

Low-Cost Aviation Solutions to Strengthen Counter-Poaching Efforts in Kenya

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Abstract : The paper will discuss a National Institute of Justice (NIJ) funded project to provide cost-effective aviation technologies and research to support counter-poaching operations related to endangered, protected, and/or regulated wildlife. The goal of this project is to provide cost-effective aviation technology and research support to Kenya Wildlife Service (KWS) in their counter-poaching efforts. In pursuit of this goal, Elizabeth City State University (ECSU) is assisting the National Institute of Justice (NIJ) in enhancing the Kenya Wildlife Service's aviation technology and related capacity to meet its counter-poaching mission. Poaching, at its core, is systemic as poachers go to the most extreme lengths to kill high target species such as elephant and rhino. These high target wildlife species live in underdeveloped or impoverished nations, where poachers find fewer barriers to their operations. In Kenya, with fifty-nine (59) parks and reserves, spread over an area of 225,830 square miles (584,897 square kilometers) adequate surveillance on the ground is next to impossible. Cost-effective aviation surveillance technologies, based on a comprehensive needs assessment and operational evaluation, are needed to curb poaching and effectively prevent wildlife trafficking. As one of the premier law enforcement Air Wings in East Africa, KWS plays a crucial role in Kenya, not only in counter-poaching and wildlife conservation efforts, but in aerial surveillance, counterterrorism and national security efforts as well. While the Air Wing has done a remarkable job conducting aerial patrols with limited resources, additional aircraft and upgraded technology should significantly advance the Air Wing's ability to achieve its wildlife protection mission. The project includes: (i) Needs Assessment of the KWS Air Wing, to include the identification of resources, current and prospective capacity, operational challenges and priority goals for expansion, (ii) Acquisition of Low-Cost Aviation Technology to meet priority needs, and (iii) Operational Evaluation of technology performance, with a focus on implementation and effectiveness. The Needs Assessment reflects the priorities identified through two site visits to the KWS Air Wing in Nairobi, Kenya, as well as field visits to multiple national parks receiving aerial support and interviewing/surveying KWS Air wing pilots and leadership. Needs Assessment identified some immediate technology needs that includes, GPS with upgrades, including weather application, Night flying capabilities, to include runway lights and night vision technology, Cameras and surveillance equipment, Flight tracking system and/or Emergency Position Indicating Radio Beacon, Lightweight ballistic-resistant body armor, and medical equipment, to include a customized stretcher and standard medical evacuation equipment. Results of this assessment, along with significant input from the KWS Air Wing, will guide the second phase of this project: technology acquisition. Acquired technology will then be evaluated in the field, with a focus on implementation and effectiveness. Results will ultimately be translated for any rural or tribal law enforcement agencies with comparable aerial surveillance missions and operational environments, and jurisdictional challenges, seeking to implement low-cost aviation technology. Results from Needs Assessment phase, including survey results and our ongoing technology acquisition and baseline operational evaluation will be discussed in the paper.

Keywords : aerial surveillance mission, aviation technology, counter-poaching, wildlife protection

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