**EXERCISE 5. DESIGNING AN EXPERIMENT**

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| *OBJECTIVE*  **After this exercise the participants will be able to:**   * Plan an experiment involving a crop or type of livestock. | |
| *EQUIPMENT NEEDED*   * Large sheet of paper, marker pens (or blackboard and chalk) | *EXPECTED OUTPUTS*   * A design for an experiment |
| *TIME*  1 hour | *PREPARATION*   * Complete Exercise 4 (Exploring Possible Solutions) |

*This exercise leads the participants through designing an experiment. It is best if the participants can plan an experiment that they will then put into practice, but you can also use the exercise to plan hypothetical experiments. In this case, try to make them as realistic as possible.*

*SUGGESTED PROCEDURE:*

1. Ask the participants to recall the problem and solutions they discussed in Exercise 4, and the priority solution they wished to pursue further. Tell them that they will now design an experiment to test whether the solution is indeed better than the current practice
2. Invite the participants to get back into the groups they were in for Exercise 4.
3. Ask the groups to design an experiment to test their priority solution.
   * The experiment should contain: one or more “treatments” (new technologies they wish to test), and a “control” (the current practice)
   * It should be simple and small.
   * It should have at least three replications.
4. Ask the groups to present their plans to the plenary. Facilitate a discussion of their plans.

*QUESTIONS TO STIMULATE DISCUSSION*

* Why is it important to start small?
* What can happen if the comparison you make is not appropriate or fair?
* Is the experiment simple enough? Or does it try to test too many types of innovations at the same time?
* What types of information should be observed and recorded?
* Why is it important to conduct an experiment more than once?

