distribution in Nigeria but the farm gate price compared with the market price for most products is exploitative (Enete 2009). With the cooperative in place, farmers will have opportunities to negotiate price with middlemen and make bulk supply to industries and larger market outlets. Identifying existing market and negotiating with actors in such markets would be the starting point for this.

***Institutional components needed for adaptation of the JA model of cooperative system in Nigeria***

There is the need to understand the institutional structure needed to support the adaptation and development of JA model of agricultural cooperative in Nigeria. The institutional framework has a fundamental influence on the formation and the evolution of organizations that operate under given set of rules (Kurimoto 2004). The institutional component comprises the socio-cultural environment, legal and administrative system, policy and market. The institutional arrangements and state's policies in Japan have heavily affected the evolution of JA into the form it is now.

The first set of institutional requirements for adapting JA model of cooperative is the socio-cultural institutional framework of the Nigerian society. In Nigeria, such as in Japan, traditional culture, beliefs and values are very strong and controls affiliations and relationships. This traditional context consists of informal rules, norms and values that must be understood. Nigeria being a multi-ethnic and language environment, the cooperative must be built along related socio-cultural requirements. Japan is a homogeneous society in terms of ethnicity and language and this helped in constructing a unifying value and identity. To neutralize this, there is the need for a form of identity that can be shared by members in Nigeria. Building trust and creating a culture of acting in a 'we' term may be a challenge in the Nigerian system but localizing the cooperative and making its members share a common sense of ownership and management can achieve this.

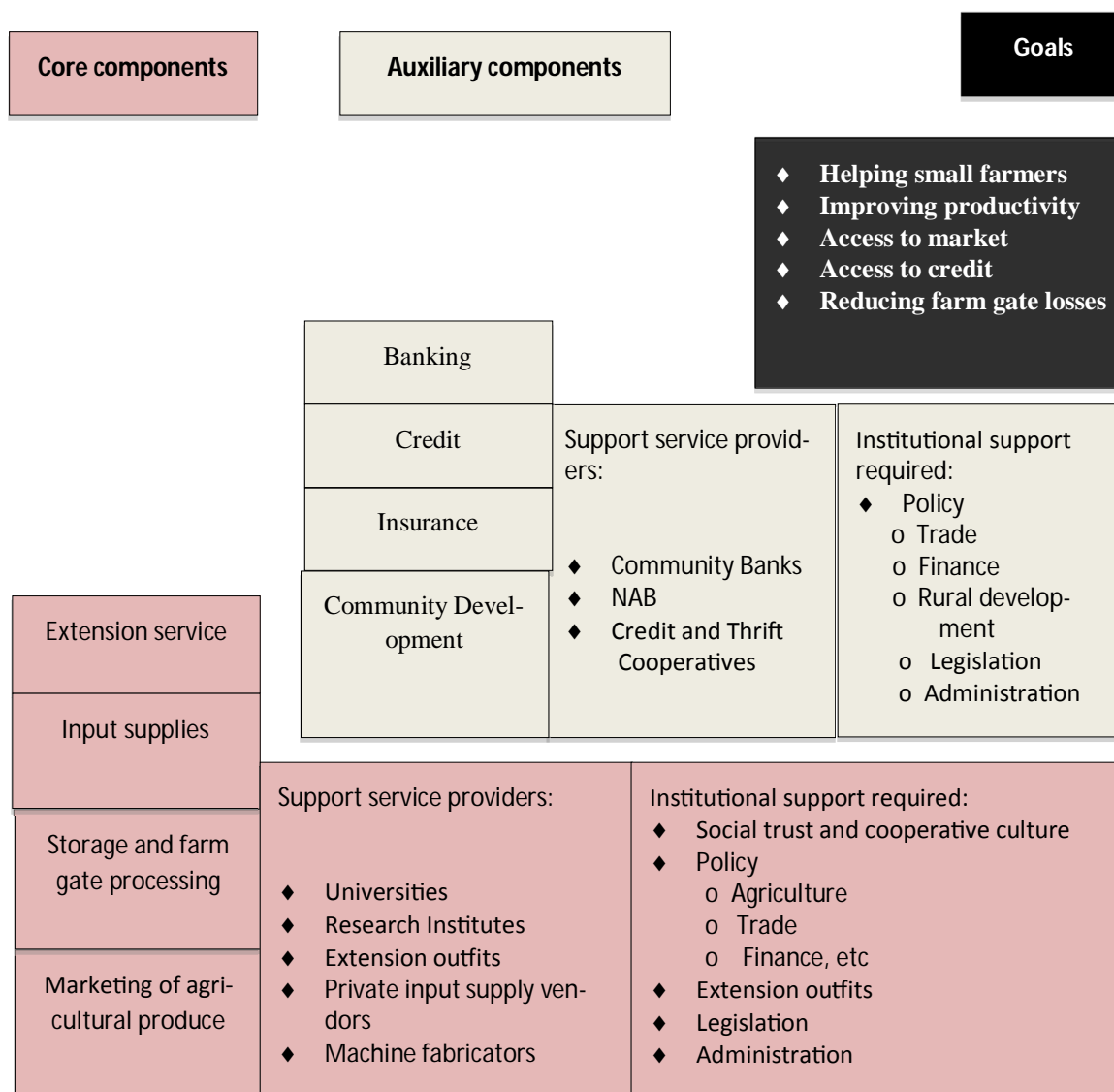
The policy institutional framework constitutes another important requirement that

will widen or limit opportunities of the cooperative in Nigeria. While not clamoring for any form of policy romance in the Nigerian case, the policy institutions both at the local and national level will influence processes and outcomes for establishing the cooperatives, building linkages and partnerships with state bodies, access credits and insurance, gaining access to land and accessing international trade and other regional markets. Within the national and local framework, policies on land, finance, food quality and distribution, policies on voluntary/cooperative organizations and rural development will have immediate impact on the activities of the cooperative. As the cooperative will need to work within certain policy contexts and social rules, creating a friendly environment where farmers' organization can flourish should be a primary concern to stakeholders in cooperative development in Nigeria.

The legal and administrative system will directly affect the cooperative internally and externally. Cooperative statute, principles and common laws backed by the Constitutions are immediate set of external constraints. The existing cooperative law in Nigeria would determine registration, approved activities and extent of operations. It would also establish procedures for administrations, finance and legal recognition. The cooperative byelaws or rules are internal set of constraints needed to regulate activities and control behaviours. The internal set of constraints would be subject to local culture, members' preferences and leadership ideology and philosophy. The establishment of lay down rules and procedures, as internal constraints, and the understanding of the external legal and administrative framework are necessary in building the cooperative organization.

These four areas of adaptation of JA in Nigeria are the essentials in the short run that would give credibility and acceptance among farmers. They also represent services that will form the core component of the cooperative. Figure 4 is a representative structure of functions and institutional contexts of JA-adapted cooperative in Nigeria. The services are placed within core and aux-

iliary components with the required service providers and institutional contexts needed. It is believed that the core components are the real essence of JA in Japan and this would remain relevant in Nigeria. The other aspects in the auxiliary component would be achieved through linkages with existing relevant organizations that can perform such role.



**Figure 4.** Schematic structure of functions and processes of JA-adapted system in Nigeria

## CONCLUSION

### Overcoming the challenges of JA and drawing lessons for Nigeria

In the last two decades, JA has been witnessing a series of challenges that have been casting doubts and fears on the sustainability of the cooperative in the face of changes in the institutional environment within which it operates. JA is in a process of transformation to reposition itself within the changing institutional context, the slump of political influence, the invading effect of liberalization on its financial businesses; the reducing number of active farmers due to the aging population, changes in government policy on rice marketing, the deregulation of agricultural input market and the decreasing trend of gross income. Despite these recent challenges, JA remains relevant to a large majority of Japanese farmers as shown in this study. Its continued relevance will depend on its ability to focus more on the core components of its existence and repositioning its marketing services such that it competes favourably in the open market, keeping farmers appeal.

Based on the experience of JA over the years, three lessons are drawn for Nigeria in adapting the JA cooperative model:

1. *Voluntary versus conscripted membership:* In the Nigerian case, membership should be voluntary rather than the conscripted arrangement in Japan. This will create opportunities for individuality, ingenuity and opinion. The lack of voluntary membership is affecting members' commitment and contribution in Japan.
2. *Farmer-first versus profit orientation:* The interest of the Nigerian JA-adapted model should not waiver from servicing farmers. JA started as a farmers' organization

but grow to become a big business conglomerate, which has affected its farmer-first approach and watered the cooperative principle. Japanese farmers would prefer to have the JA returned to its community-based system where the farmer-first approach can be promoted.

3. *Government support versus government protection:* JA has enjoyed government protection for over five decades, which gave it an edge over many other organizations, but with changing policy of the government, the task of remaining relevant is huge. Rather than the protectionist approach, farmers organization needs supports in terms of enabling environment that will enhance free participation in the market, avoid overbearing and unsustainable influence and enhance competitiveness among farmers in today's globalized world.
4. *Controlled market versus trade liberalization:* Trade liberalization and globalization is one of the realities of today. Either in Japan or Nigeria, agricultural products produced domestically will have to compete with imported products. JA attempted to control market forces to its benefit for many years but today faced with the challenge of liberalization. Nigeria needs to build within its farmers organization a system of efficiency and competitiveness that will give its farmers sufficient share in the local and global market.

Adapting the JA system to Nigeria is not a tall order but will require concerted efforts among various stakeholders in building a farmer organization that can perform similar functions and help small farmers achieve security of agricultural livelihoods. It is not

in doubt that the present challenges of JA could be disincentives for developing countries such as Nigeria however, the lessons to be learnt from JA's experience will help in building a farmers' organization that would be competitive and participate efficiently in market; enhance their capacity in gaining knowledge for agricultural production and provide succor to farmers in accessing credit, inputs and modern technologies. The gains for Nigeria in building this farmers organization extends beyond the farm level as it would alleviate poverty and improve food system both locally and nationwide.

## REFERENCES

- Aoki, M. 1995.** *Evolution and diversity of economic systems*. Toyo: Keizai Shinposha.
- Aworh, O. Charles, 2011.** Reducing post-harvest losses of horticultural commodities in Nigeria through improved packaging, Online document, International Union of Food Science and Tehnology (IUFOST) and Institute of Food Technologies (IFT), [www.worldfoodscience.org/cms/?pid=1005132](http://www.worldfoodscience.org/cms/?pid=1005132), 13<sup>th</sup> October 2011.
- Christoplos, Ian, 2010.** *Mobilizing the potential of rural and agricultural extension*, FAO, The Global Forum For Rural Advisory Services: Rome
- Cook, M L 1995.** The future of U.S. agricultural cooperatives: A neo-institutional approach. *Am. J. Agric. Econ.*, 77(5): 1153-1159
- Cotterill, R 1987.** Agricultural cooperatives: A unified theory of pricing, finance, and investment. In *Cooperative theory: New approaches*, ACS Service Report no. 18 (July), ed. J. Royer, 171-251. Washington, D.C.: United States Department of Agriculture.
- Dore, R.P. 1969.** "Shinchugun no Nochikaikaku Koso: Rekishi no Ichidanmen (Land reform plan of SCAP: A historical sketch)" , *Nogyo Sogo Kenkyu (Quarterly Journal of Agricultural Economy)* 14 (1) Tokyo: National Research Institute of Agricultural Economics, pp.175 - 94.
- Egaitu, F. 2008.** *Agricultural Economics*, 3rd edition, Iwanami Shoten Publishers, Tokyo (in Japanese).
- Enete, A.A. 2009.** Middlemen and Smallholder Farmers in Cassava Marketing in Africa. *Tropicultura*, 2009, 27(1): 40-44
- Etzioni, A., 1988.** *The Moral Dimension: Toward a New Economics*. New York: The Free Press.
- Fabusoro, E. and K. Adebayo (2008):** 'That extension will not go into extinction': experts' opinion on the public extension service in Nigeria'. In Dedieu B. and Zasser-Bedoya S. (Eds.). 2008. Proceedings of the 8th European International Farming System Association (IFSA) Symposium, *Empowerment of the rural actors: a renewal of farming systems perspectives*. 6-10 July 2008, Clermont Fd (France) CD Rom, 867 - 873.
- Fabusoro, E., Omotayo, A. M., Apanaku, S. O. and Okuneye, A. P. (2010):** 'Forms and Determinants of Rural Livelihoods Diversification in Ogun State, Nigeria', *Journal of Sustainable Agriculture*, 34 (4): 417-438;
- FAO 2010.** *FAO Statistical Yearbook*, Rome: FAO
- Godoy, Y. 2001.** The changing economic per-

formance and political significance of Japan's agricultural cooperatives. *Pacific economic papers*, 318, August 2001

**Godoy, Y. 2006.** Financial liberation and Japan's agricultural cooperatives. Poster Paper presented at the International Association of Agricultural Economists Conference, Gold Coast, Australia, August 12-18, 2006

**Godoy, Y. 2007.** The puzzle of small farming in Japan, *Asia Pacific Economic Papers* No. 365, Australia-Japan Research Centre Crawford School of Economics and Government, The Australian National University: Canberra

**Godoy, Y. and Takahashi, D. 2008.** **Japan:** Shadow WTO agricultural Domestic Support Notifications, IFPRI Discussion Paper 00822, IFPRI: Washington DC

**Grubel, R. 1999** 'the consumer cooperatives in Japan: building democratic alternatives to state-led capitalism. 303-330. In Furlough, E. and C. Strikwerda (eds), consumer against capitalism? Consumer cooperation in Europe, North America and Japan, 1840-1990, Rowmann & Littlefield Publishers: Maryland

**Ilebani, O. A. (2010)** Improving marketing and traceability of agricultural commodities: The role of cooperatives. IFPRI Policy Note 26, IFPRI, Abuja.

**JA 2006a.** Farm guidance activities of JAs, Factsheet No 9.

**JA 2006b.** JA mergers decreasing its total number, Factsheet No 5.

**JA 2006c.** Main Figures of JA Business

**Management, Factsheet No 30.**

**JA Aso, 2011.** *Agricultural Production Data compilations for various years*, Aso: JA

**Kawagoe, Toshihiko. 1999.** *Agricultural land reform in postwar Japan: Experiences and Issues*, World Bank Policy Research Working Paper 2111, May 1999, Washington DC: World Bank

**Koyama, R. and Kobayashi, K. 2007.** Characteristics of Japanese agricultural cooperatives with special reference to institution and members' attitudes, *Shougaku Ronshu* 75 (4): 33-48

**Kurimoto, A. 2004.** Agricultural Cooperatives in Japan: An Institutional approach. *Journal of rural cooperation*, 32 (2): 111-128

**Kumamoto Prefecture, 2010.** *Statistical report of Kumamoto Prefecture*, Kumamoto: Kumamoto Prefecture

**MAFF 2003.** Why agriculture needs different treatment in trade rules? - Japan's policy reform and WTO negotiations, MAFF Fact sheet No.1, MAFF: Tokyo

**MAFF, 2010.** *FY2009 Annual Report on Food, Agriculture and Rural Areas in Japan: Summary*. MAFF: Tokyo

**MAFF, 2011.** *Monthly statistics of agriculture, forestry and fisheries*, July 2011. Tokyo: MAFF

**North, D. 1990.** *Institutions, Institutional Change and Economic Performance*, Cambridge: Cambridge University Press.

Obamiro, E. O., Doppler, W., Kormawa, P. M., 2003. Pillars of Food Security in Rural Areas of Nigeria. Paper presented as an Internet paper at the FoodAfrica Conference

- Improving food systems in sub-Saharan Africa: responding to a changing environment, held from 31 March - 11 April 2003**
- OECD, 2009.** *Evaluation of Agricultural Policy Reforms in Japan*, Paris: OECD.
- Ogawara, Sachiko**, Chen Jason C.H. and Zhang Quan 2003. Internet grocery business in Japan: current business models and future trends, *Industrial management and data system*, 103(9): 727-735
- Oguni Town Office, 2010.** Data compilations for various years.
- Okuneye, P.A. 2001.** The rising Cost of Food / Food Insecurity in Nigeria and its Implications for Poverty Reduction. Economic and Financial Review. Central Bank of Nigeria. Vol. 39, No. 4. December. PP 88-110.
- Omonona, B. 2010.** Quantitative Analysis of Rural Poverty in Nigeria, Nigeria Strategy Support Program, Brief No. 17. Abuja: International Food Policy Research Institute
- Omotayo, A. M. 2010.** The Nigerian farmer and the elusive crown, 30<sup>th</sup> Inaugural lecture, University of Agriculture, Abeokuta.
- Ortmann, G. F. & R P King (2007):** Agricultural Cooperatives I: History, Theory and Problems, *Agrekon*, 46:1, 18-46 <http://dx.doi.org/10.1080/03031853.2007.9523760>
- Prakash, D 2000.** Development of Agricultural Cooperatives -Relevance of Japanese Experiences to Developing Countries, *Paper presented at the 14th ICA-Japan International Training Course on “Strengthening Management of Agricultural Cooperatives in Asia” held at IDACA-Japan on April 18 2000*, The Institute For The Development Of Agricultural Cooperation In Asia (IDACA), Tokyo
- Riethmuller, P., Kobayahsi S. and Shogenji, S. 1996.** Japanese agricultural policies towards 2000: Swimming the tide, *Review of Marketing and Agricultural Economics*, 64 (1): 3-18
- Suehara, Tatsuro 2006.** Labor Exchange Systems in Japan and DR Congo: Similarities and Differences, *African Studies Quarterly*, 9 (1 & 2): 55-65
- Tachiki, D., Hamaya, S. and Yukawa, K 2004.** Diffusion and impacts of the Internet and e-commerce in Japan. Project report on Globalization and e-commerce, Center for Research on Information Technology and Organizations (CRITO), University of California, Irvine. February 2004
- Vatn A. 2005.** *Institutions and the environment*, Cheltenham: Edward Elgar
- Vatn, A. 2007.** Resource regimes and cooperation, *Land Use Policy* 24 (2007) 624–632
- World Bank 2011. Indicators: Nigeria, Density and urbanization, [http://www.tradingeconomics.com/nigeria/urban-population-wb data.html](http://www.tradingeconomics.com/nigeria/urban-population-wb-data.html) August 25, 2011
- Yamashita, K. 2005.** The Mistakes in agricultural policy that have hindered structural reforms and the merits and demerits of JA agricultural cooperatives. Research Institute of Economy, Trade and Industry (RIETI) Discussion Paper, *Keizaikai*, September 20, 2005

**Yamashita, K. 2009.** The Agricultural Co- RIETI Discussion Paper, *Keizaikai*, September 20, 2009

*(Manuscript received: 27th August, 2014; accepted: 30th March, 2017)*