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Towards a GMES stakeholder and resonance analysis

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Introduction

As part of the European Union's strategy for sustainable development, the Gothenburg European Council concluded that, by 2008, a European capability should be established for Global Monitoring for Environment and Security (GMES). The idea is to take a broader approach in understanding the environment by combining the resources offered by terrestrial, marine and space-borne observation systems for data collection on a global, regional and local scale. GMES, is supposed to be a concerted effort to bring data and information providers together with users.

However, until now, the GMES community is fragmented and incoherent, and, thus, unable to issue common and consolidated approaches. This paper intends reflect the experiences made when taking the attempt to carry out a first systemic stakeholder analysis of GMES which encompasses on the one hand service providers and on the other hand users.

Definition: stakeholder analysis

A stakeholder analysis aims at identifying actors that are likely to be affected by the activities and outcomes of a process. In the context of GNU stakeholder analysis will model roles of the different stakeholders and assess how those stakeholders are likely to be impacted by GMES services based on a functional matrix. Stakeholder analysis is the analytical basis of developing cooperation between the stakeholders and, ultimately, assuring successful business models for GMES.

Box 1: What is a stakeholder analyses

The stakeholder analysis in GNU can be seen as a first initiative to structure the GMES stakeholders in order to:

- foster a systematic dialogue between the stakeholder communities.
- prepare the ground for potential governance structures
- lay the ground for a resonance analyses carried out in GNU. The aim of the response analysis is to test whether there is sufficient empirical evidence for political response to GMES data supply.

Therefore, GNU aims to analyze the GMES stakeholder landscape and investigate how it affects different stakeholder categories.

What is a GMES stakeholder?

In the last decades of the 20th century, the word "stakeholder" has become more commonly used to describe a person or organization that has a justifiable interest in a project or entity. In discussing the decision-making process for institutions -- including large business corporations, government agencies, and non-profit organizations -- the concept has been broadened to include everyone with an interest (or "stake") in what the entity does.

In order to identify the particular stakeholders under GMES the Communication from the Commission to the Council and the European Parliament on "Global Monitoring for Environment and Security (GMES) - from concept to reality"[1] is used as a starting point. In this Communication already a certain set of stakeholders beside the Commission is directly addressed (e.g. European Space Agency, the EU Satellite Centre, Member States). However the Communication also spans the frame for a much wider stakeholder involvement by distinguishing between users and services:

> *"..Users of GMES information services are involved in the development, implementation and monitoring of environmental and security policies from global to local scales. The European Commission is one key user. Its own needs are being identified and demand is progressively being aggregated." (p.7.)*
>
> *"In the short-term, GMES will draw on existing in-situ and space-based observing capacities developed by EU and ESA Member States. In the longer-term, investments will be made in the deployment of new capacities to provide continuity of data sources and infrastructure in support of the development of GMES services." (.p.4)*

These very broad definitions of the GMES stakeholders address a wide range of private and public institutions. The activities of these institutions range from technical development to policy making. In order to get a better overview a functional matrix as set out below has been developed (Figure 2).

[1] Communication from the Commission to the Council and the European Parliament (2005): Global Monitoring for Environment and Security (GMES): From Concept to Reality COM(2005) 565 final, Brussels, 10.11.2005

Steps performed to develop a preliminary stakeholder assessment

In order to develop a preliminary stakeholder assessment four actions have been taken, combining scientific desk-based work with stakeholder discussions in the context of three workshops. The work performed and the results achieved so far are described in the following section.

Action 1: Development of a preliminary approach for the stakeholder assessment

Based on a literature survey a first draft of a stakeholder model has been developed. There are many possibilities for arranging GMES stakeholders. This approach is following the policy-cycle and takes into account the current dataflow within GMES.

As shown in the previous chapter a most fundamental way of clustering GMES stakeholders would be by separating supply and demand: There are stakeholders offering the supply of GMES services and there are stakeholders asking for GMES services. In other words: On the one hand there are the stakeholders engaged in GMES data collection and processing (often referred to as service providers) and on the other hand there are stakeholders applying GMES services in their respective policies (referred to as users). Figure 1 shows the relation of these two fundamental spheres of GMES data collection and processing (supply) and policy-making (demand). Both sides are ideally connected by a feedback loop which brings back the (change in) demand from the policy-cycle to the supply side[2].

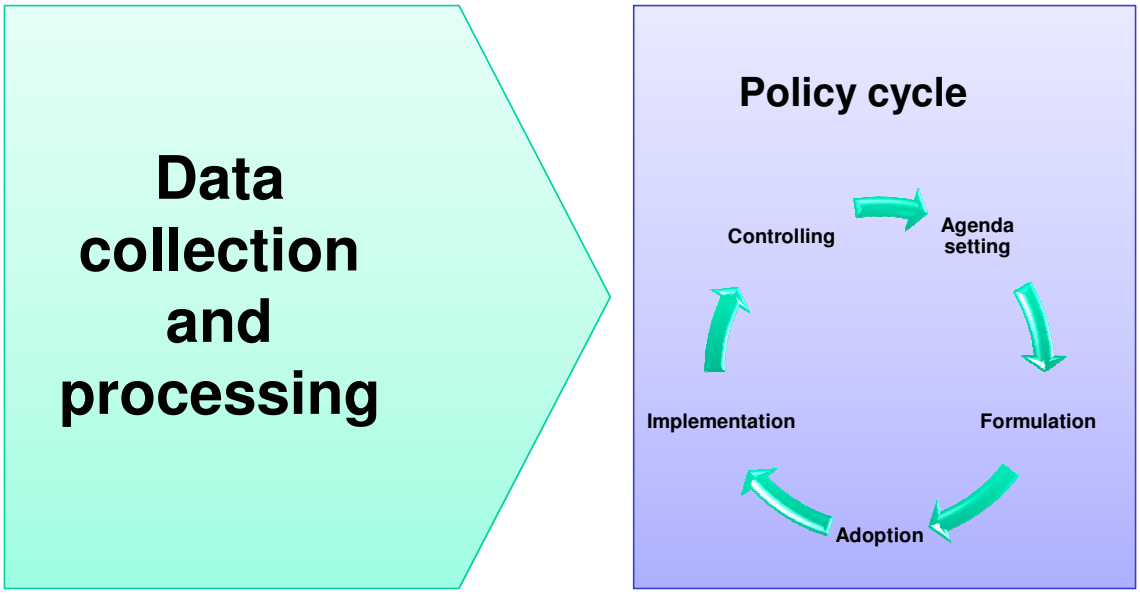


Figure 1: The relation between GMES data collection and processing and the policy cycle

[2] In practice this link is not always supported by empirical evidence. In the Barcelona workshop on soil sealing it was recognized that in the case of soil sealing a map was created by only assuming demand from the policy-cycle.

Based on this general approach the following more detailed structure has been developed. See graph below. This approach was then discussed with the different stakeholders

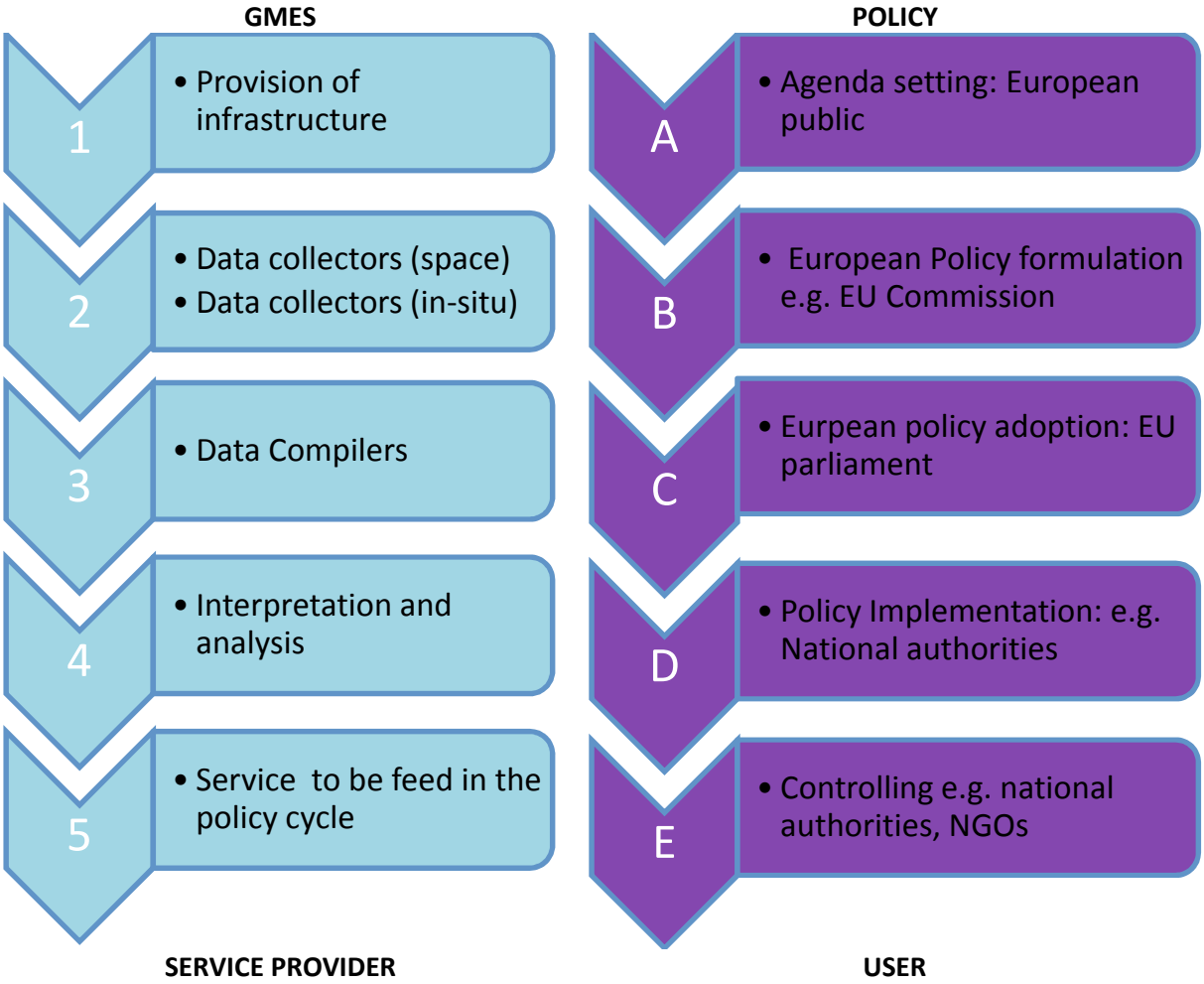


Figure 2: Detailed approach to classify the different GMES stakeholders

Action 2: Discussion of the approach taken with relevant stakeholders

At a GNU plenary sessions in Baden (Austria) in January 2008 and Nottingham (UK) in May 2008 the consortium's interpretation of the GMES stakeholder landscape has been elucidated based on previous ideas (combining both sides in one matrix) of the stakeholder assessment. In this context the general composition of the social environment in which GNU operates had been discussed. With the example of MarCoast[3] it had been illustrated in more detail for which particular actors GMES might be relevant for.

From the workshops it became clear that structuring the GMES stakeholder community goes along with assumptions on the stakeholder's interests and beliefs, expectations, major contributions, ability to influence the process, interrelations among each other and other relevant characteristics. These characteristics have been used to support the selection of members of the "GNU Extended Consortium" and the European level stakeholder Groups.

[3] www.gmes-marcost.com

Action 3 Testing of the approach taken to develop a stakeholder assessment

With the Barcelona workshop in December 2008 on soil sealing the work on the stakeholder analysis has been opened to the BOSS4GMES (B4G)[4] consortium as the two projects (GNU and BOSS4GMES) have partly aligned their work related to GMES stakeholder analyses in the broadest sense of the word. The projects independently have designed methods to work on GMES stakeholders, namely in the form of a Business Model (B4G) or a Response Analysis (GNU). B4G and GNU both aim at horizontal issues of GMES, but the composition of the consortia are quite different: GNU representing the user side, and B4G representing the provider side. Thus, the idea arose at a joint meeting of the two projects in Vienna (June 2008) that by collaborating, the complementary perspectives of the two consortia would enable a quite objective and, indeed, realistic understanding of the GMES process, and the collaboration would enable either project to come up with results they could not have achieved by themselves. Moreover, without this collaboration, a certain overlap of work would inevitably happen.

Addressing the topic of soil sealing, and specifically the FT Soil Sealing Layer, has been defined as a joint activity. Regarding the FT Soil Sealing Layer product, an investigation on the user's reception had already been conducted by the ETC LUSI and clearly defined. Further good contacts to distinguished experts in this field are already established. This enables BOSS4GMES and GNU to work on this undertaking with relatively low complexity.

In this context the Barcelona workshop had the aim to clarify whether the stakeholder matrix methodology developed by GNU and the BOSS4GMES methodology were suitable as tools for joint stakeholder related analyses, and how it can be optimized meet the needs of both projects. The Workshop had a number of specific objectives, namely:

- to test the methods to engage stakeholders, developed independently via the B4G Business and Policy Model and the GNU Response Analysis, that can lead to a better understanding and description of a governance model for GMES, accepted by all stakeholders
- to use the example of the FTS soil sealing layer for further integration of user requirements for this and other future core services.
- to test if the expert workshop format can provide good basis for effective engagement with stakeholders.

In order to achieve the above mentioned objectives representatives of both projects met together with experts from several Member States, the EC, the GMES office and the EEA (see annex 1).

The results of the discussion of the reception and the impacts of the FT Soil Sealing layer in the environmental policy context will subsequently be utilized to test the validity and to refine both the response analysis and the business model approaches.
The opening session of the workshop was devoted to inform about the status of the B4G and GNU projects[5], the specific contributions that these projects would provide to the workshop, and a summary of the ETC LUSI evaluation report on the soil sealing map.

[4] BOSS4GMES stands for Building Operational Service Structures for GMES. Further details are available at www.boss4gmes.eu
[5] All presentations are available at:
http://terrestrial.eionet.europa.eu/activities/announcements/ann1227872002

The second session focused on the identification of the main soil sealing stakeholders. The discussion centered on user requirements, procedural and technical issues, rather than application of the GNU stakeholder matrix model. The matrix model was developed at the GNU-workshop in Nottingham in July 2008, and is most clearly presented and explained by the illustrative example of MarCoast. However based on the discussions a further development of stakeholder matrix model is necessary and will focus on:

- development of a simple value chain from satellite to service provider in the context of GMES supply side service provision;
- development of the policy model with the specification of different examples of policy end user information needs according to policy cycle information requirements, policy and agency context
- development of the integration of GNU and B4G stakeholder models, in particular in respect of the interface between GMES service provision and policy use in monitoring, reporting and decision-making needs.

Subsequent workshop discussion addressed the following concerns:

- To develop a good EU product and to further organize member state applications;
- To develop methodologies for various products to harmonize member state analysis;
- To consider product development at for different applications and scales, and;
- To establish mandated working groups to engage in LMCS activities and to define service specifications that address both the member state and European level users.

The workshop also discussed potential short and long term improvements/changes to the current soil sealing specification.

Conclusions for short term changes:

- Need for a better communication strategy (what is addressed by the layer);
- Removal of specific classes (i.e. mines and quarries) which are not considered as impervious by most countries;
- Correction of some specific errors identified by the member states;
- Make a pixel layer available, acknowledging the status of “intermediate products”.

Conclusions for long term changes:

Discussion whether the 2009 dataset should be a new layer or a change layer – most participants were in favor of a new layer which would require slight modifications to the technical specifications and required input data;

- Use of a high resolution outlines of artificial areas;
- Aim at 85% accuracy in urban areas, instead of overall accuracy;
- Bring soil sealing in annex 2 of INSPIRE.

Combining with cadastral data can also help to reduce errors. This requires support by the member states to develop an external high resolution mask of artificial areas which can provide the space for significant improvements and higher consistency. Various proposals for the validation were discussed and the participants agreed that a quantitative assessment is needed.

The workshop discussion went on to consider how to establish mandated working groups and a supporting process for the various services, geoland2 offered to support these efforts in a transitional period.

The meeting closed with the clear request from member states to receive a mandate and budget from the EC for contributions to the development of the soil sealing service specifications. Existing working groups and meetings of GAC, LMCS Implementation group, and Eionet do not provide the opportunity develop the technical specifications and the necessary support to member states initiatives.

The workshop participants recommended to continue with discussions on governance issues and to propose specific working groups, as mandated bodies, to provide the necessary technical inputs for further service specifications.

Action 4: Assessment of implications of the Barcelona workshop for the further development of the stakeholder analysis

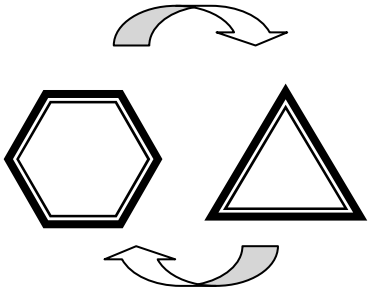
During the Barcelona workshop it became clear the stakeholder matrix is not a model which can be easily understood and accepted by GMES users and service provider. Participants did not fully recognize the purpose of providing a simple model for collecting empirical evidence on GMES - policy interaction. An unexpected experience was that the concept of the “policy cycle” was for many GMES users from public authorities difficult to relate to their practical activities. The result was that service providers and users had different and unclear views of their functions in the policy cycle.

Most of the time service providers and users switched back to the “default” mode of discussions on the soil sealing case mostly with technical and procedural content rather than trying to fill the proposed model with content related to the GMES/policy interaction. Ultimately, the participants decided to discuss primarily procedural and technical issues.

During a second attempt the same model was shown again to the Barcelona workshop participants, this time with the concrete example of MarCoast and concentrated on the phases of the policy cycle which had been elaborated during the GNU-Nottingham workshop for illustrative purposes (see annex 2). Based on this a preliminary stakeholder identification could be achieved.

The chicken and egg problem

The GMES – policy interaction is a typical case of a circular cause – effect relationship: policies and GMES interact and influence each other. The problem for modeling is that showing these interactions in which more or less everything is connected with everything makes the analysis more difficult or even impossible. Therefore, a linear relation from the satellite over the service provider to the users has been assumed. In reality, already the installation of a satellite requires complex political processes, which could be described by own policy-cycles, but they are at this stage not relevant for our assessment of single cases like soil sealing.



In analogy of the value chain in the analysis of production processes, we assume a linear value-adding process from the raw material (raw data) to the product assembly (service provision) to the consumer (user). Also in the world of industrial production the demand of the consumer could be set at the beginning of the process, which is not done, because it is an unnecessary complication of a simple and robust model of producer – consumer interaction.

Box 2: Influence between policy making and GMES

Lessons learned

1. The Stakeholder model is not intuitively understandable. Abstract presentation should be avoided.
2. With the illustration of the example (MarCoast) the model did not meet rejection.
3. It can be used but should be further developed:

a) On the service provision side a simple value chain (from the satellite to the service provider) should be established.

b) The policy cycle need further explanation. Definitions and examples for the different phases should be developed.

4. Steps to further integrate the GNU and B4G stakeholder model could be taken, but for this especially the interface between service provider and user needs further exploration.

Further work on resonance analyses needs back up by more concrete examples that explain the concept and theory beyond more clearly. This work will be completed during the next months of the project. First results will be presented and discussed at the workshop in Rome in 2010.

Annex 1: Participant list Barcelona Soil sealing WS

1. Andreas Littkopf, ETC LUSI
2. Ana Sousa, EEA
3. Mario Caetano, IGP
4. Birgit Morhaupt, UBA Germany
5. Thierry Brefort, CEC
6. Josiane Masson, CEC
7. Gerhard Banko, UBA Austria
8. Gerard Hazeu , Alterra
9. Nuria Blanes, ETC LUSI
10. Alejandro Iglesias-Campos, ETC LUSI
11. Jaume Fons Esteve, ETC LUSI
12. Michael Bock, DLR
13. Stefan Kleeschulte, ETC LUSI/Geoville
14. Erik Willem, METRIA
15. Geoff Smith, Specto Natura
16. Herbert Haubold, UBA Austria
17. Thomas Dworak, Ecologic Institute
18. Philipp Schepelmann, Wuppertal Institute
19. David Ludlow, UWE
20. Graham Deane, Infoterra
21. Steffen Kuntz, Infoterra

Annex 2: Marcoast example