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STAP - Salinity Transformation Approach for Progress
An integrated approach for salinity, groundwater, soil and agriculture

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Wageningen Environmental Research (WENR), Deltares and The Salt Doctors started an initiative to make a joint vision for action in bringing the worlds of agriculture and water management in saline-affected areas together. There is a need for a clear approach that can be followed to identify possibilities in a region where salinity is a (possible future) threat. We see great potential in bringing the worlds of agriculture and water management closer together; sometimes salinization can be limited or prevented by more sustainable groundwater use, sometimes agriculture needs to be adapted, and sometimes both. This requires an integrated approach and a focus on action. Therefore, **S**alinity **T**ransformation **A**pproach for **P**rogress has been developed (Figure 1). **STAP** is a stepwise approach for integrated action towards sustainable food production and groundwater use in salt-affected areas. STAP is a guideline to develop a framework for partners to collaborate in projects where agriculture and water management are influenced by salinization. STAP can be used to identify action perspectives and involves various stakeholders.

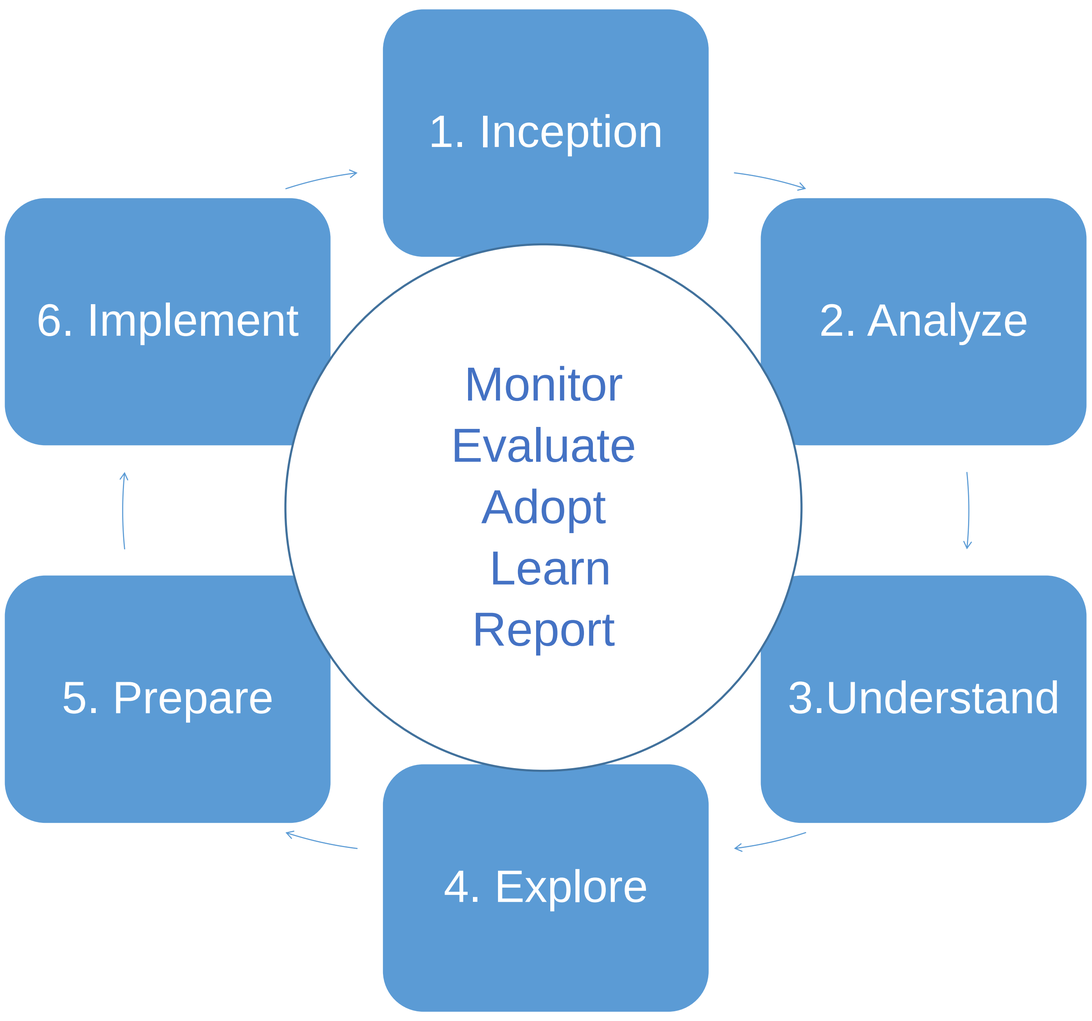

Figure 1: Visualization of STAP

Workshop

STAP has been tested for a case study with different NWP & NFP partners during a workshop (Figures 2 and 3).

Several outcomes:

- STAP is a great tool that can be used to develop a framework with different partners. It ensures in keeping an overview of the different elements and can be used to take stakeholders along (building trust).
- When experts of the water, soil, salinity, and food world work together, the four components get the same weight. This is a real gain in cases where all components are relevant.

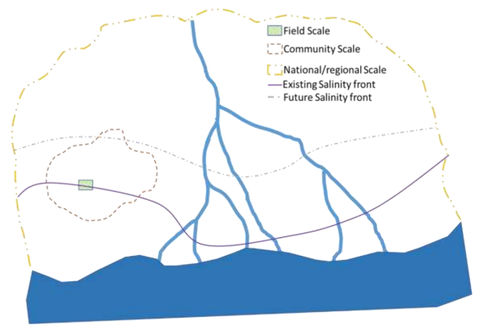

Figure 2: Hypothetical case study

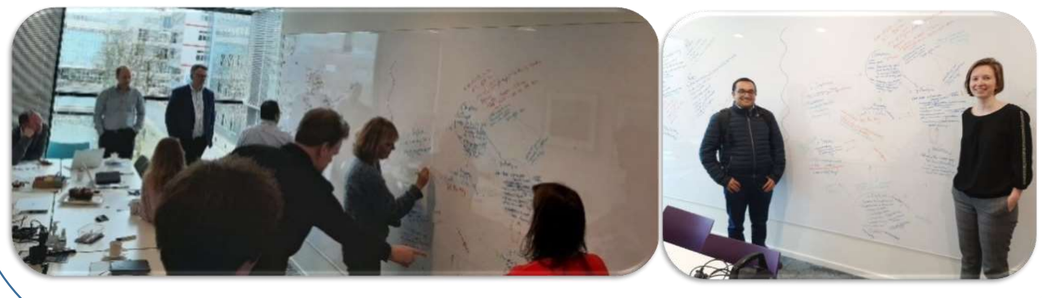

Figure 3: Workshop impressions

The different steps in STAP:

1. Inception:
Identifies the subject of the analysis (what is to be analyzed and under what conditions), the objectives (the desired results of the analysis) and constraints (its limitations). In this phase stakeholders should be identified and engaged in the decision-making process.

2. Analyze:
- What is the water use for current and future conditions?
- What is the freshwater availability today and in the future?
- What are the causes of salinization and freshwater shortages?
- What are the business opportunities regarding agriculture & water technology management today and in the future?

3. Understanding:
The interlinkages between the food & water systems. Prepare:
- A schematic overview of the food & water system elements.
- Identification of causal processes and system dynamics.
- Address the issue of scale, using various scales to understand better.

4. Explore:
Explore measures to address the gap between the freshwater and food demand, and availability. Examples:
- Conservation and efficiency measures
- Salt tolerant seeds for crops and vegetables
- Improved soil management

5. Prepare:
Develop an implementation plan considering among other things:
- Who will implement?
- How to be financed?
- When are different phases implemented?
- What will be the institutional arrangements?

6. Implement:
Implementation of the selected measures.
- Evaluate and monitor performance of the measure continuously
- Operation and Maintenance
- Upscaling and the it's spatial and temporal effects

Monitor, evaluate, adapt & learn: Every step needs to be evaluated and progress monitored.
- Learning at each step: what went well, what problems had to be overcome?
- Adjustment: monitoring during the process, adjust if required

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