Improving economic empowerment through the development of cluster farming initiatives in Jigawa State

His Excellency Ibrahim Hadejia Dep Gov Jigawa State, Andrew Smith Land Governance Consultant
GEMS3 PROJECT JIGAWA

Paper prepared for presentation at the
“2017 WORLD BANK CONFERENCE ON LAND AND POVERTY”
Abstract

Agriculture is central to the economy of Jigawa State in Nigeria. The cumulative impacts of poverty, environmental degradation and increasing population has resulted in decreased efficiency and reduced yield. Increasingly the state has, along with neighbouring states in northern Nigeria, become vulnerable to increasing levels of hunger and malnutrition amongst the rural poor. The state has reacted by developing a system of local ‘cluster farm’ initiatives in all 284 local wards to address the problem and to educate and encourage farmers to adopt an increasingly commercial ‘for profit’ approach to production of staple crops suited to the local environment. These crops are rice, ground nut, soya bean and sesame.

Key Words: SDGs, agriculture, sustainable development, enterprise, job creation, growth
Improving economic empowerment through the development of cluster farming initiatives in Jigawa State

Table of Contents

Background .................................................................................................................................................. 3

2. Short, medium and long term goals of the cluster farm initiative ......................................................... 5

3. Methodology ......................................................................................................................................... 8

The Land Registration Process .................................................................................................................. 9

Land Registration Strategy ....................................................................................................................... 11

4. Integrating the concept into government policy ................................................................................... 11

i. Agriculture ........................................................................................................................................... 12

ii. Justice .................................................................................................................................................. 12

iii. Land ..................................................................................................................................................... 12

iv. Water resources .................................................................................................................................... 13

v. Commerce ........................................................................................................................................... 13

vi. Investment promotion .......................................................................................................................... 13

vii. Environment ....................................................................................................................................... 14

viii. Training and skills ............................................................................................................................. 14

4. Economic development theme ............................................................................................................. 14

5. Strategic socio-economic outcomes .................................................................................................... 15

Background

Agriculture is central to the economy of Jigawa State in Nigeria and about 82% of the over 5.2 Million population are engaged in subsistence farming on a small holder basis. A dependence on oil revenue that is centrally collected and shared to the States monthly has seen a total neglect of the Agricultural sector and a penchant for importing food to the detriment of local production. This has resulted in stagnation of the sector with almost primitive methods of cultivation still used in the rural areas.
The collapse of oil prices and the resultant negative effect on the economy put pressure on the local currency and the new Government placed restrictions on importation of non essential items and started a back to the land campaign to stimulate the agricultural sector and increase local food production to save scarce foreign exchange.

Poverty levels are high and lack of access to finance for basic inputs like quality seed and fertilizer simply results in a vicious cycle of poor cultivation practice which in turn leads to poor yield.

The Jigawa State Government took the initiative of registering individual small holder farmers and clustering them for target input provision and extension service. A maximum cluster size of 50 Hectares was formed in each of the 287 wards in the state with a maximum of 5 sub clusters where a 50 hectare contiguous lot is not feasible. Four major crops were identified for support based on comparative soil and climate matching and market value. These are Rice, Wheat, sesame and soybeans and a pilot for cassava and groundnuts initiated to meet an identified buyers demand.

287 50 Hectare clusters were formed in the first instance located in every ward in the State. The 50 hectare cluster where available in a contiguous block comprises individual farms, governments owned land or a combination of both. Where land is government owned it is allocated to unemployed youth in the ward who enjoy all the benefits of the scheme.

As individual clusters become established they will be supported to expand year on year until production is economically significant and profitable.

- Cluster farms will gradually become independent of state support and function as small businesses.
- To ensure the legal recognition of each farming cluster a co-operative will be created.
- The land will be registered and certificates of occupancy created in the name of the co-operative. Appropriate restrictions will be registered to limit the capacity of the co-operative to transact the land.
- Individual certificates of title will also be issued at minimal cost where applicable under the DFID supported SLTR scheme
- The certificate of occupancy will facilitate access to finance.
- Initial cluster farms will be limited to 50 Ha but additional land will be added as the programme expands and access to markets improves.

The culmination of the project will demonstrate to the world that Jigawa is serious about sustainable agriculture. Improvements in the land tenure system, through the application of the VGGTs, is the most effective way to secure the rights of the people, ensure successful business development and to develop the state in an equitable way for future generations.
Short, medium and long term goals of the cluster farm initiative

The cluster farming initiative reflects the steps being taken by Jigawa State to attain the Sustainable Development Goals through improvements in sustainable, small scale agricultural development focusing on precision quality input provision to poor farmers and targeted extension service to attain huge improvements in yield.

Apart from yield improvement, farmers are registered in a database and encouraged to open bank accounts to develop a saving culture and adopt a business like approach to farming. The program has the slogan “Farming is a business”, which is a clear deviation from farming for subsistence that was the norm. For the initial cycle the Government has committed to buy up all the harvested crops at market value for processing in the State owned seed company to provide certified seed for subsequent expansion. Farmers have the choice of paying cash in lieu but so far a lot of them have repaid the input provision loan in kind and sold the excess to the relevant agency.

For the period under review a total of 287 main and 828 sub-clusters were established with 15,097 farmers participating. Average farm size was 0.8 Ha per farmer.

Fig 1. Typical relative farm sizes in Jigawa

12,115 hectares are currently under cluster cultivation (comprising 6,613 Ha sesame, 3,916 Ha rice, 1,565.88 Ha groundnuts and 20 Ha soy beans). Crops are doing well and beneficiaries numbering 15,097 are quite appreciative of the scheme with a lot of expressing gratitude to the Government as they never had the opportunity of exploiting the full potential of their land holding before. A lot of farmers are demanding to be included and all potential beneficiaries are required to begin compliance by having
their farms accurately measured, open a bank account and commit to the principles of cooperative formation.

The number of participating farmers crop-wise is 6,550 for rice, 6,532 for sesame, 1,975 for groundnuts and 40 soy beans. In terms of productivity enhancement, yields of up 108 bags per hectare (8.1 MT/Ha) of rice were recorded in many locations while the yield for ground nuts reached 1.2 MT/Ha in Kaugama and for Sesame 900 Kg/Ha in Diginsa ward a farmer harvested 13 bags weighing about 900 Kg.

The idea is to wean off the clusters that have achieved proficiency in good farming practices and have saved enough money to pay for the inputs and services provided. They will still maintain the cluster cooperative identity for marketing and other related engagements, but the scheme will move on to new clusters that require support.

In the long term participating communities will have almost doubled their historical yield in most cases, and will have become better farmers who will demand quality seeds and inputs from external skills sponsors and government agencies. They will also be significantly better off financially and will have adopted a business like approach to farming and be better placed to meet the expectations of improved rights to education and healthcare for all, particularly women.
The Importance of Staple Crop Development to the Economy

Subsistence farming in Jigawa has traditionally focussed on a range of crops. These include millet, sorghum, cowpea, sesame, beans, rice, zobo, groundnut, onions, tomato, melons and a variety of leguminous plants.

This approach delivers most of the nutritional needs for the population but, because farming practices are outmoded, yields are low and land use inefficient. Analysis of millet production highlighted that there are significant overhead costs which actually incur quite a burden in the value chain yet farmers persist in believing that the crop is the most effective means to feed their families. Other crops offer a better financial return but, because of the poorly defined market chains, producers are risk committing the whole of their land to a single crop with no guarantee of return. Ultimately the cluster farm initiative hopes to overcome the challenges that currently discourage more efficient farming practice.

<table>
<thead>
<tr>
<th>Crop Sales Value (N/ha)</th>
<th>Millet</th>
<th>Sorghum</th>
<th>Cowpea</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50,090</td>
<td>47,335</td>
<td>51,412</td>
<td>148,838</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Less: Materials:</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Seed cost N/ha</td>
<td>1,846</td>
<td>2,304</td>
<td>2,147</td>
<td>6,297</td>
</tr>
<tr>
<td>NPK</td>
<td>2,874</td>
<td>972</td>
<td>400</td>
<td>4,246</td>
</tr>
<tr>
<td>Urea</td>
<td>2,252</td>
<td>692</td>
<td>312</td>
<td>3,256</td>
</tr>
<tr>
<td>Herbicide</td>
<td>1,331</td>
<td>255</td>
<td>82</td>
<td>1,668</td>
</tr>
<tr>
<td>Pesticide</td>
<td>970</td>
<td>350</td>
<td>110</td>
<td>1,430</td>
</tr>
<tr>
<td>Sub total - Materials N/ha</td>
<td>9,273</td>
<td>4,573</td>
<td>3,051</td>
<td>16,897</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Labour:</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hired labour N/ha</td>
<td>27,058</td>
<td>3,500</td>
<td>27,682</td>
<td>58,240</td>
</tr>
<tr>
<td>Family labour N/ha</td>
<td>9,838</td>
<td>2,750</td>
<td>8,757</td>
<td>21,345</td>
</tr>
<tr>
<td>S/H grp labour N/ha</td>
<td>10,123</td>
<td>-</td>
<td>-</td>
<td>10,123</td>
</tr>
<tr>
<td>Sub total - labour cost N/ha</td>
<td>47,019</td>
<td>6,250</td>
<td>36,439</td>
<td>89,708</td>
</tr>
</tbody>
</table>

| Gross Margin           | (6,202) | 36,512  | 11,923 | 42,233  |
| Rate of Return/ha (%)   | (11.02) | 337.36  | 30.19  | 39.62   |

Table 1. Typical costs of subsistence farming in Jigawa

---

1 Smith: INNOVATION IN COMMUNITY REGISTRATION IN NIGERIA TO SECURE LAND RIGHTS AND IMPROVE FOOD SECURITY THROUGH SUSTAINABLE AGRICULTURE
As can be seen from the table the total production costs of millet, which is by far the most common subsistence crop in the area, introduces a net loss burden on the farmer of 11%.

The cluster farm initiative will focus on four staple crops. By actively demonstrating the better returns available on these key crops it is hoped that farmers will be inspired to participate pro-actively. To be effective, however, access to market and take off of crop at site must be supported.

In recent years Jigawa has taken steps to promote itself as a prime location for rice production. Typically rice is grown on the ‘rain fed’ system using seed stock that is sub-optimal for the local growing conditions. Exposure to the farming systems employed by large scale agriculturalists, particularly the Dangote Rice group, has demonstrated mechanisms and processes showing that significant increases in yield are possible with minimal environmental impact.

**Table 2: Steadily improving yields made possible following the intervention.**

<table>
<thead>
<tr>
<th>S/No</th>
<th>Crop</th>
<th>Average Yield – Farmer Practice (T/ha)</th>
<th>Average Yield – Trained Cluster Farmer (T/ha)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rice</td>
<td>2.4</td>
<td>5.10</td>
</tr>
<tr>
<td>3</td>
<td>Groundnuts</td>
<td>0.4</td>
<td>0.85</td>
</tr>
<tr>
<td>4</td>
<td>Sesame</td>
<td>0.2</td>
<td>0.46</td>
</tr>
</tbody>
</table>

*NOTE: * - Maximum yields recorded for rice, groundnuts and sesame were 8.1 T/ha, 1.4 T/ha and 1.04 M/ha respectively

**Methodology**

Promoting appropriate agricultural development through a cluster farming initiative will leverage the economies of scale attainable through a focus on core crops to enable increased agricultural production. Subsequent local development arising from improved profit will facilitate improvements in skills, education and healthcare.

The policy recognises the importance of agricultural production to the local and regional economy and seeks to provide for appropriate/required urban development and other land uses in a way that not only supports existing agricultural uses, but fosters innovative future-focused agricultural enterprises.
The Land Registration Process

Registration of the plots is a critical step in improving farmers’ access to finance but also as a mechanism by which to define a base line for further analysis. The database of ownership, located within a basic GIS system, simplifies the tasks associated with monitoring and evaluating the relative successes of the different farms and crops but, most importantly, allows more strategic use of data by the various agencies involved in continuously improving the value chains.

The scale of the task is huge and so basic assumptions have had to be applied to ensure that registration is ‘fit for purpose’ yet places minimal burden on the farmers and the Ministry of Land, Housing, Urban Development and Regional Planning in Dutse.

The assumptions are pragmatic:

• 50 Hectares of land is to be registered in each of the 287 wards in the state each year
• Additional farmland to total of 50Ha will be added in each ward each year
• Each 50Ha site constitutes a single cluster farm
• Each 50 Ha cluster farm unit will comprise of contiguous land in potentially multiple or shared ownership
• Participation in the scheme will demand that farming units form a recognisable co-operative or collective structure recognisable under state law
• Registration of the cluster farm will facilitate access to support from the state in the form of training and improved market access
• Qualifying cluster farms will be able access to finance in support of agricultural activity at beneficial rates
• Qualifying cluster farms will be able to acquire a certificate of registration in support of applications to access finance
• The cluster farm plots will be measured and recorded using GPS technology supported appropriate sworn testimony of local officials validating any claim made by participants to define extent
• Maps will be produced to demarcate the site
• The maps will identify relevant shares of individual participants that collectively constitute the required 50Ha site
• In the first instance registration of the sites will be on a collective basis. Individual title will not be formalised until the cluster farm has been in operation for at least five years
• The recording of the 50Ha site will take into accounts the tenets of the Voluntary Guidelines on Good Governance of Tenure to ensure that ownership is equitable and that risk to participants is mitigated in accordance with international guidelines

• Communal or ownership on trust will be in accordance with the guidelines on community registration under development in Jigawa state to support large scale agricultural investments and RAI

• The plan will be in ‘general boundaries’ format as ratified by the Nigerian Institute of Surveyors in accordance with the land Use Regulations currently before the National Assembly

• Plans created in the field using the GPS technology will be integrated into the ownership record by transposition of the geo-referenced shape file obtained through GPS

• Certificates will rely on this map data alone

• The ownership record will reside within the Ministry of Lands, Housing, Regional Planning and Urban Development in Dutse

• The ownership record will reside in an electronic database in tandem with the ongoing SLTR dataset

• Creation of certificates will be undertaken by SLTR department

• All record-sets created under the cluster farm project will be made available to relevant agencies at the discretion of the State Government to aid economic planning

• Registration activity will be based at regional centres focussed on zonal centres currently supporting SLTR

• Staff will be trained by GEMS3 to ensure consistency

• Staff will be drawn from JARDA and local governments

• Transport to remote areas will be made available by Jigawa state to ensure that deadlines are met

• Sufficient staff will be made available to ensure that the work can be carried out in a timely way

• Government of Jigawa State will define the data to be gathered during fieldwork – e.g. crop type, yield, input

• Effective management support will be made available by the relevant authority to oversee the work

• Staff undertaking the work will have sufficient expertise to deal with the demands of the tasks involved

• An oversight committee will be constituted to monitor progress in accordance with the draft cluster farming policy (annexed)
It will be noted that a key feature of the registration process is the recognition of community tenure where possible.

The ultimate vision of the cluster farm registration project is the improvement of agricultural capacity not only among subsistence farmers but also the creation of an enabling environment in agriculture in Jigawa that will attract and support considerable investment. Given the spotlight being shone on land investments, particularly in the developing world, it is imperative that Jigawa State anticipates the needs of the communities to address concerns of ‘land grabbing’ whilst ensuring that investors can invest with confidence.

The culmination of the cluster farm registration initiative may well be a database of many thousands of hectares of contiguous land suitable for the production of staple crops at scale. In being able to identify these areas and ‘bring them to market’ Jigawa will gain a significant competitive advantage over other locations. By enshrining community interests within the philosophy of change social impacts are likely to be more equitable and investments more likely to achieve scale quickly. This builds on our earlier experiences in Jigawa where some investments have struggled to accommodate traditional ownership rights with a result that business models, though credible on paper, have struggled to come to fruition.

**Land Registration Strategy**
Field work will be based out of the existing SLTR zonal offices.

Field teams will consist of three staff. Each team member will be capable of fulfilling the three main tasks interchangeably – (i) Data collection on farm size and structure using a paper based form, (ii) identification and recording of site using hand held GPS and (iii) sensitisation and active feedback of attitudes of participating farmers.

The field teams will be active throughout the year. Preliminary recording of the initial 287 cluster sites will take 4-5 months. Following that they will be engaged in identifying and promoting additional clusters for subsequent registration into the scheme. It is anticipated that over a twelve month period at least two 50Ha cluster farm co-operatives will be recorded in each LGA.

**Public reaction so far**

**Integrating the concept into government policy**
To fulfil the policy goals certain key tasks must be managed in a co-ordinated manner by relevant MDAs. The demands on each MDA must be properly appreciated and monitored with increased financial support from the state where necessary.
i.  **Agriculture**
1. Responsibility rests on the Ministry of Agriculture to ensure the viability of any proposed cluster farm. The Ministry must define the criteria by which optimal crops are identified for the sites.
2. Ministry of Agriculture through the Jigawa Agricultural & Rural Development Agency (JARDA) must oversee the development and distribution of appropriate inputs that will generate maximum return for the partners involved.
3. Data in support of the farming project must be guaranteed as far as legally possible. This will support the business planning essential for those co-operatives seeking finance from lenders.
4. The Jigawa State Supply Company (JASCO) ensures timely supply of quality seeds and other inputs as well as small scale mechanized solutions to improve efficiency and reduce post harvest losses.

ii.  **Justice**
1. The status of the cluster farms must be legally valid. Ministry of Justice are well placed to define the appropriate regulatory structure.
2. Access to land, access to finance, creation of co-operatives etc. will demand in support of the cluster farming policy will demand simplified forms of contract given the likely educational standard of rural farmers. Ministry of Justice must recommend form and wording for such documentation.
3. Any variations from standard practice in terms of registration, restrictions on disposition, terms of tenure etc. must be recognised in law.
4. Should it prove appropriate to impact on existing reserved areas (forest, grazing, riparian etc.) to optimise the potential of clusters the methodology for so doing must be defined by the Ministry of Justice.
5. A contract farming policy must be developed to provide guidance and regulation to the increasing arrangements by end users who enter into simple off take agreements with farmers following the success of the cluster program. If left unregulated farmers may be tempted to enter into several agreements on the same crop or resort to side selling where the market price at time of delivery exceeds the contact value.

iii.  **Land**
Land is fundamental to agricultural production systems. Land with special characteristics, such as high fertility and arability, is scarce and often highly sought after for competing uses due to it's location. Decisions about land, in the absence of accurate technical information, can result in land of high value and suitability for agriculture being allocated to alternative, alienating uses. Such inappropriate use of the land resource may result in land degradation and/or missed economic opportunities. Urban development, particularly residential development on or adjacent to the cluster farm sites, must be measured to minimise fragmentation of rural land and potential land use conflict.

1. Title to land comprising cluster farm areas must be granted swiftly and cheaply.
2. Granting title to entire sites in the name of co-operatives will demand the addition of restrictions on disposal to the land register.

3. Land registration on the basis of collective tenure offers scope to introduce the concept of ‘community registration’ to Jigawa to facilitate alternative large scale agricultural investment.

4. Future planning activity in the state must prioritise the implementation and expansion of the cluster farm sites. Land dedicated for agricultural development must be protected from future allocations for potentially conflicting purposes.

5. As farming activity increases transport links will have to improve. Future road building must recognise the increasing demands of rural farmers seeking to bring crops to market.

6. An ‘agricultural master plan’ will become necessary. This must be developed in collaboration with participating MDAs to identify and improve the rural land resources in the state.

iv. Water resources

1. Farming activity is dependent on water. Appropriate analysis must be undertaken at an early stage and the impact of the various crops projected. This serves not only to ensure that the state manages and conserves water effectively but to also guarantee the success of the investment being made by local farmers.

2. Irrigation schemes may be necessary for certain wards. Ministry of water resources will be compelled to plan for the development of solutions relevant to local needs.

3. Two interventions, the ATASP program by the African development bank and a $28 Million irrigation infrastructure rehabilitation facility from the Islamic Development Bank should go a long way in increasing irrigated hectarage for year round cultivation.

v. Commerce

1. All cluster farms must be constituted as co-operative societies. This will simplify access to credit, granting of title, delivery of inputs and aid access to markets.

2. Processes for registration as co-operatives must be simple and affordable.

vi. Investment promotion

1. The intention of the state is to produce crops at scale and to improve profitability.

2. As clusters grow the Jigawa State Investment Promotion Agency will recommend mechanisms to add value to the core crops through the introduction of processing facilities based in or convenient to centres of production.

Jigawa offers huge opportunity for investment:

- Extensive land and water resources:
- About 1.6 million Ha of cultivable land through rain-fed farming [approx. 72% of land mass of 2.24 m Ha]
- Over 400,000 Ha of flood plains [Fadama] suitable for all-season farming
- Rich aquifers across all LGAs to support borehole-based irrigation using alternative energy
- Targeting local, National and International markets and investors, leveraging import substitution , targeting:
  - Investments in large-scale commercial agriculture , manufacturing and processing
  - Micro and small farming and non-farming enterprises

The cluster farm initiative will help secure the competitive advantage of the state.

vii. Environment
1. Increased activity and a focus on particular crops will necessitate monitoring of changes in local eco-systems. By adopting the principles of RAI Jigawa has committed to ensuring that resources are managed sensitively for future generations and in accordance with international expectations.

viii. Training and skills
1. Initial focus on skills will be on agricultural trades.

2. As post processing, mechanisation and allied trades become more developed provision must be made to improve the capacity of local people in essential allied trades. Training MDAs involved must take steps to anticipate the scale and nature of demand and make provision to increase internal capacity to deliver training in good time.

3. In addition to agricultural and allied trades additional provision must be made to assist farmers to understand good business practices such as management and accounting.

**Economic development theme**
Agriculture and its affiliated industries are a significant employer and contributor to the local and regional economies.
Agricultural areas are important for food production and also for amenity, ecosystem services and community wellbeing. The economic contribution of agriculture is therefore broader than just the direct benefits.

- The contribution agriculture makes to the local and regional economy and the diversity of agricultural activities are respected within the local context.
- The economic and employment benefits of the agricultural sector are recognised and encouraged to grow, adapt to changing market and community needs and strengthen the local economy.
- Regionally and locally significant agricultural infrastructure is protected, to ensure its continued function in supporting local economic development.

**Strategic socio-economic outcomes**

The protection and development of land for agriculture, including its physical attributes, location, infrastructure and socioeconomic factors, must govern planning and development decisions.

- The potential adverse impacts of new development on agricultural production activities and water resources are minimised through the consideration of location, design and management.
- Development occurs in an efficient and orderly manner that provides for the logical extension of infrastructure to service development, including agricultural development.
- Communities growth and management will meet the daily needs of the surrounding rural district, consistent with the scale and intensity of existing urban activities.
- Sufficient separation areas are included between rural industries—production areas, transporting and processing facilities, value adding enterprises—and other land uses.

**Story so far and future steps**

On August 28 2016 the Daily Trust newspaper published an impartial review of the project:

“To achieve food security and transform the state from subsistence farming to commercial agriculture, the Jigawa State government has adopted a cluster farming technique.

Under this system of farming, clusters are developed in each of the 287 wards in the 27 local government areas of the state as demonstration farms. In each of the 27 local government areas, 50
hectares of farmland are provided as clusters with 20 to 30 farmers also organised into a cluster respectively, depending on their farm size. These farmers are facilitated with insecticides, fertilizer, improved seedlings and training to achieve a minimum target per hectare. Extension workers are also deployed across the 20,000 hectares of demonstration farms to provide expertise to these groups of farmers. It is estimated that with the introduction of this scheme, an average yield per hectare will be 10 tons of rice in the next few years.

Our reporter observed that in one of the cluster farms, 8.5 tons of rice were cultivated instead of 3.5 tons per hectare last year. Malam Ibrahim Gude told our reporter that compared to last year’s yield, the new technique had proved effective as his produce multiplied.

“With the new technique, I was able to cultivate 9.5 ton per hectare this year. Last year, in the same farm, I got 3 to 4 tons per hectare, but as you can see, the same farm produced 8.5 tons per hectare.

“Presently, it is amazing how our produce increased. Groundnuts have increased from 1 ton per hectare to 3 tons, and sesame from a mere 900 kg to 3 tons. We are really encouraged to invest more in the sector,” Gude, who has been farming for over 30 years said, adding that it is a morale booster to all the farmers in the state.

Another farmer, Hussaini Abdullahi, told our reporter that since 1975 when he started farming, he had never seen a committed effort to improve agriculture as the one by the Jigawa State government. “For the entire 40 years I have spent farming, I have not seen an effective programme like this from the government,” he said.

According to Abdullahi, last year, in the same 20-hectare farm, his total rice production was 70 tons, but he was able to produce 190 tons this year, thanks to the new improved farming technique introduced by the state government.
Also speaking to newsmen, another farmer, Malam Bulama Mukaddari, explained that the introduction of the cluster farming technique had revolutionised farming, making it attractive to the youth in the area. “My yield recorded over 300 per cent increase with the same investment last year. This has attracted my children. And I think it would be easier for them to engage in farming after seeing the level of success I recorded this year,” he said.

In an exclusive interview with Daily Trust on Sunday, Governor Muhammed Badaru Abubakar explained the rationale behind the introduction of cluster farming in the state.

“We have decided to demonstrate with cluster farming, which is a success in Brazil, Thailand and Argentina. In our demonstration farms, we cultivated rice and amazingly achieved a 300 per cent increase in yield per hectare in some farms, and an average of 7.5 tons per hectare for rice,” the governor said.

Governor Abubakar said the essence of clustering was to aggregate inputs, mechanisation and extension service delivery, as well as accord participating farmers the advantage of group dynamics. Individual farms are measured and organised in clusters of about 50 hectares. Farmers also form groups and appoint leaders. Depending on which crop sector they fall in, they are given certified seeds and other inputs based on their individual farm size. This is recorded in the group's database for subsequent repayment at harvest. Subsequently, harvest is guaranteed, with identified buyers and processors.

Daily Trust on Sunday observed that scarcity of resources has forced many people in the state to embrace farming. This is in view of the fact that 90 per cent of the state’s population is already subsistent farmers, according to the 2015 National Bureau of Statistics report.

This year, the state government earmarked 7.8 per cent of its entire budget to agriculture. Crop production, livestock development, irrigation and rainy season farming were identified as core areas that would be targeted in the next four years.

Our reporter also confirmed from ministry officials that the governor personally and consistently chairs Agric Council meetings every Monday to monitor the progress of these initiatives. He also pays unscheduled visits to clusters and agric schemes across the state. To achieve the desired target, he also appointed two special advisers on rice and wheat production.

According to the commissioner for agriculture in the state, Alhaji Kabiru Ali, 4,000 metric tons of assorted fertilizer have been distributed to farmers. “As part of our efforts to ensure food security, we have registered 45,000 farmers based on land holding sizes. Fertilizer will be distributed based on farm size. This means that even farmers outside the cluster groups are being incorporated into a state-wide database,” he said.

The commissioner, who further explained that 20,000 hectares had already been developed using the cluster initiative, also added that additional 25,000 hectares would be targeted during the dry season, using the same technique.
Out of the 20,000 hectares, 260 is for a pilot out-grower scheme by Dangote Rice, which is being expanded to 2,000HA this season and continuously till production target is met.

Under the programme, 660 hectares, directly owned by the state agricultural agency, JASCO, will be cultivated using the youth agricultural scheme initiative where thousands of youths have been identified, acreage provided and training organised to boost their capacity and use their output as certified seeds for other farmers. The agency has since been capitalised with N2billion to provide these farmers with the needed inputs.

“The youth cluster initiative is a comprehensive scheme wholly developed for efficiency and effectiveness as far as agriculture is concerned. Under this system, these groups of youth have been trained and provided with all needed facilities. By the end of the day, their seeds will be bought by the state government for onward sell to farmers in the state,” the commissioner added.

At least 450 motorcycles have been distributed to all the extension workers to ensure that all the nooks and crannies of the state are covered. The extension workers have also been retrained and assigned to specific clusters. Also, 81 tractors have been deployed to cultivate these farms while plans are almost concluded to acquire more farming equipment.

Further investigation showed that the initiative has attracted various investors to the state. Five private rice production companies, including Umza Rice Mill, Majest Rice Mill, Danmodi Mills and Klysite Foods and Beverages have all engaged over 5,000 farmers in the state.
Another area the initiative is paying attention to is research. Governor Abubakar told our reporter that because of the significance of research to agriculture, his government would invest in it. This, he said, was an integral part of the initiative to take the state to a commercial farming status. To achieve this objective, the Jigawa Agricultural Research Institute is being repositioned. The pioneer director-general of the institute, Dr Hilton Gomes, a Brazilian, who was seconded from the Brazilian Agricultural Research Corporation (Embrapa), the largest agric research institute in South America, has been brought back to establish a memorandum of understanding with Brazil and restructure the institute to support the new initiative. This is aimed at strengthening the connection between research and field application so that farmers can have the benefit of cutting hedge techniques and protocols.

An agricultural economist from Bayero University, Kano, Malam Zaharaddeen Isma’ila Gilima, told Daily Trust on Sunday that the country needed the Jigawa initiative to achieve commercial farming.

“Experts have been arguing that for our nation to achieve food security, there must be concerted efforts to upgrade our current level of farming. The recent demonstration of will by the governor of Jigawa State is a welcome development. I hope they would pay equal attention to research, improvement and marketing,” Gilima said.

It is estimated that when the cluster farming fully develops, the state would lead in the production of rice, groundnut, sesame and soya beans. It is left to be seen, how this initiative would transform the state into a viable commercial farming haven in the country.”

Given the early improvements demonstrated in 2016, and ongoing investment that will continue through the current administration, the future of the project is assured but critical issues of oversight will demand continued investment and capacity building. A major focus for 2017 will be the

---

development of more efficient land registration mechanisms to assist new entrants to the scheme to gain access to finance, better analysis of agro-inputs in the sectors under development and a continued focus on the expansion of the concept as a pre-cursor to the institution of much larger scale farming projects whereby larger tracts of land can be dedicated to staple crops.

The Staple Crop Processing Zone (SCPZ) initiative will devote larger swathes of land, from 500 Ha upwards, to crops optimally suited to the local environment. This will demand considerable inward investment but market trends in Nigeria and West Africa, coupled to improved attitudes on the part of major investors, success will be assured.

Community rights are paramount. Recent work to develop community tenure mechanisms in Jigawa have been embraced by the Government, investors and the rural population as the most expedient mechanism by which to solve existing problems in land access and rural growth. By capitalising on this willingness for change Jigawa gains the competitive advantage over all comparable locations in the Sahel.