



THE MCKNIGHT FOUNDATION

# Guidelines and Best Practices for On-Farm Conservation Projects: Designing and Evaluating Interventions

## Fact Sheet

The objective of on-farm conservation is to maintain crop evolution and thus ensure the generation of new potentially useful genetic variation in order to sustain the capacity of agricultural and food systems to adapt to change. Maintaining crop diversity on-farm, however, can entail important costs to farmers, often in the face of strong incentives to abandon this diversity. For this reason there is a need for projects to support farmers in maintaining this diversity. The success of any on-farm conservation project depends on a good design that brings together four aspects: (1) crop diversity, (2) the private benefits associated

implementer in formulating, step-by-step, a sound and solid theory of change that will lead to the achievement of impact.

### Step-by-Step for a Successful Project:

#### 1. *Decide which area to target*

A distinguishing feature of an on-farm conservation project is the focus on delivering public benefits associated with the maintenance of crop diversity. Locating a project in an area with a high potential for delivering these types of benefits is crucial, e.g. a center of infra-specific diversity for a crop or a hotspot of co-occurrence of many relevant crops. But even if those benefits exist, the value of implementing projects may still depend on how unique and globally relevant the crop diversity is and the extent to which there are other projects already addressing these benefits in the area (to avoid duplication and waste of resources, but also to be able to learn from those other projects).

**Crop diversity:** *The number of distinct populations of a particular crop species recognized and managed by a farming household or community. It could include measures of population size such as area or quantity of seed planted per distinct population.*

**Livelihood benefits:** *The private benefits that farmers and their households derive from that agricultural system (e.g. food security, nutrition, income, safety net, cultural identity)*

**Societal benefits:** *The public benefits that society derives from the relevant components of biodiversity maintained in an agricultural system (e.g. ecosystem services, adaptive processes)*

**Project interventions:** *: Activities carried out by a project that provide farmers with innovations such as new technologies, development of capacities and skills or new forms of organization aimed at changing the way they access, manage, use, perceive, consume and/or market crop diversity.*

with its use; (3) the societal/public benefits associated with its maintenance; (4) the interventions/innovations needed to link these three areas in a positive and coherent way. In order to do this, we propose a set of guidelines for project design based on the results of the McKnight Foundation-funded project entitled *Assessing the Success of On-Farm Conservation Projects in Delivering Conservation and Livelihood Outcomes: Identifying Best Practices and Decision Support Tools* coordinated and implemented by Bioversity International and carried out between March 2010 and May 2012 in the High Andes of Ecuador, Bolivia and Peru. These guidelines should assist the project

#### 2. *Collect diagnostic data*

The next step is to assess whether farmers in the target area are deriving private benefits from crop diversity, which farmers are doing so, and what the trends are in the provision of these benefits (are they continuing, decreasing, increasing?). In many locations farmers already continue to maintain crop diversity without any outside intervention (known as *de facto* conservation). However, there is no assurance that this may continue in the future and hence there may be a need for outside interventions. For this it is necessary to have a good

diagnosis of the incentives for farmers to use and maintain crop diversity. This requires collecting diagnostic data on the level and management of native species diversity *in situ* and *ex situ* as well as on socio-economic issues, focusing on the use of target species in the research area. Diagnostic data therefore include: a literature review or empirical studies of local diversity status and use; socio-economic surveys; and key informant interviews.

### **3. Assess the potential for success**

If the evidence from diagnostic data indicates that an involvement is desirable, then there is a need to assess *ex ante* whether there are interventions that can be implemented to enhance the incentives that farmers have to use and maintain crop diversity. This is a prospective assessment for identifying the areas where change is needed (areas of intervention), the types of change (interventions) needed and their potential of success based both on the diagnosis and on knowledge from other studies. There are two broad types of potential interventions: (a) those that build on farmers' preferences and actions related to improving production, consumption, and marketing; and (b) those driven by external actions, such as payments for agro-biodiversity services (PACS) or regional or national policies (e.g. eliminating subsidies, promoting purchase programs, etc.)

### **4. Identify interventions to implement**

Once the areas and general types of interventions have been identified, these must be narrowed down to specific activities that need to be undertaken to enhance the incentives that farmers have to use and maintain crop diversity. These activities are the core project interventions aimed at changing the way native crop diversity is managed, used, consumed and marketed to increase the benefits farmers and their households derive (livelihoods) and hence to create the incentives for farmers to continue to maintain this diversity on-farm (conservation). It is likely that several areas of intervention may have to be addressed and therefore there may be a "basket" of interventions in a project. These interventions need to have a clear **theory of change** (see the figure on p.4), which is a narrative describing **why** an intervention is needed, **what** is expected to be changed due to the intervention and **how** the change(s) is/are supposed to have an effect on crop diversity and well-being.

### **5. Define expected outputs, methodology and partnerships**

Project interventions require the development of specific outputs, i.e. novel knowledge, methods, technologies, or forms of organization to be used by project beneficiaries or target groups to generate the envisioned change (therefore can also be conceptualized as innovations provided by a project). Some of these outputs will be related more to diversity, others more to livelihoods, but they have to be complementary. Once the specific interventions have been identified then there is a need to clearly define how desired change to the current situation can be accomplished, i.e. the **methodology** to be used. Once the different interventions and methods have been defined, there is a need to set up a **network of partners** that will enable the project implementation. Therefore there is a need to understand which actors and institutions can influence or support the interventions and how, what their goals and eventual relationships are, and what links and channels are needed to improve collaboration.

### **6. Map the impact pathway**

Once all these components have been defined, there is a need to develop an impact pathway, which is a logical and coherent conceptual chain of events that link all components into a process. The chain of events maps the pathway by which planned outputs are related to interventions and allows the project team to contextualize them. Interventions then are expected to lead to the application and use of the outputs (that may differ from the planned ones due to contextualization) to achieve the desired changes. These in turn should eventually lead to the desired livelihood and diversity outcomes associated with successful on-farm conservation. It is anticipated that by explicitly planning the impact pathway, researchers and partners will be better able to fine-tune the research design, establish the most effective partnerships and determine the appropriate communications activities for achieving the intended outcomes more effectively.

### **7. Make planning and implementation activities participatory**

It is highly recommended that all the processes described here be made participatory, engaging the research team, partners and clients as a way to develop a more realistic and shared vision of the project/programme and to facilitate feedback, learning and adaptive management. Identifying (and engaging) key partners and describing intended impact pathways will help to focus

monitoring, evaluation and impact assessment activities.

### **8. Collect baseline data**

Once information on project interventions and associated outputs, theory of change and impact pathway is available, it is fundamental to carry out the **collection of baseline data** in order to perform a sound impact assessment at the end of the project. The baseline should include indicators associated with the implementation of project interventions and the changes that they are expected to contribute to outcomes. The need to wait until project interventions are defined to carry out the baseline is important because otherwise there will be no way of knowing whether or not the interventions were effective.

### **9. Translate outputs to outcomes**

Once project interventions are implemented, it is expected that these lead to adoption and use of outputs by the target population through **communication and dissemination activities**, in turn resulting in the desired changes (**outcomes**), in terms of both diversity and livelihoods. Then a process to **scale out** may take place so that populations beyond the target group and stakeholders adopt project outputs through dissemination and **institutionalization** by policy makers and key stakeholders. It is fundamental at this stage to collect endline data which can be then compared to baseline data collected before implementation in order to understand and measure the changes generated by the project in diversity and livelihoods.

### **10. Assess impact**

Through this scaling out and scaling up process, the **expected impact** and the changes that the project set out to create should be generated and the **conservation of diversity while improving livelihoods** achieved. The relevant questions that *ex ante* and *ex post* impact assessment must answer are: What are the changes at the local, national and policy levels that occurred thanks to project implementation? How did they affect diversity and livelihoods?

## Conclusions

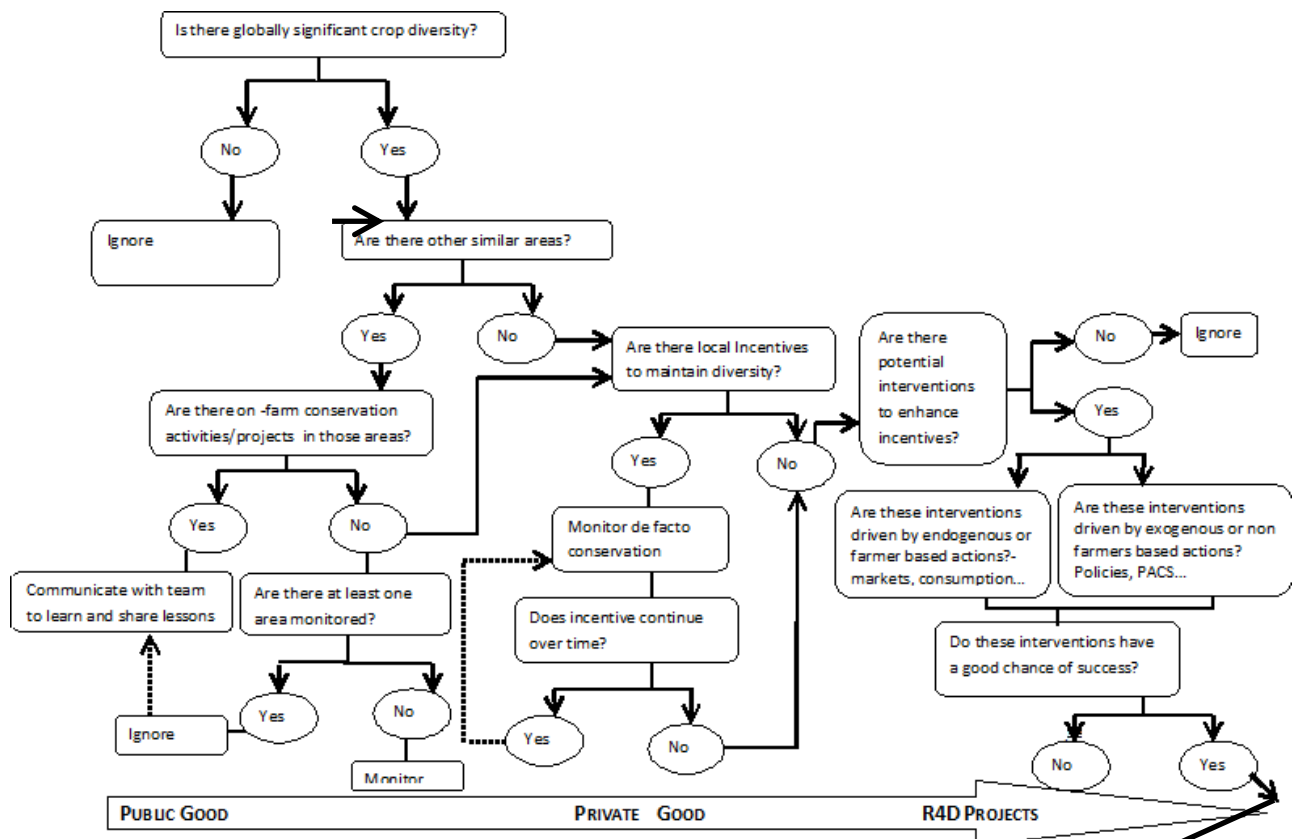
The scope of implementing a **basket of interventions** with different aims is to provide diverse and relevant “**options**” to the farmers that enhance the value of what they already have. In this regard, it is crucial to identify, develop and offer new ways of cultivating, consuming, processing and marketing the diversity of crops and animal breeds they have as a way of enhancing farmers’ choices and well-being by improving their capacities and influencing the institutional environment by providing interventions that enable choice. On-farm conservation projects can be implemented around the world where there are areas of high levels of diversity of global significance, diversified livelihood strategies, intensive use of agro-biodiversity and high cultural diversity. These on-farm conservation projects, if well-designed and successful, should produce a positive cycle of increased diversity and improved well-being, resulting in the maintenance of or increase in crop diversity.

While the final goal is the same for all on-farm conservation projects (to conserve crop diversity and achieve societal benefits through incentives to farmers in the form of direct private benefits that translate into improved livelihoods), the specific interventions of these projects will vary according to the specific outputs and outcomes desired. The following diagram outlines how the decision-making process results in a successful project. The first half of the diagram illustrates the reasoning process for determining the need for an on-farm conservation project. The second half illustrates how the project design, by uniting the overall project goal with the necessary outputs and outcomes, will result in the desired impact.

*This fact sheet was produced by Mauricio Bellon, Elisabetta Gotor and Francesco Caracciolo. For further information, please contact Dr Mauricio Bellon, Bioversity International Principal Scientist, at [m.bellon@cgiar.org](mailto:m.bellon@cgiar.org)*

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Proceed to develop the on-farm conservation project

