



WATERPROTECT

FINAL CONFERENCE

WELCOME



This project has received funding from the European Union's
Horizon 2020 research and innovation programme under grant agreement No 727450

- Please keep your microphone muted and camera switched off
- You can pose questions using the Chat function
- In the Q&A session, use the Chat function for questions or raise your hand

AGENDA – MORNING SESSION



10:00 – 10:05 Welcome

10:05 – 11:10 **WaterProtect – Part 1:** Action lab research

11:10 – 11:15 Coffee break

11:15 – 11:40 **WaterProtect – Part 2:**Upscaling & policy recommendations



11:40 – 11:50 **FAIRWAY** – Results from our twinning project
(Gerard Velthof, WUR)



11:50 – 12:00 Q&A



AGENDA – AFTERNOON SESSION



13:00 – 13:45 Stakeholder views: Stakeholder organisations – statements & discussion

Arjen Frentz, Vewin

Daniel Komlos, Copa-Cogeca

Andrea Rubini, Water Europe

13:45 – 14:30 Stakeholder views: Industry federations – statements & discussion

Ermis Panagiotopoulos, EFBW

Jeremy Dyson, ECPA

14:30 – 14:35: Coffee break

14:35 – 14:55 Closing presentations

Martin Heydon (Minister of state for Research & Development, Farm Safety and New Market Development, Ireland)

Jack Nolan (Head of Nitrates section in the Department of Agriculture Food and the Marine, Ireland)

15:00 Closing of the session





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Introduction

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High-quality, safe, and sufficient water is essential for life



European river and lake bodies: less than good ecological status and poor chemical status



Pollution of drinking water sources by pesticides (and fertilizers) used by the agricultural sector remains a big challenge

Mitigation measures are:
not in place,
not effective,
need farmer engagement.

nt

BM

dif

BMPs to prevent diffuse source pollution

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Contribute to **effective uptake and realisation of management practices and mitigation measures** to protect **drinking water** resources

Action research in local “action labs” with multiple actors (multi-actor)



New governance: alternative financing

Share data: participatory monitoring

Best management into practice

*Bring information closer to actors using IT tools
(collaborative tools)*

THE WATERPROTECT TEAM



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Action lab research



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7 ACTION LABS OF WATERPROTECT

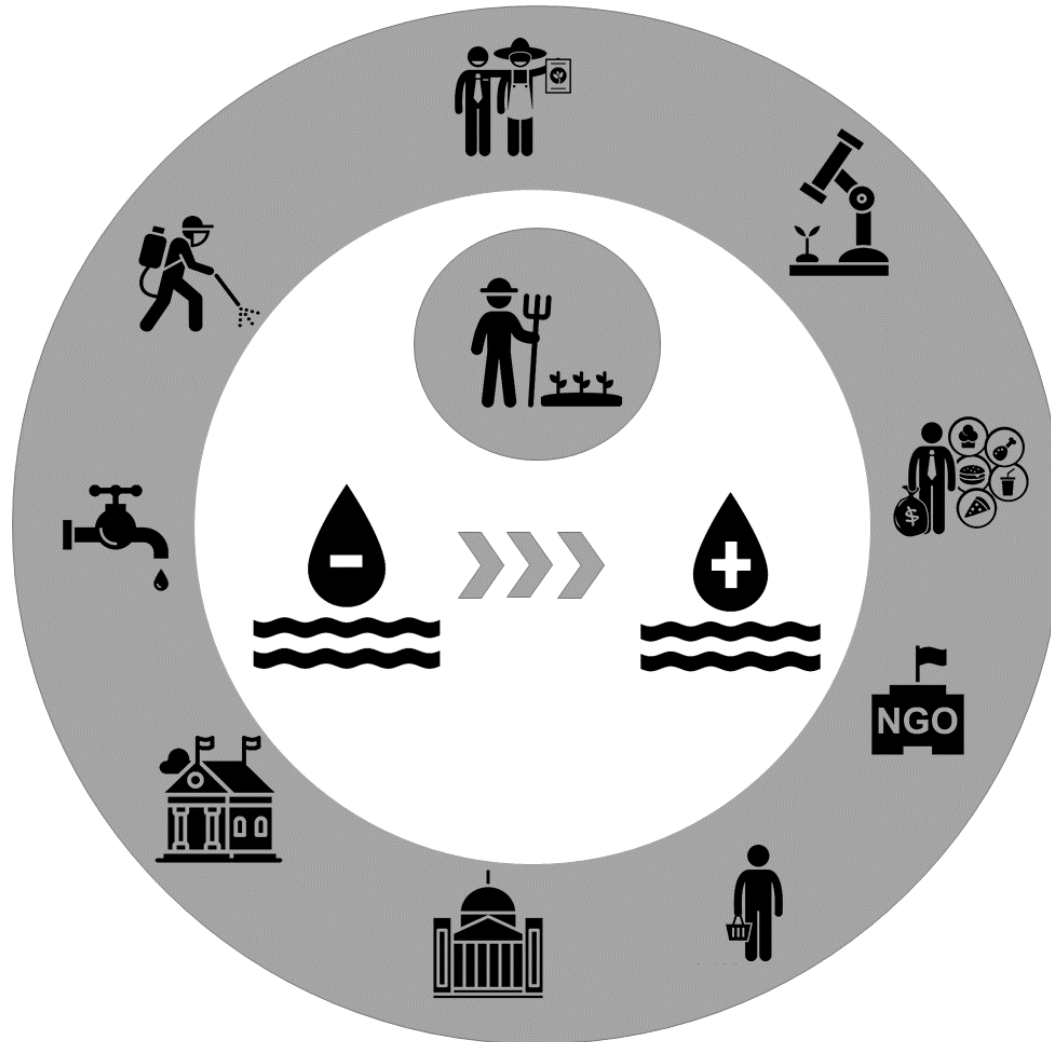
A HORIZON 2020 PROJECT



Action lab	Water source	Type of pollutant	Size (km ²)
Bollaertbeek, Belgium	Surface water	PPP	23
Gowienica River, Poland	Ground and surface water	Nitrates	69
Lower Llobregat River, Spain	Ground and surface water	Nitrates and PPP	120
Mare River, Romania	Surface water	Nitrates	20
Val Tidone, Italy	Ground water	Nitrates and PPP	207
Vester Herk, Denmark	Ground water	Nitrates	27
Wexford County, Ireland	Surface water Ground water	PPP	10

THE 7 ACTION LABS

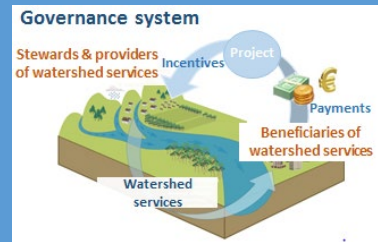
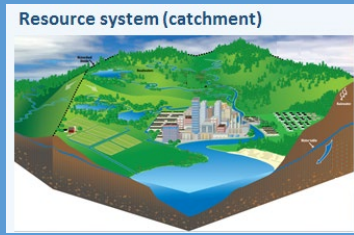




- Involve not only farmers, but all actors with a stake in the water quality problem
- Involve them at different times and in different steps of the process
- Use and combine all types of knowledge
- This will lead to co-creation and co-ownership of results

Step 1: Network formation

Step 2: Knowledge building



Governance system

Participatory monitoring of water quality

System understanding and modeling

Best Management Practices

Step 3: Process implementation

Step 4: Evaluation of achievements



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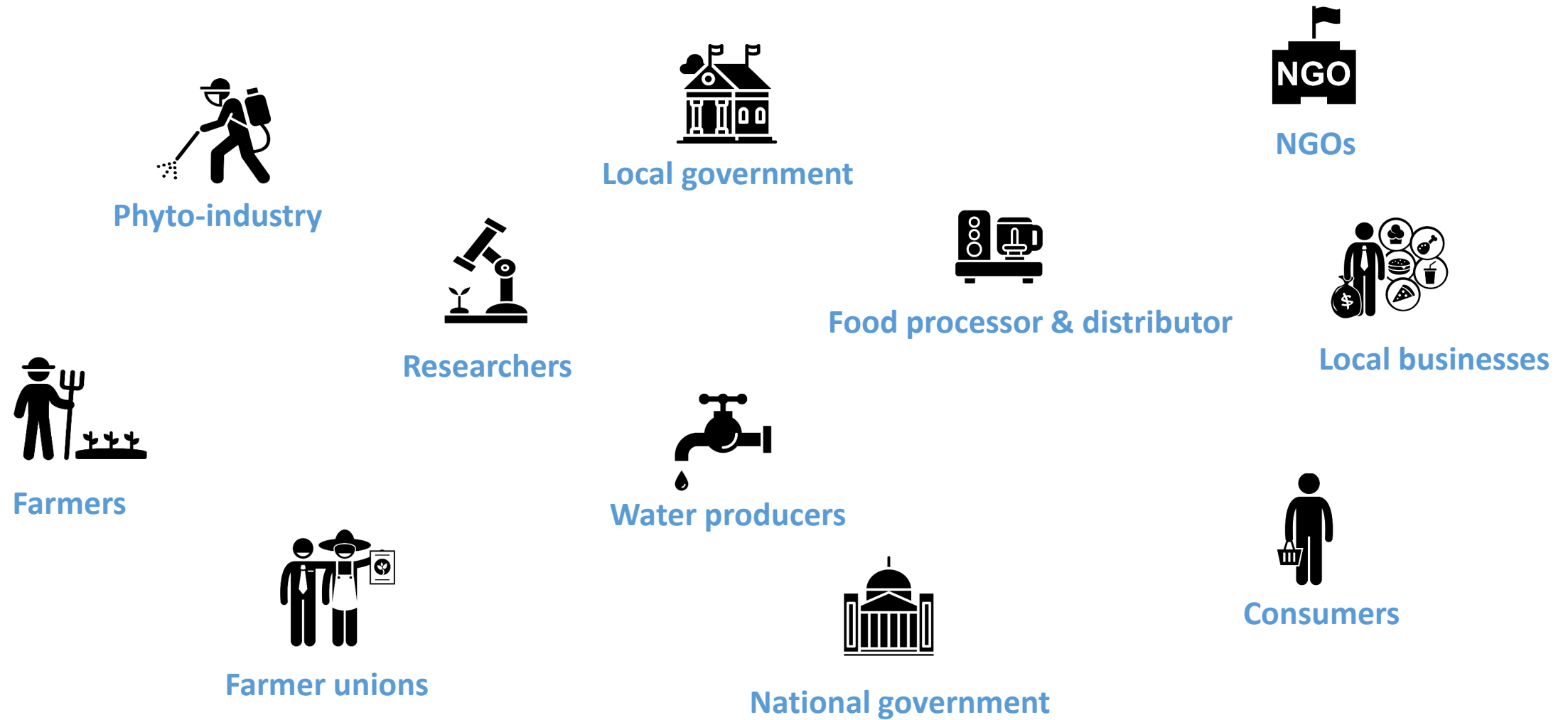
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Network formation



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MULTI-ACTOR - NETWORK FORMATION



RO ACTION LAB IN A NUTSHELL – “LIVING LANDSCAPE”



- **Maramures** – land of wood (nature and culture)
- Ecologic – 15 years work experience in the area – **common values** and **shared interest** among SH
- **Natura 2000 Platform**, “mother” of Water Protect RO SH Platform
- Heterogeneous multi SH group (local authority, county level authorities, community, **local leaders**, NGOs and research, education institutions, museums, **private sector** - **tourism**, tourists, farmers)

ECOTOURISM DESTINATION IN THE **GREEN HEART** OF MARAMURES

- **7 VILLAGES AND 7 PROTECTED AREAS**
- **LOCAL PARTNERSHIP - TO DEVELOP TOGETHER THE AREA VIA RESPONSIBLE TOURISM, PRESERVING NATURAL AND CULTURAL VALUES FOR THE BENEFIT OF FUTURE GENERATIONS**



- **PRIEST – POP MARIAN**
- **ACTIVE YOUTH CLUB “COCONII DIN BREB”**
 - **SEED FOR LOCAL SUSTAINABLE DEVELOPMENT**
 - **EDUCATION FOR TRANSFORMATION (EXPERIENCE)**
 - **LEARN TO RESPECT LOCAL PATRIMONY –
EDUCATION FOR ECOTOURISM**





THANK YOU FOR YOUR ATTENTION!



www.ecologic.org.ro/proiect/waterprotect-protectia-apei-potabile-in-mediul-rural-si-urban

www.water-protect.eu

www.ecomaramures.com





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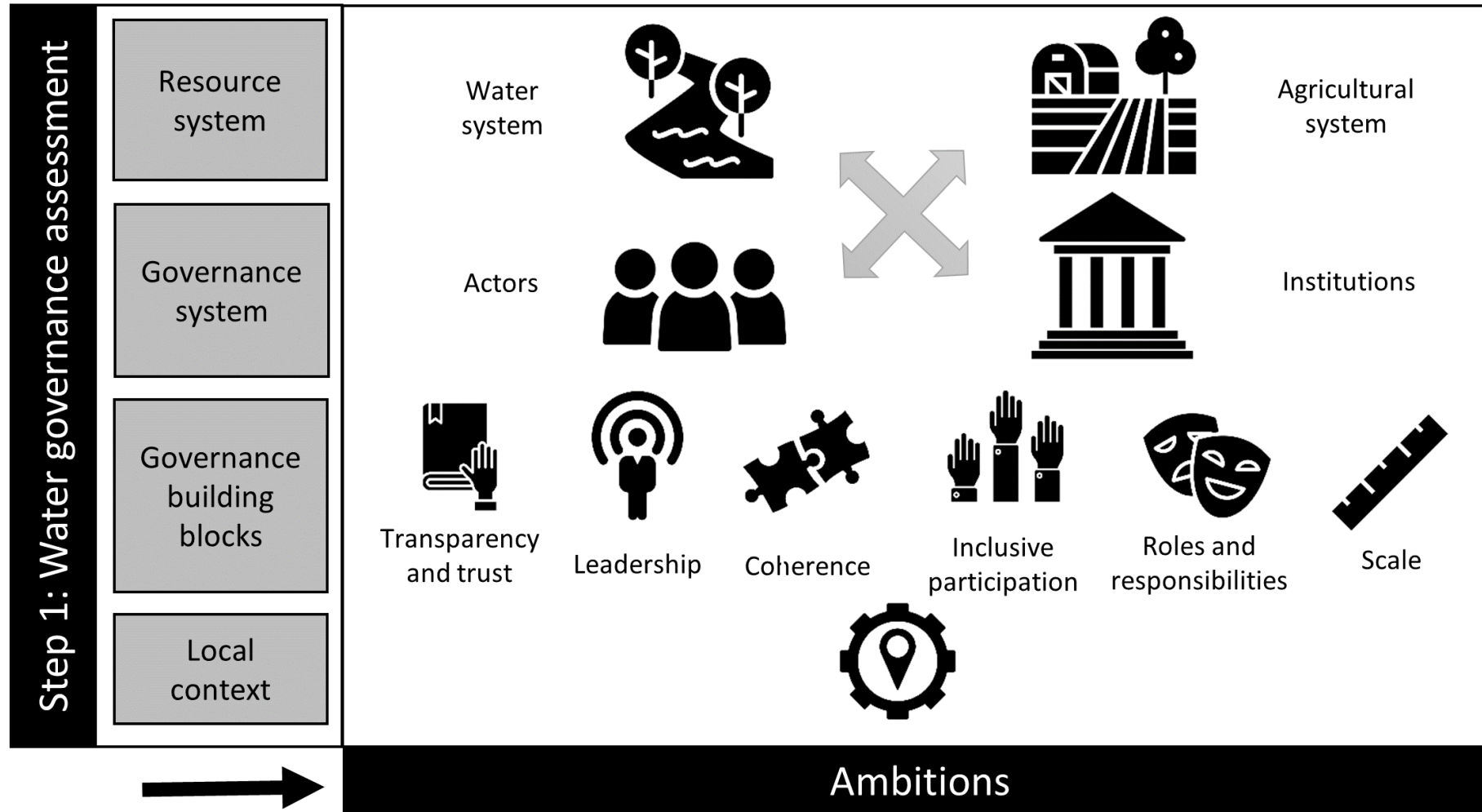
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Knowledge building

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1 GOVERNANCE ANALYSIS



Aim: establishing **new participatory monitoring approaches** in the different action labs



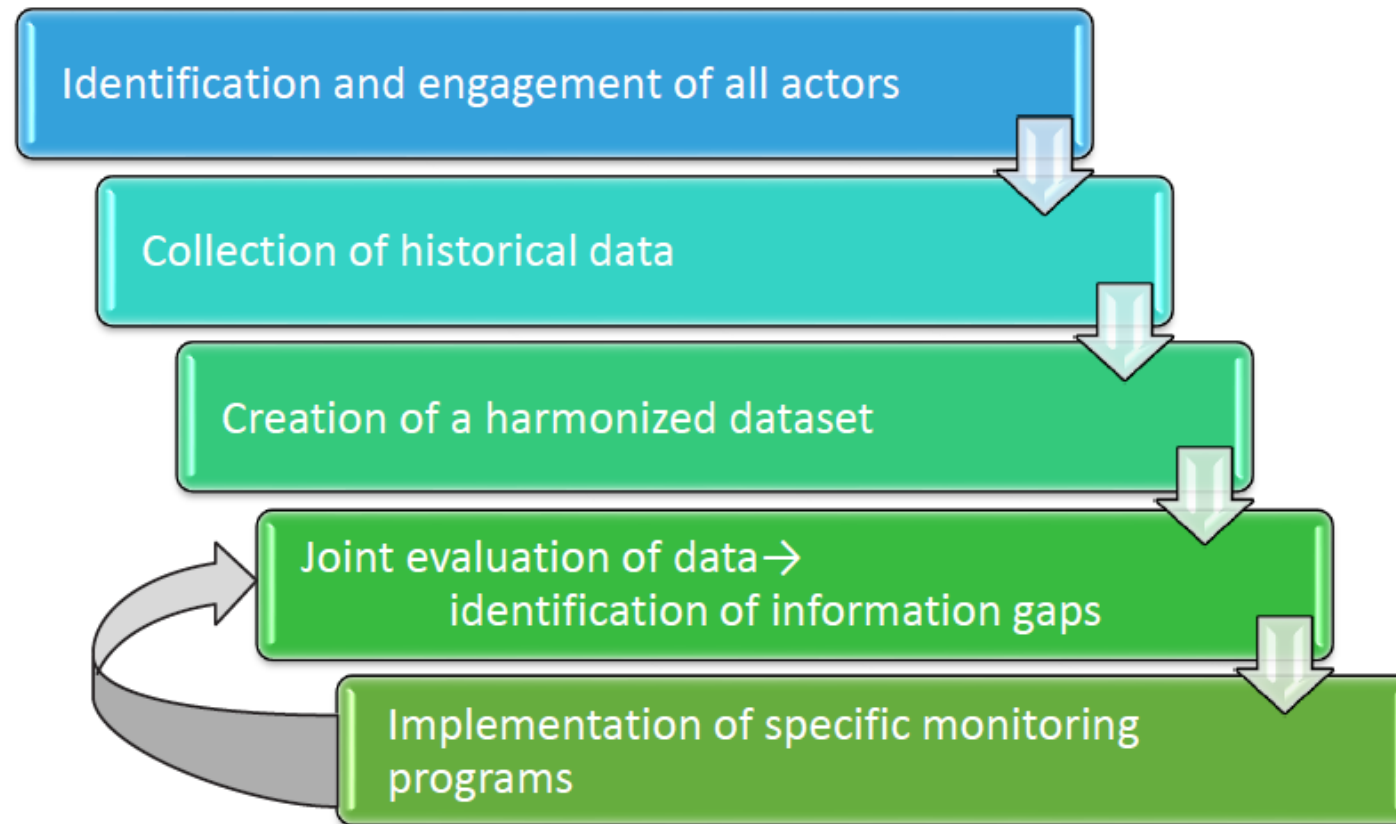
To assess and improve the quality of water resources
To help in the decision making process and increase the trust level on monitoring results and among actors

**Multi-actor
engagement**

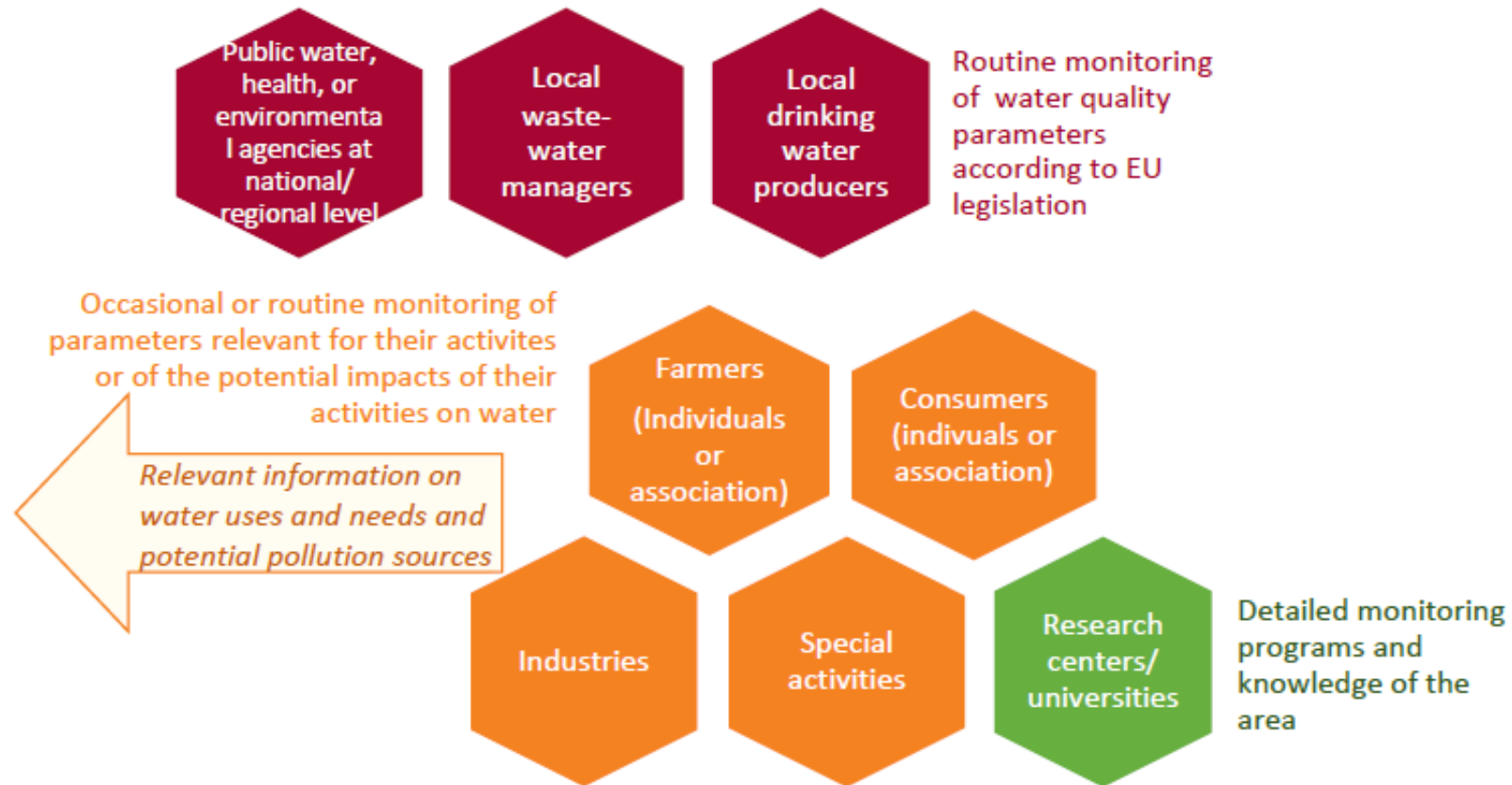


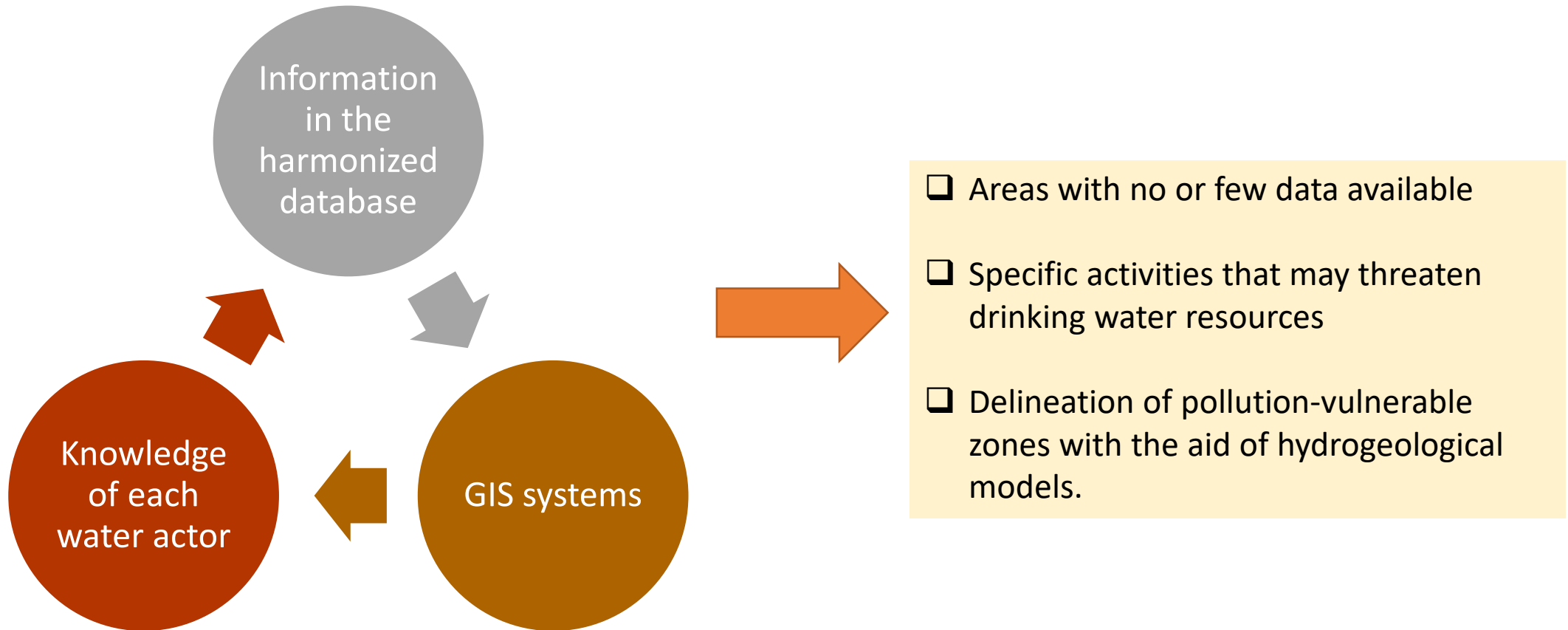
- *Actors that routinely monitor water due to their activities or responsibilities.*
- *Water users*
- *Research centers*

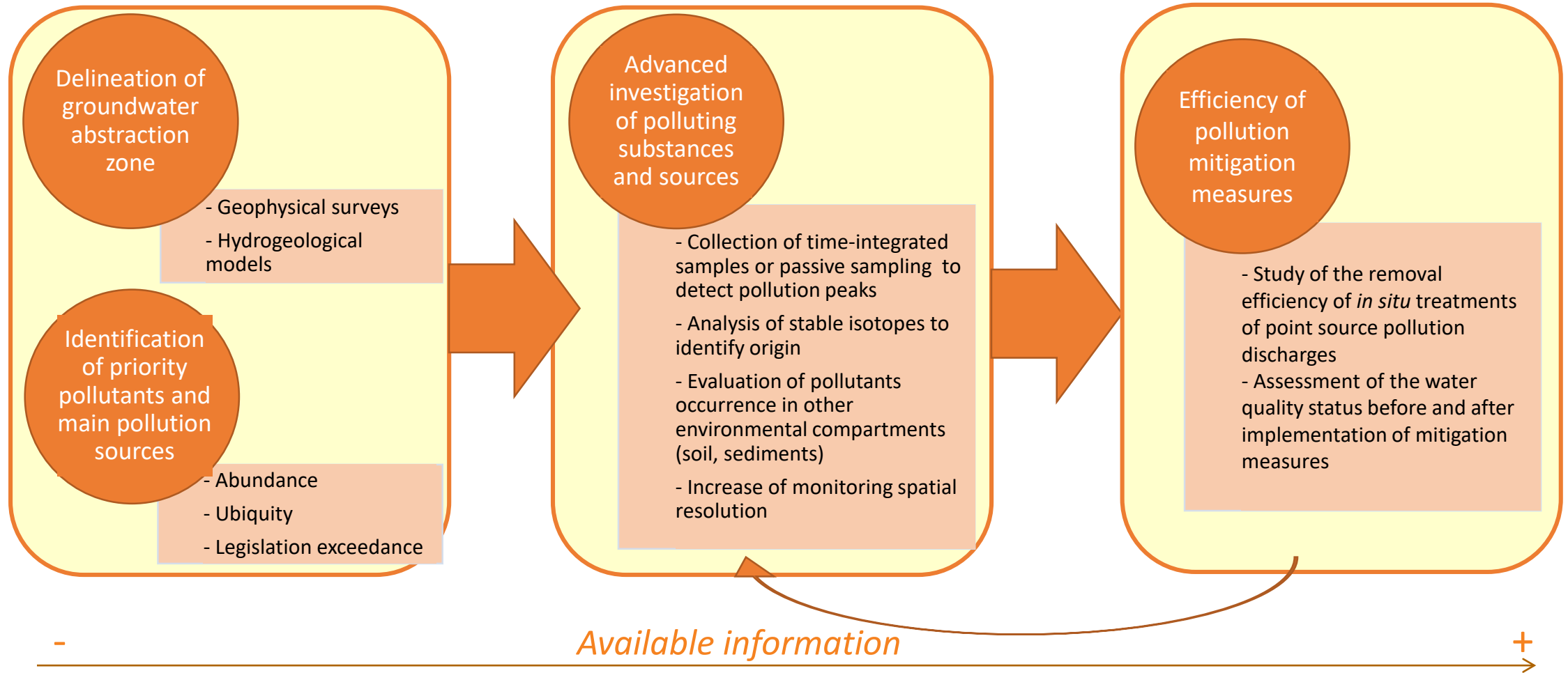
Design of an effective participatory monitoring approach



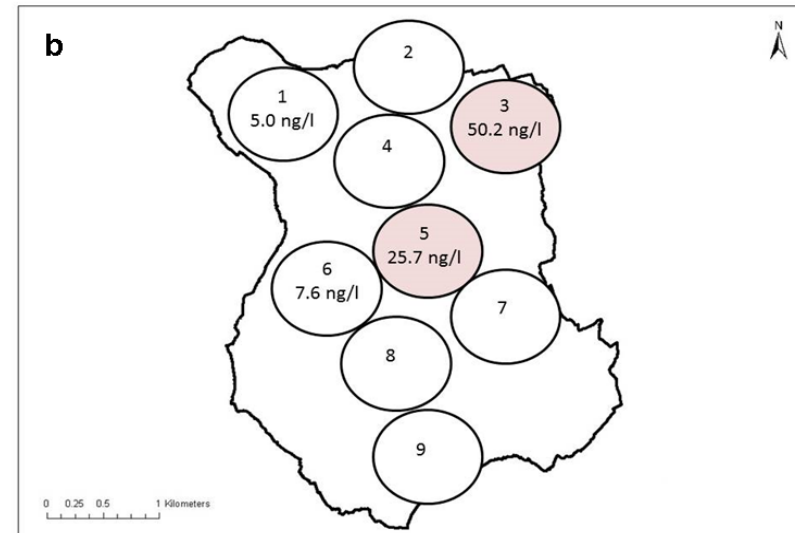
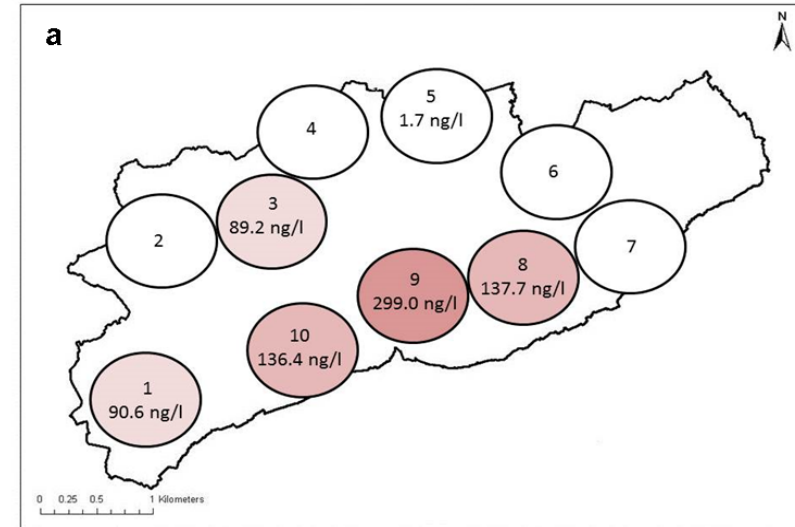
IDENTIFICATION AND ENGAGEMENT OF THE ACTORS





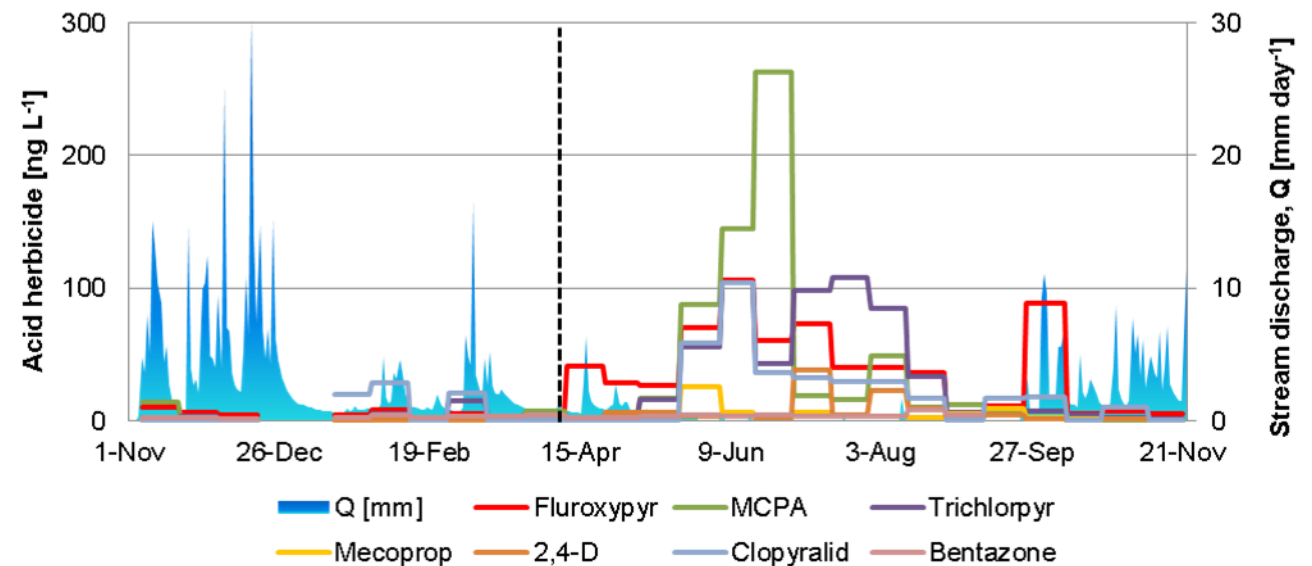


- 95 private drinking water wells were surveyed and sampled in two agricultural catchments in Co. Wexford Ireland
- Acid herbicides were detected in 38% of the wells, some exceeded recommendations



Khan et al., STOTEN, 2020

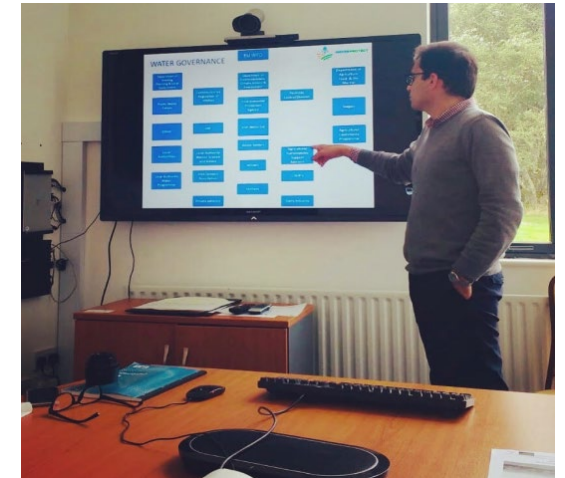
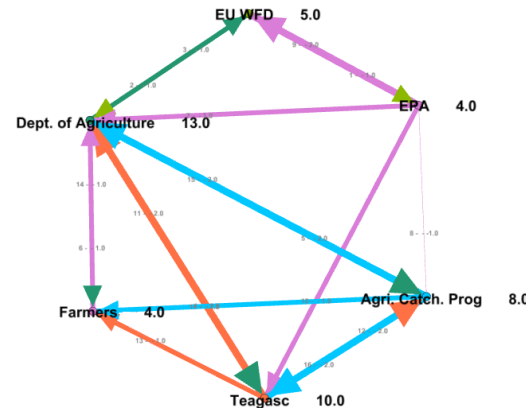
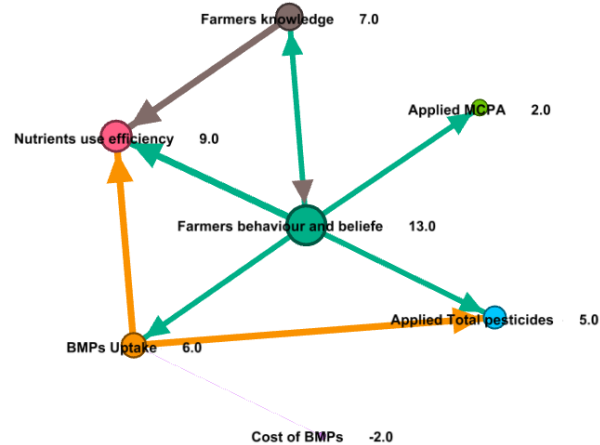
- 18 acid herbicides were monitored with passive samplers in the catchment outlets
- Herbicides were present in the rivers all year: concentrations peaked in summer and mass loads in winter
- Hydrological controls played a large role
- Targeted mitigation measures that consider hydrological risky areas and times are recommended.



Khan et al., STOTEN, 2020

MAPPING STAKEHOLDER ENGAGEMENT

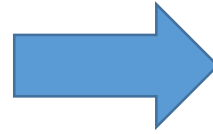
- Pathways to good drinking water quality in agricultural areas involves many actors
- Exploratory network analysis of stakeholders' knowledge and perception was made
- Stakeholder groups had different perceptions of the water governance framework (mostly a democratic view)
- Similar opinions on factors affecting drinking water quality and possible policy options
- “Farmer knowledge” was identified as an important factor



Shahvi et al., STOTEN, 2020

All pilot studies are unique

- Physical system and properties
- Farming system
- Drinking water resource

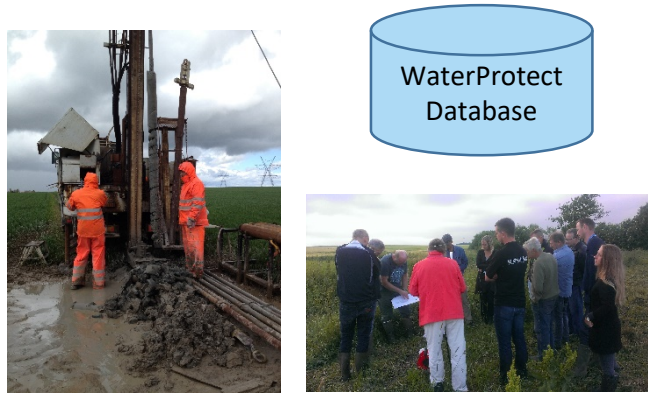


Optimal solutions
are unique

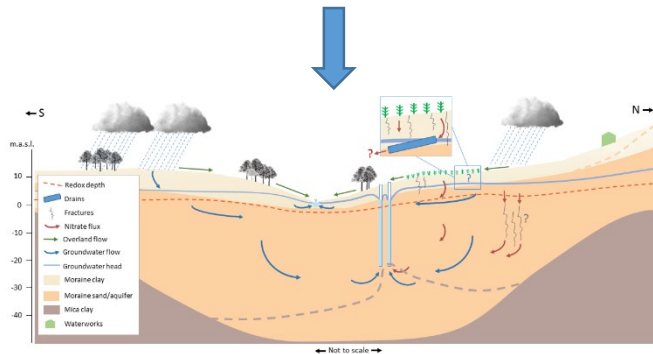
- Understanding casual relationships is a prerequisite for
 - Identifying the problems
 - Developing a common understanding
 - Defining long-term solutions acceptable for stakeholders

SYSTEM UNDERSTANDING AND MODELLING

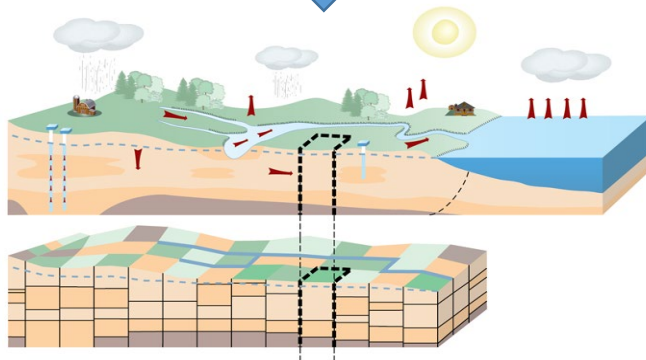
Data and
knowledge



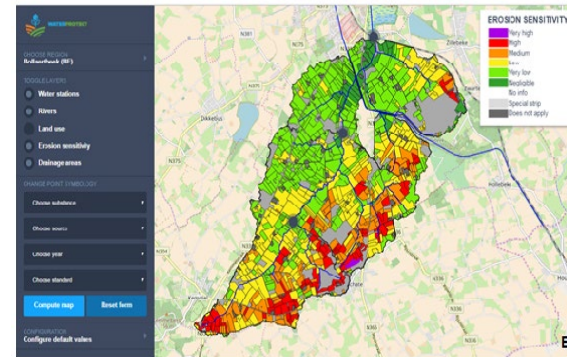
Conceptual
model



Numerical
model



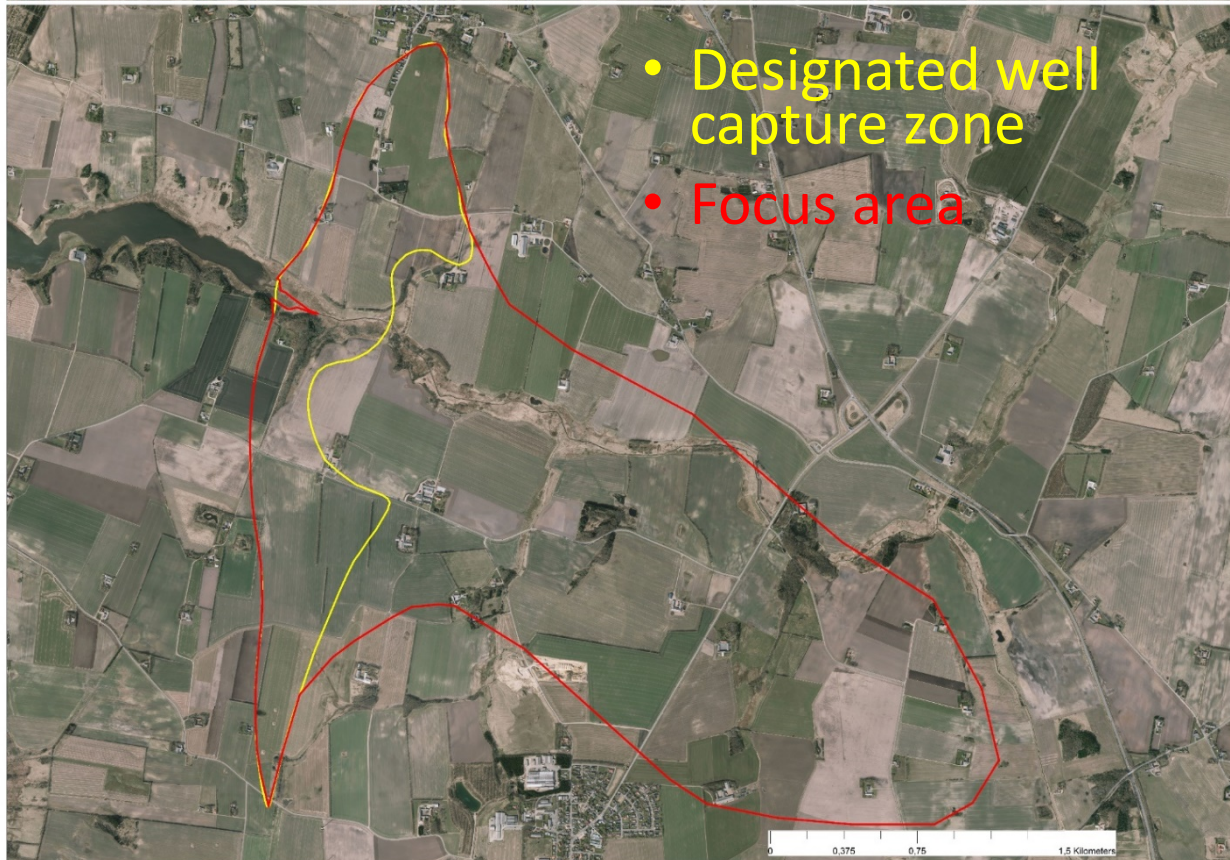
Collaborative tool



From existing data, field surveys and interviews a conceptual model has been developed for all pilots

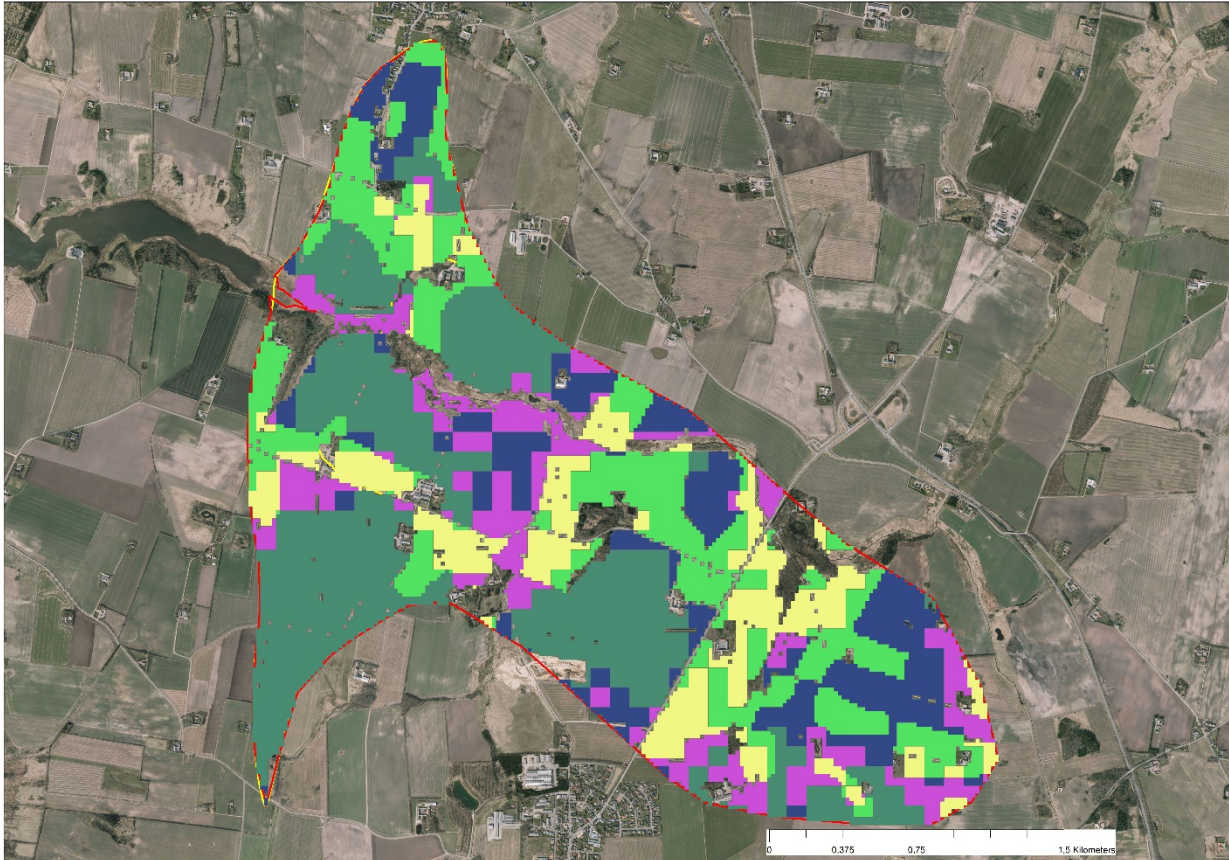
A numerical model developed in four pilots to study complex interactions and/or quantify impacts and study scenarios

- Integration of conceptual geological uncertainty in groundwater management and policy making



- Multi-model approach
- From designated well capture zone to larger focus area
- Robust and sensitive areas
- Flexibility in regulation?

- Integrating local knowledge in participatory modeling of changes in farming practices



- Improved local data on farming practices
- Updated the leaching model (NLES5)
- Improved technical performance
- Spatially explicit on the fly scenarios on farming practices



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Video on the tool
developed in the
Polish action lab





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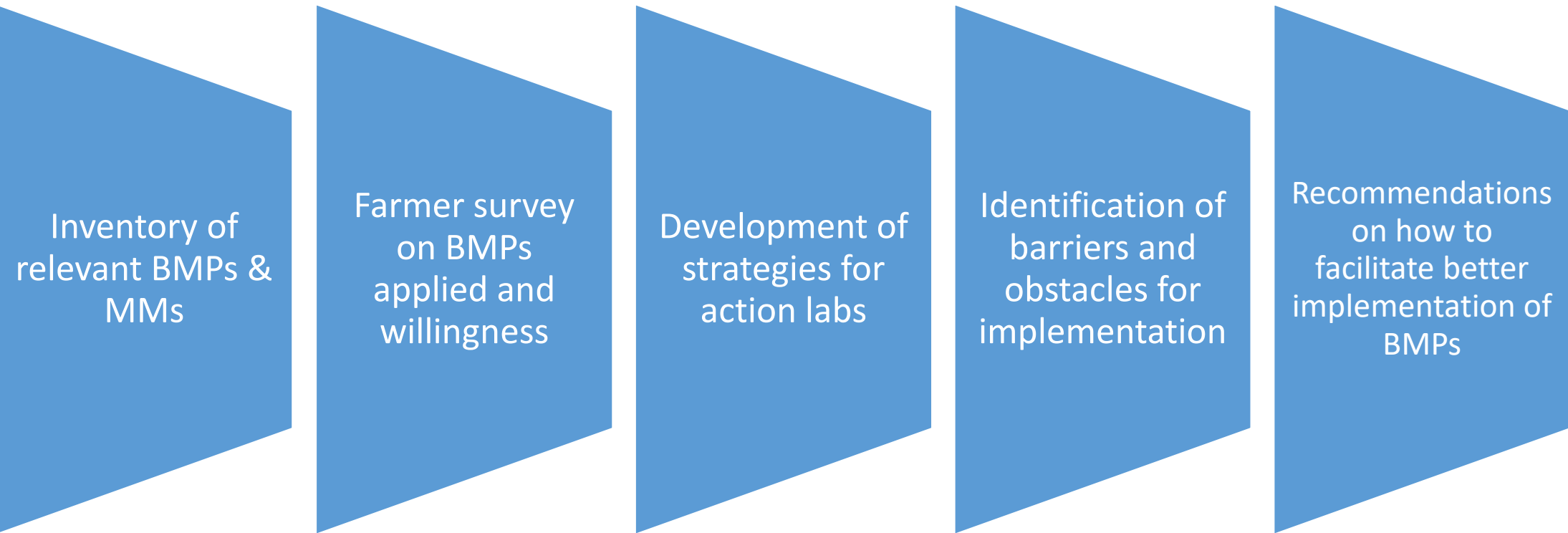
Best Management Practices



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AIM:

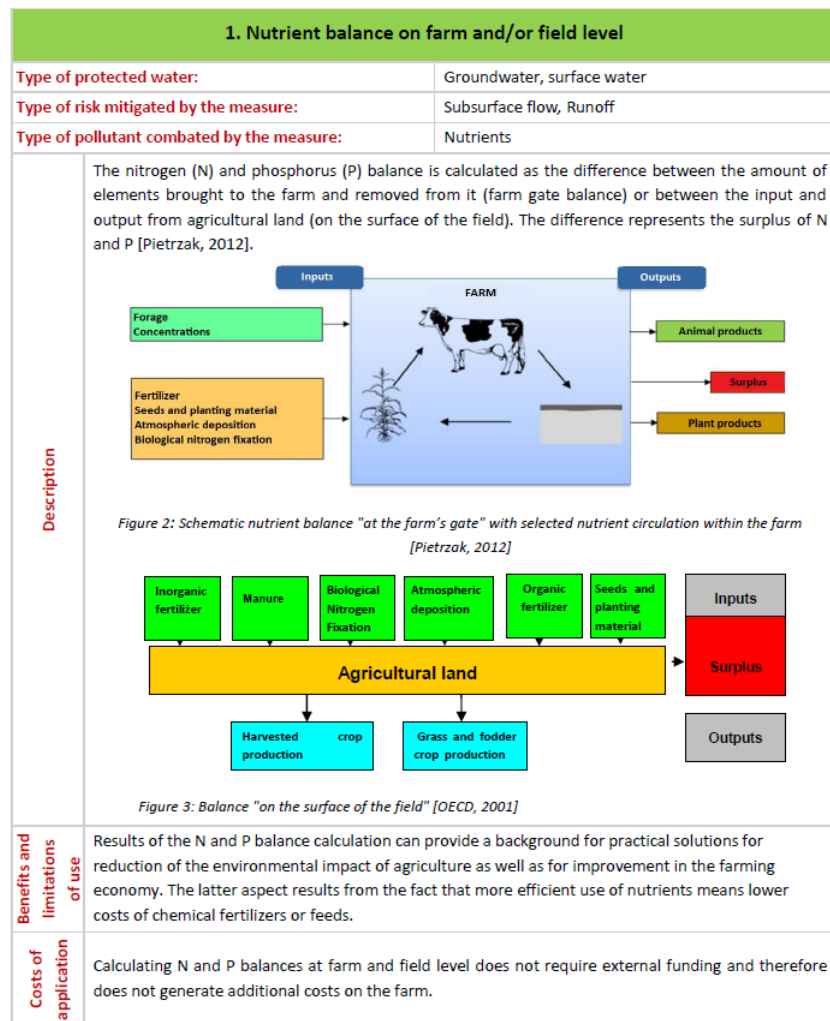
To review and evaluate current farming systems and new innovative farming systems that optimize the delivery of good water quality within the case study areas, taking into account cost-effectiveness of management practices.



INVENTORY RELEVANT BMPs

1. Identification of available mitigation measures and BMPs (type, applicability, costs) that are relevant to our action labs (focuse on N and PPP only)

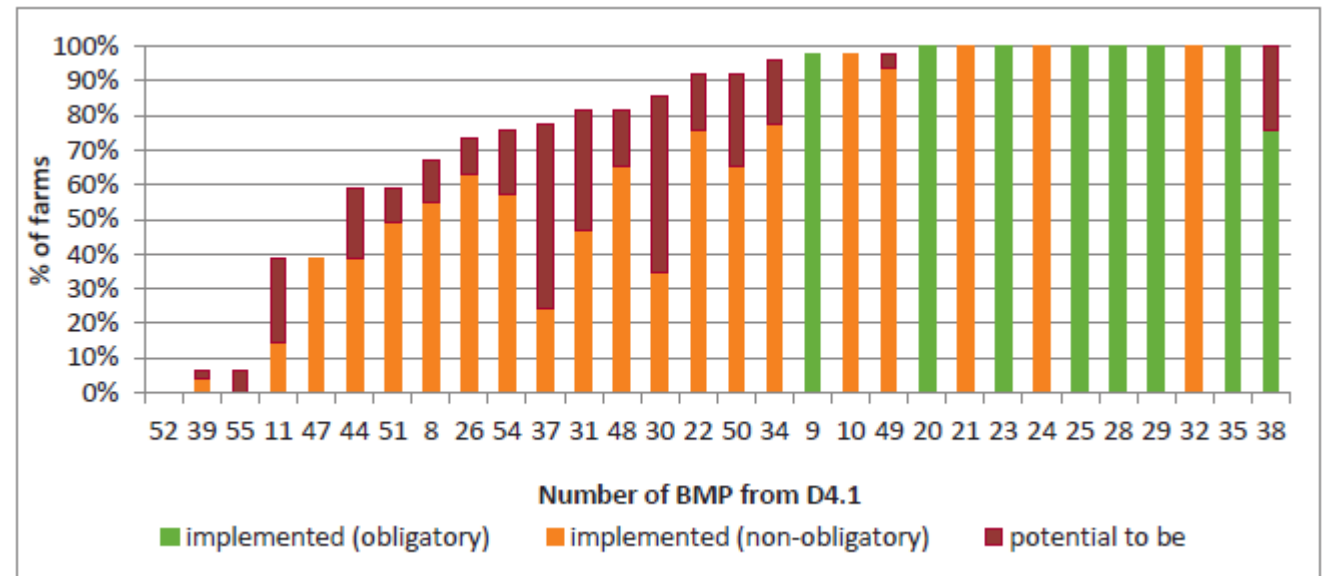
- Based on literature review;
- Includes results from previous projects concerning remediation measures against nutrients and pesticides pollution from agricultural sources such as TOPPS, Magpie and Baltic Compass;
- Synthetic descriptions of 81 available BMPs and MMs :
 - Name
 - Type of protected water
 - Type of risk mitigated by the measure
 - Type of pollutant combated by the measure
 - Description of the measure
 - Benefits and limitations of use
 - Cost of application



11. Grass buffer zones	
Type of protected water:	Groundwater, surface water
Type of risk mitigated by the measure:	Runoff, subsurface flow, drift and runoff of PPP
Type of pollutant combated by the measure:	Nutrients, pesticides
Description	Grass buffer zones are areas of land covered with grass located between agricultural fields and watercourses and wetlands. They are particularly important in areas where erosion is a problem, where there is a high flow of surface water; where there is a high risk of soil material, pesticides, P and N loss (e.g. from silty soils, located in 7° inclined towards watercourses) [DEFRA, 2009].  Figure 9: Grassy buffer zone [Z. Miatkowski] the risk of soil material, N, P and other nutrient and pesticides losses from agricultural fields. The ability to retain pollutants through the buffer zones depends on various factors: width of the zone, slope of the terrain, plant species composition, soil type, climate and meteorological conditions. It has been found that buffer zones, depending on their width, can hold from 4 to 95% of nitrogen and 24 to 85% of P migrating from cultivated fields [Hawes and Smith, 2005]. A grass buffer zone of 5m, 10m or 20m reduces respectively 50%, 90% and 97,5% [ECPA, 2009]. Moreover, buffer zones have a positive impact on biodiversity (they are a refuge for plant and animal species, enrich the agricultural landscape and the microclimate). The adverse consequence of buffer zone applications is the reduction of the cultivated fields from agricultural use. The potential of agricultural production and
	establishment of a grass buffer zone differs in the different EU countries. The width of buffer zone decreases the direct surplus from plant production (annual yield per 1 hectare).

2. Review of BMPs that are already applied in case study sites and assessment of willingness to implement new solutions

- Based on information collected from farmers residing within action labs;
- Include info about actual MMs and BMPs used within action labs; and
- Information on what BMPs are farmers willing to implement;
- Summary statistics for all action labs.



CONCLUSIONS FARMER SURVEY BMP UPTAKE

- BMPs that are currently implemented and those that were deemed to be implementable are **small and simple measures** that do not require big investments or big adaptations in the farming system and/or offer clear benefits to farmers (e.g. keeping soil cover in autumn and winter, not spraying non-target areas).
- **Increase in productivity** is a strong incentive for farmers to implement BMPs (e.g. crop rotation to preserve soil organic matter) while environmental aspects such as need for minimization of the risk of drift of PPPs or nutrient losses to the environment are poorly recognized by farmers in some cases, depending on the awareness of the water quality issues.
- Range of obligatory BMPs and MMs vary a lot between countries the same as perception of effectiveness and usefulness of different BMPs.
- Measures perceived as being beneficial for farmers, giving **long term financial benefits**, have high potential for implementation (e.g. the use of GPS technology in farming).
- Other measures recognized as effective but not giving direct benefits to farmers are not considered interesting or applicable, mainly due to the **excessive costs**. Such measures will require financial incentives to increase their implementation.
- Implementation of measures that require land area, such as for example vegetated buffer strips at the edge of a field or within a field, are not welcomed by farmers due to **loss of land** for agricultural production. However, these could also be implemented if given land tax exemptions for these areas and/or state/commune support in maintaining weed spread in these areas.
- Some countries indicated a positive approach to **collaborative solutions**, where more farmers and stakeholders are involved (e.g. public cleaning places for cleaning sprayers).

DEVELOPMENT OF STRATEGIES

3. Development of strategies to realise the improved take up of mitigation measures and BMPs

- Based on physical understanding of the system (5.4) and information on actual situation and farmers preferences (4.2), each action lab developed recommendations, which BMPs and MMs would be most successful to improve water quality at action lab level.
- The aim was to identify these solutions that will be most successful in protecting local water quality and will be accepted by farmers for implementation.
- Developed mostly on local levels but based on a common approach (decision support tables).

Soil Management and Plant Production

POLLUTION TYPE:	Nutrients and pesticides	Possible mitigation measures
MACHINERY:	None	
1 SOIL PROPERTIES		
Is soil testing applied before field preparation and planting?	Yes	Go to next question
	No	BMP 64
Do you maintain proper soil pH rates depending on agronomic category of the soil to optimise production?	Yes	Risk is low
	No	BMP 3
Do you maintain a proper organic matter content to optimise production?	Yes	Risk is low
	No	BMP 9, BMP 8, BMP 10
Do you maintain a proper water holding capacity of the soil to optimise production?	Yes	Risk is low
	No	BMP 49
2 NUTRIENT CONTENT		
Do you consider nutrient content in the soil?	Yes	Go to next question
	No	BMP 64, BMP 1
Is the dose of mineral fertilizers adjusted to the nutrient content in the soil?	Yes	Good practice, Additional tips: BMP 59
	No	BMP 2
Is the dose of mineral fertilizers adjusted to the nutrient content to the plant need?	Yes	Good practice, Additional tips: BMP 7
	No	BMP 2
3 ALTERNATIVE SYSTEMS REDUCING THE USE OF PPP		
Do you use alternative soil preparations to reduce the use of PPP, like false seedbed or hoeing?	Yes	Good practice, Additional tips: BMP 40, BMP 75
	No	BMP 40, BMP 75
Do you have professional support in the selection of appropriate alternative systems to use PPP?	Yes	Good practice, Additional tips: BMP 75
	No	BMP 75

Source: Waterprotect

Manure Management

POLLUTION TYPE:	Nutrients	Possible mitigation measures
	None	
LOCATION		
weather conditions taken into account when manure is applied?	Yes	Good practice, Additional tips: BMP 60
	No	BMP 6, BMP 60
concentration in manure known?	Yes	Good practice, Additional tips: BMP 1
	No	BMP 63
type of manure is applied?	Solid manure	BMP 4
	Liquid manure (slurry)	go to next question
method of application is used?	Trailing shoe	Good practice, Additional tips: BMP 62, BMP 63
	Band spreader	BMP 4
	Broadcast spreader	BMP 4
STORAGE		
if manure is stored in:	Clay lagoon	Good practice, Additional tips: BMP 16
	Steel tank	Good practice, Additional tips: BMP 16
	Concrete store	Good practice, Additional tips: BMP 15
if manure is stored on:	Manure pad	Good practice, Additional tips: BMP 15
	Field near a watercourse, directly on the ground	BMP 73
	Field away from a watercourse, directly on the ground	Good practice, Additional tips: BMP 72, BMP 74
if litter is stored on:	Manure pad	Good practice, Additional tips: BMP 15
	Field, directly on the ground	BMP 61

Animal Production

POLLUTION TYPE:	Nutrients	Possible mitigation measures
	None	
LSU	Yes	Go to next question
	No	Risk is low
stage of production?	Yes	Good practice, Additional tips: BMP 17
	No	BMP 17
MANAGEMENT		
if	Pigs	BMP 18
	Poultry	Go to next question
	Cattle	Go to next question
if used?	TMR (zero grazing)	BMP 17, BMP 19
	Grass-based system	Go to next question
if used?	Yes	BMP 11, BMP 13
	No	Risk is low

IDENTIFICATION OF BARRIERS

4. Identification of barriers in legislative and organisational set ups that inhibit the successful implementation of mitigation measures and BMPs at an action lab level

- *Focus is on identification of bottlenecks and weaknesses of current legislations (with regard to implementation of BMPs) and organisational set ups;*
- *Conclusions based on information received from farmers during various meetings at action lab level*
- *Summary of common problems at EU level*
- *In total 21 barriers, that were common for at least 2 action labs, and additional 11 were pointed at local level.*

No.	Type of barrier	Scale	Bottlenecks in legal regulations that inhibit the effectiveness of measures towards protection of water resources from agricultural impacts - short description of the problem	Bottlenecks in legal regulations that inhibit the effectiveness of measures towards protection of water resources from agricultural impacts - descriptions as stated by Action Lab Leaders	PL	IT	ES	RO	IRE	BE	DK
				by all this regulations and do not see the wood for the trees anymore.							
6	Legislative	national	Inefficient control mechanisms. No actions taken towards those who do not comply with regulations effectively discourages farmers, who comply with regulations.	The inefficient control mechanism, which is affected by: a. low percentage of controls carried out in relation to the number of farms due to budget constraints and too little employees; and b. low severity penalties for non-compliance, and the lack of punishment inevitability. Inefficient control mechanisms, (low budgets, few controls, low penalties for non-compliance, lack of fines/punishment). No controls or low percentage of controls for some regulations due to lack of employees and/or budget constraints. Farmers who do not comply with the regulations are not or hardly punished, which discourages the others, who do their best.	Yes			Yes		Yes	
7	Political	national	Lack of long - term vision for environmental protection with respect to water & agriculture. Too many and too often changes in regulations. Lack of continuity.	Regulations are changing often and become stricter and stricter each few years. Farmers, who already implement measures and try to do their best are often 'punished' and even stricter rules are imposed (f.e. first farmer can implement a measure on voluntary basis, but a few years later these farmers need to maintain the measure and becomes obligated to implement a higher number/percentage of this measure). As a result, farmers lose their faith in legislation and become suspicious and they refuse to implement any measure on voluntary basis. In our workshops, farmers ask for a clear and long-term vision from the government. Lack of long-term vision for environmental protection with respect to water and agriculture. The duration of 4 years of Catalan government does not allow, in some cases, to advance in questions that required more time required for its implementation. The effect of adopted corrective actions will be visible only after years; therefore to speed the process up the actions taken need to be substantial, continuous and systematic. Lack of high priority for measures for water protection, both from the agricultural sector and in the local arena. No response to irregularities found, e.g. in monitoring results, lack of task continuity, lack of decisive corrective action.	Yes		Yes			Yes	
8	Sociological	national/local	Variability in stakeholders ability to adapt to changes such as the implementation of new measures and changing habits	There is a variability in stakeholders ability to adapt to changes such as the implementation of new measures. The obligation to have the phytosanitary applicator card to buy any product is a good measure to rationalize the use of PPP's by farmers and gardeners. However, this obligation is still very new and the farmers need to have certain experience to deal with it. At present, it may occur that old PPP's currently prohibited but stocked in storage places are used. From November 2016, it is mandatory that all the machinery for the application of PPP's has to be inspected. This is a good measure but it requires a change of mentality among farmers to put it into practice.	Yes	Yes			Yes		

1. **Too complex organizational set up** of institutions responsible for implementation and execution of water management policies
2. **Little cooperation between stakeholders at a local level.** By lack of cooperation it is understood little integrated effort in defining and implementing measures and lack of communication and exchange of information between stakeholders.
3. **Lack of coordination between regulations** from different policy areas such as groundwater, surface water, drinking water, agriculture and nature conservation.
4. **Low awareness of farmers** regarding impacts they may cause on the environment. Farmers are not aware about water quality results from national/regional water monitoring campaigns in their areas and as such are not aware of impacts they make.
5. **Multiplicity of regulations.** Farmers are expected to know multiple regulations regarding nitrates, ammonia, PPP, erosion control, etc. some of which are very long and complex. This causes regulations to be difficult to apply and to control in practice not only by farmers, but also by civil servants.
6. **Inefficient control mechanisms.** Lack of actions taken towards those that do not fulfill legal requirements makes farmers to feel above the law and do not motivate them to take actions. Lack of actions taken towards farmers who break the law discourages farmers that take actions and do things according to legal protocols.
7. **Lack of long-term vision for environmental protection** with respect to water and agriculture. This relates to frequent changes in regulations and lack of continuity in approaches taken. The environment needs time to respond to changes that have been introduced.

1. Better coordination between policy areas:

- stronger and more collaborative water governance structure,
- introduction of an interministerial, coherent action programs, taking into account the results of environmental quality monitoring and scientific research,
- simplification of regulation to increase their practical feasibility,
- cooperation between different governmental departments to achieve the common goal,
- action plans planned in a coherent way with a long term vision.

2. Awareness raising. This is needed to increase responsibility of food producers for the environmental impact along the entire production process.

3. Increase in funds for local institutions responsible for water management and agriculture.

4. Better information about voluntary best management practices with an emphasis on their positive effects on soil condition, farm economics and living standards. Farmers are more willing to implement the measures when the exact benefits are fully understood by them.

5. Provision of a collaborative tool/common database/decision support tool containing corroborated information related to water resources and agriculture and developed on scientific information.

6. Provision of efficient control mechanisms.

7. Structured incentive programmes available to make more advanced and expensive BMPs affordable for farmers.

8. More practical trainings, including development of demonstration farms. There is a growing interest by farmers and operators in more “modern” communication approaches—experimental, demonstrative, and participatory— with more appropriate techniques, with a clear preference for material in audio–video format.

9. Good understanding of catchment hydrodynamics to design effective measures and this needs to be addressed at local scales.



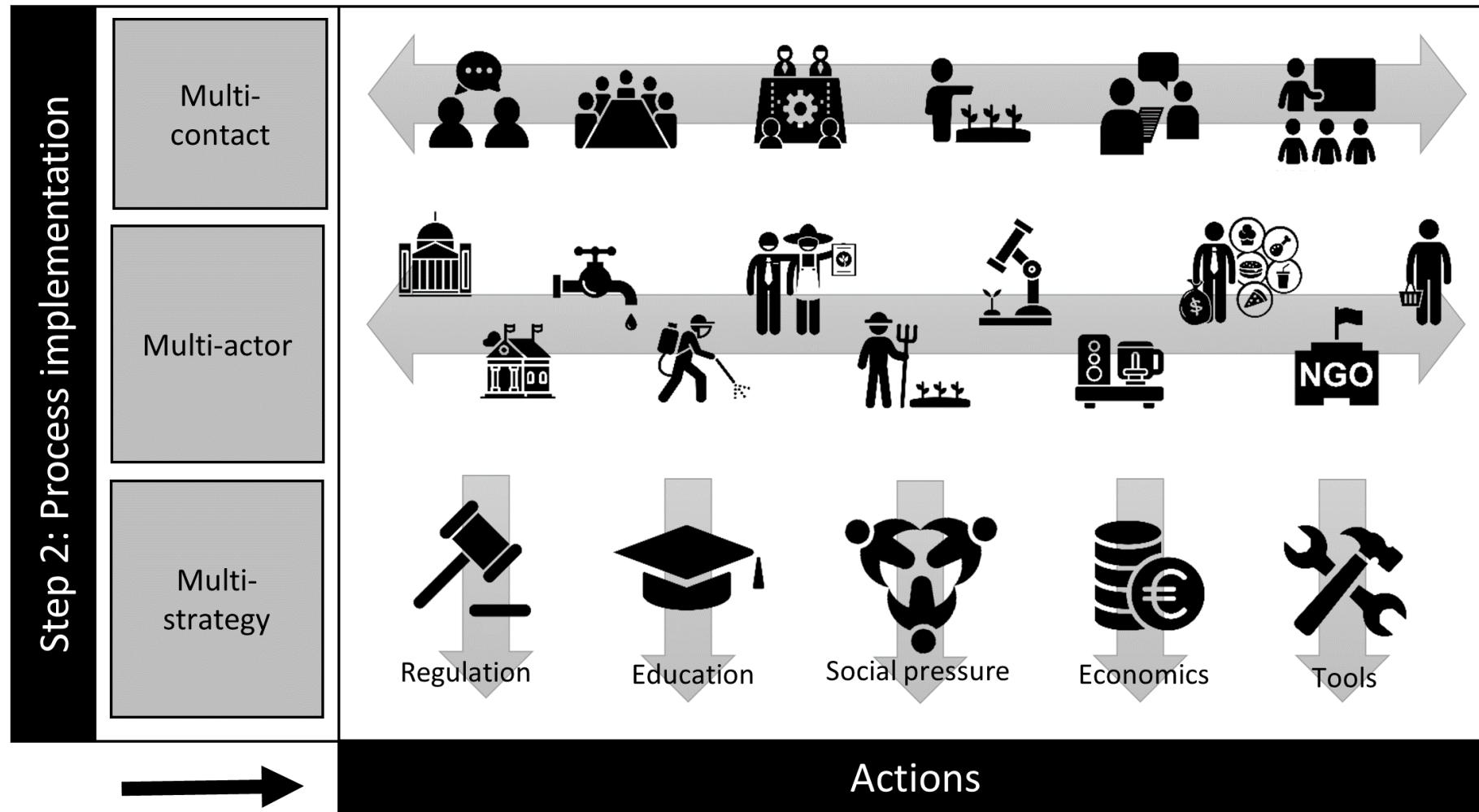
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Process implementation

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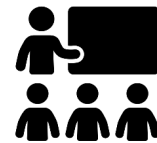




MULTI-METHOD



Bilateral
54



Presentation
13



Workshop
39



Field visit
16

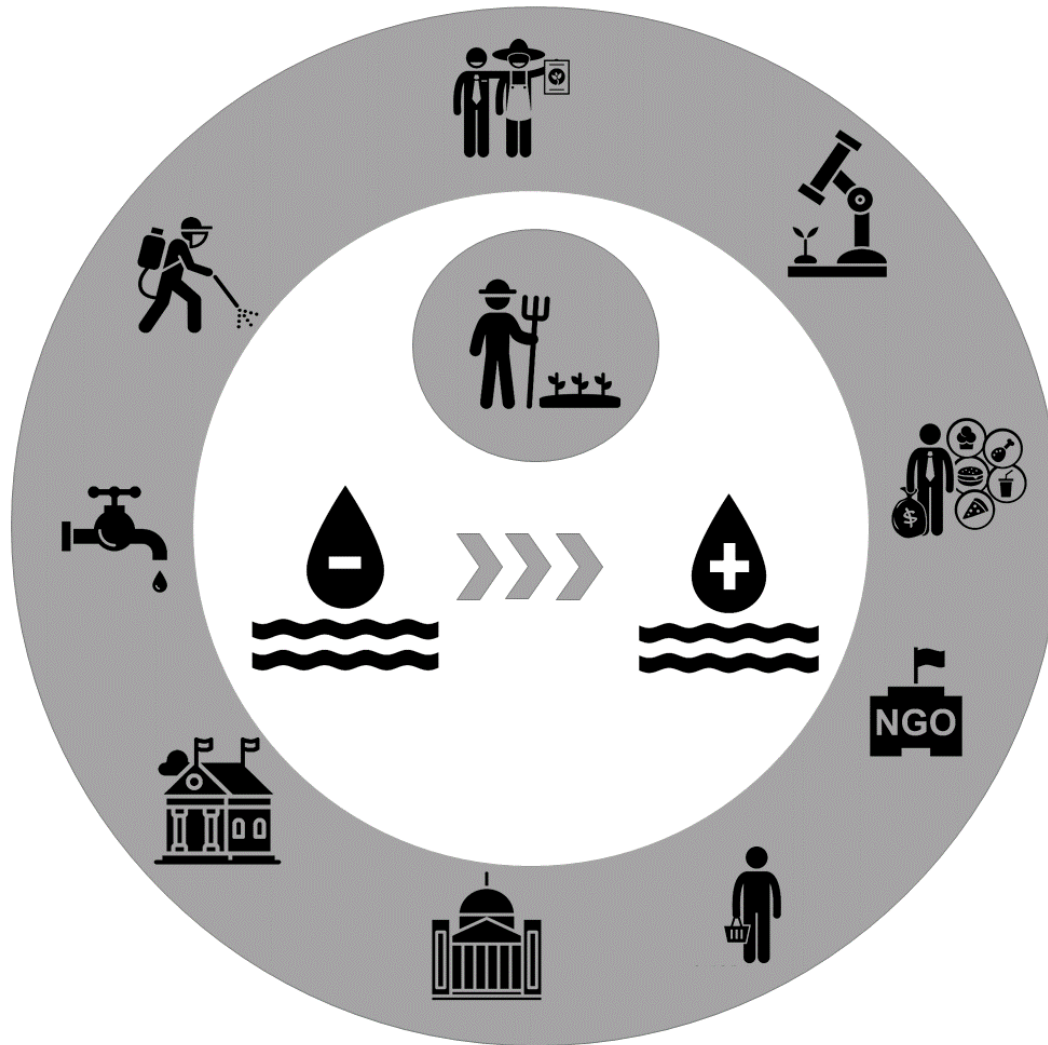


Multi-actor
52



Survey
20







Regulation

- **In all action labs:** discussions with policy makers to stress importance of flexibility and control
- **Italy:** organization of a policy workshop



Education

- **In all action labs:** organization of trainings, workshops, field visits, and demonstrations



Social pressure

- **In all action labs:** group discussions with farmers on the impact of water pollution and the importance of best management practices
- **Belgium:** testing the effectiveness of a neighboring bonus for adjacent farmers implementing grass buffer strips



Economics

- **In all action labs:** search for existing European, regional or local funds for sustainability investments by farmers
- **Belgium:** the set-up of an economic system paid for by the local drinking water company that compensates farmers for their investments



Tools

- **In all action labs:** online tools e.g. WaterProtect tool
- **Italy:** Physical tools e.g. construction of a common washing platform



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Video testimonial on
'Education' in the
Belgian action lab





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Video testimonial on
'Social pressure' in
the Belgian action
lab





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Video testimonial on
'Economics' in the
Belgian action lab





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Video testimonial on
'Tools' in the Belgian
action lab





WATERPROTECT

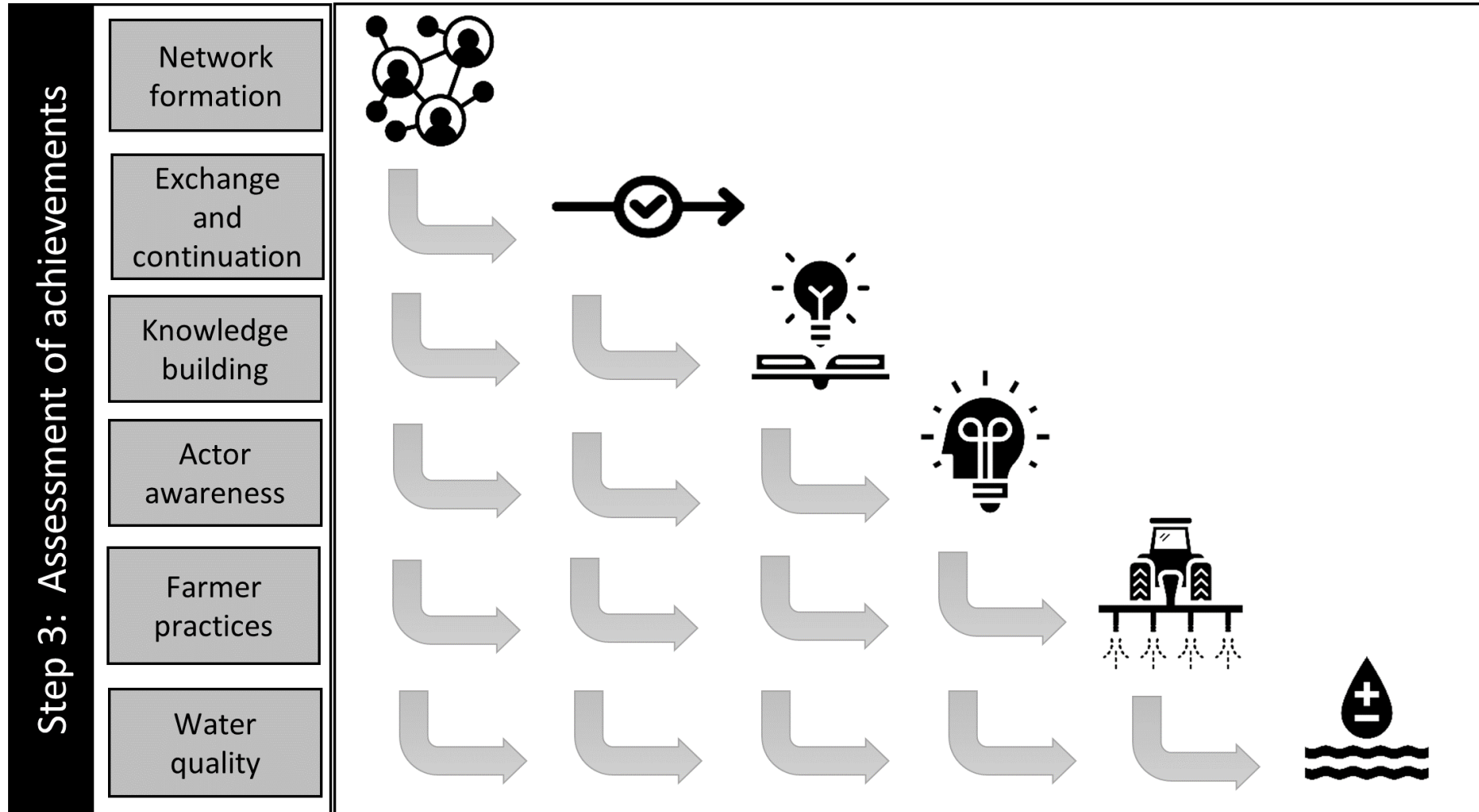
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Impact

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EVALUATION OF ACHIEVEMENTS





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Video testimonial on
BMP
implementation in
the Spanish action



BMP	Country	Result at the end of the project
<i>Safe cleaning and filling places</i>	Belgium	• Most of the farmers are not willing to install a concrete filling and cleaning place on their farm as it requires permits and is very expensive. • Some farmers changed their cleaning and filling place from paved to unpaved surfaces. • Collection of remnant water by 9 farmers. • Organisation of a temporary place with removable mats.
	Italy	• A demo-farm (where an impermeable platform and hard containers were installed)
<i>Grass buffer strips</i>	Belgium	• Implementation 3 extra grass buffer strips. • Open discussion with VLM about management agreements.
<i>Avoid spreading at sensitive times</i>	Ireland	• Farmers indicate to be more observant.
<i>Sowing winter cover crops</i>	Ireland	• Farmers are interested.
<i>Manure depositing platforms</i>	Romania	• Farmer acknowledge the need to implement them. • Four farmers are willing to build manure platforms, but discussions are still ongoing.
<i>Biological control of pests</i>	Spain	• Farmers are motivated to start implementing these techniques.
<i>Use of mycorrhizas</i>	Spain	• Farmers are interested.
<i>BMP's (not specified)</i>	Poland	• Farmers are willing to implement additional BMP's (results from the questionnaire).



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Video testimonial on
achievements in the
Italian action lab



Spain	Collaborations with the Barcelona Metropolitan Area on a Sanitation Safety Plan for wastewater reuse in agriculture and with the Catalan Water Agency on investments for the implementation of SSP; CPABLL increases investments on improvement of BMPs
Romania	Ecologic will continue to foster cooperation among stakeholders to ensure responsible and efficient use of natural resources; financial resources secured for development of ecotourism destination for 2 years
Ireland	Monitoring of pesticides & use of the WaterProtect tool by farm advisors within the Agricultural Catchments Programme (ACP); findings from the monitoring feeds into a new national funded project on remediation of pesticides; through WaterProtect new contacts and collaboration among stakeholders
Denmark	new projects on integrating crop sequences in water management in collaboration with farmers and on creating and monitoring grassland for water protection; Municipality of Skive is initiating collaboration between the water work of Vester Hjerl and neighboring water works
Poland	relationships have been established between local institutions and the community and positive opinions about the collaborative approach; hope that collaboration will be continued
Italy	the demo farm will continue to be used for demo-activities of the Research Center Opera of UNICATT; workshops with farmers in other regions to present the WaterProtect results on initiative of the farmers trade union Coldiretti
Belgium	New project Leader continuing activities in larger area with financial support of drinking water company



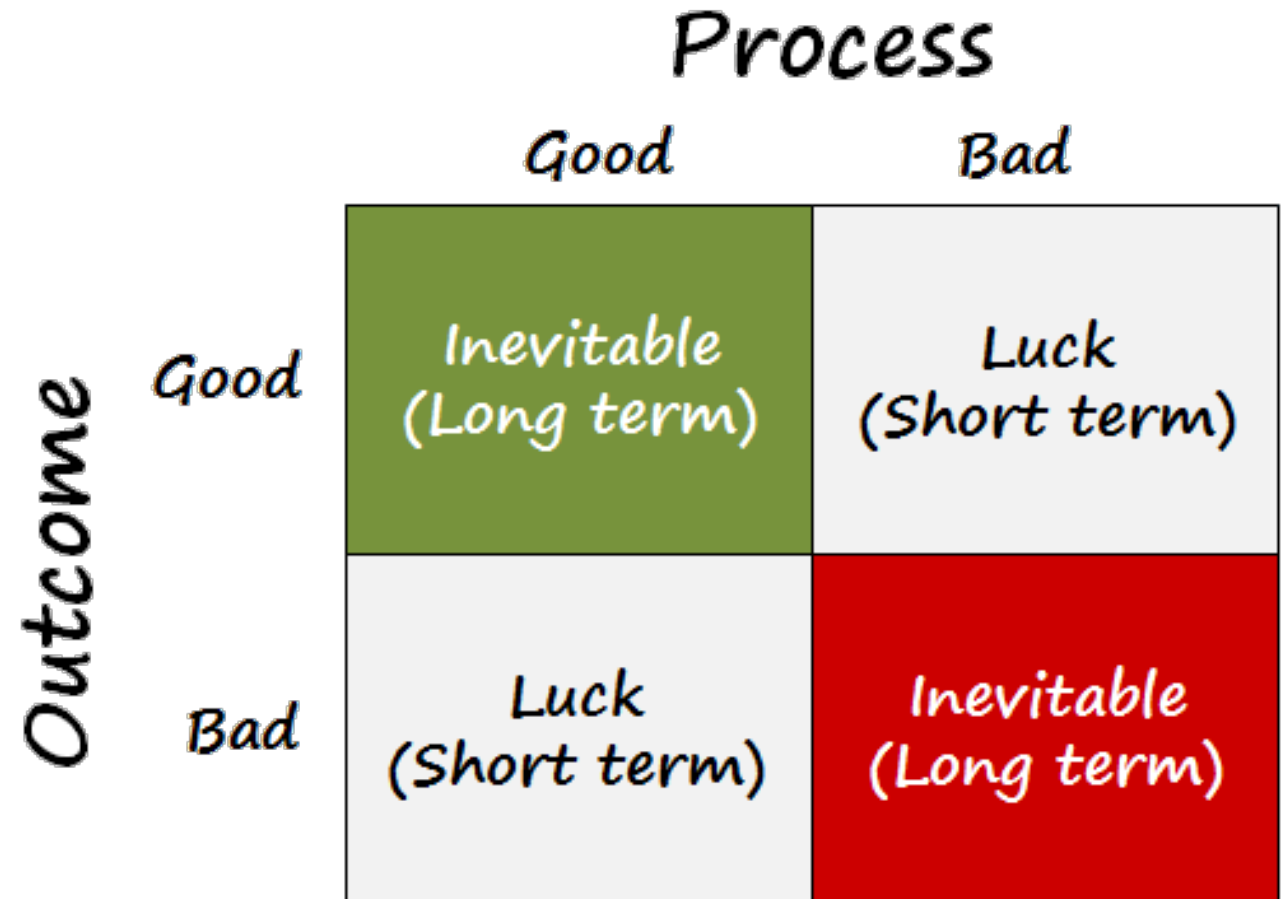
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Video testimonial on
continuation in the
Belgian action lab



Main impact WaterProtect:

- High in terms of process change and development
- Limited in terms of BMP's implemented and of water quality improvements
- If efforts are continued in the future, they will pay off and result in measurable water quality improvements





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Video on the final
event in Val Tidone



- How to implement multilevel, adaptive and collaborative governance?
 - Approach the problem holistically
 - Collect information in an organized way
 - Involve all key stakeholders, especially farmers
 - Combine different contact methods
 - Remain flexible and foresee sufficient time
 - Prioritize awareness raising
 - Combine regulative and stimulating supporting mechanisms
 - Stay focused on governance failures
 - Seek guidance by a facilitator



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Coffee break



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Upscaling of results

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OBJECTIVES OF WATERPROTECT

- “Contribute to **effective uptake and realisation of management practices and mitigation measures** to protect **drinking water resources**”



Action ! In local “action labs” across EU (BE, IE, DK, IT, ES, PL, RO)

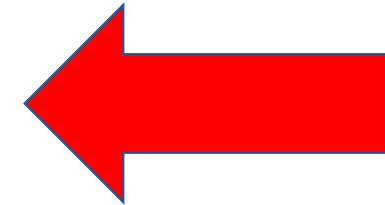
New governance: alternative financing

Share data: participatory monitoring

Best management into practice

Bring information close to actors using ICT

- **“Upscale findings from action labs to other regions”**
- “Advise policy makers: WFD, CAP, nitrate and pesticide directives”
- “Strategic communication to stakeholders and dissemination to the public”



HOW TO CHANGE?



Overheidssturing
Governance regulated



Marktsturing
Market regulated

CHANGE IS NOT EASY



- Comparative Case Study Assessment *mapping 16 example cases in Europe, D6.1*
- Integration of best examples *into the online platforms*
- Identification of key end-users
- The WaterProtect Roadmap *Report D6.4*
- 3 theme-based Upscale Workshops *Poland, Belgium, Italy*
- 3 best practice Upscale Workshops *Ireland, Rumania, Spain*
- Participation in EU Platforms and Working Group meetings

CASE 1: DAIRY STEWARDSHIP COUNCIL (NL)



Value for farmers and nature by linking farmers to relevant organisations:

- more nature + higher efficiencies
- reward schemes for farmers:
 - Discount on interest rates
 - Access to soil
 - Higher marketprices
 - Easy Concessions

= NATURE IN BUSINESS!

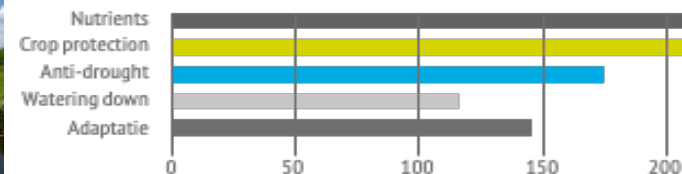
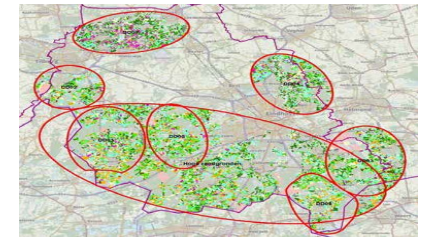
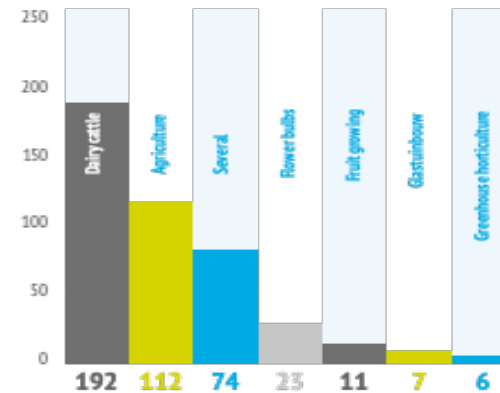
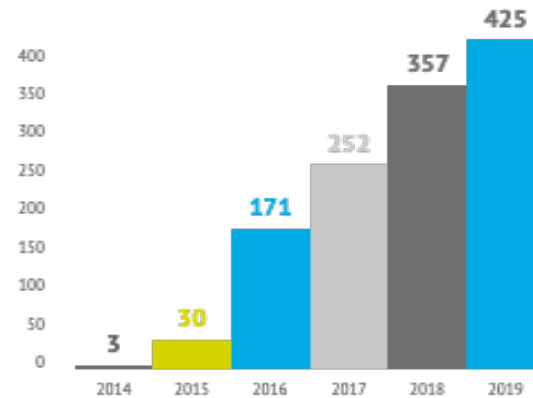


CASE 2: DELTAPLAN ARGİ WATERMANAGEMENT

Deltaplan Agrarisch Waterbeheer



Active projects



Barriers for implementation of successful sustainable agricultural water management

- A **lack of data**: *a common need to measure and monitor the catchment much more intensively ('data')*
- A **lack of time**: *complex issues will arise that need time to overcome before continuation*
- A **lack of creativity**: *be flexible but persistent towards the common goal. Alternate between a focus and the roads ahead ('creativity').*
- A **lack of understanding**: *the need to act should be supported and understood. Communication and transparency are crucial ('support').*

Success factors for implementation of successful sustainable agricultural water management

- Impacting case studies have a clear leadership, such as an industrial (chain-) partner ('leadership').
- A knowledge institute participating, building confidence ('R&D')
- Structural and organised knowledge exchange between experienced farmers and new initiatives ('exchange')
- Authorities, supporting the action and overseeing progress, gives the necessary status to the activities and opens doors for funding possibilities ('auth.')

6 UPSCALE WORKSHOPS IN EU

- Poland
- Belgium
- Italy
- Ireland
- Rumenia
- Spain





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Video testimonial on
Irish upscaling
workshop



Research in Waterprotect and other resources show there is sufficient evidence that **current practices need to change**.

On one side, the water quality objectives of the Water Framework Directive will most probably not be met within schedule. On the other side, we face effects of our current practices, which seem to be **irreversible effects**

Case study results (ref. D 6.1: 'A complete cases study assessment') show clear potential to improve Europe's water quality using **multi-stakeholder cooperation as an effective tool** to achieve this goal.

Society is increasingly urging the agricultural sector and their chain partners (such as food processors) to make the shift towards more environmental friendly ways of working, using best available measures, support biodiversity and avoid using those practices which are (potentially) damaging nature, biodiversity and water resources.

This is also becoming very visible: **multi-functional agriculture** in The Netherlands has doubled their turnover in the last year, to reach 887 million euro in 2018, whereas 25% of the farmers have added 'other' tasks as nature conservation, education and on-site sales to their activities, and another 10% is expected to do so within the next 5 years.

MAIN OUTCOMES

The regional workshops of Water Protect have proven an **excellent way to facilitate the inter-action**, bringing partners together and start a hands-on way of working together.

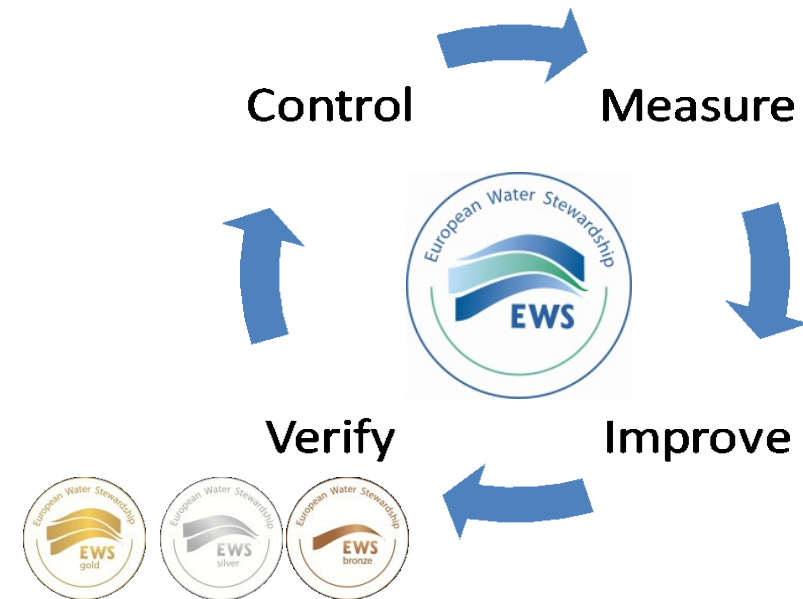
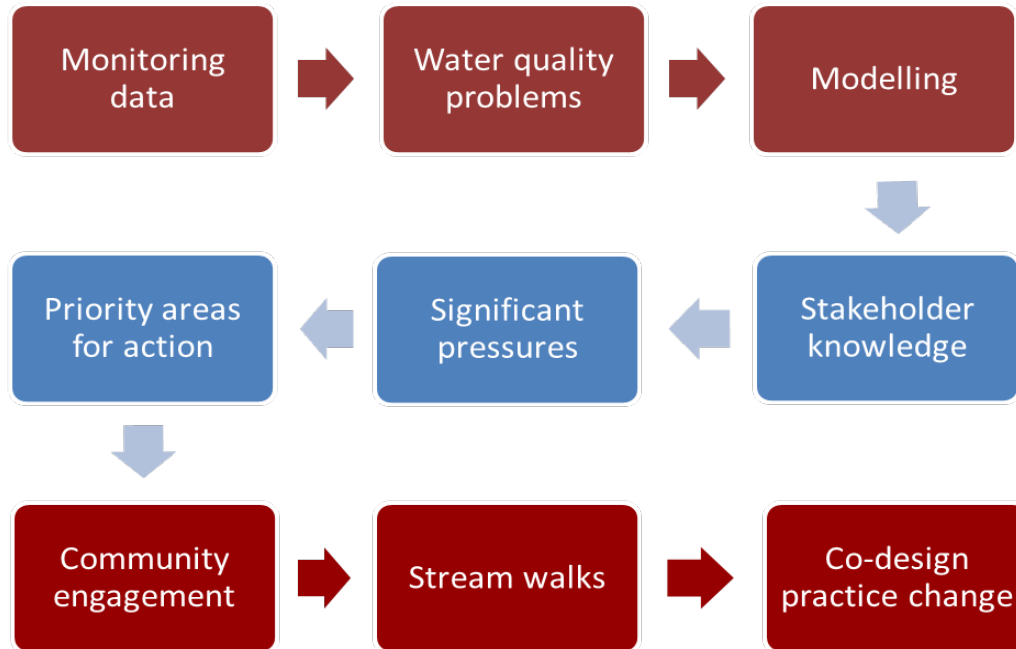
Nevertheless, **not all approaches and best measures works well everywhere**. It becomes very clear that regional differences exist between north/south/east/west European regions which need to be respected.

The **bottom up** introduction of multi-stakeholder cooperation will be able to address the regional differences, while creating the opportunity to celebrate the local effects of their joint efforts at the same time. **European legislative ruling alone will not enforce the ownership** that is needed to make the change.

Some similarities can be observed with the recognised need for European small and medium sized enterprises (SME's) to cooperate, innovate, grow, and become a main driver for economic growth in Europe. In support of this, the European Cluster Policy has been developed. It is **recommended for the agri-food sector** as well.

A set of generally accepted, **practical indicators** should be reflecting the effectiveness of actions taken. These can provide a structure and a guide 'where to start best'.

SUMMARY



from: ‘Science, Water Governance and Policy Implementations: scaling up to European level’

(Wexford, Ireland, June 18th, 2019)

In the next 40 years, we need to produce more food than in the previous 6000 years.

A sustainable agricultural sector is quite important.

THANK YOU!

This contribution was created thanks to the contribution of WP6 partners:

- ❖ VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V. (VITO)
- ❖ INAGRO, VZW (INAGRO)
- ❖ EIGEN VERMOGEN VAN HET INSTITUUT VOOR LANDBOUW EN VISSERIJONDERZOEK (EV ILVO)
- ❖ AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY (TEAGASC)
- ❖ GEOLOGICAL SURVEY OF DENMARK AND GREENLAND (GEUS)
- ❖ UNIVERSITA CATTOLICA DEL SACRO CUORE (UCSC)
- ❖ AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS (CSIC)
- ❖ PANSTWOWY INSTYTUT GEOLOGICZNY - PANSTWOWY INSTYTUT BADAWCZY
- ❖ KOBENHAVNS UNIVERSITET (UCPH)
- ❖ ASOCIATIA ECOLOGIC BAIA MARE (ECL)
- ❖ EUROPEAN FEDERATION OF BOTTLED WATERS (EFBW)
- ❖ THE EUROPEAN WATER STEWARDSHIP (EWS)

Brussels, September 24th, 2020

T. Vereijken, rapporteur

Thank you for your attention!

t.vereyken@ews.info



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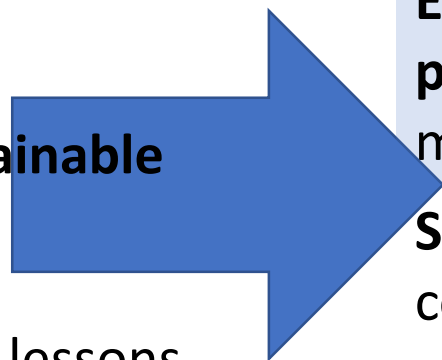
Integrated policy support



This project has received funding from the European Union's
Horizon 2020 research and innovation programme under grant agreement No 727450

Objectives:

- ✓ integrative **guidelines and policy recommendations** for sustainable water management in farming systems and land management
- ✓ build upon and further develop harmonised, transparent and understandable **indicators in sustainable water governance models**
- ✓ framework for the **science/policy interface** to promote in policy the lessons learned in the study areas
- ✓ **engaging policy stakeholders and agri-stakeholders** to facilitate the adoption of the WaterProtect recommendations in EU policy and at national level



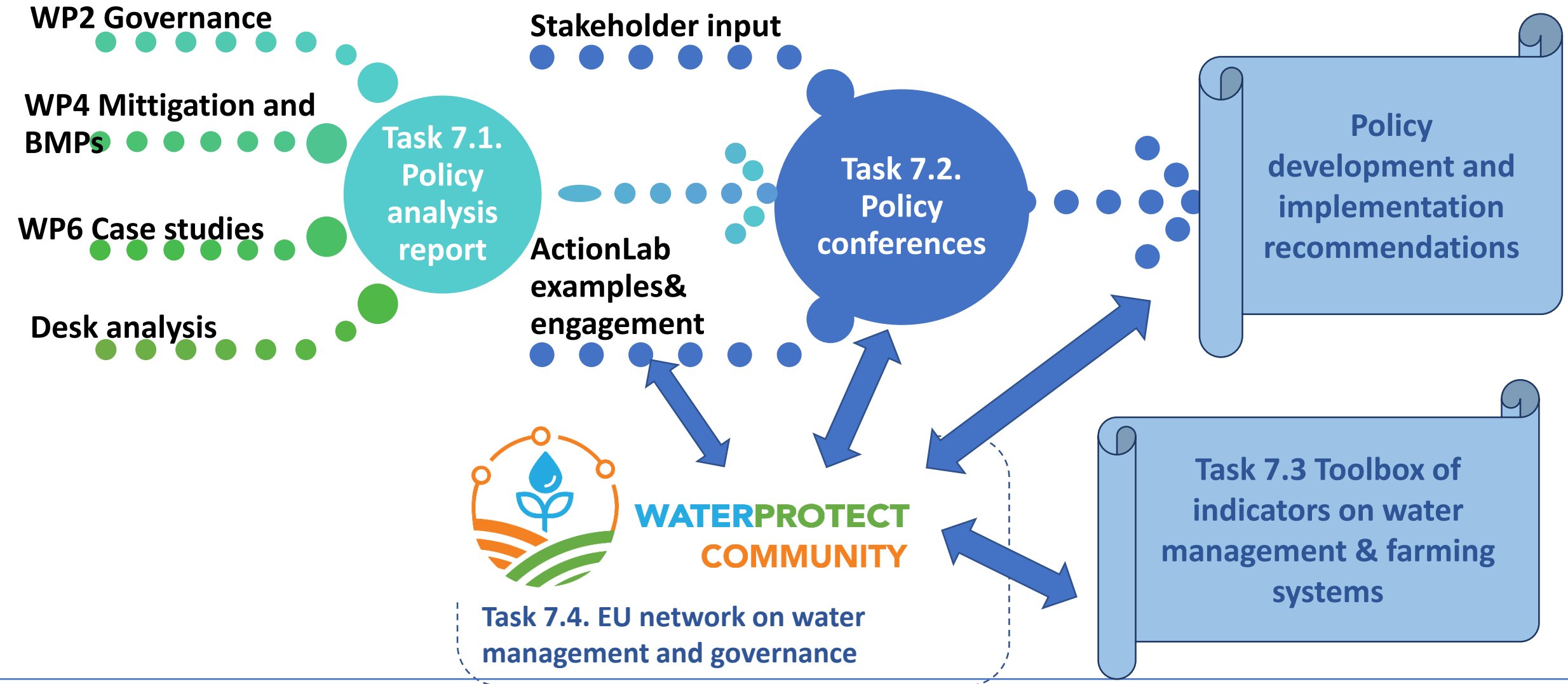
Policy report on policy driving factors & integration of water and agricultural policies in the case study areas

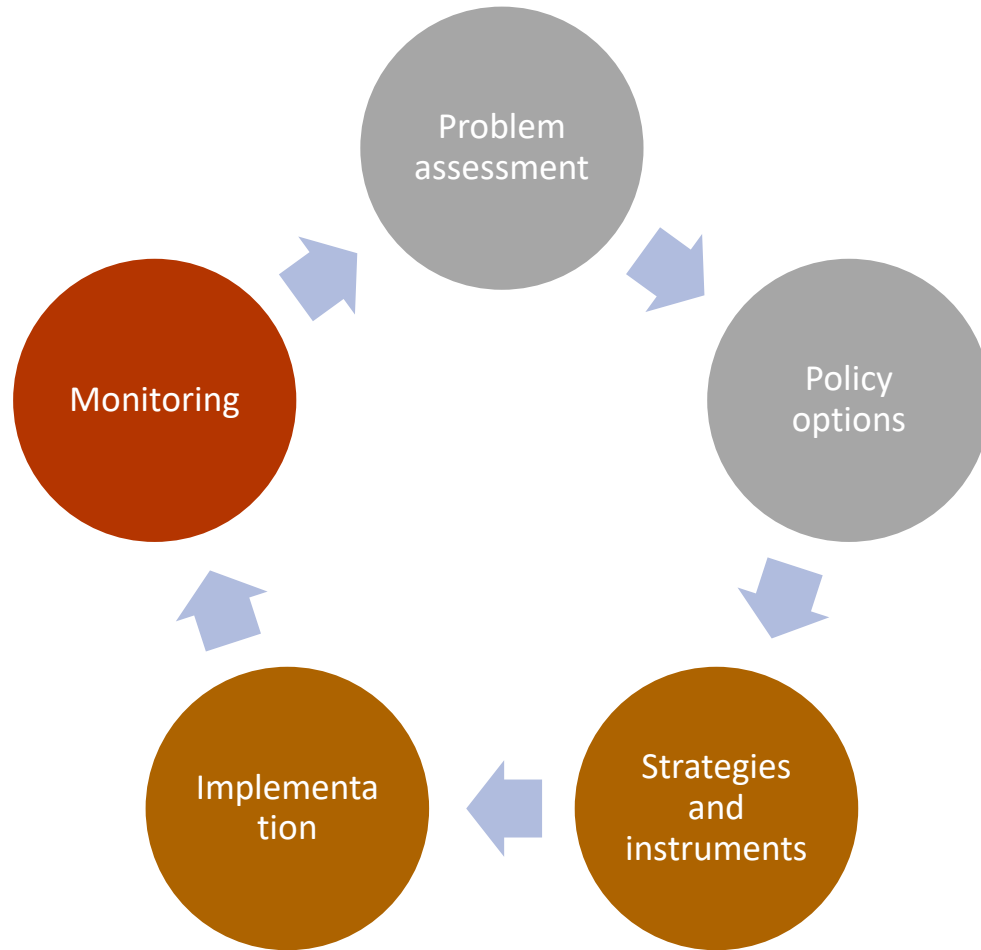
EU policy (including the CAP) and **national policy** recommendations for drinking water management involving farming systems

Set of indicators that are easy to communicate and use in **participatory water governance** processes

Pan-european network of stakeholders to promote water governance models with the involvement of agricultural systems

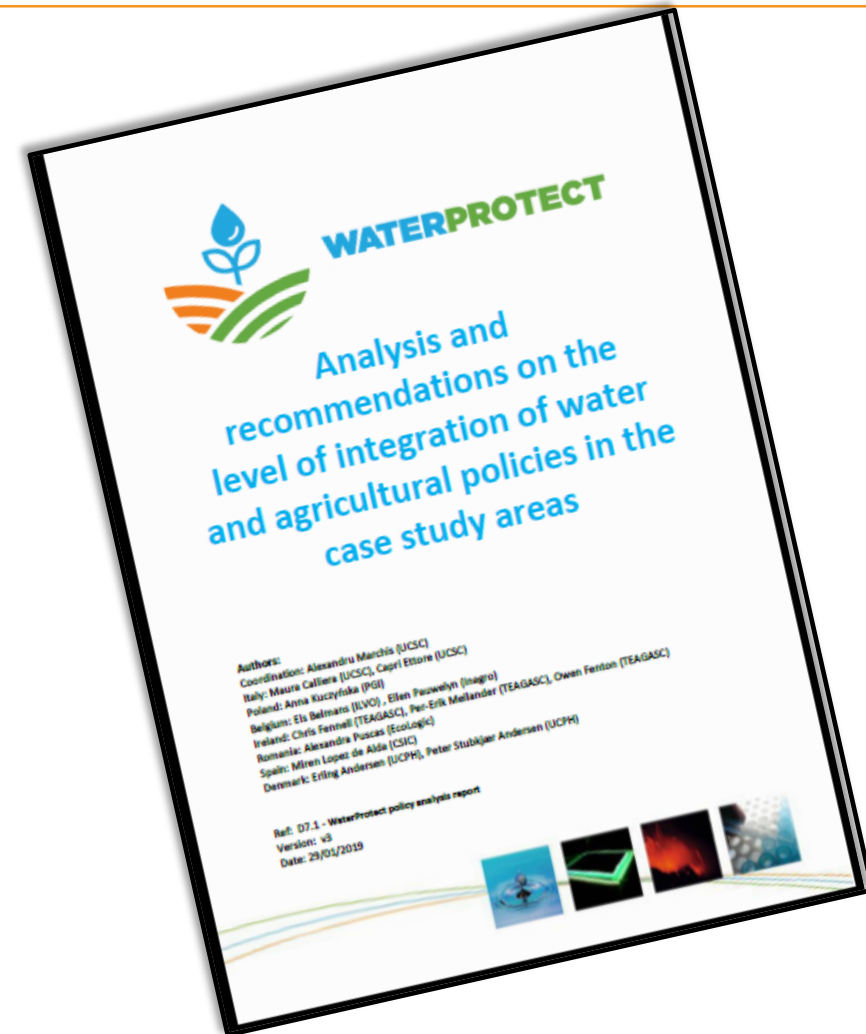
The process





KEY QUESTIONS FOR THE ANALYSIS:

1. *What are the interactions between the various agricultural and water policy instruments as well as the coherence, exchange of information and coordination at the implementation level?*
2. *How the guidelines, requirements and rules in various policy instruments are translated to the farmer level?*





- ✓ Effectiveness of the exchange of information and interaction
- ✓ Coherence of the requirements to the farmers
- ✓ Relevance of the implementation mechanism in relation to the objectives
- ✓ Added value of coordination and synergies between policy areas

In general, EU agriculture and Water policies are aligned for the objectives and instruments!

However, we identified several areas, for increased cooperation:

We looked at several implementation instruments:

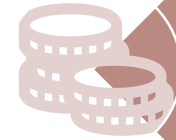
- Water & SUD National Action Plans
- Policy coherence: Water & Rural Development Plans
- Water and Cohesion Policy coherence



policy implementation;



governance structures allowing effective coordination;



investment support instruments to comply with EU objectives and



effective use of the existing knowledge base to innovate further towards water sustainability in the agricultural sector.

Areas for improvement for the implementation mechanisms and water governance systems in the case study countries



Opportunities to improve data and information on the water management problem



Opportunities to raise awareness on the water management problems



Motivating actors to address the problem



Opportunities to improve coherence of strategies to address the water problem



Opportunities for inclusive stakeholder engagement



Improving on leadership, clear roles and responsibilities

- Effectiveness of the exchange of information and interaction
 - ✓ **Awareness** of water quality issues is **low** in the farming community
 - ✓ Farmers get information on water quality mainly through **informal channels**
 - ✓ Data following controls and/or monitoring, **not systematically used** in policy implementation .
- Coherence of the requirements to the farmers
 - ✓ Farmers are lost in the **complexity** of standards (legal baseline, local, water industry, sustainability,...)
 - ✓ There are **no one-stop-shop information sources** on the requirements to protect water. Information flows through consultants or extension services – where accessible.
- Relevance of the implementation mechanism in relation to the objectives
 - ✓ Instruments relevant for individual policies (RBMPs, nitrates, pesticides, etc) – **better coherence and coordination of measures** desired
- Added value of coordination and synergies between policy areas
 - ✓ **Synergies and better exchange of information** have the potential to boost the implementation of best management practices and mitigation measures.

Joint
WaterProtect and
FAIRWAY event:

The role of EU
policies in
addressing
drinking water
management
challenges
involving the
agricultural sector

(December '18
Belgium)



farming sector (COPA-COGECA);

agri-business industry (ECPA, Fertilisers Europe);

water industry (EurEau; EFBW),

research community,

policy makers (DG AGRI, DG ENVI, DG Research)

other interested parties.

Points from the debate:

- Water and agriculture stakeholders are ready to engage
- more needs to be done for training farmers, although bottom-up initiatives exist from agricultural input providers (i.e. fertilisers, pesticides)
- Smart farming provides further solutions;
- National Strategic Plans (CAP) opportunity to promote tailor-made solutions;
- Progress needs to be measured and recognized to incentivise farmers;
- Water industry needs a long-term approach for water management;
- Cooperation between farmers and water industry already exists and it should be disseminated;
- The EU policies are evolving to promote interactions between water and agriculture.





(September '19 Italy)

- **Session I: Key challenges in water management& agriculture – scientific research findings**
 - WaterProtect Project,
 - FAIRWAY Project,
 - GLOBAQUA Project
- **Session II. Objectives of long-term water management strategies involving farming and land-use management**
 - *Expectations from agriculture for wholistic basin water management*
 - *Operational groups in action to share the land management in the viticulture hills of Emilia -Romagna*
 - *Challenges of integrated water management in the value chain*
- **Field visit – Val Tidone ActionLab**

Innovative tools enabling drinking
WATER PROTECT in rural
and urban environments



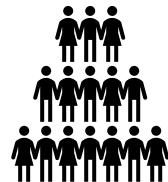
Sustainable drinking water management
& farming – successful local policies,
initiatives and partnerships

APRIL
2nd

(April '20 Webinar – replacing meeting in Poland)



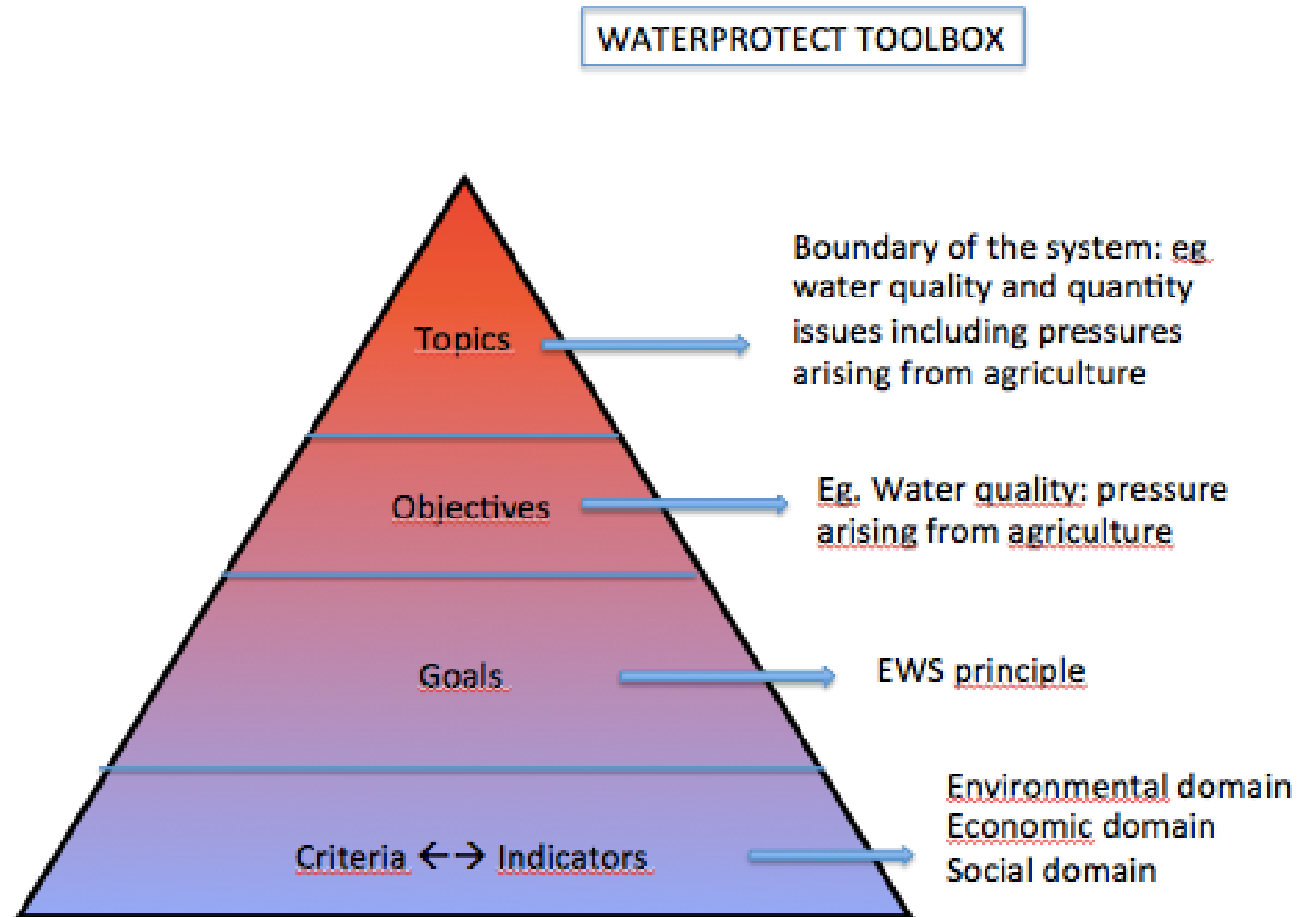
16 speakers



**157 registered
participants**

The agenda has been structured to cover **four major areas of interest**, each including relevant examples that contribute to water management with the involvement of agricultural systems:

- Legal and policy initiatives towards better integration of activities within the catchment management
- Initiatives driven by industry to establish partnerships between water managers and farmers
- Initiatives promoted by NGOs to stimulate cooperation between water management structures and farming
- Initiatives promoted by farmers toward better protection of water environment





Mission & Objectives

Develop and animate an active community of stakeholders and experts in addressing water management & agriculture challenges across Europe.



To identify and connect to **key experts and stakeholders** interested to further **develop policy approaches and water governance models** involving agricultural systems



To stimulate **interaction and to engagement** with the WaterProtect policy related activities



To create the background for **future partnerships and collaborations** in the area of water & agriculture



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General conclusions



This project has received funding from the European Union's
Horizon 2020 research and innovation programme under grant agreement No 727450

- In all action labs large efforts were done in raising the level of awareness of water quality issues. Engaging the actors in a catchment (or around a groundwater body) led to an increased interest in mitigation measures and an increased implementation.
- Large differences exist between the different action labs but the multi-actor setting allowed for a tailor-made approach.
- Knowledge building and sharing information is crucial to reach a common understanding and a collaborative development of solutions.
- Continuation of efforts is needed in order to reach a good water quality and this is most successful if benefits are clear (tourism, certification schemes).
- There is a need for a better coordination between different institutional bodies promoting measures and the financial incentives needed to invest and operate often-costly measures.

Thank you for your attention

 @waterprotectEU

www.water-protect.EU