



Global Programme Responsible Land Policy Good Practice

ETHIOPIA: COMMERCIAL AGRICULTURAL MANAGEMENT INFORMATION SYSTEM (CAMIS) –
A DIGITAL INFORMATION SYSTEM FOR FAIR AND TRANSPARENT INVESTMENTS IN LAND

Programme

THE GLOBAL PROGRAMME RESPONSIBLE LAND POLICY (GPRLP) IS PART OF THE SPECIAL INITIATIVE 'ONE WORLD, NO HUNGER' OF THE GERMAN FEDERAL MINISTRY FOR ECONOMIC COOPERATION AND DEVELOPMENT (BMZ), WHICH AIMS TO REDUCE EXTREME POVERTY AND HUNGER.



The programme is implemented by the *Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH* in countries across Africa, Asia and South America. Its main objective is to secure access to land as a critical prerequisite for poverty and hunger reduction in rural areas, especially for women, marginalized groups and indigenous peoples.

THE GLOBAL PROGRAMME IS IMPLEMENTED ALONG THREE FIELDS OF ACTION:

- Improving procedures to secure land ownership and user rights for the rural population
- Strengthening civil society
- Improving the framework conditions for responsible agricultural investments

The Ethiopian module of the GPRLP “Support to Responsible Agricultural Investments II (S2RAI II)” aims to improve the access to land for the beneficiaries in the regions of Benishangul-Gumuz, Gambella and Amhara. It supports key stakeholders in implementing internationally recognized principles and guidelines. S2RAI II includes the component “Responsible Governance of Investments in Land (RGIL)” in Ethiopia, co-financed by the EU, which aims at ensuring that investments in land are fair, productive and contribute to sustainable land management. To improve transparency and facilitate land identification for investors, as well as strengthen procedures to secure land use or land tenure rights for communities and farmers, the project is supporting the establishment of a digital investment information system – the Commercial Agricultural Management Information System (CAMIS).

Starting point

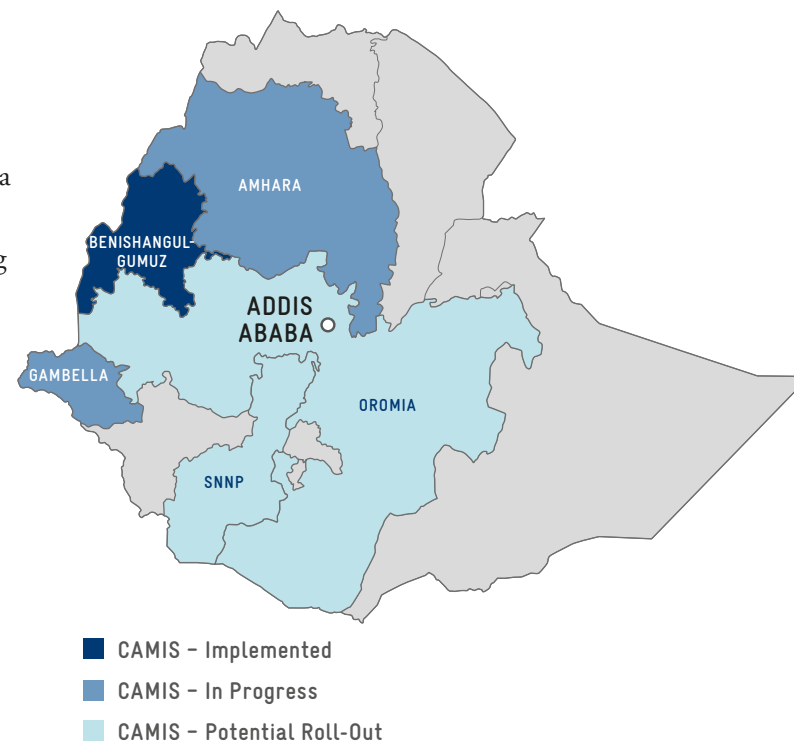
In Ethiopia, the main challenge in land administration at the local, regional, and federal levels is that records on land holdings and use rights are neither properly documented nor mapped according to land types amongst key agencies like the Ministry of Agriculture as well as land administration and investment bureaus. Until recently, a systematic IT-based land information system enabling information sharing did not exist. Available information on commercial agricultural investments is fragmented, outdated and unreliable for use by businesses and government authorities. Critical datasets on these investment projects and their locations are not appropriately captured, managed and analysed in an adequate and timely manner. Moreover, land governance institutions lack the infrastructural and human capacity to promptly collect, exchange and distribute investment details to monitoring institutions, investors and other interested stakeholders. The transparent identification and transaction of suitable land for investors is therefore hampered.

To address these challenges, the Ethiopian authorities developed CAMIS with the assistance of GIZ. CAMIS is a distributed information management system using free and open-source software (FOSS) tools for managing commercial agriculture in the country. The system is linked to the National Rural Land Administration Information System (NRLAIS), which is the cadastre system for rural land parcels. NRLAIS includes all rural land administration processes from the central ministry to the district (“*woreda*”) level, including mass land registration.

CAMIS was piloted in Benishangul-Gumuz and is currently in the process of being deployed in Amhara and Gambella. In all three regions, infrastructure installation and configuration, as well as the training of experts, have been completed, and data encoding of agricultural investment profiles is ongoing in the Amhara and Gambella regions. The crucial set up of the interface between CAMIS and NRLAIS is in its final development stage.

The major partners in the implementation of CAMIS are the regional and federal land administration, as well as investment institutions. The major groups of beneficiaries receiving CAMIS training include data encoders, in addition to regional and *woreda* experts, as well as national and regional experts in Addis Ababa.

CAMIS STATUS IN ETHIOPIA



Positive changes

CAMIS FOCUSES ON INFORMATION MANAGEMENT CHALLENGES AND CONTRIBUTES SUBSTANTIALLY TO THE FOLLOWING ACHIEVEMENTS:

- Empowerment of regional institutions to keep track of the performance of agricultural investment projects: as a compiled inventory of agricultural investments, the system facilitates the monitoring and evaluation of land investments and their performances.

In addition, CAMIS follows up on socio-economic aspects, agricultural inputs, as well as on the land development progress and environmental management. Furthermore, it allows a periodic audit of inventories.

- Set up of a database including all relevant information, to increase the transparency of integrated land use planning and reliable land allocation for new agricultural investments. Moreover, the information system supports decision-makers at the federal level in making well-informed and timely decisions.
- Development of harmonized national and regional commercial farming data collection templates which capture substantial data from commercial farming businesses. By providing a consistent data collection template, CAMIS benefits the government institutions by monitoring the performance of investors and facilitates data analysis to provide valuable information to decision-makers.

- Creation of the first support structure for commercial farms to allow the responsible and sustainable development of agricultural businesses.
- Establishment of a linkage between regional and federal data centres through an existing government network for sharing land governance data and information.

In practice, the positive changes have so far been experienced by regional and federal land administrations, as well as by investment institutions and commercial farmers, as they now have a reliable and updated database regarding agricultural investments available. In the near future it is expected that this information will contribute to preventing valuable land from lying fallow, and investments from leading to (social and environmental) exploitation. Land investments are thus becoming more sustainable and responsible. They contribute to value creation, including higher productivity, more income and new jobs. In the long run, infrastructure will improve, as well as socio-economic capacities in the communities.

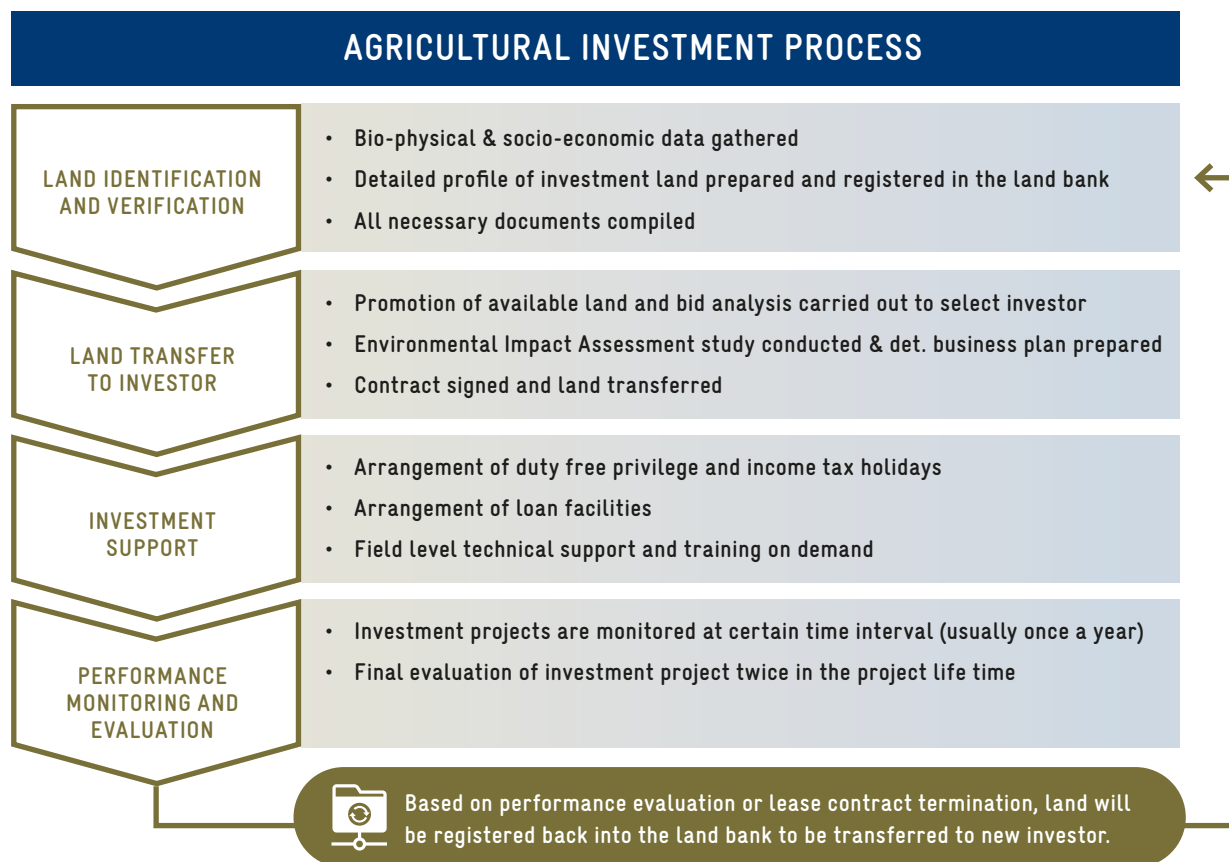


Handover of CAMIS equipment

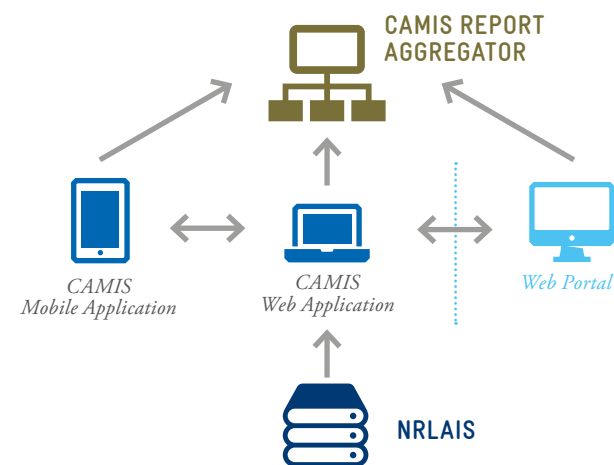
Approach

CAMIS HAS EXTENSIVE FEATURES that facilitate the management of accurate, consistent and reliable data and information required for land governance. It provides tools for monitoring the performance of agricultural investments. The investment mapping processes

include the aspects of land identification and verification, as well as the documentation of land transfers. This is in addition to investment support and the performance monitoring regarding the evaluation of investments.



THE CORE OF CAMIS CONSISTS OF FOUR MAJOR APPLICATIONS which ensure a user-friendly and efficient processing of data).



THE CAMIS WEB APPLICATION is the backbone of the overall system. There are three main sub-components within the CAMIS web application:

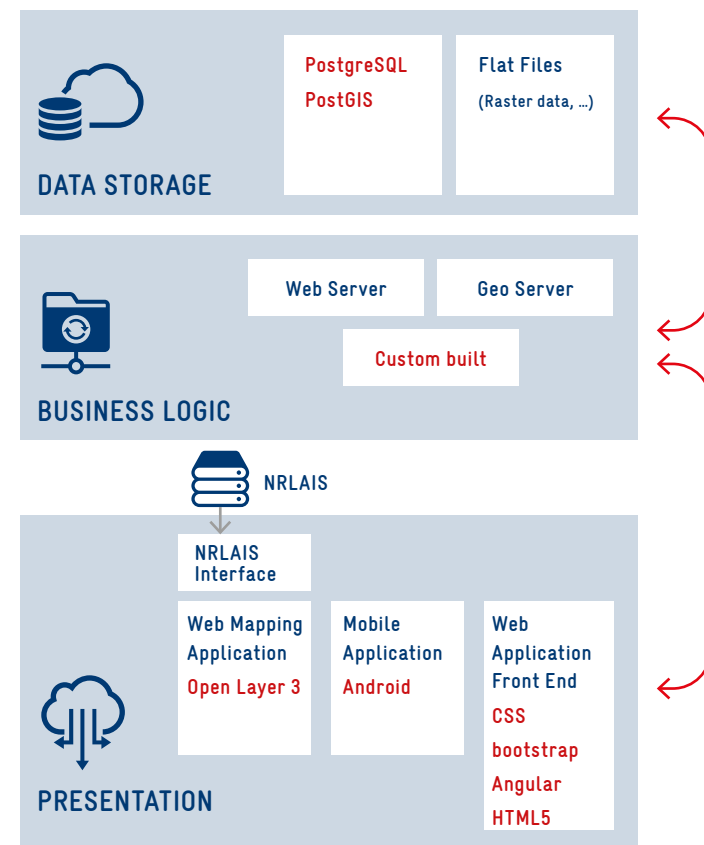
- The Land Bank handles every activity involved in identifying land for investment by communicating with NRLAIS.
- The Farm Management handles tasks such as registering investors profiles and encoding their business plans.
- The Project Management component is responsible for the overall M&E and the provision of information to users as to whether a certain investment (project) is progressing according to the encoded business plan.

Approach

THE CAMIS WEB PORTAL APPLICATION is a sub-system which is available to the general public through the internet and creates a transparent exchange system between the investors and the supervising government authorities. Furthermore, through its bid management functionalities, it provides information to interested investors without them having to be physically present, while at the same time they are able to apply for the posted investment tenders. In addition, it eases the selection process of investment applications and allows investors to self-monitor and to follow up on the performance against their original plans, integrating them as an active part of the government-led monitoring and evaluation process.

THE CAMIS MOBILE APPLICATION has been developed to support monitoring and evaluation experts in collecting reliable and timely data when they are on investment locations with mobile devices undertaking their monitoring work.

THE CAMIS REPORT AGGREGATOR brings together all the regional data at a central node and renders the relevant reports. Some of the reports that are planned to be drawn from CAMIS are the report on “Commercial agriculture investment lease amount by investment type and administrative location” as well as the “Summary of ground water use in commercial agriculture”.



Architecture of CAMIS



CAMIS is based on a three-level server architecture, incorporating data storage, business logic and presentation.



The data storage level is implemented using a database management system called PostgreSQL.



The business logic tier coordinates the application, processes the commands, makes logical decisions, conducts evaluations, and performs calculations. It controls the application's functionality by performing detailed processing.



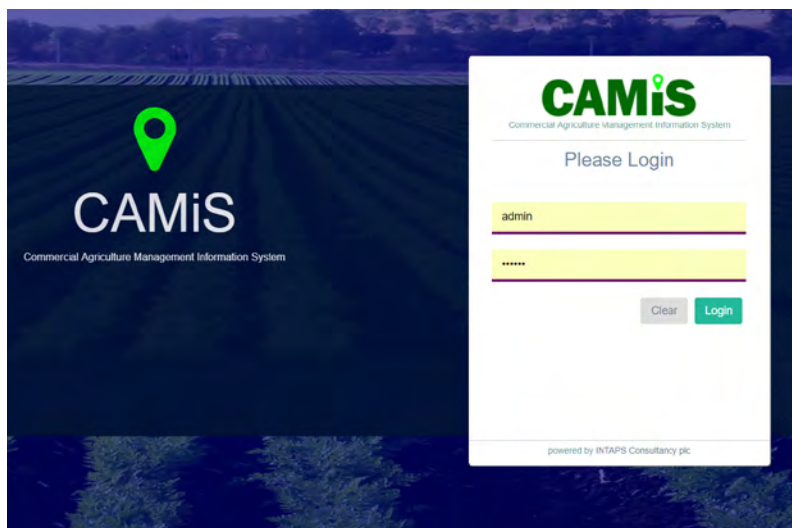
The presentation level consists of web-based applications that provide an interface to the major land administration sub-system, including those for the visualization and manipulation of data. Furthermore, it includes the essential interface to the national land administration system NRLAIS.

Approach

After being trained, the actual work undertaken by the regional partner includes the encoding of all the data into the database. Local governmental experts then convert or create a template as per the business plan of the investor for M&E. These experts complete the fieldwork by using the template and collecting data to generate a monitoring report for decision-makers.

In general, government actors are mandated to organize the information relating to investors through both spatial and attribute data based on the submitted business plan (jointly with the respective regional investors' associations and the investors themselves). Despite this, the regional governments are taking the lead in both integrating CAMIS with NRLAIS and operating it.

GIZ contracted a national consultant firm, to develop CAMIS, provide backstopping support, rollout, and assists with all the necessary technical issues related to the functionality of CAMIS. In addition to that, GIZ provided financial support for all the expenses in the implementation of CAMIS, such as office and IT equipment, as well as elements of training.



CAMIS web application login page



Data encoding of investors profiles into CAMIS



CAMIS data center in Amhara Region (Bureau of Land)

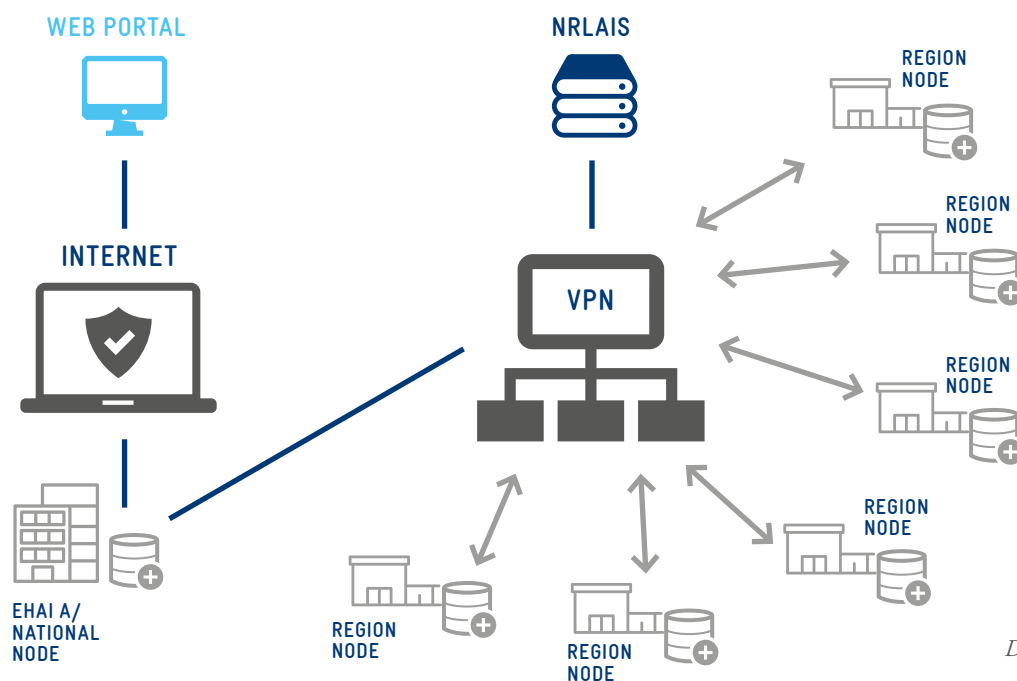
For replication

In the next step it is planned to roll out CAMIS to other *woredas* in the project regions. Furthermore, it is envisaged that the system will be replicated in Oromia and SNNP (the Southern Nations, Nationalities, and Peoples) ([CAMIS status in Ethiopia](#)). It will be realized through close collaboration with the Ministry of Agriculture and the partners on a local level.

A national set-up of CAMIS may consist of decentralized independent systems on the regional states level, i.e. as regional nodes. At the federal level a central hub will pool the data from the regions. The nodes will be connected to the central hub through the existing government network, “*WoredaNet*” which links institutions from the federal level with the *woreda* level through the VPN (Virtual Private Network).

DESPITE THE FACT THAT CAMIS HAS BEEN SPECIFICALLY DESIGNED AND PRODUCED FOR THE ETHIOPIAN CONTEXT, IT HAS THE POTENTIAL TO SERVE AS A MODEL SYSTEM FOR REPLICATION IN OTHER COUNTRIES, CONSIDERING THE FOLLOWING MAJOR REQUIREMENTS:

- Well-equipped IT infrastructure such as data centres, servers, networking facilities and desktop computers which can be used as a solid and sustainable basis for developing a data management system.
- Accessibility of investors’ profile and business plans to obtain accurate data, which amongst other purposes, facilitates the establishment of baselines for monitoring and evaluation purposes.
- Availability of experts who may be trained within the first phase of the project implementations.



Deployment of CAMIS

Further information



➤ [Building Harmonized Private and State Land Data and Information Systems in Ethiopia](#)

➤ [Responsible Land Policy in Ethiopia Factsheet](#)

➤ [YouTube: Support to Responsible Agricultural Investments Project in Ethiopia](#)

➤ [LinkedIn](#)



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