WEATHER CLIMATE WATER
TEMPS CLIMAT EAU

METAGRI SERVICES

Concept note

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World Meteorological Organization
Organisation météorologique mondiale

Summary

- METAGRI, METAGRI OPS….. Why METAGRI SERVICES
- Specific areas of activity
- Components
- Improved Roving Seminars
- NMHS technical skills improved
- Products broadcasting improved for better services
- Activities are monitored and evaluated.
- Gender, a lot to be done (not only in the project)
- Early Warning
- Budget – Donors
- Staff
- Management

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METAGRI, METAGRI OPS….. Why METAGRI SERVICES

- WMO priority: to assist the NMHS with providing better services to their various users by providing good quality products in close interaction and cooperation with governmental and private users.
- Need for a sustained effort in reinforce technical skills at the NMHS, information processing systems, delivery channels and consultation and interaction mechanisms with a wide range of users.
- Services for agriculture need a consolidated cooperation with partners as the Ministry of Agriculture and more and more use of ground based data, remote sensing and models (weather and biological) outputs.
- Gender issues. During the METAGRI and METAGRI-OPS projects was that only about 10% of the participants were women. This is despite the fact about half of the women in the world are active in agriculture – 60% in developing countries and 70 % in low-income food-deficit countries.
- Approach to different sub-sectors (agriculture, livestock, forest, rangelands and artisanal fisheries) and close relation with national and regional implementation of the Global Framework of Climate Services. that lack such capacity so that they too can deliver and use science-based information for climate action, build resilience and manage the opportunities and risks of climate variability and climate change.
- Improved cooperation with FAO and WFP. This cooperation would be enhanced on the next project and discussions are underway to ensure good coordination and better collaboration between NMHS and Ministries of Agriculture. As Food Security is a key issue in Western Africa, WFP has develop crop monitoring activities and is also involved on supporting the Agriculture GFCS priority area.

To further improve agricultural meteorology service delivery and fulfill WMO and Western Africa NMHS commitments on the above mentioned challenges, a new project is to be developed and implemented in Western Africa based on the outcomes of the previous METAGRI and METAGRI-OPS project. The new project is to be named METAGRI SERVICES and it is proposed to last from 2016 to 2019. NMHSs, NGOs, regional institutions as AGRHYMET and ACMAD, and international organizations such as FAO and WFP are expected to participate at different levels.

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Specific areas of activity

1. Reinforcing and extending the operational model of agrometeorological assistance to rural areas of West Africa which includes the organization of Roving Seminars, the provision of rain gauges, and development of advice on decisions related to crops, fisheries and livestock;
2. Improving the system for communication between farmers and NMHSs, through rural radios and participation of local leaders and traditional knowledge bearers;
3. Improve NMHS staff technical skills in remote sensing, Geographical Information Systems, decision making support systems including crop models;
4. Increase feedback from food producers to NMHSs including daily rainfall observations, crop status and relevant weather phenomena, and data quality control procedures to improve quality of NMHSs products and services to farmers;
5. Support regional programs on food security and food production from ECOWAS and other institutions;
6. Improving soil moisture measurements and calibration of remote sensing data in selected sites;
7. Improving women's access to climate and weather information in rural areas;
8. Developing specific products, tools and services for the following agricultural sectors: rain-fed crop; orchards; artisanal fishing along coastal areas, rivers and lakes; livestock; and forestry;
9. Developing a project management model more efficient in sharing NMHS responsibilities and tasks at regional level to improve regional cooperation;
10. Contributing to WMO and other partner´s institutional commitments on international initiatives and frameworks as GFCS, CREWS (Climate Risk and Early Warning Systems), IDMP (Integrated Drought Management Programme) and GACSA (Global Alliance for Climate-Smart Agriculture) in Western Africa.

Components (I)

Component 1: Seminars and simple plastic raingauges. Improving seed calendars, improved data bases. Structured and consolidate data recording and field status information feedback. Improved plastic raingauges and observation methods. Inclusion of traditional knowledge at Roving Seminars and climate services know-how. Development of Climate Smart Agriculture tools based on improved agrometeorological bulletins and advisories.

Component 2: Training. Improvement of technical skills on crop models, remote sensing and GIS at NMHSs. Crop model verification activities. Soil moisture verification activities. Development of agrometeorological atlases for the region and individual countries.

Component 3: Improved climate and weather communication for agricultural decision making. Development of partnerships with local radio and mobile phone service providers.

Components (II)

Component 4: Evaluation of impacts of the use of weather and climate information in agriculture. External evaluation. Assessment on socio-economic benefits in agriculture associated with weather and climate information management.

Component 5: Improvements in access to weather and climate information for women in agriculture. Roving Seminars for women and youth. Promotion of stakeholder involvement in rural woman development.

Component 6: Development of weather and climate risk management in agriculture and food security. Developing risk maps and assessments. Developing monitoring tools with special focus on drought. Implementation of Nowcasting Satellite Applications Facility (NWC SAF) software. Development of sand and dust warnings and advisories. Support to risk management. Cooperation with national and regional institutions on Early Warning Systems and CREWS start-up.

Improved Roving Seminars

Roving Seminars contents to be updated and improved according to final users as farmers, fishermen, pastoralists and forest agents

- Basic guide on common methodology;
- Basic manuals in national languages;
- 3 Roving Seminars per country/year (recommended) for farmers, shepherds and fishermen;
- Development of Climate Field Schools (FAO style) in four countries.

Development of Climate Smart Agriculture support tools; Water harvesting component, Cooperation with FAO and WFP

- Guide on CSA practices in French and English. FAO support;
- Changes at Roving Seminars programme including CSA approaches;
- Community based approach on the use of climate and weather information to improve management on crops, livestock and forest.

Support Interdisciplinary Working Groups (IWG) on Climate Service provision and delivery

- Develop a seasonal seed calendar for agro-ecological zones;
- Improved methodology and quality of product for bulletins and advisories (seed calenders, sustainable agricultural practices, inputs and pesticides management);
- Support farmers weather and crop status observations and feedback data flows to IWGs;
- Support to agricultural and climate databases management and sharing practices among IWG and AGRHYMET.

Improved Roving Seminars (II)

Simple plastic rain gauges improved according experience from METAGRI-OPS

- Two moulds for improved plastic rain gauges prototypes are made. One for Sahelian region and the second for Gulf of Guinea countries;
- Improved quailty;
- Prototype quality and performance controls;
- Manufacturing and transport to the countries;

Listing traditional knowledge practices and climate variability indicators per country.

- Traditional knowledge: Defining questionnaires and surveys (four types for four regions);
- Travel to selected rural communities and survey execution;
- Reporting on practices according obtained information at the end of 2017;
- Proposal of practices TK to be incorporated at Roving Seminars;

Local languages are taken in account

- Roving Seminars documents translation to main national languages and incorporation of traditional knowledge practices

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Training NMHS staff (I)

- New version of the SARRA-H model for agricultural campaign monitoring;
- INSTAT+ software for the computation of the onset and cessation dates of the rainy season, the duration of dry spells and other agroclimatological analyses;
- QGIS software;
- Generation of provisional sowing calendars;
- Simple agrometeorological database management software (CLIMSOFT or other);
- Agroclimatological analysis tools (merging satellite and ground data, RClimdex, RHTest) in the R environment:
- Methods of forecasting the agroclimatic characteristics of the rainy season;
- Remote sensing products useful in agrometeorology: vegetation indices, rainfall estimations, PET, Temperatures, solar radiation (after evaluating different available sources);

Training NMHS staff (II)

- Pursue the improvement of the SARRA-H model and its environment;
- Acquire or develop models for some perennial and tuber crops (coffee, cocoa, rubber, yam, etc);
- Evaluate remote sensing products that best correspond to West African agroclimatic conditions;
- Prepare a regional atlas on agriculture (crops, climate regions, land cover) and provision of mapped agrometeorological products. (Support AEMET)
- Run crop simulation models with seasonal forecasts results for yield forecasting;
- Assist agricultural users in making decisions by using ground data to valid remote sensing products.
- Perform soil moisture comparisons and provide better income to crop models. George Mason University involved.

Improved broadcasting for better services (I)

Improved access to information

- Develop or renew and maintain operational web sites and promote interactive web tools;
- Support Interdisciplinary Working Groups (GTP) communication aspects (linked to web developments by promotion of those tools);

Enhanced partnerships

- Negotiate and sign agreements with community/rural radios for the production and broadcasting of weather and climate advisories and products for farmers;
- Engage with the community/rural radios in finding sustainable funding of those activities:
  - development of suitable products and preparation of broadcasting plans
  - developing funding schemes searching enterprises and companies that would advertise in those radio time slots
  - Organize short briefs of the Senior Management of the companies/institutions allowing a clear understanding of the critical role of weather forecasts and climate services and financial commitment;

Improved broadcasting for better services (II)

Mobile phone companies

- Develop partnerships between NMHS and mobile phone companies to improve communication and feedback;
- Promote joint developments on Smartphone tools;

Develop the skills of all actors for effective weather and climate information & services including river levels for run-of-river irrigation

- Promote a wider use of traditional knowledge in delivered products and services using local languages;
- Organize joint training sessions for NMHS staff (communication skills) and journalists (climate and weather). Identify trainers for the climate and weather content

Identify trainers for the communication content.Supervise preparation course material on climate and weather content (cf. countries where the training has already been organized e.g. Mali). Supervise preparation of course material on communication

Identify participants (cf. lists of participants of meteo media days)

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Monitoring & Evaluation

Monitoring and Evaluation of METAGRI SERVICES implementation

- Definition of the Monitoring and Evaluation framework: definition of the reporting guidelines for countries including detail of indicators, how indicators are calculated and which data have to be yearly provided by the countries ;
- Data collection by the countries during the whole length of the project;
- Annual reporting by countries according with the reporting guidelines and including the set of data for the Monitoring&Evaluation;
- Annual monitoring: At the end of each year analyze the implementation in the different countries and provide advices on the measures to be adopted;
- Mid-project evaluation: At the end of the second year preparation of a progress report on the implementation evaluation of METAGRI SERVICES;
- Project final evaluation: At the end of the project preparation of an implementation evaluation report.

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Monitoring & Evaluation (II)

Evaluation of METAGRI SERVICES impacts on farmers' behavior and crop productivity

- Revision of the socio economic benefits evaluation protocol: the evaluation protocol used for METAGRI OPS is revised taking into consideration the recommendation of the METAGRI OPS final workshop;
- Design a database for managing the data to be collected:
- Performing the evaluation on 6 different agroecological zones starting from the first project year (4 localities, in each locality 2 control and 2 pilot farmers);
- Analyze data and prepare annual and final evaluation reports.

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Gender issues (I)

Institutional

- Identify a National Focal Point institution and work together to raise a national plan to help rural women by adequate use of climate and weather information;
- Identify NGOs working with rural women and young farmers and develop partnerships;
- Identify UN Organizations activities and projects with rural women, revision of their activities and making proposals for support them with weather and climate information ;

Community dialogue process

- Set up a multi-stakeholder mechanism bringing together relevant actors and partners ;
- Identify barriers to women's participation and their specific needs in terms of weather and climate information, including preferred communication modes, languages, etc;

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Gender issues (II)

Roving seminar model

- Develop a Roving Seminar model at community level that would be acceptable by men and women taking in account their traditional or present roles;
- Develop specific Seminars contents and training materials according to roles established;
- Identify right persons at NMHS and cooperating institutions to perform those Roving Seminars and provide training for them (mostly women);
- Engage female participants in post-seminar activities, such as collection, recording and analysis of information (i.e. establish a 2-way communication channel b/n NMHSs and female users);

Improved access to information

- Revision of products and development of new specific ones for tasks most performed by women;
- Mobile phones. Revision actual products and design new ones according women access to those services;

Increased awareness

- Provide awareness activities on gender for NMHS staff involved in service delivery with a focus on (a) the disadvantaged position of women in agriculture due to existing inequalities; (b) women's role in agriculture and their potential contribution to improving met services; and (c) good practice in agromet services targeted at female farmers.

Early Warning (I)

To review climate and weather hazards that pose a risk for agriculture and propose adequate warning and forecasts products in coordination with IDMP, FFGS, SWFDP activities and WMO RCCs developments and tools

- Identify Weather and Climate Risks affecting agriculture and food production at country level at national level;
- Development of monitoring tools on weather and climate extremes with special focus in drought aspects at regional level and Flash Floods warnings to protect lives of fishermen, pastoralist/shepherds and their livestock;

Develop agreement protocols with Ministry of Agriculture and Civil Protection /Disaster Management to use those warnings and products under an Early Warning System and emergencies response plan, starting with a joint development or update of risks maps.

- Institutional agreements. Enhanced GTPA (IWG). Drought management platforms. RCCs;
- EWS build up (SWFDP, SAF NOWCASTING SPAIN, Sand and Dust. WMO);
- Risk maps regular production both present and future scenarios;

Early Warning (II)

Improved delivery and use of climate and weather warnings and advisories at farmer, fishermen and pastoralist level reducing losses and damages in different agricultural activities, including river and lake fisheries and cattle rearing

- Development of response and recovery plans and risk transfer tools;
- Development of impact assessment tools on extreme events;
- Adding value to Food security decisions at national level;
- Agreements with media and mobile phone companies for delivering warnings and advisories.

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Budget & Donors

- Baseline : 1 Million Euros spent in METAGRI 2008-2011, and about 500 thousand Swiss Francs average by year from 2012-2015 in METAGRI-OPS . A minimum annual average expenditure of around 1 Million Swiss Francs giving a total budget of 4 Million Swiss Francs over four years and 18 countries. Most probably needed 7-8 Million Swiss Francs by scaling up activities or develop pilots on promising new activities of validation of those pilots in other regions in the world.
- Component 1 (Roving Seminars and associated activities) would be 30%, Component 2 (Training) would be 25%, Component 3 (Improved broadcasting) would be 7.5 %, Component 4 (Evaluation) would be 10%, Component 5 (Gender) would be 7.5 %, Component 6 (EWS and risk management) would be 10% and Management would be 10%
- Possible donors that would be invited to discuss project development and to contribute would be Norway that funded about 80% of the previous METAGRI OPERATIONAL project, Spain that funded almost all the previous METAGRI project, USAID to support food security activities at least in some countries and regional funding institutions.
- Cooperation or contributions in kind from other UN Agencies would be seek, in particular with FAO and WFP having in mind the relevance of food production and food security in Western Africa. Joint contributions to the GFCS Agriculture and Food Security Priority Area would also be expected.

Staff

- **Staff in Geneva – WMO Headquarters:**

- Project coordinator (Regular Staff WMO at Agricultural Meteorology Division)
- Secretarial support (WMO staff partially funded through the Project)

- **Staff in Abuja – WMO Regional Office:**

- Project officer – Liaison with ECOWAS and Western African Institutions (Regular Staff WMO at sub-regional Office in Abuja)
- Consultant – According with the level of activities and funding, a consultant would be hired to coordinate activities at component level or to support overall management. This solution would be activated only after reaching full project development and funding.

- **Staff at the NMHS**

- Every country would supply a national Focal Point as in the previous METAGRI and METAGRI project as a contribution in kind.
- Activities at the countries would be regulated through Letters of Agreement between WMO and each NMHS.
- If the project development needs for extraordinary activities at the region or at one country that could not be performed regularly by the NMHS, an Special Services Agreement could be proposed to pay a NMHS staff member or one national expert to perform those extraordinary duties according WMO and national regulations.

Staff (II)

Staff at Component Management

- Components 3 (communication) and 4 (evaluation), external consultants at each component to coordinate and animate activities. Most probably would be Ms. Oumy N' Diaye and Mr. Vieri Tarchiani
- The Centre AGRHYMET would have a central role on component 2 (training). SSAs or LoAs would be developed to support activities in close cooperation with WMO AgM Division.
- Component 1. Two consultants to support activities, one of them to develop contributions to Climate Smart Agriculture practices and climate change adaptation and provide technical review of supporting documents. Western Africa (WA) expert, open competition in the region. The second consultant would work on Roving Seminars improvements through the integration of traditional knowledge, proposing improvements on data recording and data retrieval, and collect gauges performance reports). Western Africa expert.
- Component 5 (gender) would need to be coupled with other national or regional initiatives. An external consultant would be needed.
- Component 6 (EWS-CREWS) would the most complex and external support would be needed. It is foreseen that two consultants would be needed, one for English Speaking countries and another for French Speaking countries, to develop activities and documentation in both languages.

Technical project management

WMO handled the technical and administrative management of the project METAGRI OPERATIONAL.

At the national levels, the project will be again piloted by national Focal Points

Operational Committee to provide Scientific and Technical Guidance and to elaborate and propose Annual Operative plans at the end of each year. Those plans would propose activities to be performed and requested for funding with a careful priorities setting. Non presential meetings. At least one annual meeting at the last Quarter each year.

Annual plans would be submitted to the **Conference of Directors of Western Africa NMHs** for approval.

Operational Committee (Scientific and Technical Guidance)

Proposed composition:

- Seydou Traore (AGRHYMET)
- Daouda Diarra (Mali-Member of WMO Commission for Agricultural Meteorology)
- Julie Ukeje (Nigeria-Member of WMO Commission for Agricultural Meteorology)
- 3 Focal points rotating each year
- WMO Secretariat. Agricultural Meteorology Division and Regional Office of West Africa
- GFCS Officer
- Secretarial support provided by WMO
- Observers: Donors.
- Partner organizations e.g. WFP, FAO, FEWSNET

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Thank you
Merci
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Gracias

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