

Guidelines for community-based groundwater irrigation in Lao P.D.R.



Content

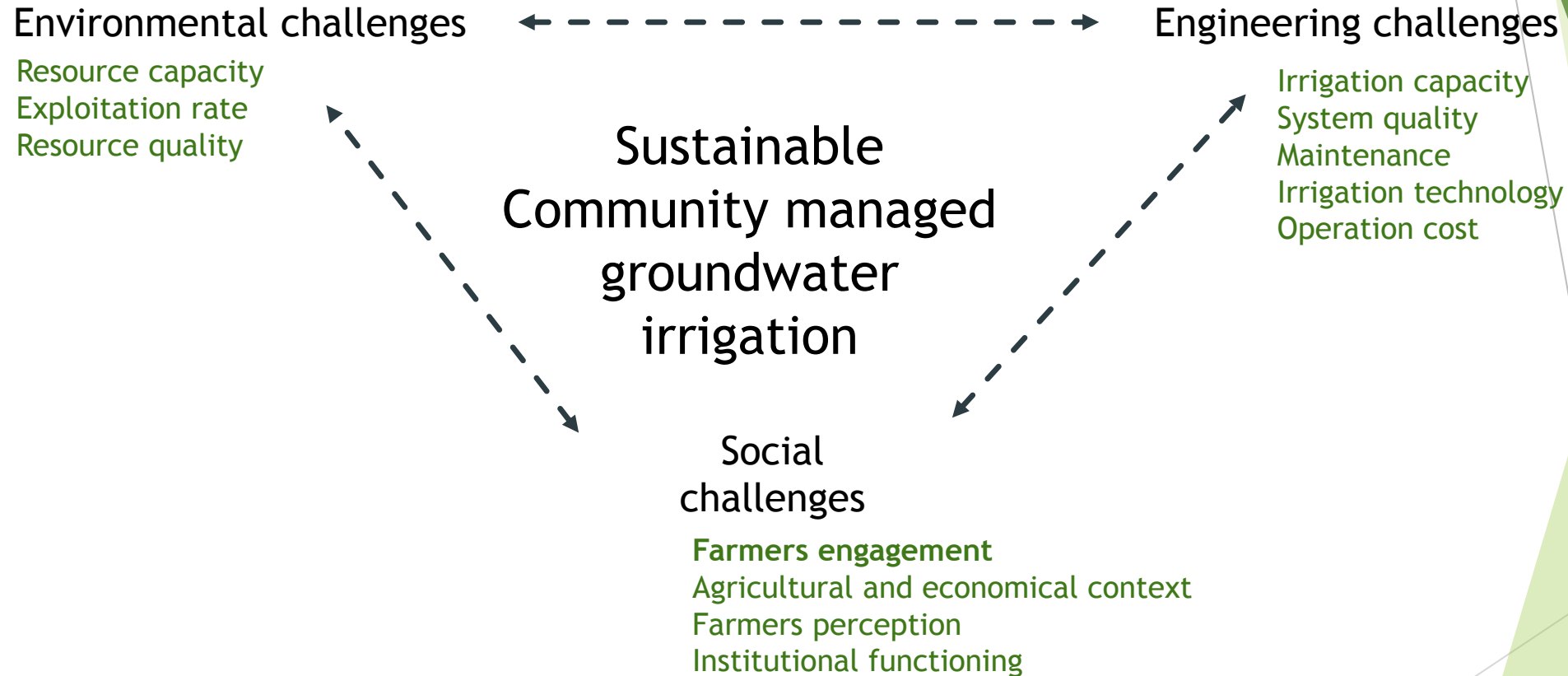
- ▶ **Challenges & Constraints**
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- ▶ **Negative effects**

Challenges & Constraints

- ▶ **Social challenge:**
 - ▶ Farmers benefit and adoption of GW irrigation
 - ▶ Understanding of participatory approach
 - ▶ Perception of the GW resource capacity
- ▶ **Engineering challenge:**
 - ▶ Match farmers needs
 - ▶ Quality made
 - ▶ Low O&M cost
 - ▶ Easy to operate
- ▶ **Environmental challenge:**
 - ▶ Sustainable use of the resource
 - ▶ Groundwater resource suitability for agricultural purpose
 - ▶ GW Use assessment

- Ability to see tangible benefit of community managed groundwater irrigation
- Sense of ownership

Challenges



How to address this challenge for future Community- managed groundwater irrigation in Lao P.D.R ?

Objective and audience

- ▶ Objective
 - ▶ Guide future developers for community managed GW irrigation
 - ▶ Give a framework on how to conduct a such project
 - ▶ Sustainable, self-governed Groundwater User Group (GWUG)
- ▶ Audience
 - ▶ Potential developers
 - ▶ Self-funded
 - ▶ External funded
 - ▶ Interesting information for resource managers and policy makers

Approaches

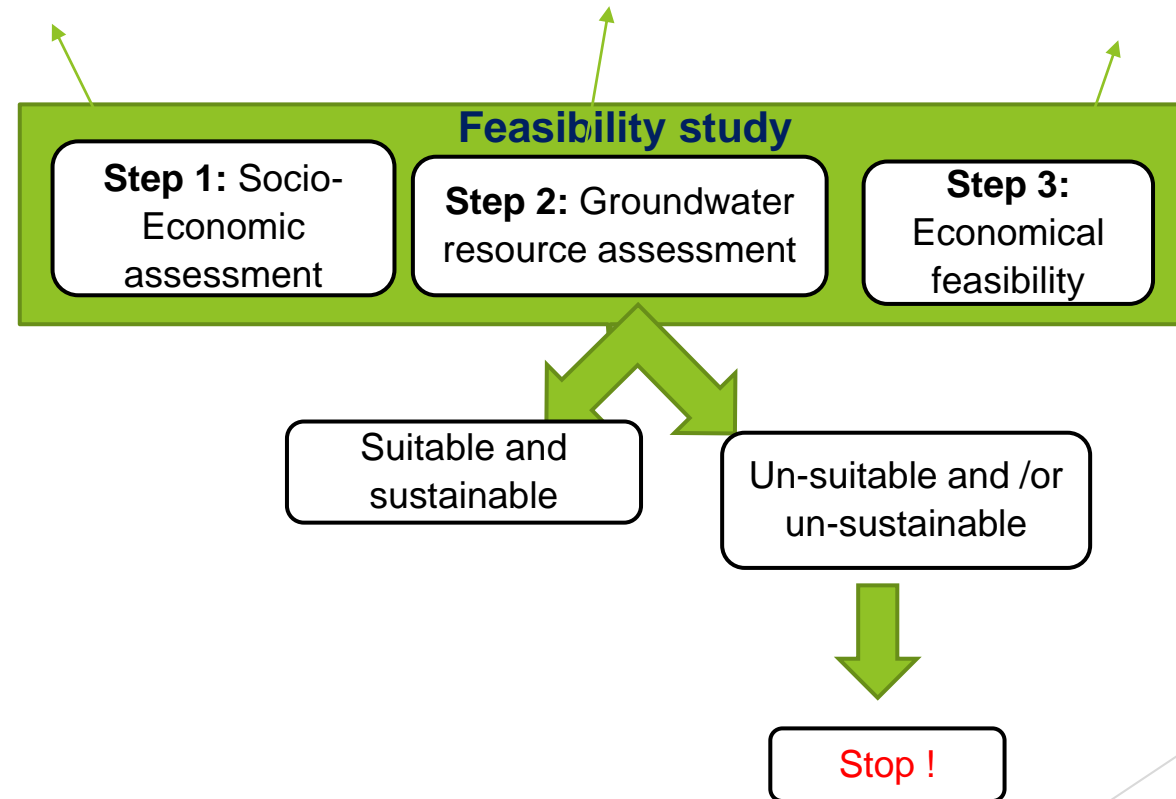
- ▶ Guidelines assumption
- ▶ Bottom - Up vs Top - Down approach

Feasibility study

- Potential GW irrigation
- Farmer's perception of GW irri.
/resource /participatory approach
- Socio - economic context
- Agricultural context

- Resource capacity
- Suitability
- GW users

- Investment cost
- Operation cost
- Maintenance



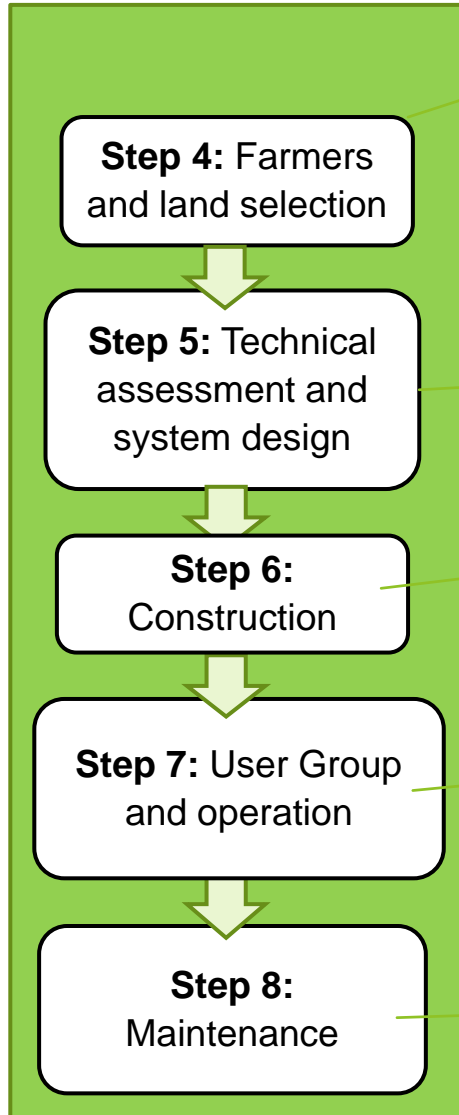
At this early stage:

Concrete understanding:

- **Willingness to improve / develop their agricultural practices through GW irri.**
- **Perception of community management**
- **Perception regarding the groundwater resource**

- **→ Water needs**
- **→ System functioning**
- **→ Functioning of the group**
- **→ Future challenges**

Implementation process



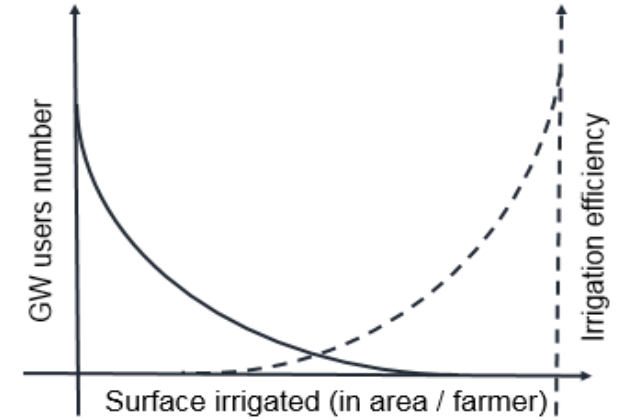
- Selection limit the number of user to not threaten the resource.
- Satisfied the major part of the community.
- Land issues
- Initial stage of community establishment

- Drilling company and well characteristics
- Pumping system
- Pipes
- Pressure and outflow management
- Supplier
- Design

- Conjunctive effort of developer and farmers
- Flexibility

- Institutional rules
- National framework
- Clear water fee and economical management

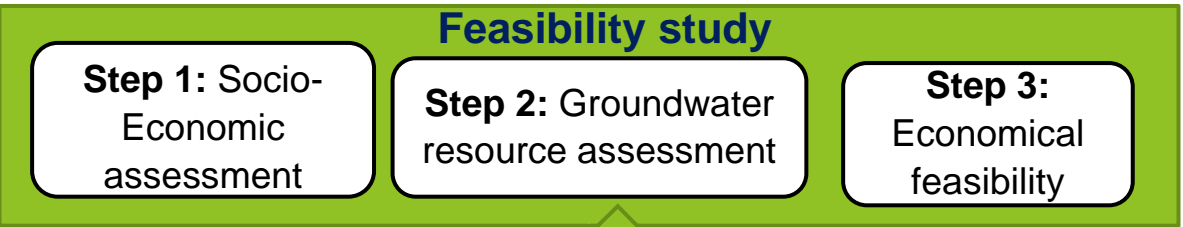
- Link with supplier
- Ability to fix the system



GWUG establishment

Informal: Farmers functioning, expectation and perception regarding to the future GWUG

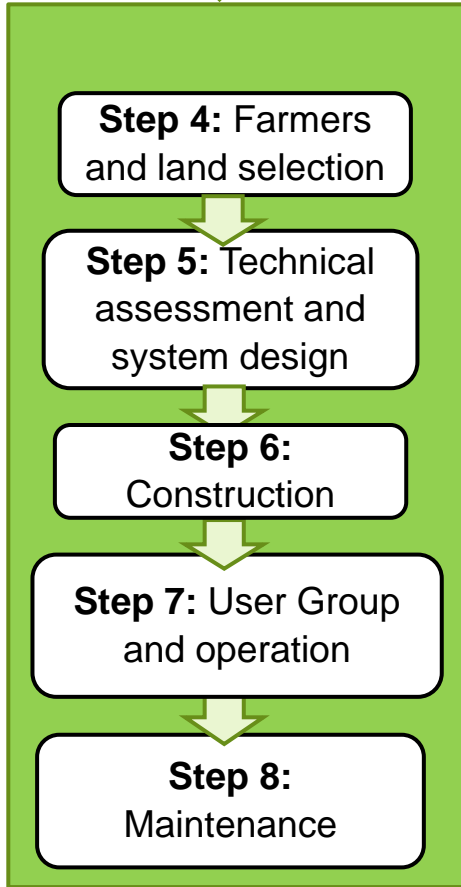
Formal: Election, re-discuss the rules, adaptation from initial plan



Suitable and sustainable

Un-suitable and /or un-sustainable

Implementation



Stop !

Negative effect

- ▶ Over use of the groundwater resource
- ▶ Unsustainable functioning of the group
- ▶ Social conflict
- ▶ Dis-engagement of the community

Key recommendations

- ▶ Link Social - Environmental - Engineering aspects
- ▶ Developers proximity
- ▶ GW managers coordination

Thank you

The background features abstract, overlapping geometric shapes in various shades of green, ranging from light lime to dark forest green. These shapes are primarily located on the right side of the frame, creating a modern, layered effect against the white background.