Mainstreaming sustainability in the Nigerian agricultural transformation agenda

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The Agricultural Transformation Agenda (ATA) Programme is assessed to examine its ability to deliver the required socio-economic impact to resource-poor rural farmers that would not put in jeopardy the welfare of future generations. The programme's approach to fertilizers and other inputs is examined in the light of more sensible alternatives. The heavy reliance on chemical fertilizers and other inputs without mitigating propositions is a major flaw of the ATA. Its ambiguity on genetically modified organism may result in the penetration of harmful varieties into the country. It is observed that the haste to achieve spectacular targets may have made it trade sustainability for performance. The paper also observes that the ATA continues with the extractive orientation where the rural farmer acts as a natural resource to be exploited to serve the purposes of the elite, as evidenced by the dominance of foreign actors in major contracts of the ministry. The paper concludes that though the ATA makes pronouncements on the issue of sustainability and the targeting of resource-poor farmers, its body language seems to disagree. It is suggested that a rigorous drive to incorporate organic fertilizers be embarked upon as part of the fertilizer policy, and more effective needs assessment be carried out to determine the needs of the poor farmer. It is further suggested that the government should establish a more robust partnership with universities of agriculture and faculties of agriculture in Nigerian universities in the design and implementation of the ATA.

Keywords: Policy, Agricultural transformation, Traditional agriculture, Sustainability, Organic

INTRODUCTION

Nigerian agriculture over the years has performed below expectations, especially when compared to countries like China and Malaysia which had lower annual growth rates than Nigeria by 1960 (Figure 1). Vexatious problems include low production, post-harvest loss and low value addition. These problems seem to be manifestations of the continued dominance of traditional methods of production. For instance, 6.5 tractors per 100 sq. km of arable land in 2000 and 2.6 tractors in 2009, compared to Tunisia’s 114.2 and 114.6 for the corresponding years (World Bank, 2015).

Figure 2 shows that Nigeria trails behind countries of Africa and other regions of the world when it comes to the use of tractors, and expectedly has the highest reliance on manual labour. The use of improved seed is also very low as farmers continue to use traditional varieties resulting in very low yields. Percentage of farmers using improved seeds are as follows: 4.4% for rice, 7.2% for maize, and 1.7% for sorghum (The World Bank, 2014).

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The same problem can be observed in the state of oil palm production. As a result of neglect of the sector and non-utilization of improved technology, specifically, the reliance on wild plants rather than plantations of improved varieties of the crop, production of oil palm has regressed and stagnated. The country which accounted for 43% of world production of oil palm in the 1960s, account for only 7% of world production today and imported 550,000 metric tonnes (Index Mundi, 2016). Nigeria then continues to be a net importer of produce it is well-placed to produce. In 2000 Nigeria imported 1, 250 metric tonnes of rice, and by 2014 the figure stood at 3, 500 metric tonnes. In Figure 3 it can be seen that Nigeria has failed to fulfill her production potential in both food and cash crops which creates a huge deficit that makes massive importation inevitable.

This appetite for imports was inspired by the sudden oil wealth the country received from crude oil which led to a near-complete neglect of agriculture. At the heart of this neglect is the extractive mentality that has characterized the relationship between the state and agriculture, represented by the rural, largely resource-poor farmers. In this relationship, the state approaches the agricultural sector as a source of resources to be exploited and used. Thus emphasis is often placed on agricultural output, and the means of achieving this is the dispassionate injection of funds, and inputs to the sector in a manner that alienates the farmer from full participation in the economy. In this way Nigerian agriculture has, since the colonial times, served the elite to the detriment of the producer. In the colonial era it was the British that benefited from the output of Nigerian agriculture by way
of extremely cheap raw materials for their industries (Mbakwe, 2015). The colonial government neglected critical infrastructure that would have made life more qualitative for the rural producer. Also, more significantly, there was no vision to transform the farmer from an illiterate, traditionalist smallholder into an informed player in the global agricultural economy. The succeeding nationalist governments also toed the line of the colonial government, concentrating on the cash crops that serviced British needs and in turn yielded foreign exchange for government. By the time oil wealth came into the equation, the government saw no other purpose for the farmer except the production of ‘cheap food for the teeming masses’ a phrase that became the mantra for stating governmental policy on agriculture during annual budget speeches and maiden addresses of heads of state.

The oil crisis of the early 1980s was to prove later that petroleum was not a secure source of income, and the government began to pay some attention to the sector. Yet the approach continued to be extractive and ‘technocentric.’ Just like mining companies would dig the earth and scoop the precious metals and abandon the quarry with deep gullies, the government gets cheap food from the rural farmers to keep the population happy and avoid food riots, and to provide raw materials for the few industries in operation. Some of the produce is exported to earn foreign exchange for the government. The rural areas which are the ‘quarry sites’ are abandoned in severe lack of basic infrastructure and services like roads, electricity, healthcare and potable water. The educational system in the rural areas has collapsed as the public schools (which are poorly staffed and equipped in the first place) and are the only options for a majority of the farmers, remain closed for most of the year as a result of teachers’ strikes. This state of affairs ensures that the generations of rural farmers are locked in a cycle of ignorance and poverty as they labour for the benefit of others.

THE TRANSFORMATION AGENDA

The Agricultural Transformation Agenda (ATA) of the Federal Government was introduced to move agriculture from a traditional occupation to a modern business in line with global best practices. The programme was designed to address perceived problems of the agricultural value chain from production through storage to marketing. Thus the Growth Enhancement Support Scheme was designed to deliver critical inputs to genuine farmers, as opposed to the past practice where subsidised inputs ended up in the hands of politicians and bureaucrats who in turn sold same to farmers at prohibitive prices (Fertilizer Suppliers Association of Nigeria (FEPSAN), 2012). Other aspects of the programme cover storage, processing and marketing of targeted crops. The ultimate goal is to involve the farmer as an active participant in the economy, and not just a subject of development programmes. This programme is a very robust blueprint for social change, and has already recorded astonishing results in some of its targets (People’s Daily, 2014). The programme however, lacks sociological sensitivity given that it is a grand social change project dealing with the transformation of a culture of traditionalism. If the sociological deficit is not urgently addressed, this programme will like its predecessors benefit others at the expense of the farmer it seeks to empower.
The ATA also depends on massive deployment of technology and demands a new way of thinking which requires a certain level of human capacity to succeed. The majority of Nigerian farmers do not possess this capacity. Illiterate traditionalists are known to resist change, sometimes even when the change were demonstrated to be superior to their current practices (Pandey, 2008; De Wet, 2013). Farmers who approach farming as a way of life may not possess the capacity to become commercial entrepreneurs overnight. They require a programmed retraining to adjust their mindset from subsistence orientation to commercial-investment orientation. The assumption that farmers would act rationally in the economic arena and transform into modern businessmen fails to recognize their limitations in a changing business environment where advanced information communication technology, and complex networks determine business success. The limitations of the farmer are both attitudinal and technical, and need to be addressed before any meaningful transformation could take place on an enduring basis.

**MAINSTREAMING SUSTAINABILITY IN ATA**

One pertinent problematic that the ATA raises is that of sustainable development. Students of development have gravitated toward the notion that developmental goals must be pursued in such a manner that the basic needs of present generations are adequately met without jeopardizing the ability of future generations to meet their own needs (Elliot, 2006). The way the ATA is configured presently may negatively impact on agricultural practices of future generations. We shall now consider some of the aspects of the ATA where sustainability needs to be mainstreamed.

**GROWTH ENHANCEMENT SUPPORT SCHEME (GESS): UNSUSTAINABLE CHOICES FOR INPUTS**

GESS, the fertilizer policy of the ATA focuses on chemical fertilizers which have been associated with serious harmful effects on both humans and the physical environment (Anitha Kumari, 2014). The chemicals in the fertilizers could seep into the underground water systems and contaminate them, while some residues of these substances are found in the crops on which they have been used. Consuming these crops could pose serious health dangers. Even though it may not be feasible to altogether do away with chemical fertilizers, organic fertilizers could be promoted as an alternative. The use of organic fertilizers will be beneficial in several ways. First, given the sheer volume of organic waste generated in the urban areas with attendant problems of waste management, organic fertilizers produced from such waste could contribute to more effective waste management and minimise the health hazards posed by the waste dumps that litter the urban areas (de la Cruz et al., 2006). A more aesthetically appealing environment will result from such an endeavour.

Secondly, organic fertilizers do not contain harmful chemicals like their chemical counterparts, and result in crops that are less harmful to humans. Their negative impacts on the environment are also less. Thirdly, it would to a large extent address the problem of access because even resource-poor farmers generate waste in the form of plant matter discarded after harvest, and domestic waste from processed foodstuff and animal droppings. These can be composted and used to fertilize farms. This should reduce the farmers’ total dependence on chemical fertilizers and save critical resources that can be channelled into other productive and welfare needs.

**GENETICALLY MODIFIED ORGANISMS (GMOS) AND THE ATA**

One of the highest points of technological advancement this century is the genetically modified organisms technology, which in contrast to conventional breeding makes it possible for new varieties of crops to be produced through the combination of genes from different species (Ilori, 2014). GMO technology is in its evolutionary stages and is a subject of much controversy. Its advocates consider the great potentials it offers in addressing the issues of food security especially in the developing world. The opponents of the technology point to the uncertainties surrounding its safety for human consumption. According to (Aniebo, 2014) ‘the few scientific researches done on the effects of these foods on humans have showed stunted growth, impaired immune systems, bleeding stomachs, abnormal and potentially pre-cancerous cell growth in the intestines, impaired blood cell development...’ Furthermore, the author asserts that repeated use of GMO seeds could lead to the emergence of super weeds that require higher amounts of glyphosate which is proven to present serious organ damage when accumulated in the system. GMOs also portend serious threats to bio-diversity. This is because large scale cultivation of crops tends to impact negatively on biodiversity as farmers tend to abandon species that may not yield as much as novel introduced varieties (Gertsburg, 2011). Transgenic crops may also tinker with the ‘fitness of other species, population dynamics, ecological roles, and interactions, promoting local extinctions population explosions, and changes in community structure and function inside and outside agroecosystems (Gertsburg, 2011). Furthermore, the use of glyphosate has led to the development of super-weeds that are resistant to herbicides, and insect pests that are also resistant to pesticides, with still others going extinct.

On the socio-economic level, GMO technology is currently structured to promote the enslavement of the helpless resource-poor farmer. This happens because
the farmer is made to depend on the large transgenic corporations for their seed stock. It is reported that GMOs have been linked to the suicides of 300,000 Indian cotton farmers. The leading GMO company in the world, the Monsanto Corporation introduced the Bt-cotton variety with claims of performance that turned out to be false (African Health, 2014).

Unlike indigenous cotton varieties Bt-cotton cannot be intercropped. Intercropping is an effective strategy employed by resource-poor farmers to maximize the yield from fast-depleting land resources. For most farmers adopting such GMO crops would place their livelihoods at risk. It has also been reported that Bt-cotton claim to pest-resistance was false as it has created new pests that require higher quantities of pesticides to control. According to the report Monsanto claimed Bt-cotton would yield 1500 kg/year whereas in reality it yielded 300-400 kg/year. Farmers who believed these claims and invested borrowed funds in GMO seeds and herbicides, lost their investments because of the disappointing yields (African Health, 2014).

The ATA does not take a clear stand on GMOs when countries like Japan, France, Italy, Germany and Russia have banned the cultivation of GMO crops in view of the uncertainties associated with the GMO technology (Walia, 2015; Sustainable Pulse, 2016). Vice-President of Monsanto was reported to have announced that the company will be involved in the production of maize, soybean, cotton and oil-grape seed production in Nigeria. Already three genetically modified crops are being tested: Bt-cowpea and African bio-fortified sorghum in Zaria; and Cassava Plus in Umudike (Ezezika and Dall, 2012). However, the Minister of Agriculture has been denying the existence GMO in Nigeria. Furthermore, the bio-safety bill being promoted by the minister by the admission of the Chairman of Senate committee on Science and Technology was aimed at enabling Monsanto and other countries to come to Nigeria to assist us in boosting agricultural production not only in food but also in area of cotton, cowpea and maize and tomatoes' (African Health, 2014). A regulatory instrument is expected to be impartial, and not an advocate for certain interests. In this regard the Nigerian Bio-safety Bill has failed the integrity test.

The GMO technology is not without its advocates. Several advantages have been associated with it apart from the main argument that it could address food and nutritional insecurity. For instance, Thomson (2016) believes that GMO technology would lead to the reduction in labour needed on the farm. Another selling point of the technology is the hope it holds out for the resolution of the effects of adverse effects of climate change (Weiser, 2016). A more realistic approach to GMOs would be to keep it in view for the moment, given its potential to address food insecurity. More research could yield credible answers to the major concerns voiced by opponents of the technology (Elliot and Madan, 2016).

THE SOCIOLOGICAL DEFICIT AND THE BRETTON WOODS MENTALITY

The ATA, though technically sound in its conception, design and implementation, manifests little sociological input which is critical for the success of such a project. This deficit manifests in the top-down approach to the GESS input distribution which government officials celebrate with glee. Farmers were not consulted in the design of the scheme and unilaterally the number of bags of fertilizers allocated to each farmer was pegged at 2 which the farmers have complained to be too small. A proper needs assessment could have yielded the true needs of the farmers and taken care of their interests better. The ATA is a large-scale attitude and behaviour change project that with sufficient sociological input would have prepared the local farmers for the change of mentality from farming as a way of life to farming as a business. The adoption of the liberal capitalist business model foisted on illiterate farmers who are ill-prepared to engage the global market economy, will only see them operating at the fringes to the advantage of the capitalist elite that has continued to exploit the farmer since colonial times.

The capitalist model promoted by the Bretton Woods institutions is driven by profit as an objective and serves the interests of the rich and powerful in a globalized world. The heavy capital investment in various aspects of the ATA through its Public Private Partnerships can only serve the interests of the large corporations like Monsanto, Syngenta and Dangote. Major contracts for the supply of equipment under the ATA go to foreign companies. Universities of Agriculture and agricultural faculties in Nigerian universities have not been challenged to supply the needed technologies for the realization of the agenda. It is true that experts from these institutions are involved in their individual capacities, but this is not enough. These institutions ought to have supplied the technologies for the agenda to be successful. Relying on foreign technology would certainly not make for a sustainable success. It would replicate the scenario where Nigeria’s economic fortunes in oil are tied to external actors.

CONCLUSION

The agricultural transformation agenda is technically well planned and appears to be meeting set targets. However, the benefits of the programme to resource-poor farmers is likely to be marginal, given the fact that no proper sociological needs assessment was carried out prior to
the design and implementation of the programme. Also several sustainability issues have been glossed over by the programme. These include the focus on chemical fertilizers to instead of organic ones, the double-speak on GMOs and the lack of synergy with universities. To ensure the sustainability of the programme, the following have been recommended.

Sociologists should be commissioned to carry out comprehensive needs assessment to determine the felt needs of the resource-poor farmers in order to factor in their needs and to avoid excluding them. It would also be helpful to carry attitude and behaviour change efforts to promote the change of mentality of the farmers.

.i. The Federal Government should enact laws prohibiting the cultivation of GMOs in Nigeria given the uncertainty that surrounds their safety for human health.

ii. Nigerian universities should be challenged and empowered to provide the bulk of the technology used in the various aspects of the ATA.

iii. Nigerian companies should be given bulk of the contracts under the ATA.

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