Impact of climate change on agriculture in sub-Sahara Africa

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Climate change is projected to impinge on sustainable development of most developing countries of sub-Sahara Africa as it compounds the pressures on natural resources and the environment associated with rapid urbanization, industrialization, and economic development. The impact of climate change on agriculture is now real and without adequate adaptation and mitigation strategies to climate change, food insecurity and loss of livelihood are likely to be exacerbated in sub-Sahara Africa. The Inter-Governmental Panel on Climate Change (IPCC), released in 2007, has clearly revealed that increases in the emission of green house gases (GHGs) have resulted in warming of the climate system by 0.74°C between 1906 and 2005. Such climatic changes are affecting agriculture through their direct and indirect effects on crops, soils, livestock and pests, and hence the global food security. It was also recognized that a reliable and timely early warning system of impending climatic risks could help determination of the potential food insecure areas and communities. Such a system could be based on using modern tools of information and space technologies and is especially critical for monitoring cyclones, floods, drought and the movements of insects and pathogens. This paper declared that a concerted effort, backed by policy makers at the national level would be the key to enhance food security as well as ensuring agricultural sustainability. Climate change is expected to have a high impact on food security. This may specifically affect African countries, since predictions indicate that the African climate may be subject to more extreme conditions, and food security is already at risk in large regions of Africa. New genotypes tolerant to multiple stresses: drought, floods, heat, salinity, pests and diseases, will help further increase food production. This would require substantial breeding and biotechnology (including genetically modified varieties) related efforts based on collection, characterization, conservation and utilization of new genetic resources that have not been studied and used. Keywords: Impart, climate change, agriculture, sub-Sahara Africa