Information for Agriculture, Food and Water Security (IAFWS) Project (DE Africa) [1]

Project Aim
The Information for Agriculture, Food and Water Security (IAFWS) Project (also referred to as Digital Earth Africa Project) is designed to support consultations with African agricultural and water management agencies to deepen understanding of information needs; technical and institutional barriers to the uptake of forecasting and other related agricultural advisory services; and to develop a Roadmap to increase agricultural productivity and sustainability.

Through this project, Digital Earth Africa (DE Africa), the lead implementer, is working with six regional institutions (including ASARECA) by leveraging its openly accessible and freely available Earth Observatory (EO) data to produce decision-ready products; and harnessing existing networks of African institutions to promote the application of remotely sensed data to enhance agricultural production and food security.

Funding
The project is funded by the Australian Centre for International Agricultural Research (ACIAR) to the tune of A$500,000, channelled through Geoscience Australia for a period of 1 year (June 2022 to June 2023). Of this, ASARECA is receiving A$194,919. The Projects products and services are dear to ACIAR’s strategic objectives in Eastern and Southern Africa, particularly strategic objectives 1 on improving food security and reducing poverty among smallholder farmers and rural communities, and 2 on managing natural resources and producing food more sustainably, adapting to climate variability and mitigating climate change.

Rationale
Agriculture in Africa remains mainly rainfall-dependent with 90% of staple food production coming from rain-fed farming systems, which makes the already precarious food security situation even worse. This situation is exacerbated by the effects of climate change including increasing temperatures, diminishing yearly rainfall and extremities of drought and floods.
Amid this background, food security and water management remain the highest priorities for climate adaptation in Africa. This therefore calls for innovative mechanisms to reduce climate-related risks; widespread adoption of climate-smart production techniques; and conservation and rehabilitation of the environment to strengthen resilience of food systems against the extremes. Earth Observations have been identified as an essential enabler in addressing food security through data and derived products for users across the globe.

Expected project outcomes

1. Awareness of the application of Earth Observation data to support development issues raised, through consultation with national and regional organisations, in at least ten countries across Eastern and Southern Africa.
2. Women and men user needs better understood and used to guide development of fit for purpose products and services.
3. Strengthened network of stakeholders in the food and water security sectors.
4. Priority products and services identified, with a development of Roadmap for a solid foundation for future funding for DE Africa.

Capacity Strengthening

Capacity will be built in ASARECA in the use of Earth observation data and the Digital Earth Africa platform to enable ASARECA personnel lead consultations; raise awareness about Digital Earth Africa in member countries on how Earth Observation data can support ameliorate food and water security challenges.

Innovation Enabled

The joint effort will influence the course of Earth Observations policy and practice, as well as approaches to inclusive development at national, regional, and international levels.

Project impacts

1. Consultation outcomes are expected to provide strategic guidance on the development of future Digital Earth Africa products and services beyond the duration of this project.
2. The increased awareness raised, and capacity built will enhance DE Africa product uptake, hence helping achieve positive environmental and development impacts.
3. The project is expected to influence the longer-term course of Earth
Observatory policy and practice, as well as approaches to inclusive development at national, regional, and international levels.

4. The Roadmap provides a pathway to future funding sources for long-term sustainability of the program and maintenance of the existing food and water security-related products.

5. Information from EO will improve understanding of temporal and spatial trends and patterns in African agriculture, from a national to a continental scale providing the basis for more informed, strategic planning and policy making.

**Project Implementing Partners**

- **Australian Centre for International Agricultural Research (ACIAR):** Financing partner.
- **Geoscience Australia:** Leading management of project backstopping.
- **ASARECA:** Facilitating consultations and discussion with agricultural agencies and research institutions in its member countries.
- **Group on Earth Observations (GEO):** Providing access to the AfriGEO community and other GEO programs.
- **FAO:** Supporting national statistics offices and agriculture and food security line ministries in the uptake of alternative data sources, including EO data.
- **ANU (Australian National University):** PhD studies aiming at evaluating ACIAR’s Transforming Irrigation in Southern Africa project using remote sensing methods.
- **TISA partners:** These include the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and the International Water Management Institute (IWMI).