



Food and Agriculture  
Organization of the  
United Nations



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# FORESIGHT PLANNING AT VILLAGE LEVEL

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USING DECISION SUPPORT SCENARIOS

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# WORKBOOK



RESEARCH PROGRAM ON  
Climate Change,  
Agriculture and  
Food Security



Utrecht  
University



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USING DECISION SUPPORT SCENARIOS

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# WORKBOOK

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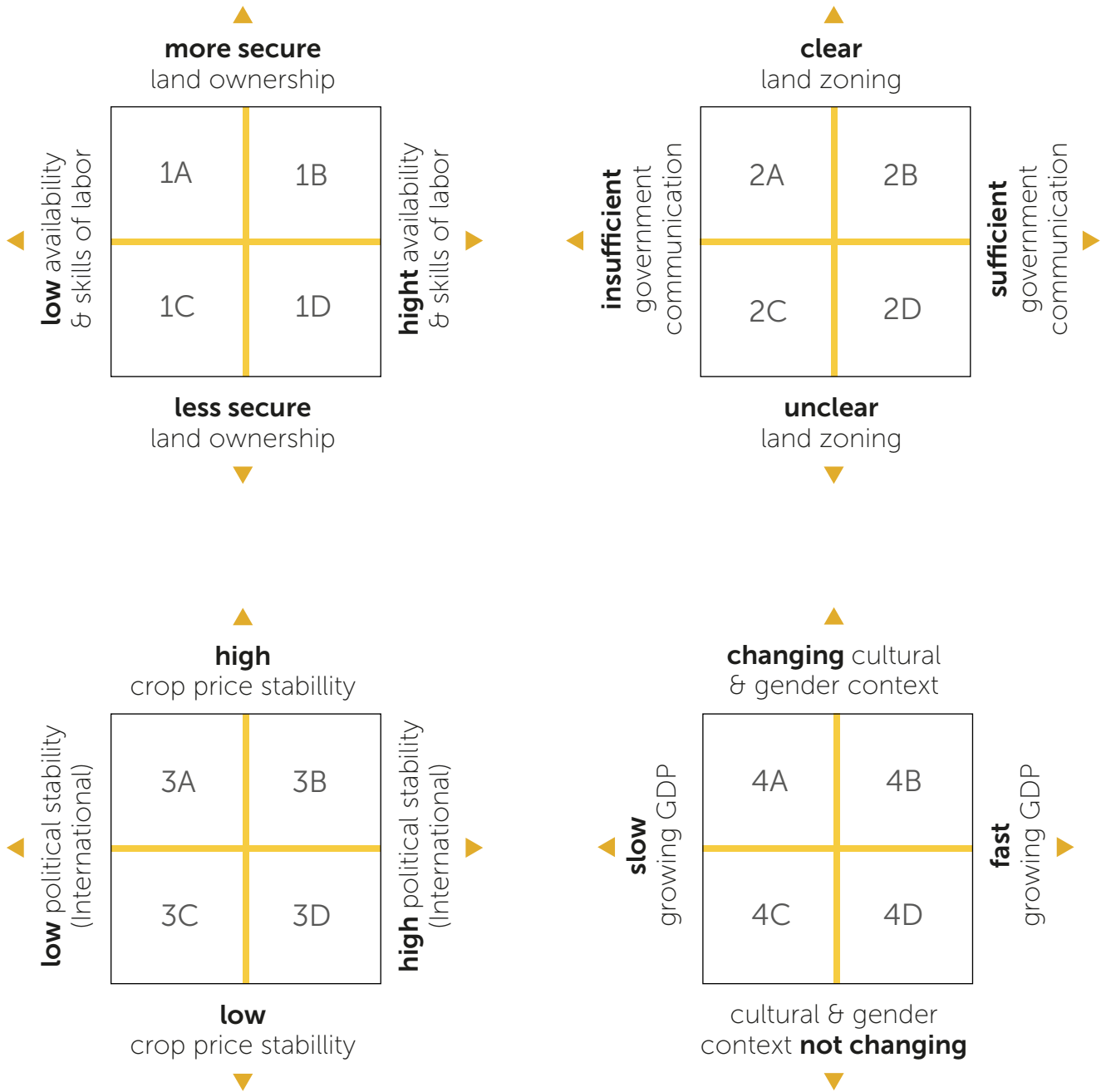
# WORKBOOK CONTENTS

This document provides the supplementary materials needed for the exercises in this training. It contains the tables, figures, and the pFALUPAM village plan and LU maps for Keosaenkham village that are used in the exercises. The pFALUPAM village plan shall be made available in hard copy for the participants and plasticised A2 or A3 sized. For the foresight exercise, two of the future scenarios developed during the training course are used to visualise possible futures in 2030. The description of these scenarios should also be made available in hard copy.

It is advised that all documents are translated into Lao and available in both soft and hard copies.

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# OVERVIEW OF THE DECISION SUPPORT SCENARIOS | SAMIS contextual scenarios



Elaborated by the authors.

Figure 1. Overview of the decision support scenarios SAMIS.

# STEP 1

## CONTEXTUALISE THE SCENARIOS AT VILLAGE LEVEL

### IMPACTFUL DRIVERS



- Use of chemical inputs;
- Land ownership.

**Other drivers:**

- Development in GDP;
- Soil degradation and loss of soil fertility;
- Changes in urban population;
- Changes in rural population;
- Pollution due to ag inputs;
- Land use planning by the government;
- Farmer income;
- Area of agricultural land;
- Access of farmers to infrastructure;
- Education level.

### UNCERTAIN DRIVERS



- Food security;
- Land use planning by government;
- Development of GDP.

**Other drivers:**

- Crop price stability / fluctuations;
- Cultural differences;
- Land ownership;
- Availability of labor forces;
- Farmer resilience to natural disasters;
- Political stability;
- Communication between government;
- Gender equality.

## SCENARIO 1D

# AGRICULTURE IN NEED OF A RESCUE TEAM

In 2030, crop production of **• main crops in this region:** \_\_\_\_\_

is highly specialized in Lao People's Democratic Republic and specially in the province **• name the province of the village used in this exercise:** \_\_\_\_\_

The produced food **• give some examples of key crops and agriculture products:** \_\_\_\_\_

are recognized nationally for its high quality contributing to put on the map village such as \_\_\_\_\_ which won different national prizes. However, the quantities produced by the farmers are insufficient to respond to the demand coming from different regions of Lao People's Democratic Republic. This is due to the insecure land ownership of farmers as over the years multiple land issues arose such as

**• give at least two examples of rising issues:** \_\_\_\_\_

Meanwhile the production levels of basic commodities such as rice to maintain food security cannot be kept stable and the youngsters of the village are seeking new opportunities in the main cities as incomes decrease. **• Please describe the labour force still available in 2030:** \_\_\_\_\_

Key agricultural production areas, green baskets in **• village or province to be named:** \_\_\_\_\_

agricultural are being left empty due to land degradation related to the use of fertilizers and pesticides

**• describe the types of uses:** \_\_\_\_\_

To mitigate the flux of migration the government is encouraging agro-industries to build factories in non-permanent lands. Those large land areas are being taken by agro-industries conducting intensive agriculture such as **• name intensive farming practices:** \_\_\_\_\_

that decreases soil fertility even more and has a tragic impact on the environment. Despite those big factories that have been located in the **• location:** \_\_\_\_\_

\_\_\_\_\_ people are still migrating, as modern agriculture is mainly mechanised and only two type of jobs are available; those which require almost no skill and pay poorly or those which require degrees in science and research with high salaries **• please specify who have those jobs:** \_\_\_\_\_ As families are

regularly out of food **• describe crops and food price and its volatility:** \_\_\_\_\_

\_\_\_\_\_ and income insecurity. There is a need to further improve public administration, especially laws, decrees and regulations **• please specify the types of regulation needed:** \_\_\_\_\_

## SCENARIO 2A

# HAPPY FARMERS

In 2030, weak governmental management, relationship capacity and low technical and developmental support, such as • *name examples of issues specific for this case:* \_\_\_\_\_

\_\_\_\_\_ has lead to delays in accessing local information and delivering climate hazard information to farmers and people on the ground in • *name province and village:* \_\_\_\_\_

\_\_\_\_\_ The level of knowledge about modern techniques of farmers is an obstacle for maintaining stable production levels of • *main crops in the region:* \_\_\_\_\_

\_\_\_\_\_ This is mainly because of • *name effects of low knowledge levels on stable production:* \_\_\_\_\_

It is harder for farmers to access funding resources such as • *describe funding types:* \_\_\_\_\_, because • *describe why it is harder:* \_\_\_\_\_

\_\_\_\_\_ There is a risk of land overuse like • *what does land overuse look like in this case:* \_\_\_\_\_

\_\_\_\_\_ and departments may be making different plans for the same area. Prices and import and export volumes are inconsistent between sectors due to uncoordinated data collection. Nevertheless, the land zoning plans of the government are very clear, through • *describe the reasons why:* \_\_\_\_\_

Natural areas and sustainable use of natural resources can be maintained effectively, resulting in • *describe the visible results of successful conservation and natural resources management:* \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_



## STEP 2

# NAMING THE SCENARIOS

Table 1: Exploring the drivers of change: projection of the type of development these drivers may follow under the two selected scenarios, what are the similarities and differences:

**What are the differences in development directions of main drivers between the two scenarios:**

	SCENARIO 2D	SCENARIO 2A
Drivers of change	<b>AGRICULTURE IN NEED OF RESCUE TEAM</b>	<b>HAPPY FARMERS</b>
<b>Land ownership</b>	..... .....	..... .....
<b>Use of chemical inputs</b>	..... .....	..... .....
<b>Land use planning by the government</b>	..... .....	..... .....
<b>Economic development</b>	..... .....	..... .....

Elaborated by the authors.



## STEP 3

# VILLAGE GOAL TESTING–VISION 2030

What is/are the end products?: (Re)Formulation of a village goal 2030. Two to three sentences.

### 1. Specify the village goals together in the group in terms of:

<p>• <b>The time frame:</b> what is the end point of accomplishing the village goals?</p>	<p>.....</p> <p>.....</p>
<p>• <b>Details of the village goal:</b> what aspects of agricultural production, land use, natural resource use, biodiversity conservation and economic status of different ethnic groups have changed in the intended future state that is described with the village goal?</p>	<p>.....</p> <p>.....</p> <p>.....</p>

### 2. Describe the situation related to organisational, technical, social skills, the use of water, soil and energy, the values of people related to the world around them.

<p>• <b>What are the main land use issues in this area that occur today?</b></p> <p><i>- Indicate on the land use map where these take place</i></p>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
<p>• <b>Describe how the village goals act upon these issues.</b></p>	<p>.....</p> <p>.....</p>
<p>• <b>What are constraints for these village goals and what are trade-offs?</b></p> <p><i>- Describe this in terms of organisational, technical, social skills, the use of water, soil and energy, the values of people. How could the village goals hamper these aspects?</i></p>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>

Elaborated by the authors.

Table 2. Village goals 2030.

**3. Look at the agricultural areas. Is the current amount of agricultural land area enough for intended future agricultural production?**

<p>• Where do physical constraints to agricultural production take place in this area in the current situation? Think about water resources, soil quality, erosion. Indicate these locations on the land use map.</p>	<p>.....</p> <p>.....</p> <p>.....</p>
<p>• Where do shortages of agricultural land exist and where would be places for expansion? Indicate on the land use map.</p>	<p>.....</p> <p>.....</p>
<p>• Which sites should be avoided when thinking about future land use planning? Think of conservation efforts for water/soil resources and biodiversity/natural landscape beauty.</p>	<p>.....</p> <p>.....</p>
<p>• <b>Comparing the two potential productivity maps for maize, what effect can be expected from irrigating agricultural land in terms of potential maize production?</b></p>	<p>.....</p> <p>.....</p>
<p>• Indicate the areas on the land use map where the largest contributions of irrigation to potential productivity are visible.</p>	<p>.....</p> <p>.....</p>

Elaborated by the authors.

**4. Then look at the land use maps and data provided in the report of Keosaenkham village. Discuss within your group how the developments in SCENARIO 1D and then SCENARIO 2A will affect the village goals by using the two guiding questions:**

<p>• How do the developments in scenario SCENARIO 1D facilitate or hamper the achievement of the village goals? For example, how do the developments in SCENARIO 1D affect food demand and availability, production of cash crops for export, land zoning, conservation of biodiversity soil, and other natural resources, and dynamics between ethnic groups?</p>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
<p>• And how do the developments projected under SCENARIO 2A facilitate or hamper the achievement of the village goals?</p>	<p>.....</p> <p>.....</p>

Elaborated by the authors..

 **STEP 4**  
**ROLE PLAY**

Areas that will be addressed by the proposed activities	Proposed activities and involved stakeholders
<b>Future yields and other sources of income or food (NTFP, aquatic resources)</b>	..... .....
<b>Food demand</b>	..... .....
<b>Climate extremes</b>	..... .....
<b>Flood hazards of the past five years and their impact, water control measures</b>	..... .....
<b>Drought hazards of the past five years and their impact, drought control measures</b>	..... .....
<b>Other hazards such as epidemics, pests, wildlife or forest fires and their impacts</b>	..... .....
<b>Land degradation and soil fertility</b>	..... .....

Elaborated by the authors.

**Table 2.** Role play interventions.

 STEP 5

## BACKCASTING AND FINAL RECOMMENDATIONS

What needs to happen in the long perspective? <b>2030–2027</b>	What needs to happen in the intermediate future <b>2030–2027</b>	What needs to happen happen in the next years ? <b>2021–2023</b>
..... ..... ..... ..... ..... ..... ..... .....	..... ..... ..... ..... ..... ..... ..... .....	..... ..... ..... ..... ..... ..... ..... .....

Elaborated by the authors.

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