

# GROUNDWATER DEVELOPMENT FOR AGRICULTURE AND SUSTAINABILITY: KHLONG YANG AREA, SUKHO THAI PROVINCE

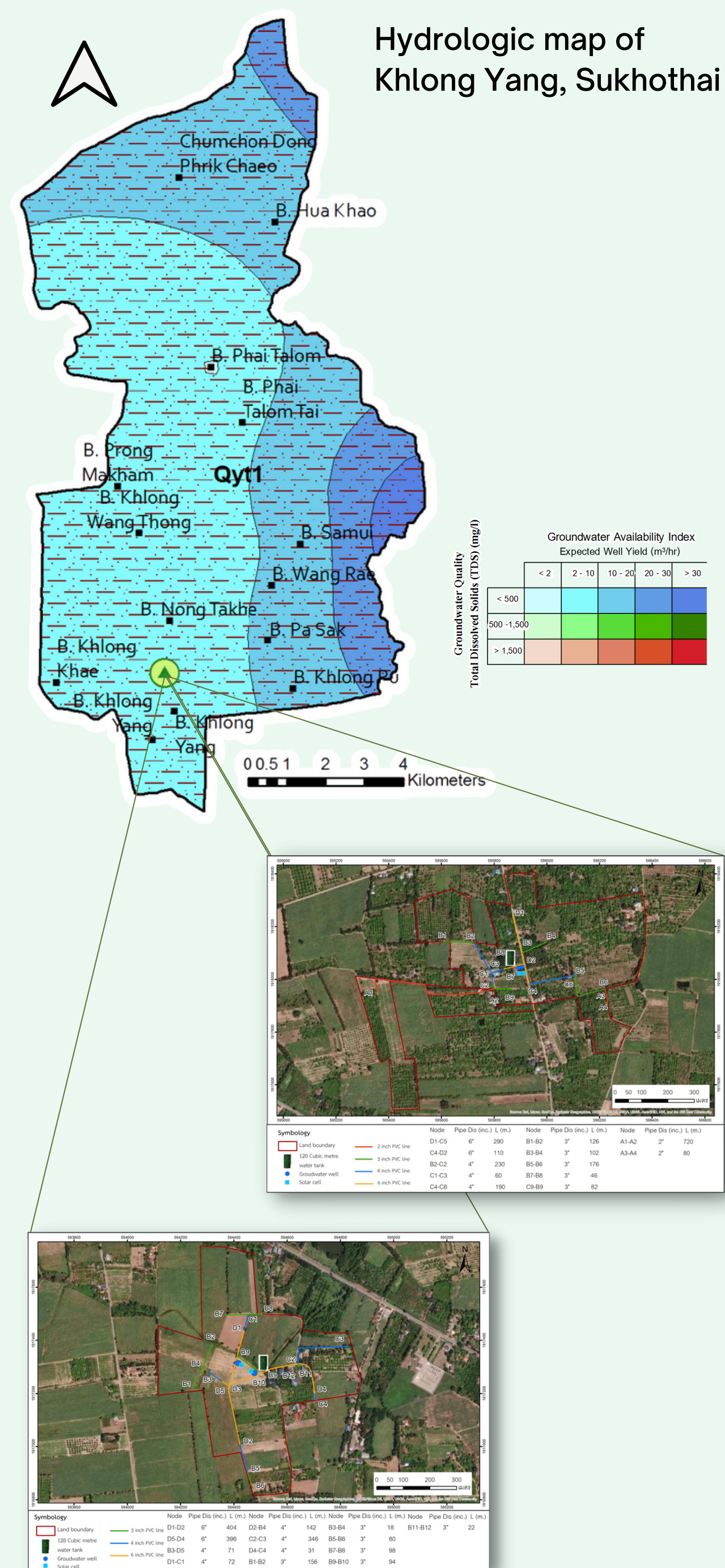
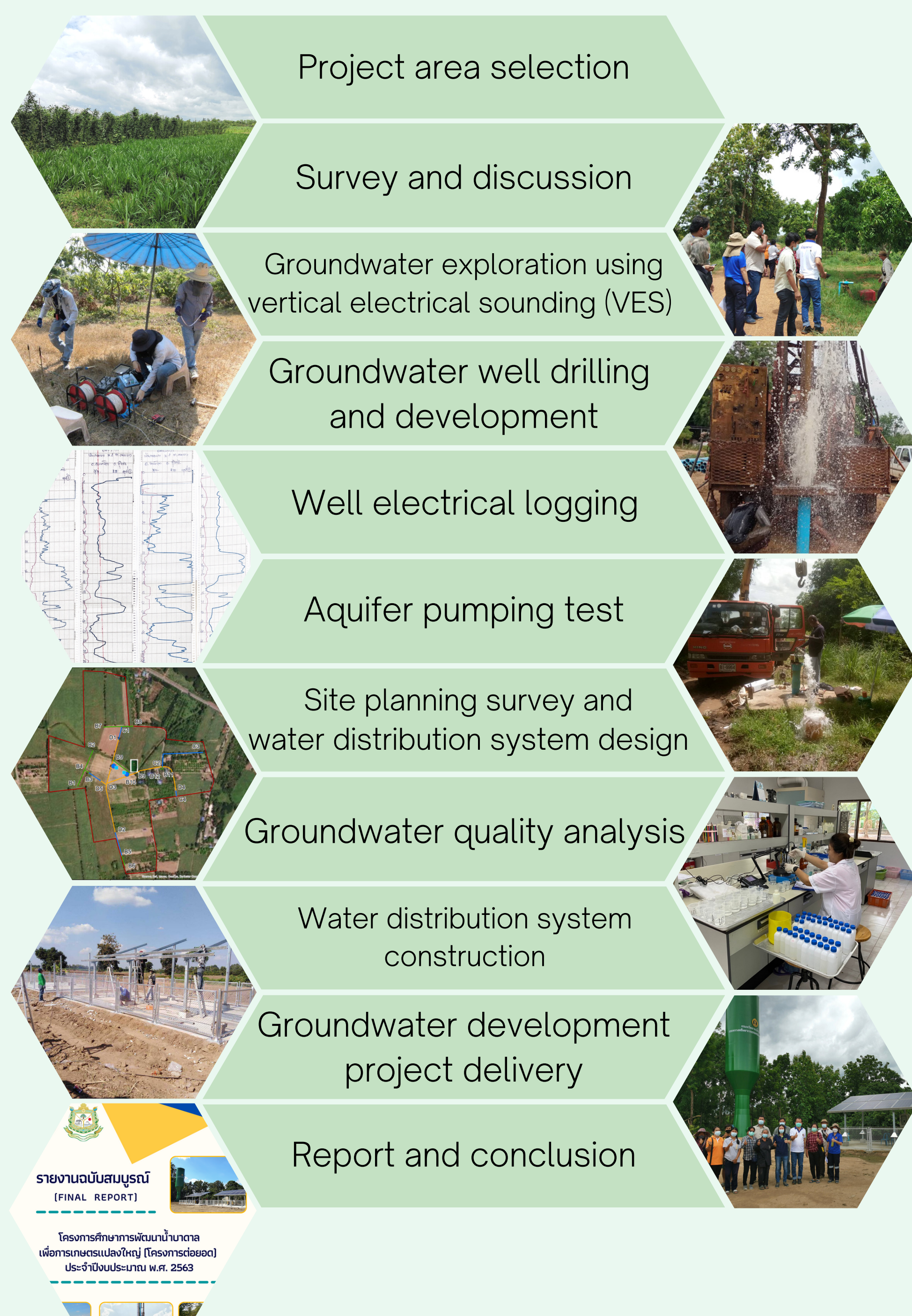
Agriculturists in Khlong Yang area suffered from water shortages for agriculture such as mangoes, sugar canes, maprang, durian, and vegetable during the dry season. Accordingly, the department of groundwater resources has a operated groundwater development project for large-scale 500 Rai (0.8 square kilometers) agriculture in Khlong Yang area to provide groundwater supply and encourage the farmers' group to participate in groundwater management for large-scale agriculture.

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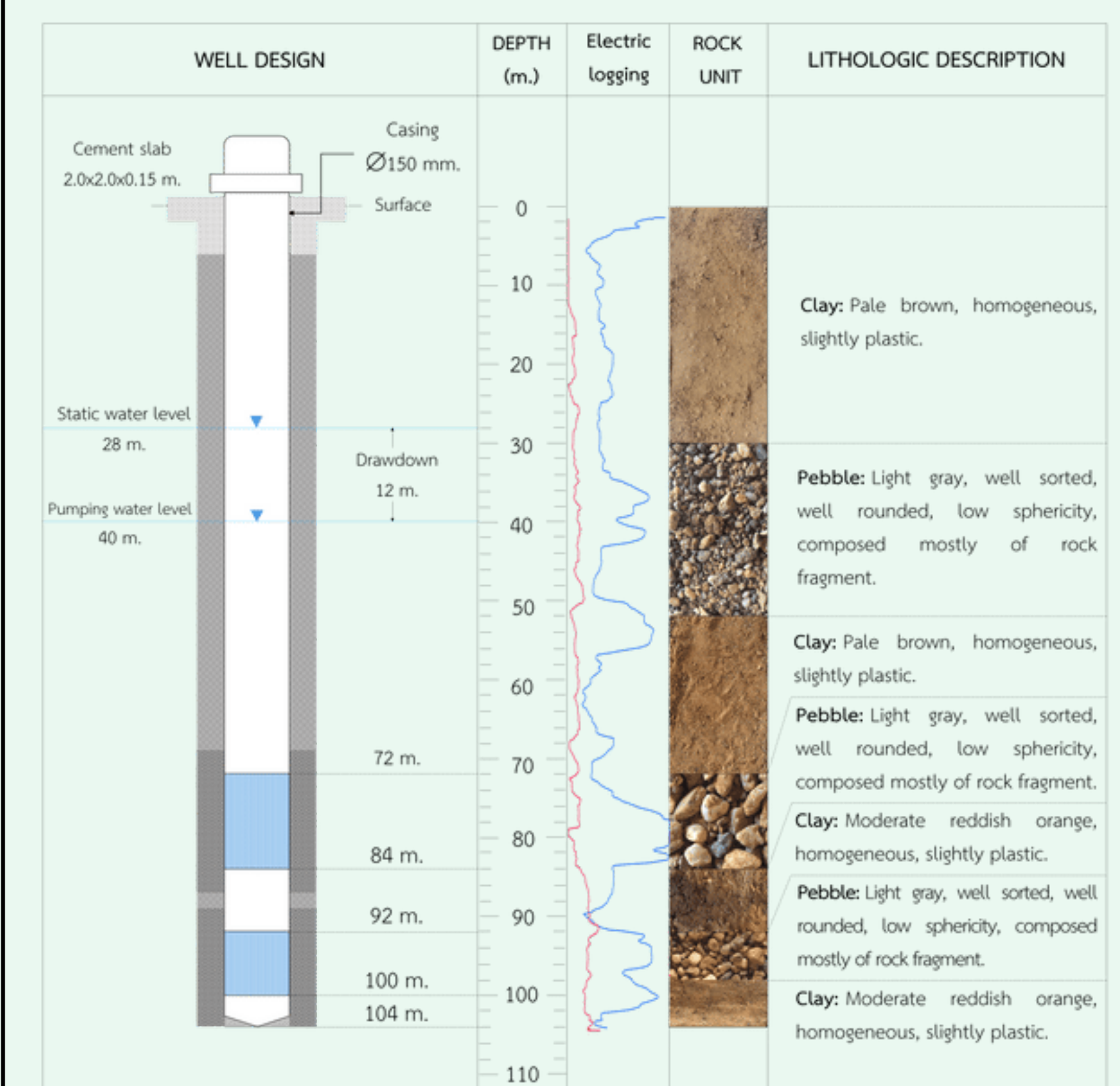
## OBJECTIVES

1. To study and evaluate groundwater potential of large-scale agriculture area
2. To assess the value of the water distribution system model and the balance between groundwater demand and groundwater potential for large-scale agriculture
3. To encourage the farmers' group to participate in groundwater management for large-scale agriculture and support sustainable use of groundwater

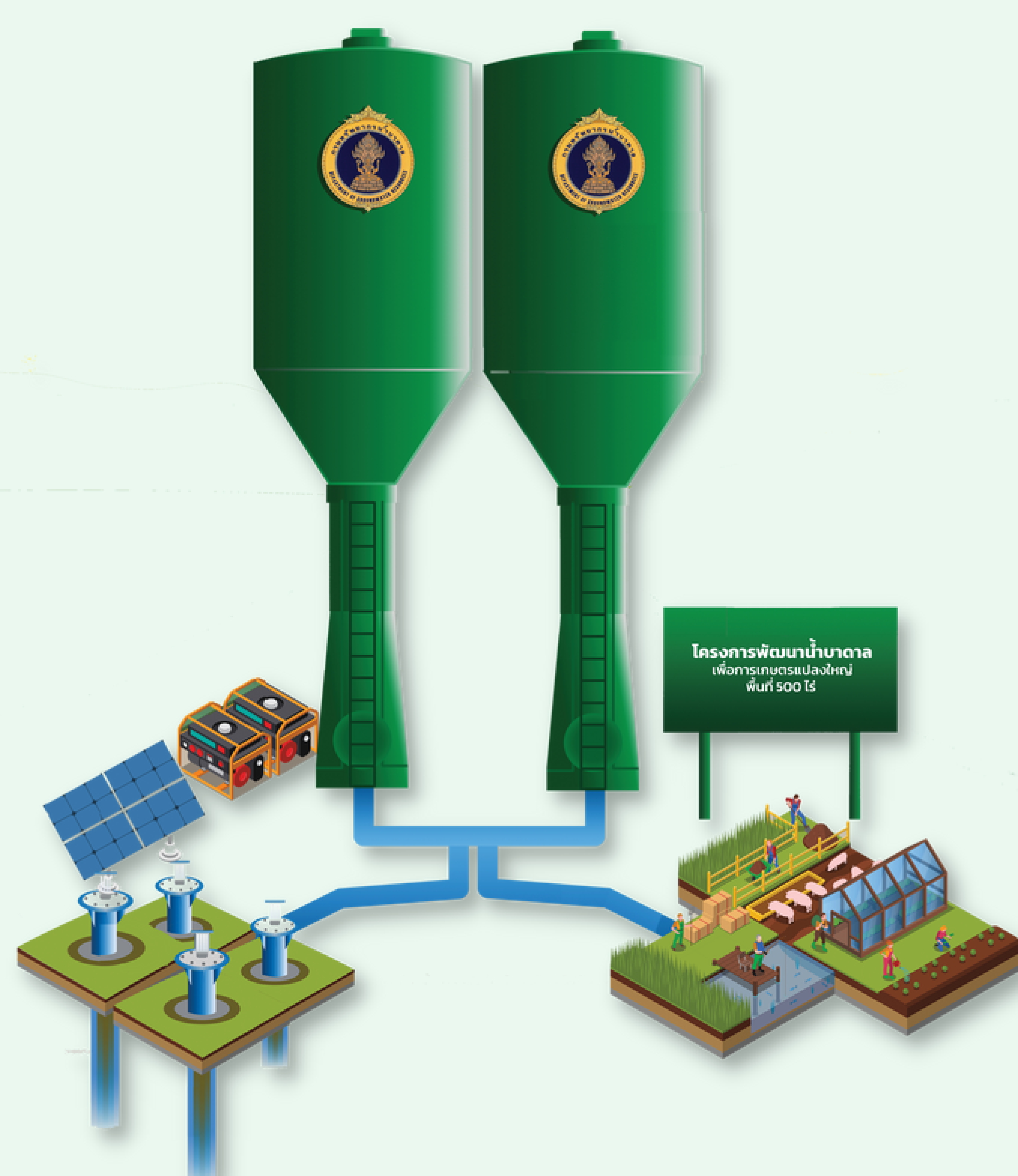
## METHODOLOGY



## RESULTS



Symbol	Hydrology of groundwater wells				
	Well No.	63071038	63071039	6307D038	6307D039
Blank casing					
Perforate casing					
Cement					
Clay					
Gravel pack					
	Yield (m <sup>3</sup> /hr.)	18	18	20	20
	Depth (m.)	104	104	104	104
	Static water level (m.)	27	28	28	28
	Drawdown (m.)	9	9	12	12
	Submersible pump (hp)	3	3	3	3
	Water budget	181,440 (m <sup>3</sup> /hr.)			



- 230,000 cubic meters**
- 49 households**
- 0.8 square kilometers**
- mango, rice, sugarcane, cassava, maprang, mayong chid, and lime**

## WATER DISTRIBUTION SYSTEM MODEL

- |                                 |             |
|---------------------------------|-------------|
| 1. Groundwater well             | 4 wells     |
| 2. Submersible pump 5.5 hp      | 4 pumps     |
| 3. Solar cell                   | 4 cells     |
| 4. Standby Generator 8,000 watt | 8 units     |
| 5. Water tank 120 cubic metre   | 2 tanks     |
| 6. Water distribution system    | 2,300 metre |
| 7. Project plate                | 1 plate     |

## CONCLUSION

As a result of the project, at least 500 rai of benefiting areas, farmers benefit 49 households, able to develop groundwater to support agriculture at least 230,000 cubic meters a year. It also encourages farmers to access funding from the Bank for Agriculture and Agricultural Cooperatives in accordance with the Memorandum of Understanding on promoting and supporting groundwater use for sustainable agricultural development between the Department of Groundwater Resources and the Bank for Agriculture and Agricultural Cooperatives.

