

## **Appendix 1.** Experiment instructions and form for subjects.

This appendix contains the English instructions (the Swedish instructions are available upon request) of the threshold treatment and the medium-risk treatment (0.5 probability of a threshold) as well as the form on which the subjects indicated their individual harvest decisions in each round. The high- and low-risk treatment instructions coincide with the medium-risk treatment except for the probabilities (0.9 and 0.1 instead of 0.5) and the information on how the experimenter decided upon which scenario will be played (by doing a random draw instead of flipping a coin).

Threshold treatment:

### **INSTRUCTIONS**

Thank you for participating in this experiment! It is an experiment dealing with economic decision-making. If you follow the instructions carefully and take sound decisions, you can earn money. You will receive the compensation for your participation in this experiment (150 SEK) plus the additional earnings after the experiment.

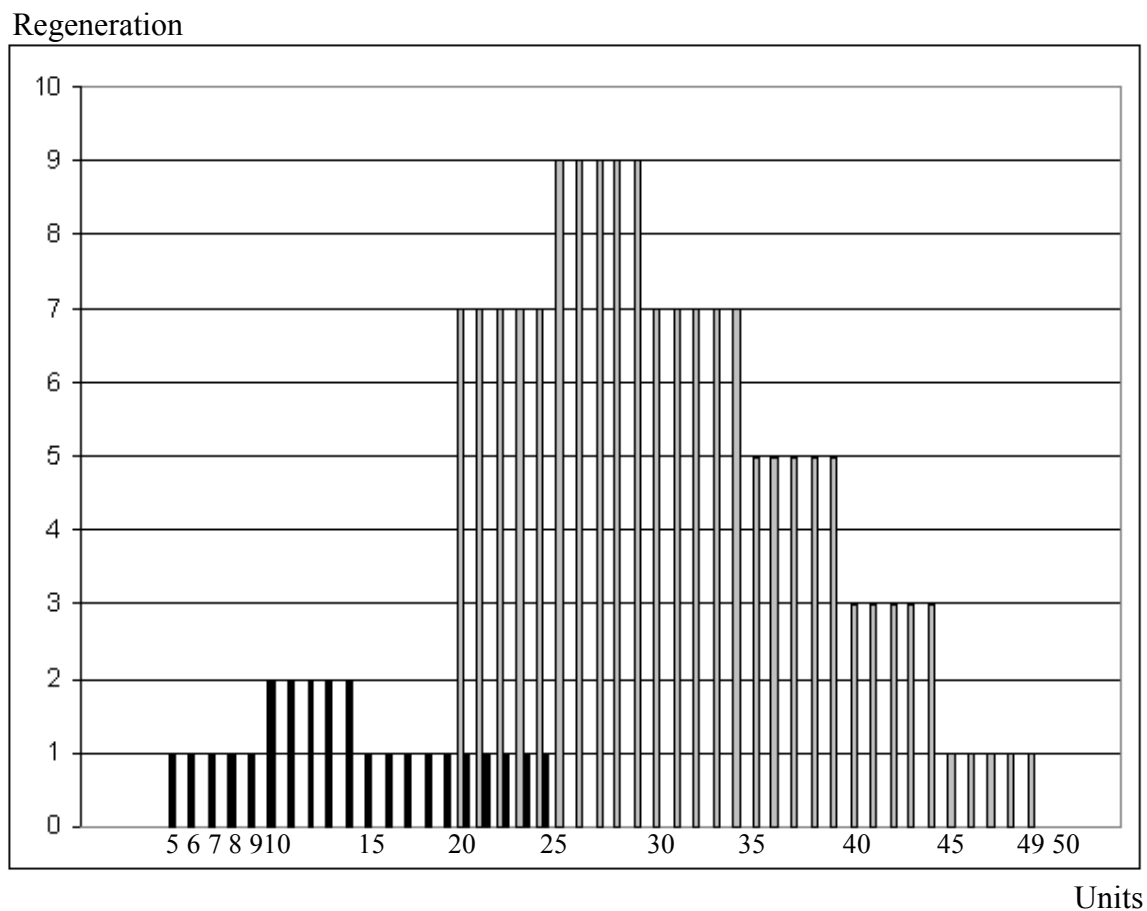
Each of you sitting in this room is a fictive resource user. Together with the other experiment participants you form a group. You and your group members have common access to a resource stock. Each of you can harvest units of this resource. Each harvested unit is worth 5 SEK. Accordingly, in case your individual harvest amounts to 20 units at the end of the experiment, you will earn 100 SEK (in addition to the show-up fee of 150 SEK). The important thing you need to remember is that the more units you harvest the more money you earn.

The experiment lasts several rounds and in each round you take an individual decision of how many units of the resource you would like to harvest. The resource regenerates itself before each new round. The regeneration depends on how much of the resource stock is left from the previous round, which in turn depends on the total harvest of the previous round (sum of your and the other participants' harvest in the previous round). As long as there are units to harvest, the experiment continues for a number of rounds. **The more rounds you succeed to sustain the resource the more you are able to harvest, and respectively earn, in total.** The exact amount of rounds is unknown to you. If the group's total harvest is equal to or exceeding the number of

available resource units in one round, the resource regeneration is zero and the experiment ends. The harvest you receive in that round ( $X$ ) is then based on your percentage of the group's total harvest in that round ( $X = (\text{your harvest}/\text{total harvest}) * \text{resource stock size}$ ).

The exact relation between the size of the resource stock and its regeneration is illustrated in Figure 1.

**Figure 1**



As the figure illustrates, there is a “threshold” in the resource dynamics. If the size of the resource stock is equal to or lower than 19 units, the regeneration capacity decreases drastically. In order

to get back to a higher regeneration capacity, the resource stock needs to reach an amount of 25 units or more.

There are 50 units of the resource in the beginning of the experiment. If you, for example, harvest together 17 units in the first round, the resource will regenerate itself by 7 units and, hence, the resource stock will consist of  $(50-17+7) = 40$  units in round 2.

To ensure clarity, this regeneration process is also illustrated in Table 1.

**Table 1**

Resource stock size	Re-generation	Resource stock size	Re-generation	Resource stock size	Re-generation
50	0	32	7	14	2
49	1	31	7	13	2
48	1	30	7	12	2
47	1	29	9	11	2
46	1	28	9	10	2
45	1	27	9	9	1
44	3	26	9	8	1
43	3	25	9	7	1
42	3	24	7 alt. 1	6	1
41	3	23	7 alt. 1	5	1
40	3	22	7 alt. 1	4	0
39	5	21	7 alt. 1	3	0
38	5	20	7 alt. 1	2	0
37	5	19	1	1	0
36	5	18	1	0	0
35	5	17	1		
34	7	16	1		
33	7	15	1		

You take a decision about how many units (in whole numbers, between 0 and current resource stock size) you would like to harvest in each round. The individual decisions are communicated via protocol and are anonymous. **However, this does not mean that you cannot communicate orally with each other.** The leader of the experiment calculates the total harvest in each round, lowers the resource stock by this amount, calculates how many resource units regenerate and discloses the new size of the resource stock to you.

After the very last round, you are requested to fill in a short questionnaire. Following, the leader of the experiment calls each of you to her desk for the individual payment, which corresponds to your total harvest.

In case you have any questions during the experiment, raise your hand and the leader of the experiment will come to you.

Summary:

- You and the other participants in your group share one resource stock.
- In each round you will take an individual decision of how many units of the resource you would like to harvest.
- As long as the stock size of the resource is between 5 and 49, it regenerates itself every round.
- Since it is a common resource, the regeneration is dependent on the size of the resource stock and the total harvest. The exact relation is illustrated in Figure 1 and Table 1.
- Each unit harvested is worth 5 SEK.
- As long as the resource regenerates itself the experiment continues, while the exact number of rounds is unknown to you.
- Your harvest converts to SEK in the end of the experiment.

**Good luck!**

Medium-risk treatment:

## INSTRUCTIONS

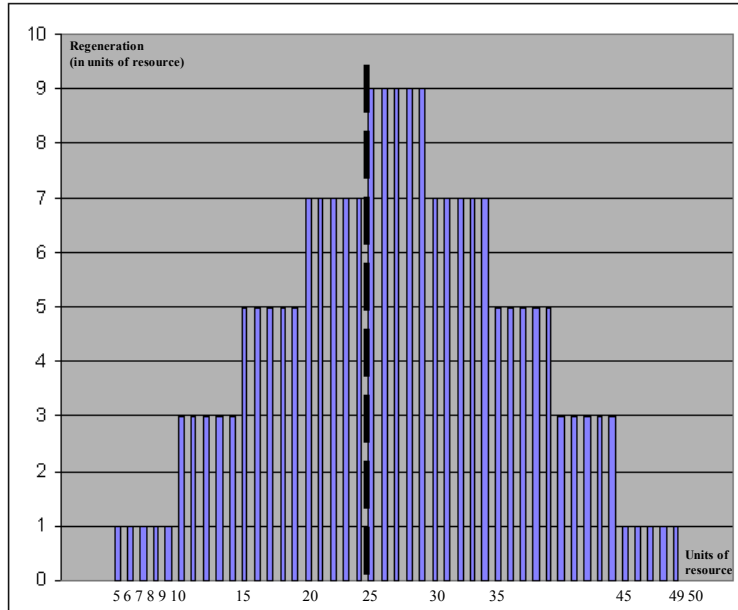
Thank you for participating in this experiment! It is an experiment dealing with economic decision-making. If you follow the instructions carefully and take sound decisions, you can earn money. You will receive the compensation for your participation in this experiment (SEK 150) plus the additional earnings after the experiment.

Each of you sitting in this room is a fictive resource user. Together with the other experiment participants you form a group. You and your group members have common access to a resource stock. Each of you can harvest units of this resource. Each harvested unit is worth SEK 5. Accordingly, in case your individual harvest amounts to 20 units at the end of the experiment, you will earn SEK 100 (in addition to the show-up fee of SEK 150). The important thing you need to re-member is that the more units you harvest the more money you earn.

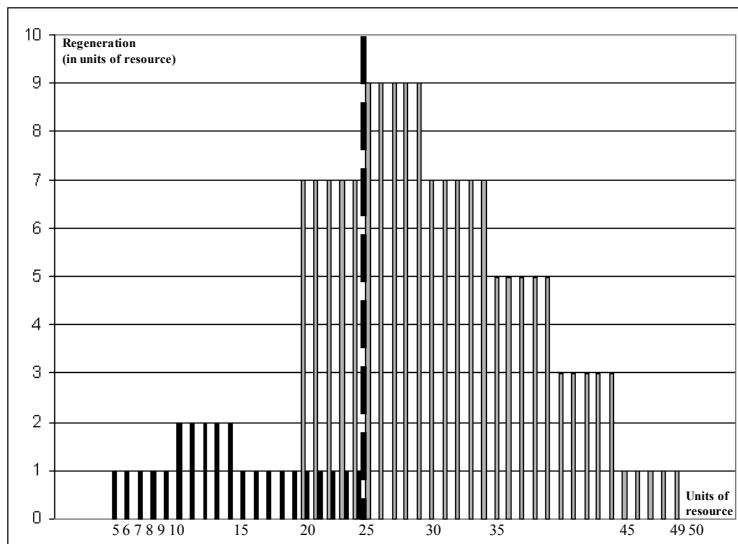
The experiment lasts several rounds and in each round you take an individual decision of how many units of the resource you would like to harvest. The resource regenerates itself before each new round. The regeneration depends on how much of the resource stock is left from the previous round, which in turn depends on the total harvest of the previous round (sum of your and the other participants' harvest in the previous round). As long as there are units to harvest, the experiment continues for a number of rounds. **The more rounds you succeed to sustain the resource the more you are able to harvest, and respectively earn, in total.** The exact amount of rounds is un-known to you. If the group's total harvest is equal to or exceeding the number of available resource units in one round, the resource regeneration is zero and the experiment ends. The harvest you receive in that round (H) is then based on your percentage of the group's total harvest in that round ( $H = (\text{your harvest} / \text{total harvest}) * \text{resource stock size}$ ).

**There are two possible scenarios: scenario A and scenario B.** The exact relation between the size of the resource stock and its regeneration (resource dynamics) for both scenarios is

illustrated in Figure 1 and 2 (following page). However, **you do not know which of the two scenarios you will play**. What you know is that there is a 90% chance that you play scenario A and a 10% chance that you play scenario B respectively.



**Figure 1: Resource dynamics scenario A (without threshold)**



**Figure 2: Resource dynamics scenario B (with threshold)**

As you can see from Figure 1 and 2, on the right hand side of the bold dashed line (resource stock size equal to and higher than 25 units) scenario A and B follow identical dynamics. The following example holds for both scenarios: There are 50 units of the resource in the beginning of the experiment. If your group, for example, harvests together 17 units in the first round, the resource will regenerate itself by 7 units and, hence, the resource stock will consist of  $(50-17+7) = 40$  units in round 2.

On the left hand side of the bold dashed line (resource stock size equal to or lower than 24 units) scenario A and B differ from each other. As Figure 2 illustrates, there is a “threshold” in the resource dynamics of scenario B. If the size of the resource stock is equal to or lower than 19 units, the regeneration capacity decreases drastically. In order to get back to a higher regeneration capacity, the resource stock needs to reach an amount of 25 units or more.

To ensure clarity, the regeneration processes of both scenarios are also illustrated in Table 1.

**Table 1: Resource dynamics of scenario A and scenario B**

Resource stock size	Regeneration (in units of resource)		Resource stock size	Regeneration (in units of resource)		Resource stock size	Regeneration (in units of resource)		Resource stock size	Regeneration (in units of resource)	
	A	B		A	B		A	B		A	B
50	0	0	37	5	5	24	7	7 alt. 1	11	3	2
49	1	1	36	5	5	23	7	7 alt. 1	10	3	2
48	1	1	35	5	5	22	7	7 alt. 1	9	1	1
47	1	1	34	7	7	21	7	7 alt. 1	8	1	1
46	1	1	33	7	7	20	7	7 alt. 1	7	1	1
45	1	1	32	7	7	19	5	1	6	1	1
44	3	3	31	7	7	18	5	1	5	1	1
43	3	3	30	7	7	17	5	1	4	0	0
42	3	3	29	9	9	16	5	1	3	0	0
41	3	3	28	9	9	15	5	1	2	0	0
40	3	3	27	9	9	14	3	2	1	0	0
39	5	5	26	9	9	13	3	2	0	0	0
38	5	5	25	9	9	12	3	2			

As you can also see here, the regeneration rate of both scenarios is identical for a resource stock size between 50 and 25 units and between 9 and 0 units. The grey cells indicate the range of the resource stock size where the regeneration rate of scenario A and B differ from each other. The following examples point out the differences in the resource dynamics of scenario A and B.

Example scenario A: There are 25 units of the resource at the beginning of round X. If your group, for example, harvests in total 10 units in that round, the resource will regenerate itself by 5 units and, hence, the resource stock will consist of  $(25-10+5) = 20$  units in the following round.

Example scenario B: There are 25 units of the resource at the beginning of round X. If your group, for example, harvests in total 10 units in that round, the resource will regenerate itself by 1 unit and, hence, the resource stock will consist of  $(25-10+1) = 16$  units in the following round. You take a decision about how many units (in whole numbers, between 0 and current resource stock size) you would like to harvest in each round. The individual decisions are communicated via protocol and are anonymous. **However, this does not mean that you cannot communicate orally with each other.** The leader of the experiment calculates the total harvest in each round, lowers the resource stock by this amount, calculates how many resource units regenerate and discloses the new size of the resource stock to you.

After the very last round, you are requested to fill in a short questionnaire. Following, the leader of the experiment calls each of you to her desk for the individual payment, which corresponds to your total harvest plus the show-up fee.

In case you have any questions during the experiment, raise your hand and the leader of the experiment will come to you.

Summary:

- You and the other participants in your group share one resource stock.



- In each round you will take an individual decision of how many units of the resource you would like to harvest.
- As long as the stock size of the resource is between 5 and 49, it regenerates itself every round.
- There are two possible scenarios: scenario A (without a threshold) and scenario B (with a threshold). However, which scenario is played is unknown to you.
- Which of the two scenarios you will play was decided by coin flipping.
- Since it is a common resource, the regeneration is dependent on the size of the resource stock and the total harvest. The exact relation is illustrated in Figure 1 and 2 as well as in Table 1.
- Each unit harvested is worth SEK 5.
- As long as the resource regenerates itself the experiment continues, while the exact number of rounds is unknown to you.
- Your harvest converts to SEK in the end of the experiment.

**Good luck!**

