



DG ENV information needs and potential synergies with CAP and Copernicus

04/12/2013



Highlights

- **Environment policies – information needs**
- **Earth Observation potential - Copernicus overview**
- **INSPIRE Directive and CAP relevance**
- **Conclusions**



ENVIRONMENT INFORMATION POLICY NEEDS



Environmental information needed for policy making

- **Designing and developing** policy, e.g. data on state of environment and changes, esp. long-term trends
- **Implementation of policy** - MS monitoring/reporting obligations (sectorial)
- **Reviewing effectiveness** of policy, check compliance, assessments of impacts – have changes happened?
- **Data for indicators** on the state of environment, e.g. State of Ecosystem and Biodiv SEBI, beyond GDP
- **Information to the public (+authorities)**, e.g. air quality, oil /chemical spills

Each of them have their obligations (reporting, compliance) and data flows



Complex governance and data flows(MS, EU levels..)

- MS collect data and information and provide reports (every 1-2-3 yrs..) and information on state of environment and compliance
- EU level (DG ENV, EEA, JRC, ESTAT...): EU information systems (BD BISE, WFD WISE, Marine, Air Quality..), EU Data Centres, EU level reports e.g. State of Environment (SOER), etc.
- Also information from other policies (LUCAS, CAP, Marine-Fisheries etc.)

Objectives in 7th EAP (also INSPIRE, SEIS principles)

- SIMPLIFICATION: online access to MS data-> automatic reporting, monitoring state of environment and compliance



- *Collecting information once and sharing data accross sectorial policies is crucial*
 - **Avoiding duplication and inconsistencies**
 - **Coping with limited resources**
 - **Defining multi-purpose needs (if feasible)**
- *Greening CAP: a good opportunity for reinforced cooperation agriculture and environment policies*
 - **sharing information environment-agriculture Ministries is essential**
 - **Enhancing synergies and coordination**
- *Possible synergies: landscape features, green linear elements, information on permanent grassland are key for biodiversity (connectivity, green infrastructure) etc...*



EARTH OBSERVATION POTENTIAL - COPERNICUS OVERVIEW



EO can address a broad range of policies

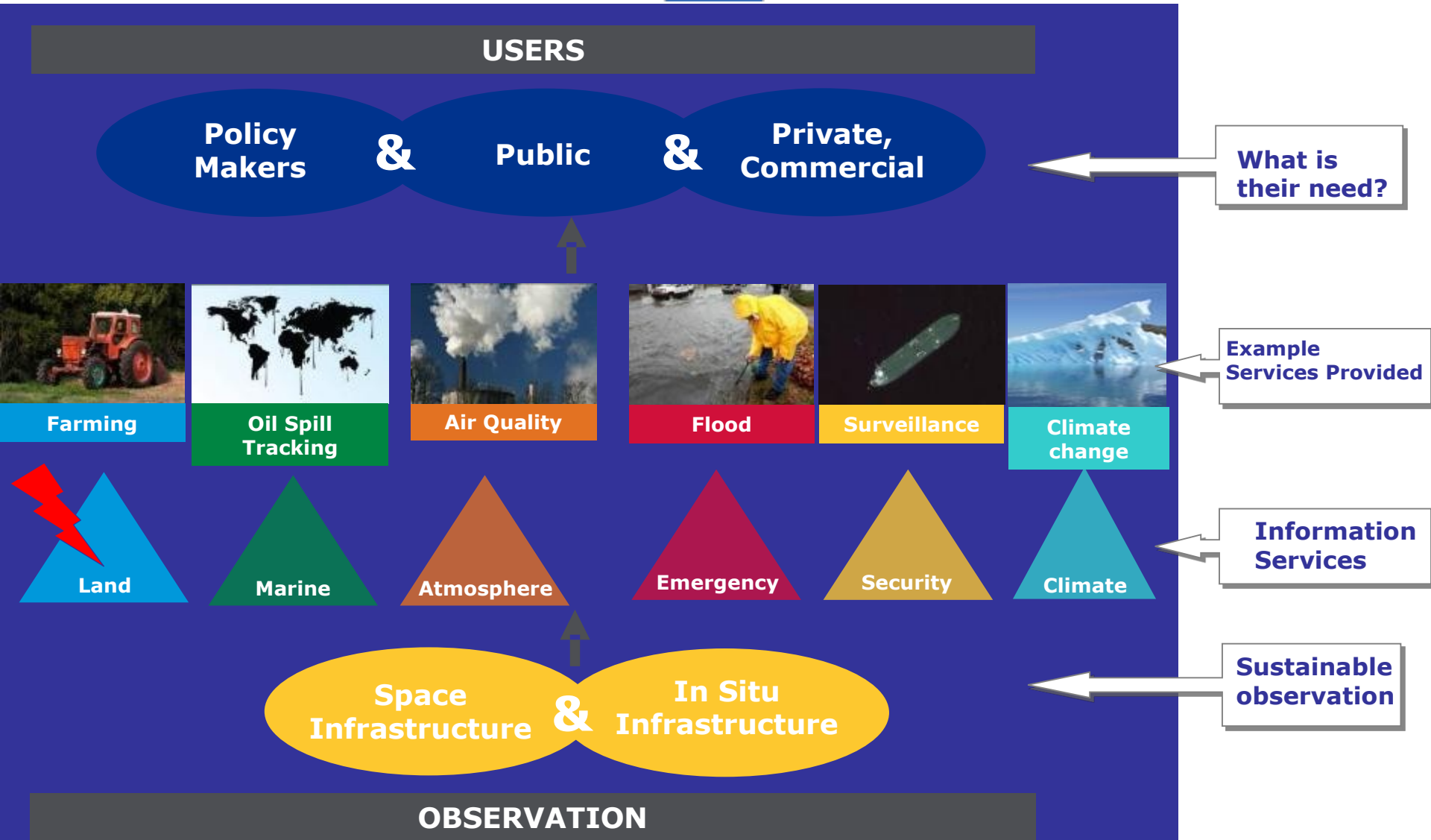
- Already a lot of EO activities at national and even local level (biodiversity, Natura 2000 sites, national land cover mapping, forest inventories etc.)
- EU level: some activities using EO data (DG ENV, EEA, JRC, ESTAT...)
 - EEA: Corine Land Cover (precursor), COPERNICUS Land service, Eye on Earth...
 - JRC: EFAS (Early Flood Alert System), EFFIS (European Forest Fire System) and EFDAC, Soil Data Center...
 - Etc.
- *National – EU products: not the same scale - resolution*



- **Scope:** *ensuring **operational** and **sustainable** provision of space data and EO based information, supporting environment and other policies (agriculture, climate, regional, transports, energy, development, civil protection)+security*
- **3 components: Space, In-situ, Services**
- **NEW - Data Policy: full, free and open access for space (Sentinels) data and Copernicus service information**
- **User-driven approach: important to ensure that env. policy needs are properly addressed**



COPERNICUS overview





- **GMES started 1998 (Baveno manifesto): joint initiative ESA (European Space Agency) and EU.**
- **Collection of user requirements and development phase: ESA and EU research budget (FP7-6,5...)**
- **Reg (EU) 911/2010: GMES Initial Operations 'GIO'**
- **2013: GMES (Global Monitoring of Environment and Security) renamed Copernicus**
- **2014+: Proposal for a Copernicus EU Earth Observation programme COM(2013) 312 - Adoption by Council and EP planned in April-May 2014 - MFF 2014-2020: 3.8 Bn EUR**



Space component

Sentinels satellite launching 2014+: Sentinel 1 and Sentinel 2 dedicated to Land Monitoring (multispectral, 10m, 5 days revisit, similar to Landsat 8) – free full and open access

Copernicus has also a space data access scheme to 'Contributing Missions' data (~ 90M€ for the current period)

ESA 'Data Warehouse' = portfolio of space 'core' and 'additional' datasets defined on the basis of user requirements

E.g. 'core datasets' in DWHs: Pan-European High Resolution (20m) 2006-12-15-18 and VHR 2012-15-18 with multi-user licensing (public organisations): of interest for CAP?

How to access? Through ESA single entry point – Helpdesk for user registration and licensing - gmesdata@esa.int

Potential synergies CAP controls/LPIS and Copernicus space data acquisitions?? VHR ($\leq 1\text{m}$)? Access orthophotos?

Global component = global scale biophysical variables (NRT, low-med resolution)

Pan-European Land Cover service: so far land cover products HR (20m data)

- Continuity of **CORINE Land Cover/LCC (25ha-5ha MMU)**
- **5 new High Resolution layers (1ha MMU)** of dominant land-cover classes harmonised at EEA39 level (wall-to-wall coverage): „Imperviousness“, Forests, Small Waterbodies, Wetlands, **Grasslands** - available from end-2013 onward (country by country)

Local Land component focusing on areas of interest at EU level using VHR data (2-2,5m resolution)

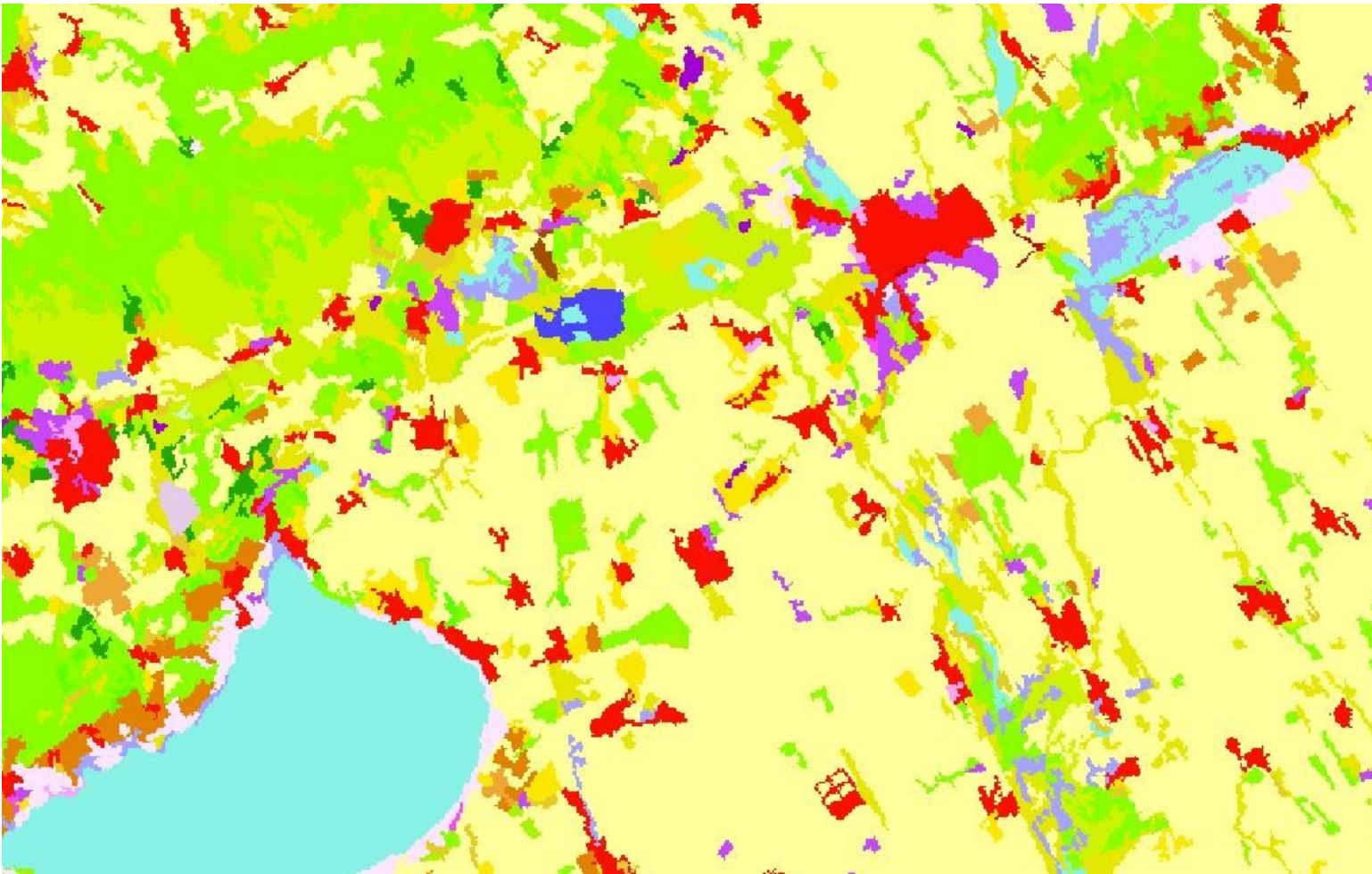
- **Urban Atlas** (DG REGIO funding) – update 2013-14
- Biodiversity- **mapping Riparian areas** at EU level – Call for tender launch Dec13

Coordination dissemination by the EEA – land.copernicus.eu portal

Possible further extension 2014+: new local components? (green linear elements, Natura 2000 sites, coastal areas?, biofuels?...), 'thematic' services addressing specific policies? (e.g. water illegal abstraction, compliance...)



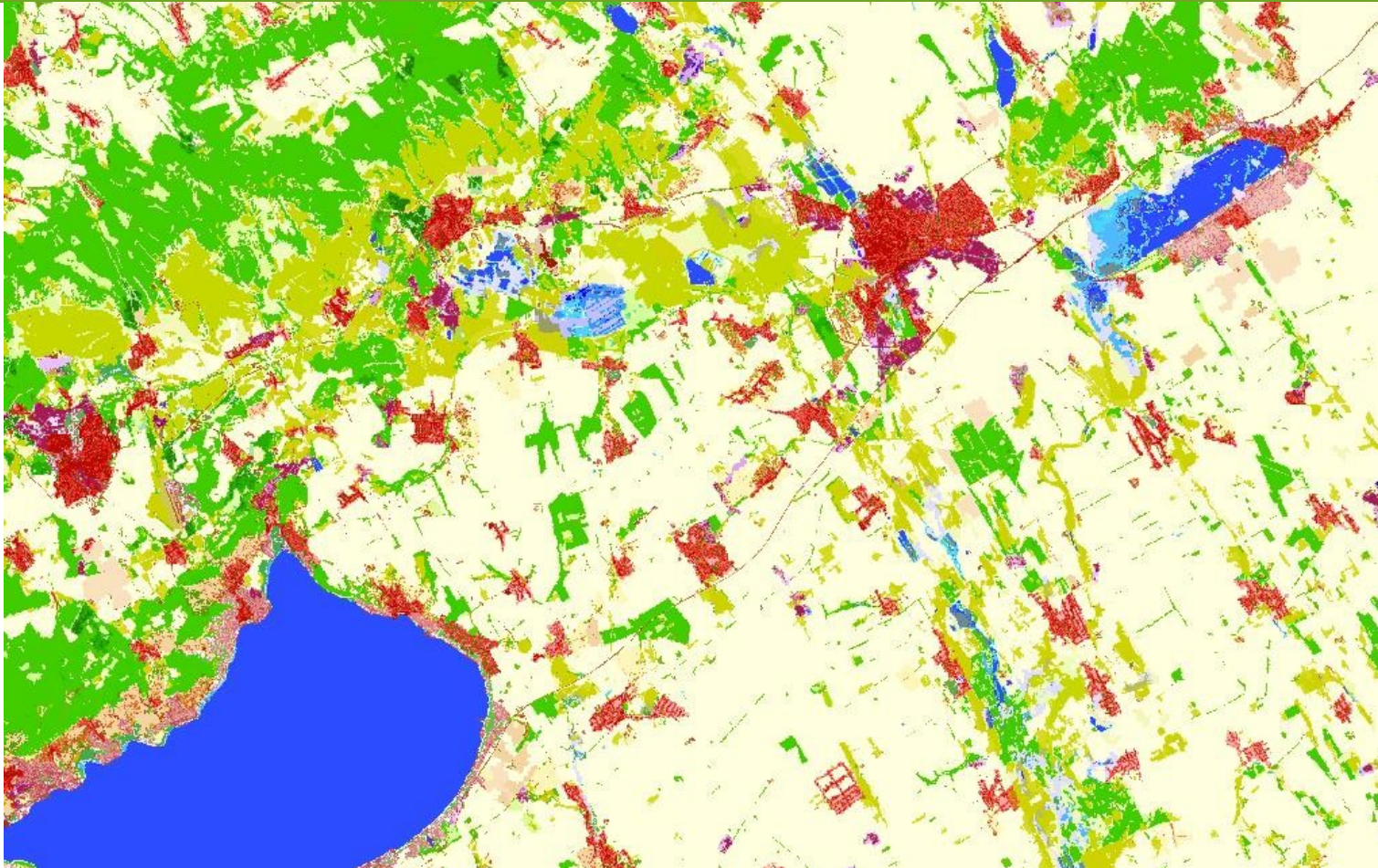
In the beginning (1986-90)...
... there was Corine Land Cover
minimum mapping unit: 25 ha



CLC + Imperviousness + Forests +
Grasslands + Wetlands + Water
HRL 1 ha



Copernicus





High Resolution Layer Permanent Grasslands (Nantes, FR)



**HRL 1 ha MMU – 20m produced with HR space data – different scale BUT:
DISCONNECTED FROM LPIS!**



INSPIRE DIRECTIVE AND CAP RELEVANCE

What is Inspire all about?



*Improve access and
use of **geographic
Information***

*Framework Directive
2007/2/EC*

**For policies and
activities
that may have an
impact
on the ENVIRONMENT!**



How can this be achieved?

➔ **Infrastructure for *SP*atial *InfoR*mation in Europe**

- A network where you can search, view, download data sets, access to other services (transformation, invoke)
- Central access point: INSPIRE geo-portal
- Harmonization and standardization of environmental data across Europe
- Legally binding for public administrations with data in scope



INSPIRE thematic scope

Annex I

1. Coordinate reference systems
2. Geographical grid systems
3. Geographical names
4. Administrative units
5. Addresses
6. Cadastral parcels
7. Transport networks
8. Hydrography
9. Protected sites

Annex II

1. Elevation
2. Land cover
3. Ortho-images
4. Geology

Annex III

1. Statistical units
2. Buildings
3. Soil
4. Land use
5. Human health and safety
6. Utility and governmental services
7. Environmental monitoring facilities
8. Production and industrial facilities
9. Agricultural and aquaculture facilities
10. Population distribution – demography
11. Area management/ restriction/regulation zones & reporting units
12. Natural risk zones
13. Atmospheric conditions
14. Meteorological geographical features
15. Oceanographic geographical features
16. Sea regions
17. Bio-geographical regions
18. Habitats and biotopes
19. Species distribution
20. Energy Resources
21. Mineral resources



INSPIRE Data Policies : sharing between public bodies

Article 17


1. Each Member State shall adopt measures for the sharing of spatial data sets and services between its public authorities referred to in point (9)(a) and (b) of Article 3. Those measures shall enable those public authorities to gain access to spatial data sets and services, and to exchange and use those sets and services, for the purposes of public tasks that may have an impact on the environment.

 **CAP relevance**

2. The measures provided for in paragraph 1 shall preclude any restrictions likely to create practical obstacles, occurring at the point of use, to the sharing of spatial data sets and services.



Article 17 INSPIRE: sharing

- open to:
 - **public authorities of other Member States**
 - **to the institutions and bodies of the Community**
- derogations:
 - **the course of justice, public security, national defence or international relations**
- Arrangements:
 - **may be accompanied by requirements under national law conditioning their use.**
- WIN-WIN situation: 
 - **CAP will benefit from INSPIRE (easier access to other data, e.g. topography)**
 - **other public organisations could benefit from CAP data('depersonalised' data?)**



CONCLUSIONS

Synergies to be enhanced CAP (LPIS/controls) – Copernicus – envir. information/reporting/monitoring (SEIS, INSPIRE...)

- **LPIS land cover/use data of high interest for environment policies (BD, WFD, waste...), for Copernicus ('in situ' data), LUCAS...**
- **INSPIRE Directive – applies to CAP**
 - access to orthoimagery, land cover/land use from LPIS for environment authorities
 - INSPIRE Mid-term review 2014 -> will consider access to LPIS
- **Environment policy compliance**
 - Interest in learning from CAP experience (Control with RS)
 - Agri-environmental policy: need to share information
- **Space data access – explore synergies with Copernicus**
- **Coordination land use/land cover activities at MS and EU level involving various stakeholders -> avoid duplication of efforts**



Thanks for your attention!