



# G4AW Newsletter 01

GEODATA FOR AGRICULTURE AND WATER

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## First newsletter on the Geodata for Agriculture and Water (G4AW)

Proudly I present to you our first Geodata for Agriculture and Water (G4AW) newsletter. Since the second call in 2014, we now have 14 projects running in 10 countries. Project launches have drawn media attention, in Bangladesh and Vietnam they even made the news programmes on television!

It is good to see that local enterprises and governmental organisations are working together with (Dutch) non-governmental organisations and the earth observation value-adding industry. They have organised consortia with farmer organisations in the target countries, to really bring added value to the information chain, from space down to earth.

The ambition of G4AW is huge: 3 million farmers to be reached in 3 years! It is good to see that each consortium found his own business model to achieve this goal. Cooperation with aggregators seems to be the way to go.

We live in an interesting time frame; many satellites will be launched in the coming years. Not only by the big institutional organisations like NASA and ESA, but also by commercial initiatives like Planet Labs, Terra Bella (Google) and UrtheCast.

With their swarms of small satellites they are a promising information source for G4AW partners. Of course, the added value of these commercial satellite images for the service provisions needs to be demonstrated first.

With a population growth to 9 billion, having information at the right time and at the right place on our soil and crops is the challenge we hope to contribute to with our satellite data and services. I invite you all to read this newsletter, take note of the 14 G4AW projects, to join us on linked in and stay tuned on our website.



Dr Ger Nieuwpoort  
Director Netherlands Space Office



## Ministry of Foreign Affairs

Achieving food security for all is an important ambition in the Dutch international cooperation agenda. The Ministry of Foreign Affairs is promoting new approaches in this agenda to achieve real and lasting results.

The G4AW Facility is one of these new approaches, using satellite-data to increase food security in our partner countries and to reduce the use of inputs like water. In the 14 projects now running in 10 different countries, services like weather- and drought forecasting, micro-finance, extension services and agricultural insurance schemes go hand in hand to achieve just that.

One of the important lessons we learned is that it is specifically this combination of services and products that promises results beyond our expectations and offers realistic chances to scale up after our role as a government ends. NSO expects G4AW to reach many more smallholders than the total of 3 million we were aiming for.

Thanks to our partners in the consortia the G4AW-approach is expected to be very successful, I'm looking forward to the next phase in the process, where businesses are started and delivery of the services will start.



Marcel Beukeboom  
Head of the Food Security Cluster  
Ministry of Foreign Affairs



Ministry of Foreign Affairs of the  
Netherlands

## G4AW Project leaflets / brochure



NSO and the G4AW project leaders have made information leaflets for all 14 projects and one brochure explaining the G4AW programme. They can be downloaded from the G4AW website:

### Projects:

<http://g4aw.spaceoffice.nl/en/Projects/G4AW-Project-leaflets/>

### G4AW programme brochure:

<http://g4aw.spaceoffice.nl/en/About-G4AW/Brochure/>

## LinkedIn G4AW Group

NSO has started a LinkedIn group, called: 'G4AW Space for Food Security'.

The group is intended to share news and recent developments on the G4AW programme and its projects. Anyone involved is invited to contribute with information to G4AW, related food security projects, satellite data and services.

We invite you to subscribe to this group and share your news and knowledge, contributing to a successful implementation of the G4AW projects. The first items have already been submitted.

G4AW Space for Food Security

<https://www.linkedin.com/groups/8509495>



## News

NSO will share G4AW related news items in the LinkedIn group 'G4AW Space for Food Security'.

Major news items and announcements will also be published on the G4AW website. The G4AW mailing list will be used occasionally, e.g. for announcing a new G4AW newsletter, or the announcement of a new call for tender.

### CommonSense (Ethiopia)

#### Being embraced by the local stakeholder

The key to success of any development project is to get fully embraced by the local stakeholders. CommonSense is now on its way for one year and has fully accomplished this. After getting the Memorandum of Understanding signed with the Ethiopian Ministry of Agriculture and Natural Resource Management, the project is now fully in the development phase. It is moving to the piloting phase providing near real-time information on agro ecological conditions, the growing season and yield forecasts to farmer unions and primary cooperatives. CommonSense has raised interest from many stakeholders in smallholder agriculture, as well as commercial organisations, MFI's, agricultural research centres, universities and farm extension services and collaborates with these organisations at different levels to co-create, to raise capacity and to sustain the system in the future. This year will



provide the proof of the pudding: if the system is accepted by its users, next year's focus will be on reaching a larger scale.

### CROPMON (Kenya)



The G4AW project Crop Monitoring Service-Kenya (CROPMON) is well underway since its start in September 2015. Looking back to the first half year of the project, we can conclude that a good start has been made. After the kick-off meeting in Nairobi, where the full partnership came together for the first time, we completed the planning and organising of our project activities. A series of meetings followed, in which the Dutch partners further developed the models and data chain behind the service, while the Kenyan partners focused on preparing the trainings and demonstration plots needed to support and promote the use of the service.

In terms of publicity, the project has been represented at the G4AWeek event in The Hague in September 2015 and at the RVO-EKN Sustainable Partnerships in Food Security Workshop in Nairobi, January 2016. The first major milestone in the project will be the release of the first version of the SMS service in September 2016. In order to make this happen, all IT components are being put into place and a selection of farmers will be instructed to test the service. All partners – in the Netherlands and Kenya – are working together to set up trial experiments. The aim is to verify the established relationships and data transfer efficiency before the service is officially released in September.



### G4INDO (Indonesia)

Geodata for upgrading small holders' farming systems in Indonesia (G4INDO - [www.G4INDO.org](http://www.G4INDO.org)) started in September 2014 and is now well underway to achieve its objective: a user-friendly IT platform based on satellite images that allows a national insurance company to assess claims issued by rice farmers. Indonesia is a huge country with a staggering number of rice farmers: about 15 million. All these farmers plant their fields 2 times, sometimes even 3 times, per annum. The government of Indonesia has embarked upon a policy to offer a crop loss insurance contract to each of these farmers. G4INDO helps with its implementation. The G4INDO IT Platform combines satellite images (radar and optical) with hydrological, weather and

seasonal data and crop growth models. Without this tool, it will be hard to effectively deal with the large number of claims (3-5% of all contracts) that come in every planting season.

We develop this tool within the Indonesian institutes that will continue to run the IT platform after G4INDO has terminated. For this purpose we periodically organise technical workshops. The last one was in January of this year. The picture below was taken at the closure of the workshop.

We have arrived at the point that our main product will be put to use. Exciting!



### GEOBIS (Bangladesh)

It is a great opportunity for us to successfully launch the GEOBIS project. The kick-off was held in December, 2015 together with the set-up of a pilot project involving all the partners. The project framework and the management processes were determined. The first steps involved setting up the IT infrastructure and bringing all the partners under a common platform.

The first stage to ensuring proper implementation of the project is the pilot phase, to check for delivery of service and coordination among partners. To do this, 450 farmers are now involved with GEOBIS, covering different kinds of services,



value-propositions and ways of delivering. One of the biggest challenges the project faces is to provide cost-effectiveness of service to farmers with very small plots of land. Several solutions are being researched. One experiment uses unique codes on Lal Teer's seed bags. They provide a link between a mobile number, a seed variety and a location, enabling farmers to receive advisory service via ICT platforms. Through this interactive mechanism of farmer engagement, validation-advisory services, GEOBIS aims to ensure higher yield, farmer's productivity and combat the problems of malnutrition and food security. Simultaneously, it encourages women's participation in the agro-economy. GEOBIS will be able to share its initial results by May of this year.

## Progress G4AW Projects

### GEODATICS (Tanzania/Kenia)

#### Green light for app that provides smallholder farmers with tailor-made advice

In March, Geodatics tested a new app among smallholder farmers in Kenya. The first outcomes meant a green light to continue. Geodatics is a social business start-up that integrates geodata, including satellite data, farmer profiles and historic data into tailor-made advice for smallholder farmers in East Africa. The next step to be completed in May/June is the development of demonstration sites and the start of provision of advisory services on pilot scale during the short rains season in Kenya.

Geodatics advisory services provide an important added value to smallholders to further increase their yield and income. Its output will be information and advice on farm preparation methods, seeds, nutrients and fertilization. Tailor-made information for farmers means they will no longer have to work with 'one-fits-all-information' but will get farm specific advice, which may differ significantly from the generic advice from existing information sources. This is expected to improve the smallholders' production and food security.

Geodatics is an initiative of ICS and Agrics Ltd., together with Wageningen University and Research centre and their partners Biomass Research (the Netherlands) and Manobi (Senegal). Geodatics received USD 1.6 million funding from Netherlands



Space Office under the G4AW program. In three years' time, Geodatics aims to provide over 200,000 smallholders with advisory services.

### GEOPOTATO (Bangladesh)

#### G4AW project GEOPOTATO formally launched in Bangladesh

The project was successfully launched and presented in Bangladesh during a workshop held in Dhaka on March 20th. The formal inauguration was done by Protip Kumar Mondal, Director General & Director of the Department of Agricultural Extension, who emphasised the potential benefits of ICT for farmers in Bangladesh. GEOPOTATO will develop and implement a decision support service (DSS) for smallholder farmers in Bangladesh to better control late blight disease in potato crops. When the crop is not well-protected by using fungicides, this disease can destroy a potato crop within two weeks after infection. During the



The GEOPOTATO implementing team



Impression of the GEOPOTATO launch workshop

workshop, a farmer from Munshiganj - the pilot area where the service will be tested - underscored the problems with controlling late blight: Late blight is the major yield-reducing factor while its control is very costly. The DSS aims at increasing potato yields while improving the effective use of fungicides.

GEOPOTATO is implemented by Wageningen University and Research center (WUR), the Netherlands as project coordinator and mPower Social Enterprises Ltd., Bangladesh as technology partner and local coordinator. TerraSphere, the Netherlands, and Agricultural Information Systems, Bangladesh Centre for Advanced Studies (BCAS) and ICCO-Cooperation from Bangladesh are also working as partners to implement the project. For more information on the GEOPOTATO project, contact [huib.hengsdijk@wur.nl](mailto:huib.hengsdijk@wur.nl)

### GIACIS (Ethiopia)

#### National Insurance Scheme launched to cover Ethiopian farmers against risks

The GIACIS project (Geo-data for Innovative Agricultural Credit Insurance Schemes) has launched its first agricultural micro-insurance product. The remote-sense driven scheme aims to secure farmers against investment losses due to droughts. The scheme will cover insured farmers against exposure to drought, defined here as a negative anomaly in land cover greenness from what is considered climatologically normal. Once insured at the grass-roots level, farmers will experience less risks when deciding on needed investments for growing their crops. Sintayehu Woldemichael, director general of the Public Financial Enterprises Agency at the launch in Addis Ababa: "This new insurance will make sustainable income for smallholder farmers possible by managing risks that are related to weather variation".

University of Twente's Faculty of Geo-information Science and Earth Observation (ITC) has prepared the logic, method and algorithms to process and interpret the satellite imagery into a sound business-oriented micro-insurance scheme. National Meteorological Agency (NMA) will operate the remote



sensing applications, while the agronomic aspects are under responsibility of the Agricultural Transformation Agency (ATA) of the Government of Ethiopia. Following the launch, the service owner Kifiya has started marketing the GIACIS services. Around 200,000 Ethiopian farmers will be reached this year, potentially rising to 15 million within five years.

URL: <https://www.itc.nl/Pub/News-overview/2016/in2016-march/National-Insurance-Scheme-launched-to-cover-Ethiopian-farmers-against-risks.html>

### IDSS (Bangladesh)

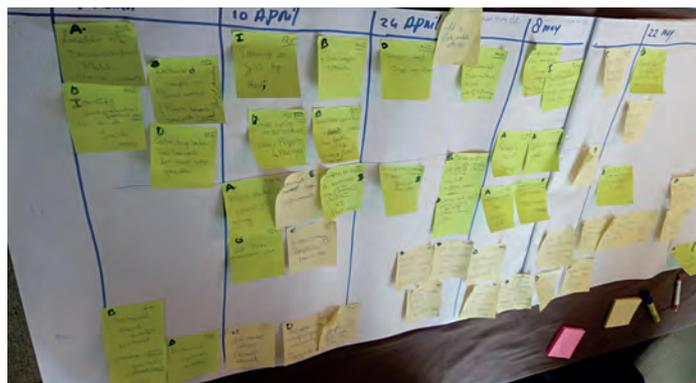
#### IDSS Pilot starts in July 2016

ACI Agribusiness, the lead implementer of the Intelligent Decision Support System (IDSS) project, plans to start piloting the intelligent advisory services for farmers in July 2016. During the pilot phase, IDSS will address growth issues of rice crop and conduct the needs assessment study to solidify the mechanism of delivering advisory services to the farmers in two of the 12 districts of IDSS Project, Bogra & Patuakhali of Bangladesh. These rice farmers will receive reliable and timely advices on the soil condition, choice of varieties, timing and quantity of input use - including fertilizer and irrigation. The service gateway will include, among others, voice SMS and outbound calls for farmers. ACI agribusiness, in partnership with the Department



of Agricultural Extension and SNV, will organise an intensive awareness and marketing campaign to promote the adoption of IDSS.

To design a robust technical system, the technical partners of IDSS project, i.e. Nellen & Schuurman and SarVision completed a week-long mission in Bangladesh and developed a detailed action plan up until June 2016. During the mission, the team also met with eminent agriculture experts of the country to incorporate their feedback and suggestions in the IDSS. In addition to the crop growth issues, the project team agreed to investigate the possibility of developing a weather forecast system for farmers. It is expected that these advisory services will improve farmers' decision making along the entire production cycle and thereby, increase their yield.



### MUIIS (Uganda)

#### MUIIS launched: Serena Hotel, Kampala Uganda

In line with the principles of the Market-led, User-owned, ICT4Ag-enabled Information Service (MUIIS) project, a 2-day multi-stakeholder engagement workshop was held in Kampala, 22-23 October 2015 as part of the inception of the project. At the event potential users of the information products and third party service providers delivered feedback on the project design. An average of 70 participants per day took part in the event. Among others, representatives from ICT service providers, ministries, insurance companies, research institutes, gender-based organisations, content developers, value chain development



Consortium partners & Guest of Honor



Consortium partners & participants at the launch

organisations, financial institutions were present. The Guest of Honor, Hon. Mike Sebalu, Member of Parliament, East African Legislative Assembly (EALA) launched the project that resulted in extensive news coverage, including print, online, radio and television media. The Director of Crop Resources, Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), Mr. Okaasai Opolot, acknowledged there is the need to focus on delivering information to farmers through ICTs for timely access. He reiterated the ministry's involvement in the project through the provision of ICT infrastructure and human resource development, which can aid the implementation of MUIIS.

### Sat4Rice (Vietnam)

#### Vietnam update

The Sat4Rice project in Vietnam has been making good progress in the past months. First, the official signing ceremony for our project was held in Ho Chi Minh city on the 19th of January 2016. This ceremonial signing was preceded by a visit to the headquarters of Loc Troi group in An Giang province in December. During this visit, a revised partnership consortium agreement between all project partners was signed, in the presence of Mr. Cas van der Horst of the Dutch Embassy in Vietnam and the top level management of LT Group.

The project team also visited the rice mills, the R&D center and other facilities of LT, as well as a number of local farmers. This all culminated in the official signing ceremony, with representatives from the Dutch embassy, Loc Troi group, the World Bank and all project partners present and participating. Please visit [this](#) web link to see an impression: Sat4Rice in Vietnam. Currently we are in progress of integrating all available information, both local



as well as satellite information, onto the Lizard data platform to enable the first definition in detail of our services.

### STAMP/MODHEM (Mali/Burkina Faso)

#### Projects: level of implementation on March, 31th

The STAMP project received a very favorable echo during its presentation to the local authorities and the partners in Gao. After the notification of the funding agreement, the partners defined rules and modalities of collaboration, in particular the responsibilities and the commitments of each partner towards



Skype meeting with PCI to finalize the baseline survey questionnaire

the expected results of the project as well as the intellectual property rights etc. Then, the coordination of the project was started, finalizing the contractual conditions to serve as frame for the execution of the project. To date, sub-contracts with these partners are signed and the budgets are allocated accordingly. For now, everyone is committed for the launch of the pilot. This is planned to start on May 20th, 2016. The sites for the test are validated, the coding is done and the recruitment of the field staff and the development of the data collection tool are underway.

In parallel, the preparation of the baseline study is almost done; the questionnaire is finalized and training of the surveyors is planned for May 9th). The market study is about to start as the analysis of offers and selection is in progress.

The notification of the funding agreement for MODHEM is much more recent (March 17th) but its implementation will be accelerated because it is based on certain experiences of the STAMP project, in terms of processes and tools. Thus, both projects are presently well positioned on their launch ramp.

### SUM-Africa (Mali/Uganda)

Crop insurance allows agricultural producers to mitigate the disastrous impact of a dry growing season. It improves their credibility and allows increased investment, production and ultimately income. This is especially important in Mali, where an unsuccessful agricultural campaign due to drought negatively affects up to 80% of the wider population.

The 2016 growing season is about to start. For this upcoming campaign Planet Guarantee and local partners, COPROCUMA and the Malian Meteorological Agency, target 80,000 small agricultural producers through six large distributors.

Three innovative policies are launched this year. Crop insurance for maize, sesame, and a generic drought insurance product has been developed in partnership with telecom provider Orange. Sold through the Orange mobile platform, this product aims to address the risk of a bad season not only for smallholder farmers, but also for producers, intermediaries and the general population.

A tremendous effort has been put into the 2016 communication campaign. Organised to co-incide with the 3<sup>rd</sup> edition of FINAGRI



Consortium partners at the SUM-Africa stand during the FINAGRI forum.

(<http://agriprofocus.com/finagri>) at Sikasso. The Launch Event of the 2016 Crop Insurance Campaign, March 5<sup>th</sup> 2016, attracted a lot of attention. It was organised together with Allianz Mali and agricultural cooperatives partners. There were over 300 participants and extensive media coverage.

Unfortunately the information on the progress of the R4A project has not been made available in time for publishing in this issue of the G4AW newsletter.

# Agenda

G4AW will be present at the following events:

**May 10 - 13**

## **Adaptation Futures, Rotterdam**

Information and subscription see:

<http://www.dutchwatersector.com/news-events/events/81-adaptation-futures-2016.html>

G4AW has a booth at the Exhibition and poster at the poster sessions.

G4AW partners will participate in the following sessions:

- Tuesday May 10 from 15.45 - 16.45 hours:  
“How to improve resilience of small holder farmers in rural Africa”  
by Saskia van Pelt/Fiona van der Burgt. WUR/Weather Impact BV.
- Wednesday May 11 from 9.30 - 10.00 hours:  
“How to improve resilience of small holder farmers in rural Africa”  
by Helga Vuist/Fiona van der Burgt. Hydrologic BV/Weather Impact BV.
- Thursday May 12 from 9.00 - 9.30 hours:  
“Geodata 4 Agriculture & Water in Mali and Burkina Faso”  
by Brian Harding, Global Climate Change, SNV.

**May 24 - 28**

## **Geospatial World forum / CAPIGI workshop, Rotterdam**

Dr. Ger Nieuwpoort, director of NSO, will include G4AW lessons learned in his presentation in the “Business workshop”.

For information and subscription see: <http://geospatialworldforum.org/>

Ruud Grim will provide a presentation on G4AW in the CAPIGI event “Advancements in Space Technology relevant for agriculture”. For information and subscription see:

<http://www.capigi.eu/>

Capigi GeoAgri 2016 is bringing the latest advancements on:

- Mainstreaming precision farming
- The use of ICT and Data in farming
- Advancements in Space Technology relevant for agriculture
- Applications of Drones in agriculture
- Innovations and Future Farming Technologies

**May 30 - June 6**

## **European Space Solutions, The Hague**

For information and subscription see:

<http://www.european-space-solutions.eu/>

**June 2**

## **Side event “Space for Food Security”, The Hague**

G4AW has a booth at the exhibition and has organised a special side event: “Space for Food Security” on Thursday June 2.

More information on the programme:

[http://www.european-space-solutions.eu/space\\_for\\_food\\_security-16](http://www.european-space-solutions.eu/space_for_food_security-16)

**June 14**

## **Workshop Going the Last Mile: Accelerating Progress in Food Security and Nutrition, Brussels.**

G4AW will participate in this workshop, organized by International Food Policy Research Institute (IFPRI), the Technical Centre for Agriculture and Rural Cooperation (CTA), and the Joint Research Centre of the European Commission (JRC).

More information on CTA can be found at <http://www.cta.int/en/>

## Meet the G4AW team



The G4AW is greeting you, from left to right: Adri Bakker, Mark Loos, Jasper Wamsteker (communication), Glenn Manurat (finance), Joost van Uum, Marlène van Benthem and Ruud Grim, Ms Iris Vester (archive) is not on the photograph.

### G4AW programme manager

Ruud Grim / [r.grim@spaceoffice.nl](mailto:r.grim@spaceoffice.nl)

### Project advisors:

#### South East Asia

- Bangladesh (GEOBIS, GEOPOTATA, IDSS) and Indonesia (G4INDO)  
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- Vietnam (Sat4Rice)  
Ruud Grim / [r.grim@spaceoffice.nl](mailto:r.grim@spaceoffice.nl)

#### Africa

- Ethiopia ( CommonSense and GIACIS) and Uganda (MUIIS)  
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- Kenya (CROPMON) and Tanzania/Kenia (Geodatics)  
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