Highlights
CIAT in Africa

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Using impact diagrams to evaluate change in agriculture research

Impact diagramming is an open ended, participatory method for evaluating change, associated with an intervention. The products are also referred at as impact flow diagrams.

As a monitoring and evaluation tool, impact diagrams have the following advantages:

- Depict direct and indirect consequences of new technology; positive and negative impacts; expected effects; direct and indirect impacts; and causal linkages
- Show farmers' and/or stakeholders' views on change, thereby addressing the problem of the "attribution gap"
- Can be used for monitoring changes periodically over time
- Can be used to identify expected impacts and impact indicators
- Because the method is open ended, it also allows for unexpected change to be depicted
- Can be used by groups, households or individuals
- Easy and fun to use

Disadvantages of the method include the length of time it takes to draw a diagram and the inability or unwillingness of some farmers, especially women and the illiterate, to draw. Additionally, the method may be less suitable for measuring economic or environmental impacts, topics that require quantitative information.

Drawing an impact diagram

Before drawing a diagram, it is important to collect background information to understand the contex within which change has occurred. This includes collecting information on the technology or intervention concerned, when it was introduced to the area, and how the intervention is perceived in relation to other changes that occurred at the same time. It is also important to collect quantitative information on the situation before and after the intervention. For example, for a new crop variety, information on yields, how long the harvest lasts and how many times a week the crop is consumed, should be collected.

Steps in applying impact diagrams:

This method can be applied at individual or focus group levels.

Identify a skilled facilitator.

1 List or discuss all direct and indirect outcomes of the intervention - both the positive and negative outcomes.

2 Explain the idea of an impact diagram and show a simple example.

3 Start the process by symbolising the intervention/topic (you may use a blackboard, paper, draw on the floor or have prepared pictures or symbols). The intervention/topic should be specific. It is helpful to start with a drawing on a blackboard and redraw the final diagram on paper.

4 As what has happened as a consequence of each result. Each consequence is symbolized or written down. Use arrows to show linkages, cause and effect. For some outcomes, it may be important to indicate whether the change is positive or negative if this is not immediately clear to non-participants.

5 Quantitative information can be obtained by asking about amounts or number of people related to each impact. For example, you can get general information on yields of a new variety or the percentage or number of people who experienced a particular outcome.

6 In groups, you can get information about what categories of people or households are most affected by a particular outcome.

7 Diagrams by several individuals or groups can be compiled into a single diagram

Using impact diagrams to assess the impact of new bean varieties

Case 1: The impact of KK 22, a root rot resistant bush bean variety (Fig. 1)

This diagram was drawn by a group of women farmers in Western Kenya. It shows that the main positive impacts of this variety were higher yields (2 kg of seed yields 36-40 kg at harvest) which improved food security and increased the marketed surplus. This outcome, though beneficial to all household members, had different implications for men (men's diagram not shown) and women, reflecting the gender division of labor and financial responsibilities.

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Women benefited from increased yields in two ways: they had more food available in the hungry season that commonly occurs before harvest time and also money to spend on household items and on hiring labor for planting, weeding and harvesting. In addition, lower firewood consumption saved women's time.

However, this late maturing variety increased the length of the hungry season. Growing this variety also increased women's labor during planting because they had to sow this variety in separate rows in order to ensure high yields, whilst the traditional method involves sowing maize and bean seed in the same hole, which lowers the yields of KK 22.

Fig. 1: Impact of KK 22 by Mkumu Farmers' Women's Group, E. Tiriki, Kenya

Case 2: Impact of KK 132 bean variety in Uganda (Fig. 2)

There was close correspondence between farmers' impact diagrams and the impacts documented by a formal survey. Additionally, the diagram included some non-tangible positive changes (happier families) which were not measured by the survey, as well as negative social behavior resulting from greater affluence, namely inclreased drinking, domestic violence, extra-marital affairs and AIDS cases. A few impact areas, increased conflict between husbands and wives over earnings from beans and community level impact, were not well captured by either method.

In general, the impact diagram provided descriptive data at both household and individual level. Survey data nicely complemented this information by providing quantitative data on percentage of households affected, gender differences in production and consumption, and seasonal differences in consumption and income.

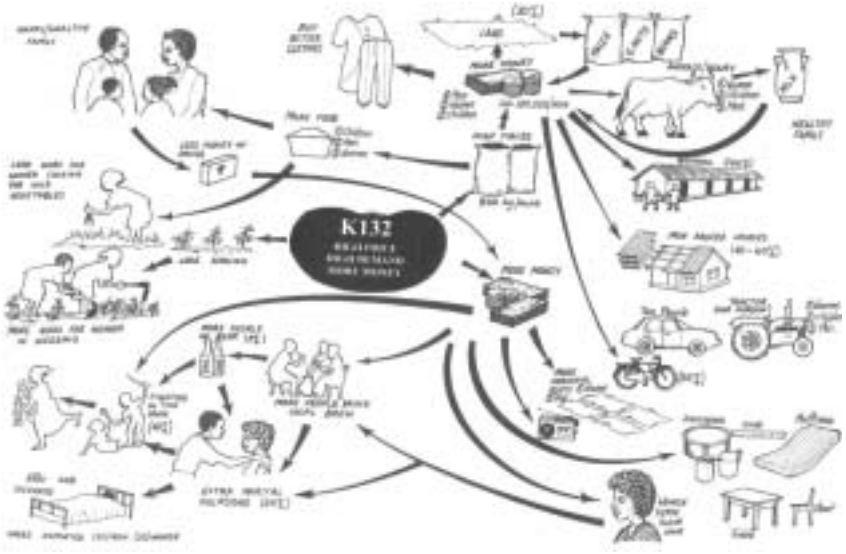

Fig. 2: Impact of K 132 by a mixed group of farmers, Nabongo Parish, Uganda

Useful Reference:

IFAD. Managing for Impact in Rural Develop., A Guide for Project M&E: Method for Monitoring and Evaluation. Annex D.