



## “USING AERIAL SURVEILLANCE PROGRAM AND NEW TECHNOLOGIES TO IMPROVE NATURAL RESOURCES MANAGEMENT”

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**Expected participant:** 50

**Duration:** Two hours

### Abstract

Madagascar has a unique natural heritage respect to the rest of the world with an exceptional rate of endemism. Different factors such as over-exploitation of natural resources, anthropogenic activities with negative ecological impacts, and climate change are generally considered being responsible for the loss of the biodiversity and for the degradation of natural ecosystems. To cope with those pressures and threats, the creation of protected areas has been considered as an adequate solution. However, implementing monitoring and surveillance activities is necessary for achieving optimal management efficiency and to avoid extinction of flagship species. Existing monitoring tools include an aerial surveillance program and terrestrial patrols using SMART (Spatial Monitoring and Reporting Tool). Since 2010, the goal of aerial surveillance has been to quickly localize and measure the evolution of annual deforestation in the island's different protected areas, but also by the implementation of patrols, to set-up a rapid and effective interventions at the sites where pressures occur and mostly related to forest clearing and fire. In addition, oblique aerial photography allows facilitating the dialogue between the practitioners of slash and burn agriculture and the actors of development and conservation to find sustainable responses to reduce deforestation while ensuring local development. The results prove that complementarity of aerial monitoring with terrestrial patrols contributes positively to reduce deforestation: for instance, in the Kirindy Mite National Park, the loss of forest was 5,224 ha in 2013 and only 770 ha in 2017, for the Amoron'Onilahy Protected Area, it was 202 ha in 2015 and 21 ha in 2018 and for Zamasy (a site managed by local communities through management transfer) 62 ha in 2012 and 487 ha in 2017.

**Keywords:** deforestation, aerial monitoring, cartography, patrol, protected areas.

