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# MODHEM

Mobile Data for Moving Herd Management

2015 - 2019



MODHEM stands for mobile data for moving herd management and better incomes. The MODHEM project aimed at improving the food security situation of pastoralists' and farmers' households in Burkina Faso. By using satellite data, the pastoralists and farmers are informed on the best locations for pastures and water areas via a call centre. They also have access to accurate information about weather forecasts and market prices. This leads to improved herd and crop management and conflict avoidance.

1 NO POVERTY



2 ZERO HUNGER



8 DECENT WORK AND ECONOMIC GROWTH



13 CLIMATE ACTION



15 LIFE ON LAND



17 PARTNERSHIPS FOR THE GOALS



The service for pastoralists and agro-pastoralists is based on the Garbal solution that was designed in the framework of the G4AW project STAMP in Mali. The call centre for this service is run and funded by the telecom company ORANGE Burkina Faso.

Other participants in the project were SNV Netherlands Development Organisation (Burkina Faso office and project lead), Agrhymet / CILSS (an international organisation supporting agricultural development in the Sahel region with headquarters in Niger), the Ministry of Animal Resources of Burkina Faso and Satelligence (a Dutch remote sensing company). Another Dutch remote sensing company, Hoefsloot Spatial Solutions, also active in the STAMP project, was contracted for specific services.



### Provided Services

Under the brand name Garbal, services are provided through a call centre. Communication with the callers takes place in French and in different local languages, such as Mooré and Dioula. The services consist of market prices, weather forecasts, information on biomass and livestock corridors, information on water availability and water points, agro-meteorological advice (sowing / planting, rainfall information) and on-demand response to specific requests.

The services are based on satellite data that are analysed and processed and made available via an analytical framework, a transmission protocol and a web viewer to enable the call centre operators to provide correct and up-to-date information to the end

users. A field data collection campaign supported the validation and quality control of the output of the information that was derived from the satellite data. Local market and biomass data were also provided. The field extension system of the Ministry of Livestock and Fisheries supported the service development in collaboration with six producer organizations that represent farmers and pastoralists.

An intensive marketing campaign was carried out for Garbal. This was supported by end users mobilisation by farmers' and pastoralists' organisations. The actions in the field had to be carefully planned, because of the deteriorating security situation in Burkina Faso.

The use of satellite data for MODHEM is essential. Data from the Sentinel-1, MODIS and Proba-V satellites are used for the detection of biomass and the assessment of water availability. Data from the Meteosat satellites are used for the weather forecasts.

### Business Model

ORANGE Burkina Faso is the business owner. The goal of ORANGE Burkina Faso is to use Garbal as leverage for reaching rural populations. There are plans to add financial products Garbal. Garbal helps to create a loyalty base for ORANGE Burkina Faso, as you must have an ORANGE number to access the service. Garbal therefore helps to increase the awareness about the ORANGE brand among local communities.

Although some revenue is generated, the service would not be financially feasible without the support from ORANGE. Inbound calls are charged at € 0.457 per minute, with a "profit" margin of almost 7 eurocent per minute. The loyalty approach of ORANGE for onboarding and retaining customers is therefore crucial for MODHEM's success.

### Impact

To measure impact, the value of animal loss was used as a proxy for income, and this showed that pastoralists, who used the call centre, reduced the value of animal loss by € 582, the equivalent of increasing their income by 39%. Farmer households that used the service almost doubled their income.

A point of concern is that the security situation deteriorated in some of the project regions. This situation affects service promotion and enrolment of users. Pastoralists also tend to reduce their herds in uncertain times, which has a negative effect on the impact of Garbal. Limited connectivity due to conflict also hampers onboarding.

Thanks to funding of the Royal Netherlands Embassy the project continues in the form of MODHEM+, enabling partners to further develop and expand the services. An important achievement is that MODHEM is one of the very first projects in Burkina Faso that created innovative digital services on a large scale for pastoralists and farmers. Providing services to both agro-pastoralists and farmers is also new.

Approximately **110,000** users registered for the service

> **65,000** pastoralists reached with the service

Approximately **72,000** calls processed during a 9 month period

Of which **12%** female users





## Get inspired

The Geodata for Agriculture and Water Facility is a grant programme by the Netherlands Ministry of Foreign Affairs within the policy priorities for food security and water, which is executed by the Netherlands Space Office (NSO). G4AW established 25 public private partnerships in 15 countries to develop and support satellite based information services which positively impact the lives of smallholder food producers in developing countries.

[g4aw.spaceoffice.nl](https://g4aw.spaceoffice.nl)



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