

CHALLENGES OF AGRICULTURAL ADAPTATION TO CLIMATE CHANGE IN NIGERIA

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Climate change is one of the most serious environmental threats facing mankind worldwide. It affects agriculture in several ways, including its direct impact on food production. Climate change, which is attributable to the natural climate cycle and human activities, has adversely affected agricultural productivity in Africa. Available evidence shows that climate change is global, likewise its impacts; but the most adverse effects will be felt mainly by developing countries, especially those in Africa, due to their low level of coping capabilities. Nigeria is one of these developing countries. As the planet warms, rainfall patterns shift, and extreme events such as droughts, floods, and forest fires become more frequent (Zoellick 2009), which results in poor and unpredictable yields, thereby making farmers more vulnerable, particularly in Africa (UNFCCC, 2007). Farmers (who constitute the bulk of the poor in Nigeria), face prospects of tragic crop failures, reduced agricultural productivity, increased hunger, malnutrition and diseases. It is projected that crop yield in Nigeria may fall by 10-20% by 2050 or even up to 50% due to climate change (Jones and Thornton, 2003), particularly because Nigerian agriculture is predominantly rain-fed and hence fundamentally dependent on the vagaries of weather. As the people of Nigeria strive to overcome poverty and advance economic growth, this phenomenon threatens to deepen vulnerabilities, erode hard-won gains and seriously undermine prospects for development. There is therefore the need for concerted efforts toward tackling this menace. Much of climate change on agricultural research has tended to concentrate on assessing the sensitivity of various attributes of crop systems (e.g. crop/livestock yields, pest, diseases, weeds etc) - the biophysical aspects of food production, with little or no regard to the socioeconomic aspects. These partial assessments most often consider climate change effects in isolation, providing little insight into how and what the farmers are doing to cope with climate change. To better address the food security concerns that are central to economic and sustainable development agendas, it is desirable to also address these aspects of climate change and agriculture. Wisner et al (2004) reports that the vulnerability of agriculture is not determined by the nature and magnitude of environmental stress like climate change per se, but by the combination of the societal capacity to cope with and/or recover from environmental change. While the coping capacity and degree of exposure is related to environmental changes, they are both also related to changes in societal aspects such as land use and cultural practices. Challenges to agricultural adaptation to climate in Nigeria is a serious as well as important issue to be addressed because climate change is expected to present a heightened risk, new combinations of risks

and potentially grave consequences, particularly in Nigeria and Africa in general. This is due to its direct dependence on rain-fed agriculture as noted above. Accordingly, there is the need for an emphasis on “anticipatory adaptation” (UNDP, 2007), that is the proactive rather than the reactive management of climate change risk. This can only be feasible if the potential problems/challenges to adaptation are preemptively analyzed. Most studies on climate change and agriculture in Nigeria have tended to concentrate on actual and projected impacts as well as farmers’ coping/adaptation strategies. There has been little or no work in the area of challenges of adaptation. This paper is therefore an attempt, through a survey of the literature, to fill this gap.

Agriculture in Nigeria is predominantly in the hands of rural smallholder farmers, who have been generally described as poor and hungry. Moreover, since the discovery of oil in Nigeria, the attention of the government has been diverted away from agriculture to petroleum resource development. Again, the government style of funding for agricultural science and technology poses a challenge to climate change adaptation. Further, there are traditional farming practices that the typical Nigerian farmer is accustomed to, which he/she may find it difficult to modify or change, even though these may pose serious challenges to climate change adaptation. The next challenge is therefore traditional agricultural practices. The issue of globalization and accompanying trade liberalization, Poor infrastructure, weak institutions and bad governance are believed to be the general features of most African countries especially Nigeria. Finally, information and human capital are no less a challenge to agricultural adaptation to climate change, essentially because, the two have been widely described as poor, in most African countries.

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