

# Agricultural Development in China: Lessons for Restructuring Agriculture and Rural Areas in Nigeria.

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**Abstract:** Agriculture is a sustainable way of achieving economic development as perceived from China's agricultural and rural development experience over the last 4 decades. This study analysed the role agricultural revolution played in Chinese development in order to extract important lessons for developing countries. In so doing, the Chinese household responsibility system (HRS) was examined as a reformatory policy while important lessons applicable in Nigeria were extracted. Anchoring on systems theory, the study reviewed literatures, sampled opinions of farmers and non-farmers, researchers in agricultural institutions and industries across Hubei province. Data was collected systematically from existing literatures, questionnaire and interviews to justify the impact of policy change within the first 10 years of policy reform. The study established a scientific pattern to understand the HRS by developing a synergy between it and systems theory. Major challenges of HRS were identified. Despite how low farmers cadre may seem in the society, the study established that they are at the bottom scale in policy making but contribute practical and more innovative policy approaches for agricultural and rural development. Findings also revealed that governments and institutions should prioritize grassroot mobilization as well as farmers interests when adopting policies.

**Keywords:** Agricultural development; restructuring; rural development; Chinese agricultural experience; policy change; household responsibility system.

## 1. Introduction

Agriculture has been recognized as an undisputable means of satisfying human needs in the world's growing population. Globally, it has contributed significantly to the development of the economies of nations while serving as a parameter for achieving the United Nations (UN) Sustainable Development Goals (SDG) (Kanter et al., 2018). Agriculture promotes the well-being of people as well as their material needs (Udemezue & Osegbue, 2018). The restructuring of the Chinese agriculture and rural sector was a socialist move with Chinese characteristics. This was because the house-hold responsibility system (HRS) was a Chinese farmers creation which effectively increased production and achieved agricultural and rural development. No wonder Huang et al (Huang & Rozelle, 2001) labelled it as bottom-up agricultural development approach. The implementation of farmers new HRS gave rise to changes in the economic management systems, industrial structure and rural economic systems in China which sustained the development of rural areas, agriculture and farmers (Li, 2015). This corresponded with already instituted provision of the Peoples Commune as seen in the "Summary of the National Conference on People's Commune Management in Rural Areas" (March 1980) and the "Notice on Several Issues with Regard to further Strengthening and Improving Agricultural Production Responsibility System". On the other hand, Nigeria has about 91 million hectares of land; 82 million hectares are arable with 42 % of cultivated lands. The use of inorganic fertilizers in the 1970s boosted production while agriculture contributed 32 % to GDP in 2001. From time immemorial, before the civil war, Nigeria had a buoyant economy, self-sufficient in food production and exportation of cash crops like; palm kernel oil, groundnuts, cashew nuts, sesame seeds and moringa seeds. The after effects of the Nigerian civil war and discovery of oil halted growth and development in agricultural sector. Although rural communities still produce indigenous crops, no significant growth has been recorded till date.

The study aimed at enlightening people on the intricacies of Chinese agricultural development of over 40 years and how it transformed and sustained Chinese economy till date with the purpose of identifying major challenges of Chinese policy change and extract lessons to avoid pitfalls in future implementation. The study identified the often neglected roles of farmers in development. The farmers initiative called "household production responsibility system" had great impact on Chinese agriculture than previous agricultural policies. As in the case of organization, the farmers represent the very low employees who are often neglected in decision making process but are embodiments of ideas making this study significant in the field of public policy. The study utilized system theory and new institutional theory as theoretical framework. The government synergized with the locals in the implementation of the household production responsibility system while engaging and interacting with the township unions which led to the actualization of the government's goal as a whole. The study of agricultural development in China strongly recommends synergy among government and citizens, employers and employees irrespective of their cadre as a strong ingredient to the attainment organizational /institutional goals.

## 2. Results

Descriptive data such as age and occupation were analysed and presented using pie chart and column chart in Figures 1 and 2 respectively. Interviews and reports gotten from the field were cautiously narrated and presented alongside the statistical analysis within the corresponding discussion to justify findings gotten from questionnaire data analysis. The category of respondents displayed in Figure 1 according to their work definition shows that 75 % of the respondents work in the agricultural sector while the remaining 25 % represent the remaining respondents who are not affiliated to agricultural sector but participated in the questionnaire survey. This indicated that greater percentage of the overall responses gotten from the field survey were obtained from reliable sources. The target population for the study was chosen from the key actors in the field of agriculture (farmers, scholars, industrialists and government agricultural representatives). In order to measure the extent of changes that occurred in the agricultural sector concentration was based on respondents who had direct impact on agriculture and could tell story of the 1978 policy change and agricultural reform from the eagle’s eye view. However, a little population of others from non-agricultural sector were also chosen to balance the opinion generally from all points of view.

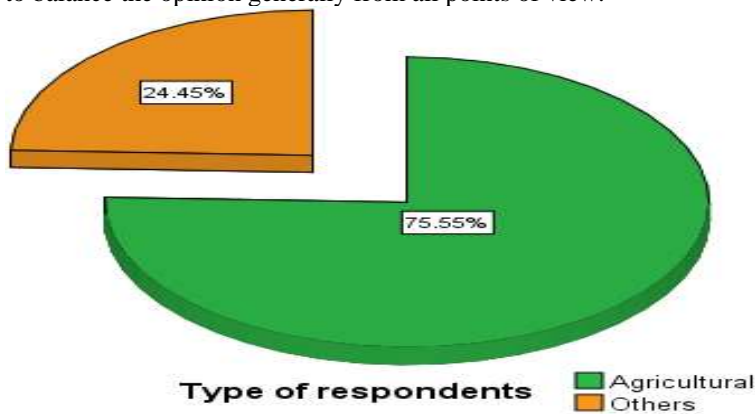


Figure 1: Pie chart representation of the Respondents by work category

The ages of the respondents presented in Figure 2 shows that greater responses came from people between the ages of 40 – 50 years (39.7 %) followed by people less than 40 years (33.3 %), 50 - 60 years (19.8 %), and finally making 60 years and above (7.2 %) the least of all the respondents. The age groups were considered in order to obtain data from those who witnessed the reform process making the elderly and middle-aged the major target population. However, those less than 40 years were included because they were scholars and factory workers in various agricultural institutions across Hubei province and must have idea of the reform. The graphical representation in Figure 2 shows that 66.7 % of the respondents are 40 years and above making them the highest age group that participated in the research. This simply implies that this age group witnessed the effect of the reform despite the fact that majority of them about 39.7 % may not have participated in the planning.

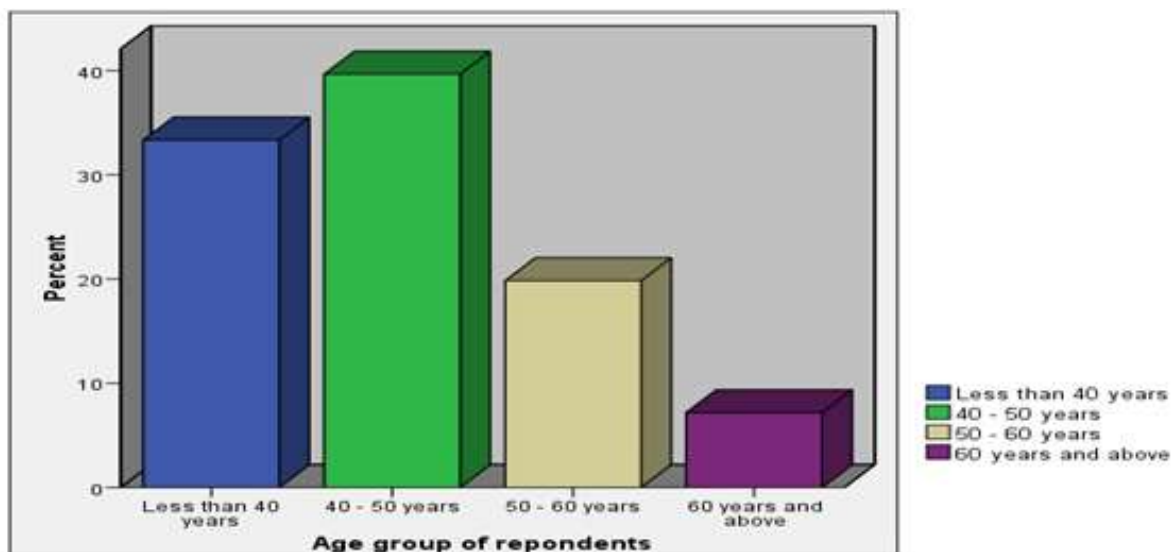
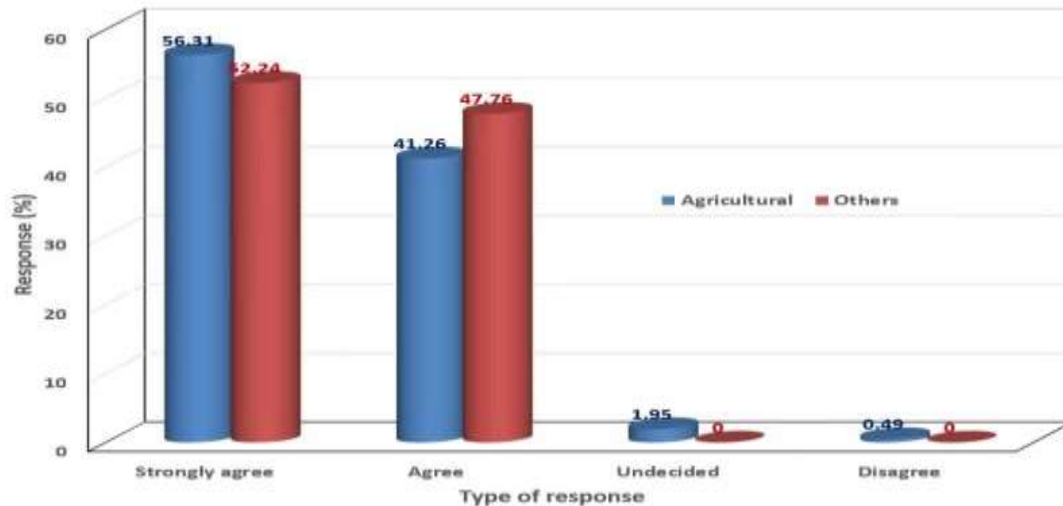


Figure 2: Total number of questionnaire respondents categorized using age

The study particularly focused on the significance of the Chinese great reform within the first 10 years. In so doing, respondents were first asked to clearly state their opinion on the impact of the 1978 policy change in development of agriculture and their responses were presented in Figure 3. This figure shows that 56.31 % of agricultural sector workers and 52.24 % of other workers (non-agricultural respondents) strongly agreed that policy change after the great reform played significant role in the development of agriculture and rural sector. However, 41.26 % (agricultural) and 47.76 % (others) agreed, 0.49 % (agricultural) disagreed, 1.95 % agricultural respondents were undecided while none was undecided or disagreed to the significant role agriculture played after the reform. Therefore, it can be inferred that the respondents believed the Chinese great reform truly transformed their agricultural and rural sectors.



**Figure 3: Policy change after Chinese great reform played significant role in agricultural and rural development.**

Interview analysis:

Responses from interviews conducted clearly showed that policy change in China within the first 10 years of reform led to agricultural productivity, increased agricultural production and increased movement of labour force to industrial clusters. Farmers were properly motivated which made them increase their productivity than in the era of the collectives with high quality of agricultural seeds under a stable political economy among others. A farmer interviewed said:

*“...there was a great development after the policy change which gave rise to high production, high efficiency, tool innovation and innovative management models. The use of pesticides and fertilizers gave rise to agricultural development. Also, the enthusiasm of farmers and initiatives promoted development...”*

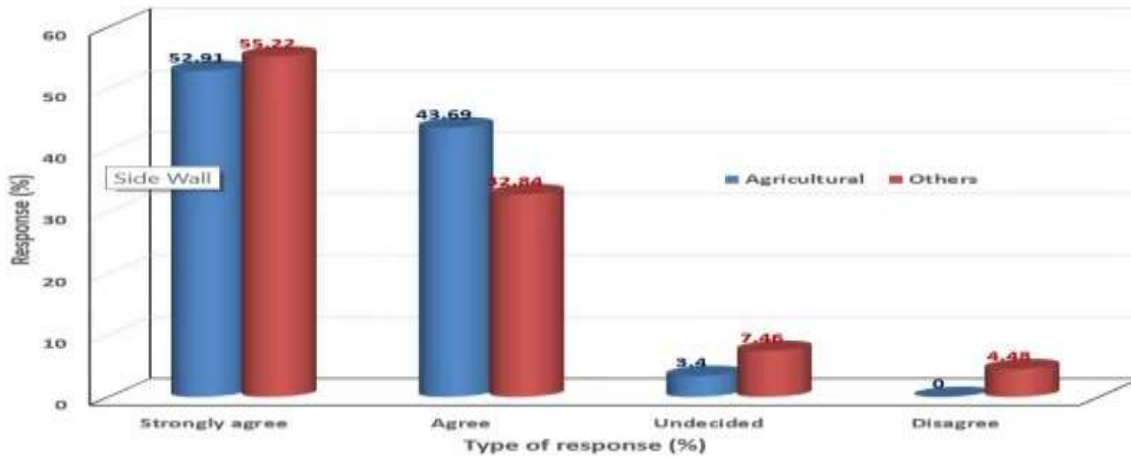
An agricultural industrialist said;

*“...within the first 10 years of policy change era, the implementation of the household responsibility system was very unique in Chinese history. I have been involved in agriculture for 21 years now. Yes, there has been a very big change in farmers working motivation. Farmers worked harder now than in the collective’s era with high quality of agricultural seeds and stable political economy...”*

A government interviewee added that;

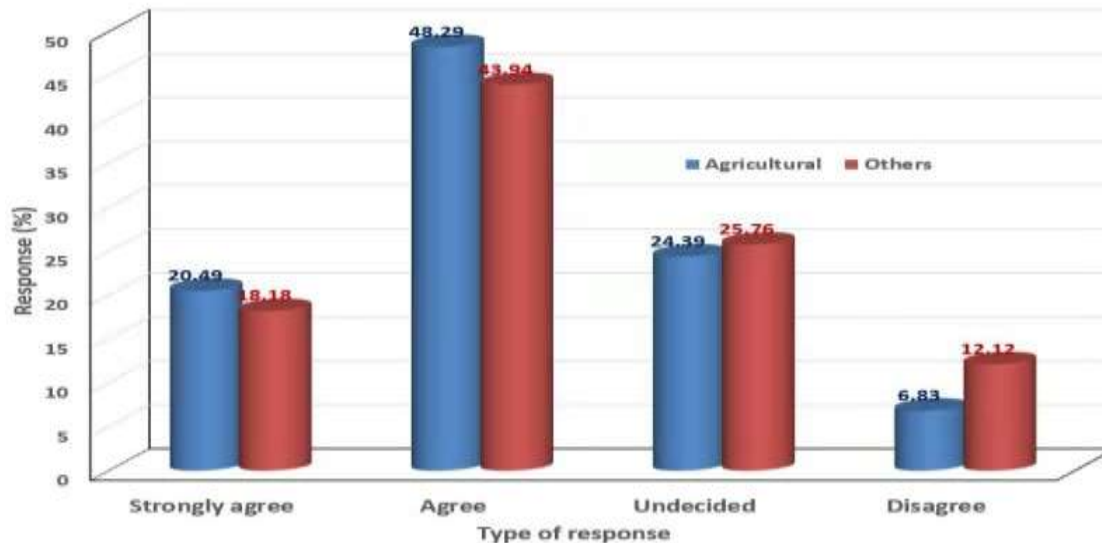
*“...farmers got the freedom to take decisions on what to plan, find jobs in cities and got increased income. In the past it was 1mu land per 3 farmers but after the policy change it became 1 farmer (one household) to 1 mu. The most important transformation was increase in agricultural products that met demands and supply within the first 5 years. The changes from township farmers to household farmers...”*

The responses on the role HRS played during the great reform is graphically displayed in Figure 4 to illustrate the believe of both agricultural workers and non-agricultural (others) respondents. The findings demonstrated that in respective order, 52.91 % and 55.22 % of agricultural workers and others strongly agreed, 43.69 % and 32.84 % of agricultural workers and others agreed, 3.4 % and 7.46 % of agricultural workers and others were undecided while 0 % and 4.48 % of agricultural workers and others disagreed to this opinion. In all, more than 80 % of the responses from both agricultural sector and others are of the opinion that the adoption of the HRS as a strategy gave rise to poverty reduction, improved food production and economic stability. Again, all the respondents interviewed from agricultural to non-agricultural sectors responded positively saying that “...the system was good within the first 10 years. People had enough foods to eat, farmers were very enthusiastic...”. Another interviewee stated that “... the household responsibility system was very important but not enough. During the reform period it was the best option and its result was very significant. It was the breaking point of Chinese comprehensive reform and basic foundation of the rural reform...”.



**Figure 4: The household production responsibility system tremendously improved Chinese economy leading to poverty reduction, improved food production and economic stability.**

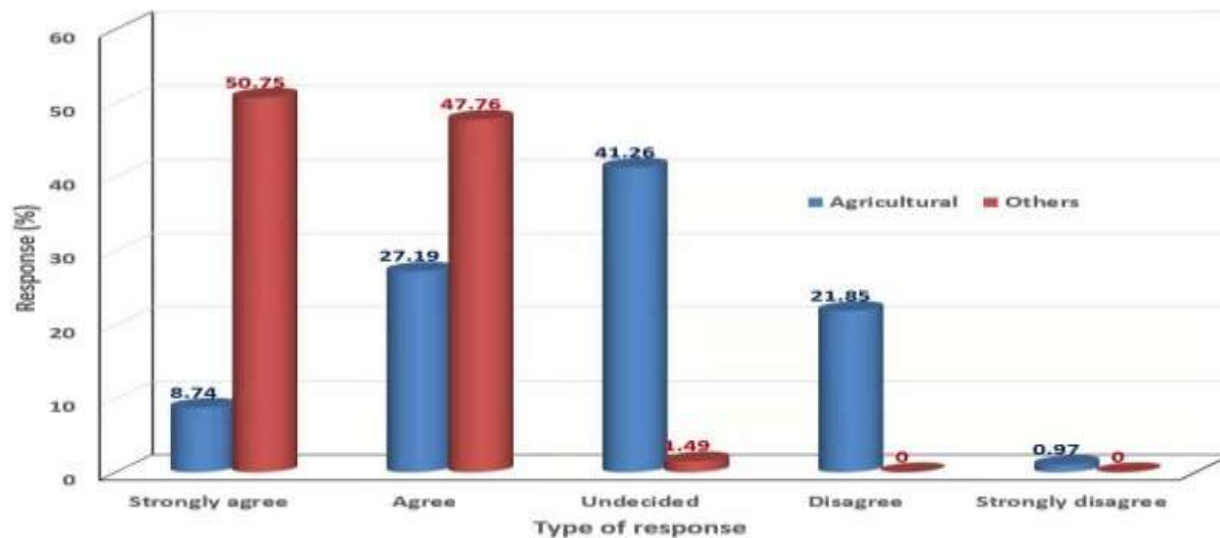
In the course of the study, efforts were made towards finding whether the distribution of lands favoured all farmers. Figure 5 shows that 20.49 % and 18.18 % of the agricultural workers and the others respectively strongly agreed that distribution of lands favoured farmers. Although 48.29 % and 43.94 % of the agricultural workers and the others respectively agreed, 24.39 % and 25.76 % of the agricultural workers and the others respectively were undecided while 6.83 % and 12.12 % of the agricultural workers and the others respectively disagreed that the process of acquiring and distributing agricultural lands was favourable to all Chinese farmers. However, a good number of respondents were not emphatic on transparency of the land distribution process, greater number of respondents from agricultural and other sectors believe that land distribution process was favourable. In summary to what most interviewee said, the government’s method of distributing land was universal but the land sizes did not meet the needs of their families. Lands distributed were very small in proportion to their family sizes. However, Tan et al (Tan, Heerink, & Qu, 2006) in examining land fragmentation and its driving forces in China, found that land distribution was properly stipulated by law and land was given based on household sizes. Therefore, it is imperative to state that governments and institutions should prioritize farmers interests in land use policies in order to maximize benefits from them with regards to agricultural development.



**Figure 5: The process of acquiring and distributing agricultural lands was favourable to all Chinese farmers**

The responses obtained with regards to the quantity of land distributed by government is displayed in Figure 6 which shows that 8.74 % and 50.75 % of the agricultural workers and the others respectively strongly agreed that government distributed insufficient lands for the implementation of the HRS. 27.19 % and 47.76 % of the agricultural workers and the others respectively agreed while 41.26 % and 1.49 % of the agricultural workers and the others were undecided. However, 21.85 % of agricultural respondents disagreed, 0.97 % of the agricultural respondents strongly disagreed while none in the others category strongly disagreed or was

undecided. This observation shows that greater number of respondents from the non-agricultural sector believe that government distributed insufficient lands while greater number of agricultural respondents were undecided on the distribution of lands. Altogether, the number of both agricultural respondents and the others who responded to this view outnumbered those who did not support that government gave insufficient lands to farmers. In summary, the assessment of land distribution was not certain because of inadequate transparency in the land distribution method. However, Nigeria and other developing countries should learn that transparency in dealing with farmers motivates output and small land size inhibits large output of goods as well as the use of modern technologies.



**Figure 6: The government distributed insufficient lands for the implementation of the household production responsibility system**

Analysis displayed in Figure 7 was used to evaluate the impact of HRS in Chinese agricultural system with respect to previous policies. The figure shows that 42.03 % and 43.94 % of the agricultural workers and the others respectively strongly agreed that HRS had greater impact in their agriculture than previous policies. 43.96 % and 48.49 % of the agricultural workers and the others respectively agreed respectively while 11.59 % and 4.55 % of the agricultural workers and the others respectively were undecided. However, 2.42 % and 3.03 % of agricultural and the others respectively disagreed that the HRS had great impact on Chinese agriculture than previous agricultural policies. The pictorial representation of the findings in Figure 7 showed that almost all the respondents believe that the strategy of the household production responsibility system impacted positively and significantly than previous agricultural policies in China. One of the interviewees said;

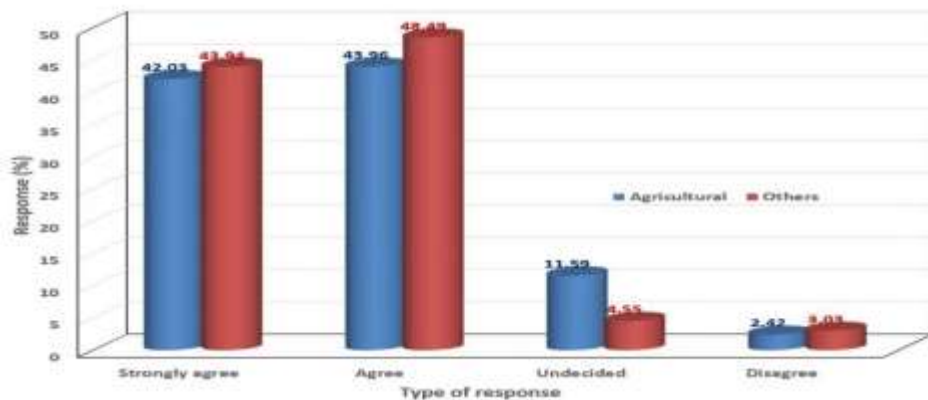
**“...this system was good, within the first 10 years people had enough to eat, farmers were very enthusiastic and the government supported them greatly...”**

Another stated that:

**“... Household responsibility system is very important but not enough. During the reform period it was the best option, its result was very significant. It was the breaking point of Chinese comprehensive reform and basic foundation of the rural reform...”**

Findings from the field on the impact of household responsibility system to Chinese agriculture is in line with the contributions of scholars from the literatures reviewed. According to Huang & Yang (Huang & Yang, 2017) the growth resulting from the HRS significantly improved food security, increased farmers income and replaced tax with subsidy. This boosted grain production with 5 % annual increase and led to decentralization in decision making (Chen & Brown, 2001; J Y Lin, 1992). This agricultural system reduced poverty, improved labour productivity, recorded high economic development and increased the earnings of farmers (J Y Lin, 1992; Zhao & Tang, 2018a). The household responsibility system can be seen as a sure strategy that can facilitate rural development through agriculture for developing countries of the world. In line with the systems theory and the new institutions theory, there was synergy between farmers and government institutions through which implementation process was smoothened. This cooperation that existed enabled the establishment of scientific pattern in the usage of the Chinese HRS. Therefore, this can serve as an important lesson that can be applied in Nigeria and other developing countries of the world.



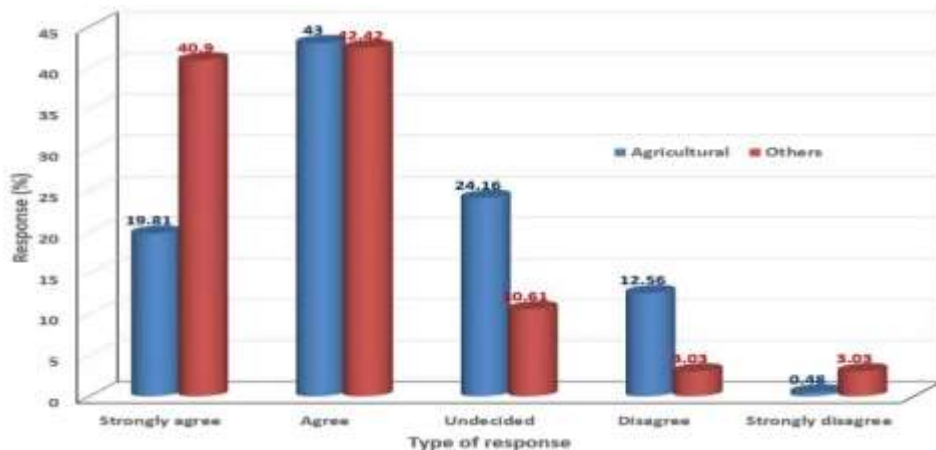


**Figure 7: The household production responsibility system had great impact in Chinese agriculture than previous agricultural policies.**

The results displayed in Figure 8 shows that about 19.81 % and 40.9 % of the agricultural workers and the others who responded to the extent of governments support strongly agreed that government supported farmers. 43 % and 42.42 % of the respondents respectively, simply agreed while 24.16 % of the agricultural workers and 10.61 % of others were undecided. Nevertheless, 12.56 % of the agricultural workers and 3.03 % of others disagreed while 0.48 % of the agricultural workers and 3.03 % of others strongly disagreed that the Chinese government made adequate supportive efforts to farmers in the implementation of the agricultural policies after the great reform. Interviewees also strongly believed that governments support was a backbone that strengthened the implementation of the household production responsibility system. Some of the interviewees said:

*“...government worked well with farmers by helping spread the system around China, ensured economic rise of farmers and their democratic rights, respected grassroot innovative spirit by improving the system...”*. Another Interviewee specifically added that;

*“... the policy was political. The government structures that were put in place encouraged the smooth implementation of the household production responsibility system...”*.



**Figure 8: Chinese government made adequate supportive efforts to farmers in the implementation of the agricultural policies.**

Summarily, more than 60 % of all category of respondents stated that Chinese government made adequate supportive efforts to the farmers during the implementation of the Household responsibility system that masterminded the development in agriculture. This supportive role according to interviewees include establishing a cordial and cooperative relationship, reducing taxes, creating favourable rules for distribution and providing some public services. These motivated farmers and resulted in a successful outcome. Therefore, Agricultural development takes effect when there is improvement in management and innovation.

### 5. Discussions

The study justified that Chinese agricultural and rural sectors were transformed as a result of policy change. The household responsibility system (HRS) of production enabled farmers to contract lands, machinery and other facilities from collective organizations which led to increase in productivity and farmers income. Households were able to make operating decisions independently within the limits set by the contract agreement. They also freely disposed surplus production that are above national

and collective quotas while being responsible for the profits and losses of their enterprises. However, the success resulted in lots of policy changes which subsequently altered the policy implementation of HRS (Chen & Brown, 2001). Most developing countries challenged by land system management and agricultural technological growth can utilize the HRS implementation strategy to boost their agricultural and rural economy. The study further showed that through effective HRS, China used just 9 % arable land to feed and sustain her population of about 1 billion as reported in (Cheng, 2000) within the first 10 years of the agricultural and rural reform. Agricultural policies must be suitable for the development of productive forces and gradually adjusted to fit into demand and supply. Supports given by governments contribute greatly to agricultural development. If agriculture has been tagged the backbone of many economies including Africa and up to 70 % of Africans and roughly 80 % of the continent's poor masses live in the rural areas and depend mainly on agriculture for their livelihood, why has their government not deemed it fit to engage, encourage and support rural farmers towards the path of agricultural development? Despite what their reasons may be, this study stands out as an option to the rescue of such economies like Nigeria. Being that Nigeria had previously enjoyed a buoyant agriculturally based economy prior to oil discovery, there is the present need to retrace her steps towards understanding the root cause of her economic instability. It is important to encourage Nigerian government to utilize her agricultural resources to rescue and restructure her economy.

Developed countries like Denmark, Taiwan, Japan, United States have advanced in agriculture using several approaches and techniques that ensured increased production of food and advanced technology in all aspects but their numerous progress in agriculture cannot be generalized as applicable in other countries (Bruce F. Johnston and John W. Mellor, 1971). Bruce et al further stated that countries must take cognizance of their people's way of life, religion and values before adopting agricultural development strategies. Agriculture play major role in the development and growth of economies hence Dercon & Gollin (Dercon & Gollin, 2014) stated that agricultural productivity growth creates room for advanced incomes in the rural areas, reduces the price of foods in urban cities, enlarges domestic markets for non-agricultural goods and raises savings in rural areas while opening ways for capital mobilization in domestic industries with respect to a closed economy. From global perspective, agriculture has contributed significantly to sustainable development of the economies of nations while serving as a parameter for achieving the United Nations (UN) Sustainable Development Goals (SDG) (Kanter et al., 2018).

China's agricultural reform recorded a transition from the collective system of production to the implementation of the household production responsibility system which originated from Fengyang county of Anhui province where farmers instinctively carried out farm production responsibility system by contracting lands to individual households. This rural comprehensive reform comprised of the household responsibility system (HRS), the agriculture management system and the land system (Douglas Hurt, 2010a; Lau & Zheng, 2017; Li, 2015). The implementation of farmers new HRS gave rise to changes in the economic management systems, industrial structure and rural economic systems in China which sustained the development of rural areas, agriculture and farmers (Li, 2015). This corresponded with already instituted provision of the Peoples Commune as seen in the "Summary of the National Conference on People's Commune Management in Rural Areas" (March 1980) and the "Notice on Several Issues with Regard to further Strengthening and Improving Agricultural Production Responsibility System". It was recorded that up to 94.5 % of the households and over 99 % of the production teams had implemented the household contract responsibility system by the end of 1983 (Douglas Hurt, 2010b; Jia et al., 2008). China since 1978 recorded tremendous economic growths making her the fastest growing economy in the world averaging 9.7 % per annum within the past four decades (Lau & Zheng, 2017). This growth significantly improved food security, increased farmers income and replaced tax with subsidy (Huang & Yang, 2017), boosted grain production with 5 % annual increase using the household production system and led to decentralization in decision making (Chen & Brown, 2001; J. Lin, 1997). In the early 1970's, the efforts of farmers in boosting soil fertility by developing local organic manures (Jiao, Mongol, & Fu-Suo, 2018; Yang, 2006) contributed immensely to the success of the household responsibility system. Record also has it that the new agricultural system reduced poverty, improved labour productivity, recorded high economic development and increased the earnings of farmers (J Y Lin, 1992; Zhao & Tang, 2018b; Z. Zhou, 2010). Also, since 1978 China has maintained a stable growth as a result of various changes in government policies (Huang & Rozelle, 1996; Li & Zhang, 2013; L. Zhou, 2013) at the rural and agricultural sectors. At long run, the Chinese HRS inhibited large scale production, use of agricultural machines and pesticides because of land fragmentation (Chen & Brown, 2001) which is a hindrance to agricultural development (Tan et al., 2006).

On the other hand, Nigeria has about 91 million hectares of land; 82 million arable hectares and e 42 % cultivated lands. The use of inorganic fertilizers was promoted by Nigerian government in the 1970s and agriculture contributed about 32 % to GDP in 2001. From time immemorial, before the civil war, people of Nigeria had a buoyant economy, self-sufficient in food production and exportation of cash crops like; palm kernel oil, groundnuts, cashew nuts, sesame seeds and moringa seeds. The after effects of the Nigerian civil war and discovery of oil halted the growth and development in agricultural sector and till date it has not contributed significantly to the growth of Nigerian economy. Although rural communities still produce indigenous crops such as; groundnut, fluted pumpkin, castor oil, beans, cola nut, cowpea and okra they are not in commercial quantities. Inadequate water supply, access roads, dilapidated educational facilities, electricity, unequipped hospitals have hampered growth in rural areas of Nigeria. Additionally, small agricultural lands for farming using simple tools is a great challenge that has made importation of foreign products (foods) very rampant. The enthusiasm of small-scale farmers who farm for consumption purposes have kept some crops

from getting into extinction. These farmers do not receive adequate support, motivation and encouragement from government to grow their crops in commercial quantities. Studies have attributed Nigeria's agricultural development failure to over dependence on oil, inappropriate and weak agricultural policies (Falebita & Koul, 2018; Iwuchukwu & Igbokwe, 2012; Jombo, 1999), policy inconsistency, inadequate attention from government and inadequate resource allocation (Jombo, 1999; Williams, 1988). The clamoured for economic restructuring and a more diversified sustainable model of agricultural development has been on the increase over the years while. Scholars like Udemezue & Osegbue, (Udemezue & Osegbue, 2018), also recommended agricultural development as a means to economic development in Nigeria. Prior to the 1978 reform, Chinese economy was highly centralized in the allocation of resources and decision making process (Renwei, 2012) just like the present day Nigeria economic system. Nigeria needs to learn from China because they share similar historical agricultural experience of constant policy changes without significant contributions to the agricultural sector (J. Lin, 1997).

The structure of the Nigerian Federal government inhibited growth and development of the states and local governments despite their huge resources. Similarly, Nigerian politics unlike the Chinese is not ideologically driven but filled with government decisions divided along ethnic, religious and political lines. In the words of Abubakar (Abubakar, 2018), Nigeria has a complex economic and political structures as a result of faulty federalism resulting in weak economic management systems in federal, states and local governments operations. However, the appeal for restructuring becomes inevitable and remains the only option to achieve agricultural development. The challenges of agriculture policies in Nigeria have been summarized in Table 1.

**Table 1: Agricultural policies in Nigeria and reasons why they failed since Nigeria's independence till date.**

Year	Name of Policy	Aim	Reason for failure
1973	National Accelerated Food Production Programs (NAFPP)	To enhance farmers productions of grains using subsidy, credit, adaptive research and demonstration plots.	Farmers financially funded last two phases of the programme. Sudden introduction of another agricultural policy by the Federal Government (Operation Feed the Nation).
1975	Agricultural Development Projects (ADP) formerly known as Integrated Agricultural Development Projects (IADP)	Boosting economic and technical efficiency of small farmers using rural infrastructural development. To revitalized agricultural extension system, autonomous project management, domestic	Inadequate involvement of input agencies, reduced and unstable funding of policies and counterpart funding,
1976	Operation Feed the Nation (OFN)	To massively mobilize and create awareness programme using mass media, massive fertilizer, centralized input procurement, subsidy and imports	Inefficient management. Certain people were favoured at the detriment of poor farmers.
1976	River Basin Development Decree established eleven River Basin Development Authorities (RBDAs)	To utilize the natural potentials of water bodies for irrigation services, fishery development, control of flood, water pollution and erosion.	Poor management and political interference.
1983	Green Revolution Programme (GRP)	To fast-track the achievement of agricultural programmes by establishing special commodity development programme, evaluation of Agricultural credit guarantee scheme and improved resource allocation to RBDAS.	Delay in policy implementation and inadequate monitoring and evaluation
1986	Directorate of Food, Roads, and Rural Infrastructure (DFRRI)	To create roads and facilitate rural development programmes.	Misplaced priority and fund mismanagement
1992	National Agricultural Land Development Authority (NALDA):	To support the development and use of lands	Land reform act was criticized as lands that belong to the poor were usurped by the rich. little knowledge of the use of supplied inputs



1990s	National Development (NFDP)	Fadama Project	To increase the earnings of the Fadama users through expansion of farm and non-farm events	Amateur management of water application through irrigation.
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It can be deduced from Table 1 that agricultural development policies in Nigeria do not receive adequate attention from the government. Introducing new policies in the same sector almost every year is not a sustainable development strategy. It is obvious that within 3 years (1973 - 1976), 4 different agricultural policies were introduced in Nigeria meaning that the government maybe insensitive to the outcome of the policies. The table further revealed that government’s nonchalant attitude, inadequate monitoring and evaluation, weak policies, conflict in roles, short duration and unskilled workers/technical advisory/extension services have hindered growth and development in Nigeria’s agricultural sector (FMAWRRD Nigeria, 1985; Iwuchukwu & Igbokwe, 2012; Oyeranti & Olayiwola, 2005; Ugwu & Kanu, 2012).

A lot has been researched on the impact of policy changes on Chinese agricultural development (Gong, 2018; Justin Yifu Lin, 1990; Sun, Lopez, & Liu, 2017), market reforms and changes in crop productivity (Stavis, 1991), China’s 40 years of reform and development 1978 - 2018 (Fang, Garnaut, & Song, 1999), impact of household land tenure reform in China on farming land use and agro-environment (Hu, 1997). Nevertheless, little or no study has been carried out to examine the role of farmers in rural and agricultural development, no study has highlighted the impact of synergy on the implementation of the Chinese HRS as well as aligning the HRS as scientific strategy. No study has specifically studied the need to restructure Nigerian agricultural system using the Chinese policy change experience. Therefore, it is imperative to extract lessons from Chinese policy change experience to avoid developing countries falling into pitfalls when utilizing it. It serves as a tool for restructuring agricultural and rural sectors, an updated literature for knowledge advancement in the area of agricultural development in China and other developing countries.

However, there is great need for policy makers and governments of developing countries to invest and prioritize agriculture just like the Peoples Republic of China did in 1978. Integrating agricultural implementation strategy into a nations development agenda and adjusting it to suite the demands of time while blending it to meet with global requirements will guarantee rapid development as against making constant changes without evaluating its impact on the economy. The literatures reviewed and field survey evidently justified the need for African leaders to invest heavily in agriculture. This is obvious in Figure 4 which showed that adoption of the HRS as a strategy gave rise to poverty reduction, improved food production and encouraged economic stability. The World Bank has described the Chinese agricultural revolution of 1978 as the fastest sustained expansion by a major economy in history. The rapid transformation in the agricultural land system and market-demand induced institutional reforms took a bottom-top approach (Jia et al., 2008) using the household responsibility system as a focal policy. The Chinese policy change experience tagged “crossing the river and feeling the stones” which further buttressed the fact that ‘experience is the best teacher’ stands out as food for thought to countries like Nigeria who are yet to embrace agriculture as a sustainable option for economic development. Being that Nigeria has had a successful history in agriculture, there is need to enhance her agricultural capability using lessons extracted from China’s experience to build a solid agricultural base for a better economy. This can be further explained with an Igbo proverb which says; “a person who does not know where the rain began to beat him cannot know where he dried his body”. Therefore, Nigeria needs to retrace her steps to overcome the present economic challenges. It is well-known that agricultural development in Nigeria has faced lots of challenges ranging from inadequate support from government, lack of grassroot involvement, constant policy changes, inadequate science and technology application among others. Hence, to achieve development and sustained transformation in the agricultural sector of Nigeria, government must be fully involved following a laid down strategy that ensures grassroot incorporation, training agricultural workers and farmers. This technique will encourage the application of technology and developing existing methods that will be timely upgraded to suite with local and global demands of production and market forces. Lessons from China and many agricultural countries in the world have stressed the need to start from the grassroots, improve existing systems, improve scientific and technological progress, achieve agricultural modernization and establish agricultural socialized service system.

Chinese experience can be replicated in Nigeria because China when compared with Nigeria has less arable lands, but used agriculture to build her economy. Nigeria has past experience in agriculture, rich fertile land mass and willing manpower that are unmotivated. Chinese experience can be applied by integrating local governments into government affairs and decentralizing national government activities to meet the local levels. Land policy implementation strategy that incorporates rural farmers, reduction of taxes, adjusting land policies to meet demands of locals and providing incentives like trainings will generally motivate the numerous willing rural famers in Nigeria and other developing nations. Moreover, Nigerian government is structured in a way that takes governance to the rural communities through local government institutions and this can aid in smooth implementation of HRS. However, Nigerians have clamoured for more diversified economic structure with a sustainable model. Therefore, HRS as a bottom-top model found sustainable over the past 4 decades can easily be replicated in a country that have structures and institutions at the local level. In order to avert challenges faced in Chinese HRS, Nigeria will need to monitor the progress of HRS and create

opportunities for corporative farms that will encourage the use of machines for bigger productions. Largescale production which was a disadvantage of the HRS can be achieved through laying more emphasis on corporative farming, giving more incentives to motivate farmers, creating healthy competitions among the corporative farmers as well as sponsoring them to international trade fairs and trainings. Nigeria should learn from China because it avails her the opportunity to skip falling into pitfalls associated with new policies as experienced in the early days of Chinese policy reform. Nonetheless, reform the failures of HRS as well as building up on existing HRS strategies in order to create a better output.

### **3. Theoretical framework**

A theoretical framework is a postulation that is directional in nature which tries to explain the cause of a future event with existing proven fact. Theories are used to explain, predict, understand phenomenon and also challenge existing knowledge within the limits of critical bounding assumptions (Abend, 2008). Theoretical framework gives explanations on research problems under study and guides the researcher in making predictions using deductive reasoning. It is useful in an explanatory research while trying to find out the unknown or verify the assumption that exist in order to generalize. The Chinese great reform is a combination of land reforms, agricultural reform and industrial revolution thereby giving room for elaborate utilization of different theoretical approaches in order to understand the conditions for change, appreciate the institutional mechanism and the strategies that enable tremendous change in the general economic system in China. Therefore, for the benefit of this study, the Systems theory and the New Institutional theory were adopted.

Systems theory consists of man-made parts that are interrelated and interdependent. It assumes that the changes that occur to a part affects the whole parts. The general systems theory was propounded by a biologist called Ludwig Von Bertalanffy in the 1940's and cuts across all disciplines which makes it easy in application. Systems theory considers every interaction that occur among every single part that make up a system as very important for the purpose of achieving the goal of an organization as a whole. In the process of working to achieve a set goal, single parts interrelate. In line with this, Aristotle asserted that knowledge is built in the ability to understand the whole rather than a single part of a thing (Mele, Pels, & Polese, 2010). The sole aim of agricultural research is to improve and promote an existing system in order to achieve development. However, for a target goal to be achieved, there has to be a clearly defined goal. The specific outline of the system to be improved must be stated, the interdependence of the components and law guiding their interactions must also be clearly stated (Bawden, 1992). The success of the Chinese great reform can be said to anchor on the utilization of the systems theory directly or indirectly. The governments overall support and relationship with the grassroot (farmers) synchronized perfectly with the theoretical provisions of the systems theory.

New institutionalism (neo-institutionalism) has been described as a school of thought that is focused on developing a sociological view on the interactions that exist within institutions and how these interactions influence societies at large (Powell, 2019). New institutional theory created new models that enabled the understanding of how institutional pressures shape organizations and initiate organizational change. In the case of China there was great need to improve the general living condition of the people, increase grain production, eliminate poverty, improve the economic standard of the country and ensure sustainability. The failure of previous policies to improve the well-being of the people, the alarming rate of poverty and hunger with increased population growth created lots of pressure on the government of China. These pressures on the Chinese government institutions paved way for deliberations on various forms of reform options and moves for policy change.

Agricultural development reform was sort as the best alternative for the immediate rescue of the economy. New institutional theory and Systems theory approach were judiciously utilized by the Chinese government in the agricultural reform period as played out in the 1978 policy change. This study established from various resources that the new institutional theory and systems theory were most likely the theoretical framework that gave birth to the success of agricultural reform policy change of 1978. The utilization is seen in the implementation of the household production responsibility system while engaging and interacting with the township unions that led to the actualization of the government's goal as a whole. This whole scenario depicted a system that interrelated to achieve a set organizational goal. Agricultural development in China could not have been possible if there were no systematic interactions between systems (the government and the locals). However, this study has been able to identify relationships that helped in shaping the Chinese agricultural sector and economy at large where systems theory played out and was directly/indirectly utilized. Therefore, HRS as a scientifically proven agricultural and rural development strategy can be utilized in Nigeria and other developing countries to improve their weak agricultural and rural economy.

### **4. Methodology**

This study adopted a mixed research design which focused on collecting data, analysing, and mixing both quantitative and qualitative research methods in a single study. The aim is to provide clarity as recorded by Bian et al (Bian, 2011; Collins, Onwuegbuzie, & Jiao, 2007) who believe that this method gives credibility and trustworthiness to a study. More so, a single method of research may not explain a phenomenon well but requires clearer understanding and wider acceptance with the use of a second method (Bian,

2011; Cameron, 2014). The mixed method permits researchers to use several ways to x-ray a research problem, harmonize the strength of a single design, address research questions at different levels and strengthens the weakness of a single design (Creswell, 2006). It further creates room for easy generalization as well as placing a research work in a transformative framework. This study examined the status of agricultural development in Nigeria and the impacts of the HRS within the first ten years of Chinese great reform. Existing literatures were explored, interviews with focused group discussions and questionnaire surveys were also used to increase understanding and verify assumptions with the aim of drawing conclusions that could serve as lessons to developing countries. This study made efforts at x-raying the status of agricultural development in Nigeria and its impact since the discovery of oil. The policy change and agricultural development in China was also analysed and lessons extracted from the Chinese great reform experience. Furthermore, the research analysis gave more attention to the challenges and lessons learnt within the first ten years of implementation. This period contributed the most important foundational success and challenge experience which could stand as a guide to Nigeria and other developing countries when using the HRS strategy.

Moreover, the study period of ten years (1978 – 1988) of the Chinese great reform of 1978 focusing on agricultural development and rural reform was chosen for its strategic importance during the reform in order to carefully analyse the interactions that was developed between Chinese government and her institutions and review strategies that were adopted that guaranteed sustainability in Chinese agricultural sector. Qualitative data was obtained from journal articles, government gazettes, web pages, government institutions, policy documents, encyclopaedia, newspapers, periodicals and unpublished materials in Chinese history. Quantitative data was gotten from questionnaire, then interviews and focus group discussions were obtained from seven agricultural institutions and industrial clusters selected at random from Hubei province and Anhui province of the Peoples Republic of China respectively. The research team visited and conducted interview with government officials, agricultural industries, and institutions including corporative farms. The places visited were: Rural Governance Research Centre of Huazhong University of Science and Technology, Wuhan City, Lebaijia Biotechnology Co. Ltd Jinmen city, Chulan Agricultural Ecological park, Xiaogang village of Fenyang County, Anhui Province, China Rural Issues Research Centre of Huazhong Normal University, Huarong District of Ezhou City, Agricultural and Rural Department of Hubei Province. These places were chosen based on data availability and surveys arrangement. It was assumed that agricultural workers, researchers, scholars and farmers will still have clear knowledge of the agricultural reform that transformed China to the amazement of all and sundry. It was assumed that agricultural workers, researchers, scholars and farmers will still have clear knowledge of the agricultural reform that transformed China in the last forty years. Population of study was chosen using a cluster sampling method because the population of study was spread over a wide geographical region (Bhattacharjee, 2012). In all, 27 people were interviewed while 273 questionnaires were issued and retrieved for analysis. The questionnaire was divided into two sections the first had two unstructured questions and 12 structured questions for government officials, researchers in the agricultural field and others while the second part which was specifically for famers has 7 questions. Top government officials, directors in agricultural institutions, managers and senior executives in industries were interviewed and issued with questionnaire in an organized interview while other staff, farmers, and scholars responded to questionnaires shared in a focused group discussion arrangement. Quantitative data was obtained from the questionnaire survey and analysed using IBM SPSS software package version 23 and presented in pie chart and column charts while qualitative data from interviews were carefully narrated to buttress points studied.

## **5. Conclusion and Policy Implications**

Restructuring agriculture for the purpose of achieving development in the rural areas require a lot of local considerations and integration in the affairs of government. In the case of China, great effort was made by the government to support the farmers' household production responsibility system in which farmers portrayed great enthusiasm and commitment. Nevertheless, the role of farmers in rural and agricultural development irrespective of their low cadre in the society cannot be overlooked when making policies for agricultural and rural development. Evidence from this study shows that governments and institutions should prioritize grassroot mobilization as well as farmers interests when adopting policies in their societies at large. Thereby, developing and equipping the individuals with best technology as well as providing them with basic needs of life to bring out the best in them. Developed countries have sustained growth and development of their economies using agriculture as well as international integration as an essential ingredient for economic restructuring and development. The study justified the importance of adopting HRS a bottom-top policy strategy to achieve agricultural and rural development. Land use system and land distribution rules must be adjusted where necessary to meet the demands of the rural populace and made favourable to all.

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