

THE APPLICATION OF DRONES IN ACHIEVING FOOD SECURITY IN AFRICA

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Abstract

The United Nations has predicted that by 2050, more than two thirds of the nine billion world population will be living in cities, per capita arable land will be less than 0.1ha at this time and food demand will increase by 70%. With a global population of more than 7.3 billion, earth suffers from continuous damage from human activity which has magnified environmental degradation and climate change has been the overall result. The use of conventional farming methods and rain-fed agriculture dependency may not be sufficient to sustain food demand. There is need to adopt modern agricultural technologies to ensure food security. This paper discusses the impact of drone technology in Africa on agriculture in relation to sustainable food security is explored. All-inclusive approach comprising original research journals and articles, working papers, conference papers and book chapters were conducted on the application of drones to achieve food security in Africa. Results showed that drones have been increasingly used for crop monitoring, irrigation and crop spraying, yield prediction in large farms and even on complex smallholder farms and water resources and conservation optimization contributing towards better land utilization. They have also been utilized in providing timely, accurate and relevant agricultural information needed to support decision making process. Drones offer a relatively risk-free and low-cost manner to swiftly recognize natural phenomena at high resolution. However, about 26% of African countries have laws on the use of drones including Tanzania, Uganda, Nigeria, Ghana, Kenya, Mozambique and South Africa. There is therefore a need for African governments and policy makers to put in place laws and policies that would ensure safety and privacy of its citizens. Also, the government should intervene by lowering the taxes and other related tariffs on drones and other devices to allow smallholder farmers to acquire drones.