Integrated Land and Water Management

Case Study Tumbol Din-Daeng

Master's Thesis by Duangkaew Tawee, Thailand

Introduction

Water is crucial for the human and natural environment, but water resources are becoming scarce due to an imbalance of demand and the availability of water. In Thailand especially in rural areas drinking water and water supply systems are far less developed than the urban ones. Drinking water, in many parts of the rural areas, is still using the traditionally harvested rainwater. Purification and supply systems for drinking water have mostly not yet been applied in the rural regions. Likewise Tumbol Din-Daeng or Din-Daeng sub-district is a rural community, which is located in Si Sa Ket province in the northeast of Thailand as one of the poorest regions in Thailand.

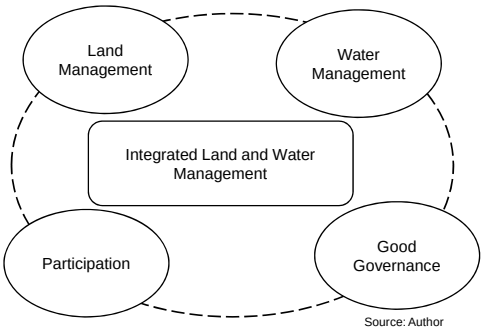
Problem Statement:
The problem statements of this research is about water and land resources. The problems concerning water aspects are showing an inadequacy in both quality and quantity of the drinking water due to a lack of proper water management. A proper land management / development does not exist for this region. Besides, the climate change (the shifting of seasons / less rainfall) and an increase of the population influence land and water resources. It is important to take care of land resources for nutrition and of water resources for drinking purposes and agriculture. That means there is a need for an integrated land and water management as a basis for a sustainable development.

Objectives:
It is necessary to develop an integrated land and water management approach for the sustainable availability of water.

Hypothesis:
Proper land use planning with an integrated approach to water management can contribute to the availability of good quality water.

Research Methodology:
A qualitative method based on a questionnaire and semi-structured interviews was used in the nine villages of Tumbol Din-Daeng.

Theoretical Framework



Source: Author

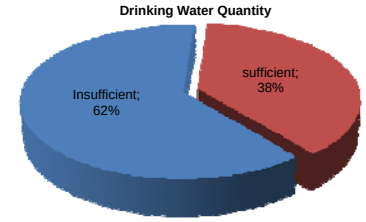
Findings

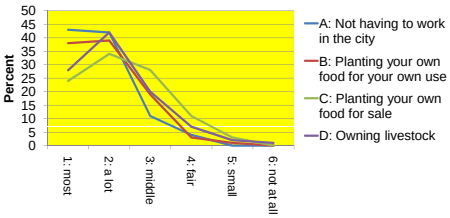
Water:
- Rainwater is the main drinking water resource
- The problem with inadequate drinking water occurs from a lack of appropriate water management
- A central domestic water supply exists only in five villages

Land:
- A lack of land use planning and land development
- Intensive agriculture land use and misuse of land resources (use of monoculture / agrochemicals)

Participation:
- The local people's participation is positive
- The locals prefer to live in a rural area and are willing to participate in order to improve their living conditions

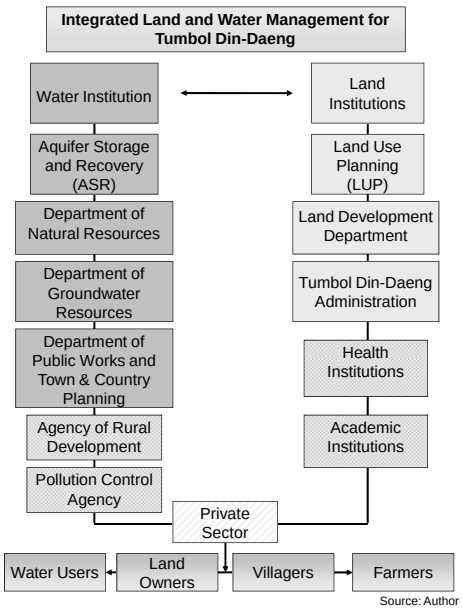
Findings





Diagrams and photos by Author

Integrated Land and Water Management



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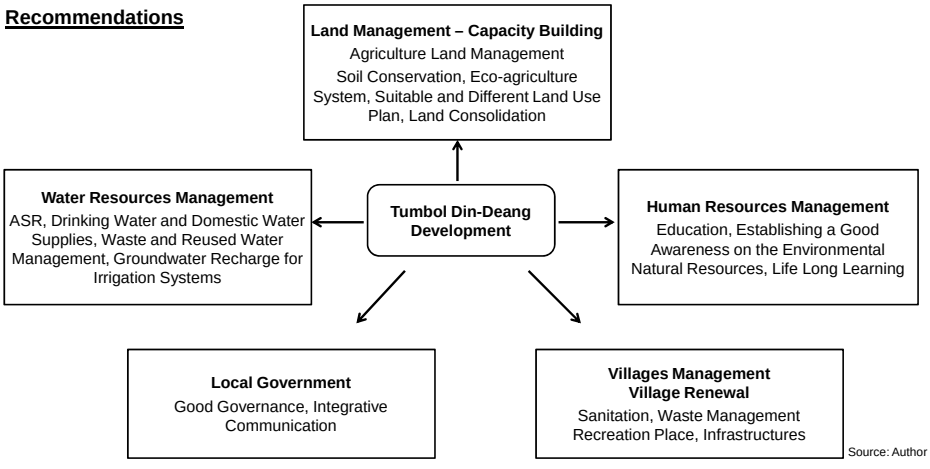
Recommendations



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