

c. Instrument C - Joint problem solving, investment and sharing exercises

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As part of an impact evaluation that ran from 2016 till 2018, a lab-in-the-field experiment was used to measure intrahousehold cooperation and sharing behaviour as a result of the introduction of participatory intrahousehold decision-making in agricultural households in Uganda and Tanzania.² The lab-in-the-field experiments however were also highly appreciated by the program teams in the field and by the farmers for their potential for couples to self-reflect and learn about how they make decisions about investments and sharing resources in their household. The self-reflection and learning aspects of lab-in-the-field experiments are also increasingly acknowledged in the literature (Cardenas & Carpenter 2005; Meinzen-Dick et al. *Forthcoming*).³ Based on the lab-in-the-field experiment, we designed interactive, easy to manage, exercises fit for lowly educated participants to assess behavioural change within agricultural households with regard to investments, sharing and joint problem solving, on demand and in collaboration with the gender program teams of the Hanns R. Neumann Stiftung who implemented the program introducing participatory intrahousehold decision-making. The bases of the joint problem solving, investment and sharing exercises are scientifically devised and widely used lab-in-the-field experiments,



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² The lab-in-the-field experiment is described in Lecoutere, E. (2018). *Making spouses cooperate in Ugandan agricultural households – Experimental evidence of distributional treatment effects (IOB Working Paper 2018.06)*. Antwerp: The Institute of Development Policy (IOB), University of Antwerp. Retrieved from the Institute of Development Policy: <https://www.uantwerpen.be/images/uantwerpen/container2673/files/Publications/WP/2018/wp-201806.pdf>.

The protocol can be consulted in the Online Supplementary Materials of the article Lecoutere (2018) on <https://www.uantwerpen.be/images/uantwerpen/container2673/files/Publications/WP/2018/wp-201806-annex.pdf>.

³ Cardenas, J. C., & Carpenter, J. P. (2005). Three themes on field experiments and economic development. In: G. W. Harrison, Carpenter, J. P., & List J. A. (Eds.) *Field Experiments in Economics. Research in Experimental Economics, Volume 10* (pp. 71-123). Bingley, UK: Emerald Group Publishing Limited.

Meinzen-Dick, R., Janssen, M. A., Kandikuppa, S., Chaturvedi, R. Rao, K., & Theis, S. (*Forthcoming*). Playing games to save water: Collective action games for groundwater management in Andhra Pradesh, India. *World Development*.

the implementation of the exercises and their use as an assessment and learning tool, however, have still be scientifically tested.

0. The organisation of the exercises

A group of couples is to be invited to participate in the exercises. One person will need to facilitate the exercises, ideally with assistance. The exercises are played by the spouses per couple. Privacy per couple, for some of the exercises per spouse, should be ensured.

To assess spouses' intrahousehold investment, sharing and joint problem solving behaviour by means of the exercises, the answers by spouses in the participating couples need to be recorded and analysed.

To capitalise on the learning potential of the intrahousehold investment, sharing and joint problem solving exercises, a guided group discussion after the exercises is recommended.

The exercises are designed to be played by monogamous couples. Adaptations may be necessary for the exercises to fit for polygamous couples.

1. Intrahousehold proneness and ability of joint problem solving

The objective

The issue that spouses in a couple are confronted with in this exercise is, first, whether they will collaborate to solve a collective challenge, and second, if they collaborated, whether their collaboration is effective in solving the challenge.⁴

The exercise

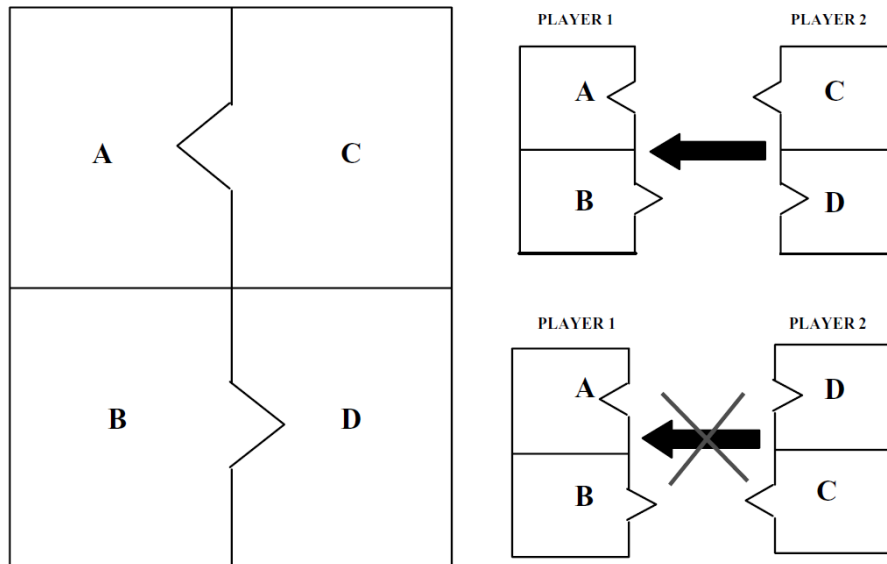
In this exercise it is left to the spouses in each couple to decide if they will collaborate with their spouse or not. Collaboration and communication between spouses is allowed, but not with other participants. Participants are not allowed to show their spouses their puzzle pieces.

Every husband and every wife in every couple receives 2 pieces of a 4-piece jigsaw puzzle (as in Figure 1). The participants are informed that each couple has to solve the puzzle but that each spouse has to decide him/herself on which of his/her 2 pieces to put on top, and which one at the bottom. It is left in the open of whether or not spouses are expected to communicate and collaborate in solving the puzzle. The

⁴ This exercise is inspired by Habyarimana, J., Humphreys, M., Posner, D. N., & Weinstein, J. M. (2007). Why does ethnic diversity undermine public goods provision?. *American Political Science Review*, 101(4), 709-725.

arranged 2 pieces will be collected per spouse; after which the spouses' arranged pieces will be assembled per couple, and inspected if the two halves of the puzzle match.

Figure 1⁵



Source: Habyarimana, J., Humphreys, M., Posner, D. N., & Weinstein, J. M. (2007). Why does ethnic diversity undermine public goods provision?. *American Political Science Review*, 101(4), p. 719.

The information gathered

The following indicators of intrahousehold joint problem solving can be of interest:

1. Whether or not the husband and wife **work together** to solve a collective challenge
2. The extent to which the **collaboration** of husband and wife **helped to solve the collective challenge correctly**

The potential learning

Communication and/or collaboration with one's spouse can be reassuring when confronted with collective problems and make it more likely to effectively solve collective problems.

⁵ The puzzle pieces used in the exercise should not be marked with a letter but could each have a different colour to facilitate spouses discussing about them.

2. Intrahousehold investment behaviour

The objective

The dilemma that spouses in a couple are confronted with in this exercise is whether to invest their personal resources for the common good of the household or to keep them for themselves.

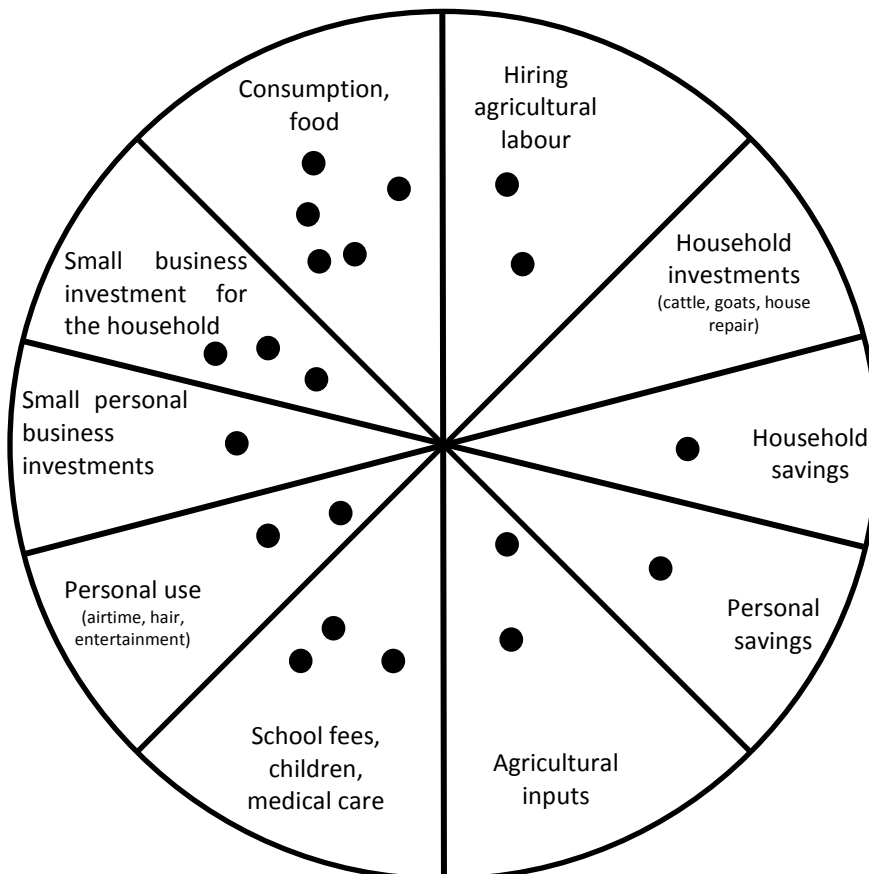
The exercise

In this exercise spouses individually make their decisions. No collaboration and no communication between spouses, nor with other participants, is allowed. Everyone is aware their spouse will make the same exercise as themselves.

Every husband and every wife in every couple receives 20 stickers which represent their personal resources at the beginning of an agricultural season.

Every one of them privately decides what to invest their 20 resources in by putting the stickers in the respective sections in the pie (Figure 2).

Figure 2



Consumption and food, school fees, children and medical care, household investments, household savings, and small business investment for the household can be considered investments for the common good of the household. Hiring agricultural labour, and agricultural inputs can be considered investments for the common good of the household farm. Household savings, household investments, school fees, children and medical care, and small business investment for the household can be considered long-term strategic investments for the common good of the household. Small personal business investments, personal savings, and personal use can be considered investments in personal projects. One could consider the inclusion of other categories of expenditures.

The information gathered

The following indicators of intrahousehold investment behaviour can be of interest:

1. The extent to which the couple, the husband, respectively wife, **invests in the common good** (did not keep resources for personal use, personal savings or personal business)
2. The extent to which the couple, the husband, respectively wife, **invests in the farm** (allocated resources to agricultural labour, and agricultural inputs)
3. The extent to the shares invested for the common good (or in the farm) by husband and wife are **equal** (equal contributions)
4. The extent to which husband and wife **agree on what to invest in**

The potential learning

If one is trusting that her/his spouse will invest in the common good of the household and the household farm and will not only satisfy his/her personal interests, one is more likely to invest one's resources in the common good of the household and the household farm as well.

3. Intrahousehold sharing behaviour

The objective

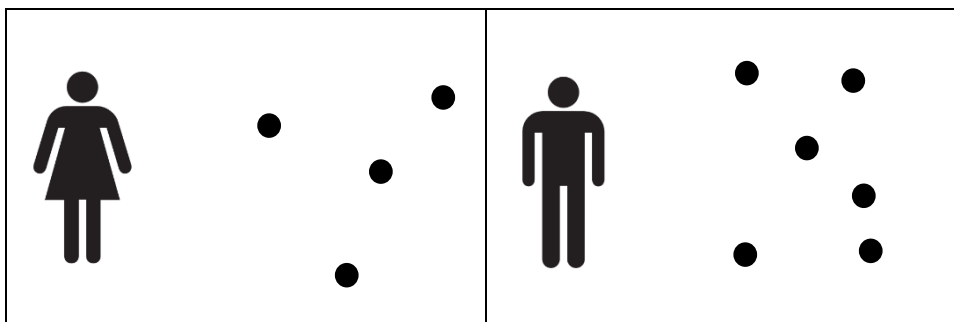
The dilemma that spouses in a couple are confronted with in this exercise is whether to donate their personal resources to their spouse or to keep them for themselves. The exercise measures how generous spouses are towards each other.

The exercise

In this exercise spouses individually make their decisions. No collaboration and no communication between spouses, nor with other participants, is allowed. Everyone is aware their spouse will make the same exercise as themselves.

Every husband and every wife in every couple receives 10 stickers which represent their personal resources at the end of the agricultural season available after harvest. Every one of them privately decides how many of his/her 10 resources to donate to his/her spouse and how many to keep for him/herself. A wife will put the resources (stickers) she decides to donate in the box for her husband (man's icon) and the resources (stickers) she decides to keep for herself in the box with the woman's icon (as in Figure 3). A husband will do a similar allocation of his stickers.

Figure 3



The information gathered

The following indicators of intrahousehold sharing behaviour can be of interest:

1. The extent to which husband, respectively wife, is **generously sharing** with his wife, respectively husband (does not keep more than half for personal use)
2. The extent to which the shares offered to one another are **equal** (equal sharing)

The potential learning

If one is trusting that her/his spouse will be generous towards her/him, one is more likely to be generous towards him/her.

4. Guided post-exercise group discussions

To capitalise on the learning potential of the intrahousehold investment, sharing and joint problem solving exercises, a group discussion guided by a facilitator can help the participating spouses and couples to reflect on what they learned from the exercises. Making the participants deliberate about the way the exercises reminded them of real-life decisions is helpful to bring out learning. The facilitator can pick up on negative real-life experiences that participants discovered by playing the exercises and guide the discussion towards possible solutions for such challenges. Likewise, positive experiences in the exercise or in real-life can lead to a discussion on best practices for intrahousehold investment, sharing and joint problem solving behaviour. Finally, another interesting avenue for discussion is the extent to which and the way in which particular interventions influenced the way the couples played the exercises, especially when the exercises are also used as an assessment tool.

Suggested citations for the IOB Policy Brief, Toolkit, Manual, and the Joint problem solving, investment and sharing exercises:

<https://www.uantwerpen.be/en/research-groups/iob/publications/analyses-and-policy-briefs/apb-2018/apb-28/>