

Integrated water and land management (IWLM)– practical case in Romania

From technical know-how to institutional arrangements and potential funding

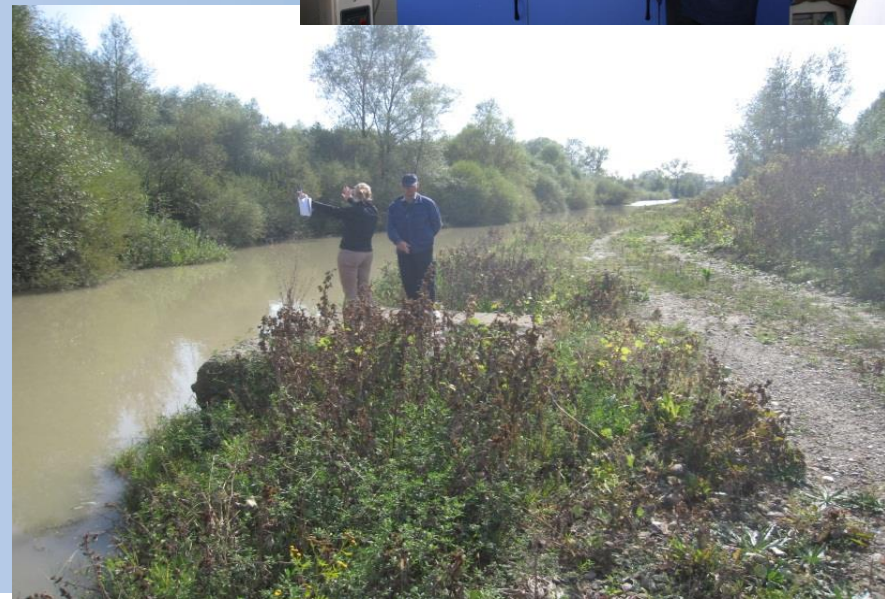
Ebel Smidt



Best practices in the Netherlands and in Romania



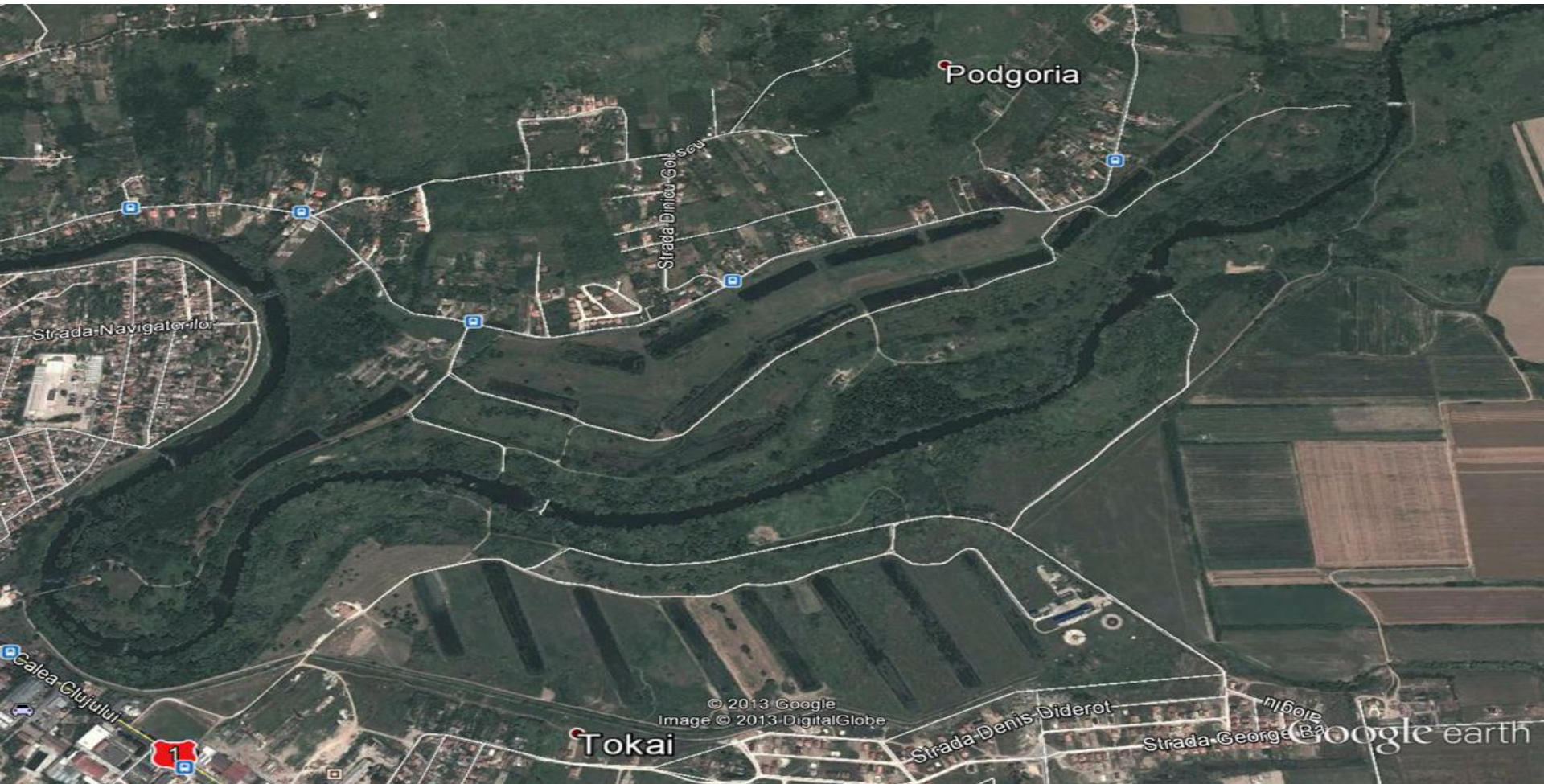
Water company
Acet-
Suceava



Water companies
Dunea - Waternet
The Hague &
Amsterdam



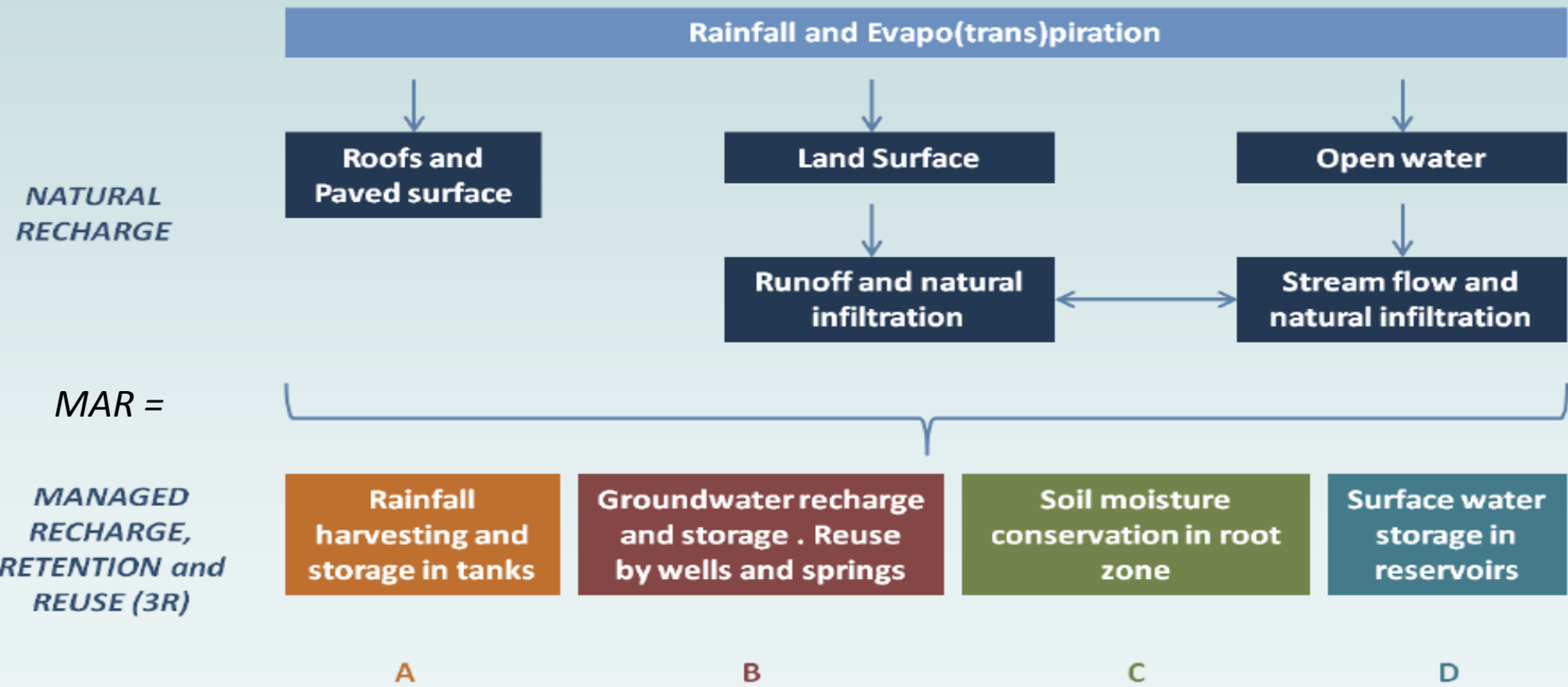
Infiltration basins Oradea *(more by prof. Bica and mr. Boti)*



Integration in integration ... A Fractal process

Managed aquifer recharge (MAR) in IWLM ?

Overall Framework





Why Focus on Oltenia region?

- Level fluctuations Danube of 8-9 m -> large variation of the flow
- Recent periods of extreme abundance and shortage of water
- Many cities along Danube have only one water supply source
- Other towns&villages in Oltenia have groundwater quality problems
- Existence of an (old) water conveyance system

Extreme low level Danube December 2011



Calafat - August 2012: Danube flow)



Issues identified in Dolj county

Issue	Problem owner	Problem solver	Why is issue relevant?	When does issue happens?	Where does issue happen?	What are possible solutions?	Integrative approach
Emergency water supply Calafat (and other locations) due to low Danube river flows	Regional water company and City Council	Board of Apa Oltenia and ADI (??)	Droughts are becoming more normal: –structural measures are	Summer of 2012 for xxx weeks, in 2013 for some days/weeks	Calafat Other locations known to have equal problems	Analysis of potential of alluvial groundwater reservoirs Analysis of existing well fields Analysis of MAP-type solutions	<p>All issues are addressed at the regional level with inputs from local stakeholders and the national level. An analysis is made of the past, present and future needs of of water resources and its economic meaning.</p> <p>A cost – benefit analysis of (partly) rehabilitation of the irrigation system can be included.</p>
Sustainable water supply and waste water management for localities suffering from high nitrates (manmade pollution) or high ammonia (natural) (south of the Oltenian Plain) and/or pesticides							
Surplus irrigation for farms in summer							
Topping off peaks of floods	stakeholders					storage of rainwater in irrigation canals	
Climate change – more extremes in droughts and floods	All stakeholders	MoEF, regional and local councils, WUA's	Cross-cutting theme	Now and coming years	Everywhere	Implementation of adaptation programs, like forestation	<p>resources and its economic meaning.</p> <p>A cost – benefit analysis of (partly) rehabilitation of the irrigation system can be included.</p>

Relevant national goals: Thematic objective (National Climate Change Strategy)
Promoting climate change adaptation, risk prevention and management

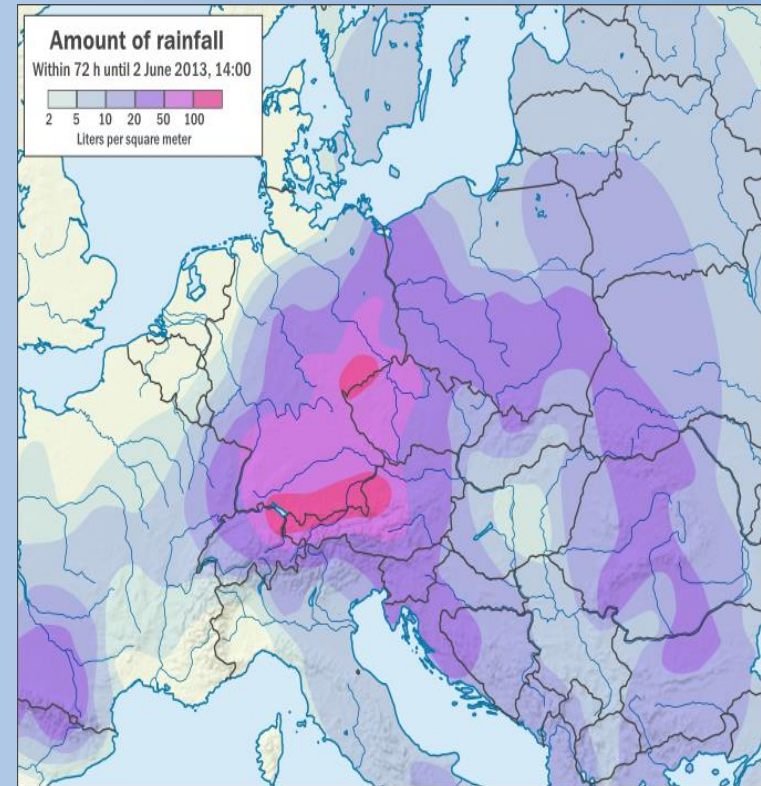
Developments needs :

- Improving Romania's capacity to anticipate, to prevent and to respond to extreme natural and man-made emergencies
- Improving Romania's adaptation and resilience to the negative consequences of **climate change** and, in particular, the increased incidence of extreme heat, **drought and flooding events** in the Framework of the National Climate Change Strategy.
- Improving Romania's adaptation to **climate change**
- **Extend public access to water and wastewater services, in the context of the Water Framework Directive and its River Basin Management Plans**

Proposed priorities for funding programme

The Operational Program for Large Infrastructure

- Complete the national system of risk identification and management in the framework of the National Risk Assessment.
- Build a national culture of disaster risk reduction
- Set-up and improve the risk monitoring and prevention systems in relation to identified risks: earthquake, flood, landslide, drought, forest fire, erosion and coastal erosion, radiological, chemical, domestic fires
- Enhance professional emergency response services at national level in order to respond to major national and international emergencies including transnational cooperation in the framework of the Danube and Black Sea macro-regional strategies
- **Structural and non-structural measures in order to reduce risks and damage from flooding, drought and erosion**
- Strengthen institutional and technical capacity through collaborative solutions between different authorities



Source: wikimedia.org

Thematic objective

Protecting the environment and promoting resource efficiency

Among developments needs :

- Extend public access to water and wastewater services, in the context of the Water Framework Directive and its River Basin Management Plans;



Proposed priorities for funding programme

The Operational Program for Large Infrastructure

The extension and connection of the population to potable water supply and waste water systems, including in rural areas the development of waste infrastructure and services based upon the waste hierarchy - reuse, recycling, energy recovery and disposal

European Programs (1)



- Running from 2014 to 2020 with a budget of just over €70 billion*
- Provide € 30 956 million¹ to help address major concerns shared by all Europeans such as climate change, developing sustainable transport and mobility, making renewable energy more affordable, ensuring food safety and security, or coping with the challenge of an ageing population

* Figures are subject to the approval of the Multiannual Financial Framework Regulation by the European Parliament and the Council

- Launching conference 4th October 2013- Bucharest
- First call – tentative December 2013
- Promoting larger share of SME' s involvement*

* Romania 24% comperd to EU 18%

European Programs (2)

LIFE+

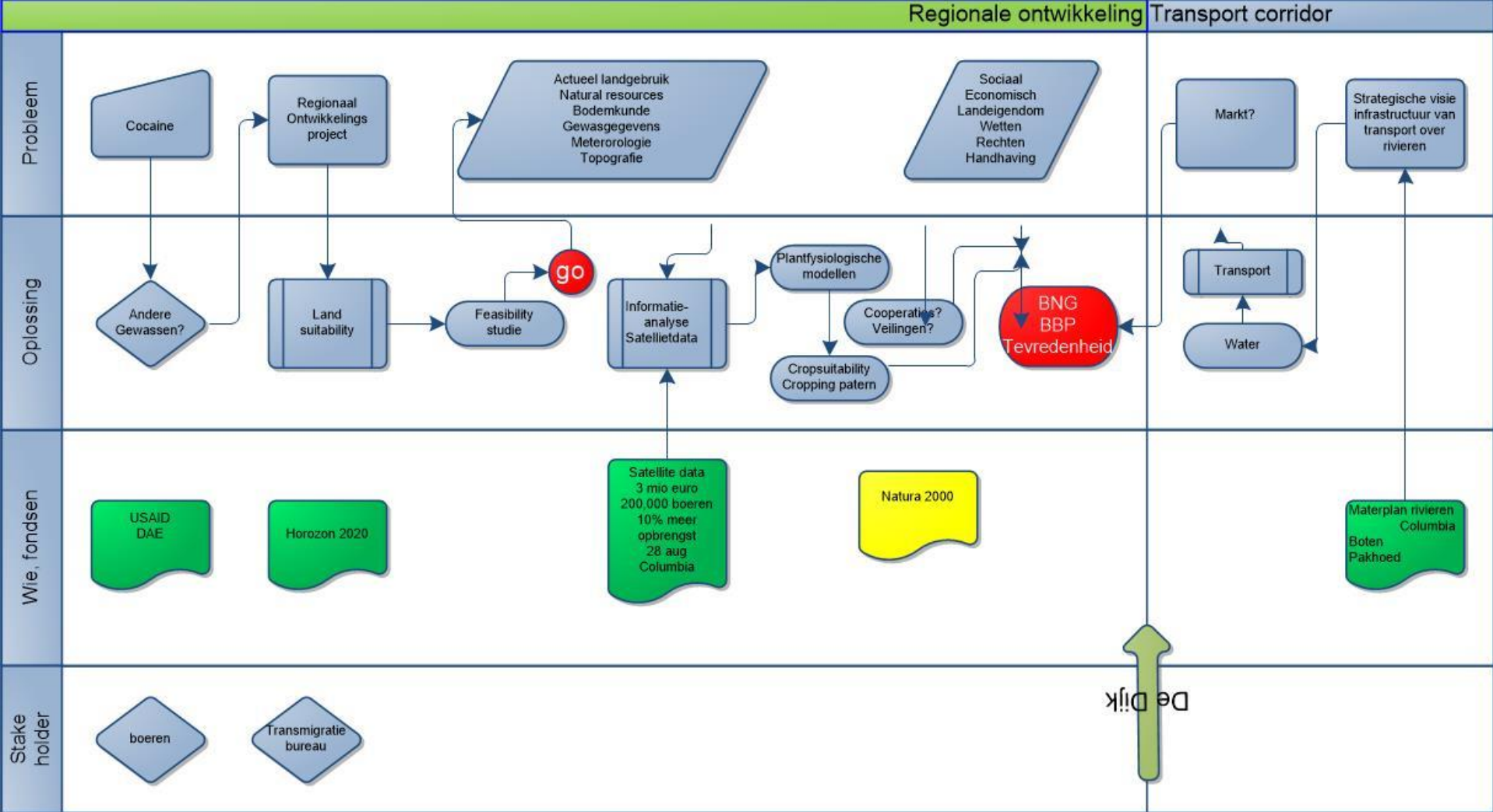
Support the management of water resources in the EU and the implementation of water policy, by addressing a wide range of issues including river basin management, water scarcity, water/ wastewater management (households and industry) and improving groundwater quality.

- One call for LIFE+ project proposals per year
- The current LIFE+ 2007-2013 has a budget of €2.143 billion
- Proposals must be eligible under one of the three components:
 - LIFE+ Nature and Biodiversity
 - LIFE+ Environment Policy and Governance
 - LIFE+ Information and Communication



<http://www.lifecleanwater.ro/index.html>

Regionaal Improvement Project voldoet aan de criteria innovatie, maatschappelijk relevant, een bijdrage aan fundamenteel onderzoek



Suggestion for future research:

1. Action based research program (viz. in Horizon 2020) on application of MDT at 3-5 cases in Europe like the Oltenia case in Romania and Katwijk case in NL
2. How to stimulate SME involvement in complex regional issues
3. Fundamental research on fractals-MDT-alpha-beta-gamma integration

Discussion points:

1. Can a MDT-consortium in the Netherlands take the lead for a Horizon 2020 application?
2. Do other financing mechanisms exist than Horizon 2020 viz. private sector funds?

Other ideas to be generated today.....

