Reflections on the challenges of good practice identification, documentation, piloting and mainstreaming

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Linking research to practice

The benefits from and threats to agricultural biodiversity and the urgent need for in situ and on-farm conservation have been frequently stressed, and concerted efforts on this front have been called for by various scholars and organizations (Bartlett, 2008; Bélair et al., 2010; Jarvis et al., 2011; Sthapit et al., 2012; Bellon et al., 2015). However, many practitioners, researchers, civil society organizations and government institutions are still grappling with questions such as how to ensure the long-term continuation of on-farm/in situ conservation practices and processes (de Boef et al., 2012; 2013). Even more importantly, perhaps, how to ensure that these practices and processes are effective and efficient? This book strives to provide specific guidance to answer these questions by zooming in on ‘practices’, i.e. those activities undertaken on the ground by women and men farmers, to understand and support what their communities contribute to on-farm/in situ conservation.

Chapter 2 defines a good practice for diversity management (GPD) as a system, organization or process that over time and space maintains, enhances and creates crop genetic diversity and ensures its availability to and from farmers and other actors for improved livelihoods on a sustainable basis. The identification, analysis, piloting and mainstreaming of good practices is proposed as a way to improve on-farm/in situ management of crop genetic resources in general and tropical fruit tree diversity in particular (see Figure 30.1). The approach has been tested through the UNEP/GEF funded project for the conservation and sustainable use of tropical fruit tree diversity in India, Indonesia, Malaysia and Thailand.

In Chapters 5 to 29 the details have been presented in a total of 23 case studies of good practices for diversity management within their specific contexts across eight countries in three continents. Chapter 4 attempts to provide some answers about who is practising (i.e. custodians), whereas Chapter 3 provides a deeper understanding of how practices play a key role in community
biodiversity management (CBM). We hope these case studies and conceptual chapters give practitioners, researchers and policymakers ideas and tools to help them work with farming communities to achieve on-farm/in situ conservation goals while improving these communities’ livelihoods.

Our research was guided by two assumptions. First, that many farmers’ existing practices are good practices from which scientists could learn. Second, that many practices could be improved by blending the traditional knowledge with scientific knowledge. Such a combination not only leads to synergy between the two sources of knowledge but also to greater adoption and adaption of practices because they fit within farmers’ existing mental schemata. Blending traditional and scientific knowledge was sought through platforms where practitioners and researchers could discuss and evaluate knowledge and skills related to GPDs in the light of achieving both conservation of genetic diversity for future use and fulfilment of the farmers’ current needs. In this process, a set of GPDs were identified and documented, some traditionally practised by a farming community, others recently evolved through farmer interactions with formal sector interventions. We tested concepts through a process of local, national and regional capacity building, exchange visits and workshops and international conferences. Our theory of change was that identifying and

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Figure 30.1 Revised impact pathway for improving practices for enhanced community well-being and conservation of tropical fruit tree diversity. The conceptual pathway that led project development (Figure 1.1) was revised following piloting on the ground.
assessing good practices for diversity would lead to their wide adoption and diffusion, thereby contributing to the enhanced well-being of the community and conserved tropical fruit tree diversity for today and tomorrow.

**Challenges**

In the process of identifying, analyzing and strengthening or mainstreaming GPDs, several challenges and opportunities were identified, which will be of use to others considering similar work.

**Developing a learning mindset**

It is important to remember that learning involves much more than simply sharing information and knowledge. Learning is an ongoing process that requires access to information and knowledge, gained from personal experience or that of other people relevant to the problem faced. One principle of the CBM approach is that it should provide a platform for collective action and social learning (Chapter 3) to facilitate all activities within a community. However, it is difficult to adhere to principles of ongoing learning and adaptation for those researchers and officials who hail from a classic project management background, in which planning and control are top down and centralized, and who have had little exposure to participatory research. In these cases, one pre-requisite for success is a change in the mindset of implementation partners before practical change can be facilitated on the ground within farming communities. Over the project duration, our experience showed significant changes in the mindset of researchers, extensionists and others involved in the CBM approach applied and described in this book. The people responsible for the identification, adoption and piloting of GPD over time were able not just to perform actions mechanically, but also to understand why it is important, and once that was done, piloting, scaling up and mainstreaming were much faster and more effective.

**Terminology**

There is no universally accepted definition for ‘good practice’ or ‘best practice’ because of the extreme diversity of topics that can be described or defined through the concept. Nevertheless, it is a widely used term in the agriculture and economic development sectors. The wide use and applicability of the term ‘good practice’ resulted in each individual often having his/her own understanding of the term. Extension agencies in the participating countries are often familiar with ‘good agricultural practices’ (GAP) that superimpose external inputs and technologies into the farmer’s production system (Wannamolee, 2008). Value chain and agricultural development experts often have experience with ‘good manufacturing practices’ (GMP) as a protocol to be followed with standards and compliance systems that ensure food safety and
product quality. However, in the present context, we were looking for those
time-tested farmer systems, processes, techniques, methods or combinations of
practices arranged in an institutional setting that support the on-farm and \textit{in situ}
conservation of tropical fruit tree diversity and its sustainable use. Our
focus was practices that combine species and genetic diversity conservation
with livelihood benefits, not just focusing on production or productivity
(Chapter 2). This requires a conceptual understanding of on-farm and \textit{in situ}
conservation of agricultural biodiversity. The first step was to achieve a shared
understanding of the definition of GDP among all participants.

\textbf{Identifying GPD}

A key component of creating a shared understanding of what constitutes a good
practice across the research community is by specifying how field researchers
can identify such practices. After achieving a common understanding of the
definition, field researchers were tasked with the difficult job of identifying good
practices in their numerous manifestations as well as collecting the data necessary
for sharing and evaluating them on a macroscopic level. A wide range of potential
good practices were proposed through various data collection methods and then
evaluated regarding their fit with the definition and evaluation criteria of a GPD.
One of the project research team members, Vasudeva R., compared the search
for a GPD with finding a green parrot in a green tree: difficult to identify and
demarcate from what surrounds it, but once you know the shape you are looking
for the task becomes easier. Often we were sure that a GPD was there hidden
in the context, but we still struggled to get a clear view of it.

To complement this method we also adopted a ‘positive deviant’ approach
exploring why some farmers in similar contexts were able to maintain rich
TFT diversity with better management and production practices and uses,
whereas other neighbouring farmers were not. This led us to identification of
custodian households (Chapter 4). With further characterization of such
custodian farmers, we found that they have rich traditional knowledge, seek
diverse sources of knowledge and skills from various sources and have capacity
to innovate (unpacking and repackaging various GPDs) in their own context.
They tend to synthesize various sources of information and knowledge to adapt,
integrate and coproduce new practices. These farmers are better connected
with formal and informal institutions as sources of information and materials.
Interviewing these farmers and understanding their practices helped us identify
GPDs better.

Full understanding of the GPD required a critical attitude, several cycles of
reflection and refinements and sufficient information to facilitate meaningful
evaluation. Without this iterative, critical analysis, one can end up with a
vaguely described good practice whose contribution to livelihoods and on-
farm or \textit{in situ} conservation is not well formulated and determined. If this initial
identification process is done only perfunctorily, it complicates all the following
steps such as documenting, piloting and mainstreaming.
Documenting GPD

Once potential GPDs were identified, various forms of documentation methods were used, ranging from audio recordings of key informant interviews to videography of selected good practices. Using different documentation methods facilitates triangulation and counters researcher bias or misinterpretation of the information. Digital pictures were found useful to document and phenotype unique elite materials and digital videos or photo series were used to document step-by-step procedures of propagation, cultivation or processing techniques related to unique fruit tree species.

A series of workshops was conducted at different levels, from site level and national level to regional level, to present all potential GPDs and evaluate them. The final regional workshop was used to document selected GPDs, each in a separate descriptive document following a standardized outline. Our approach was to keep the GPD description as short and simple as possible, including only those elements essential to its functioning and that directly contribute to its outcomes, and linking to other GPDs or supportive practices.

Piloting GPD

At a regional workshop dedicated to identifying good practices, held in Thailand on 22–26 February 2011, 33 GPDs were identified. These GPDs were all successful in their community context. However, we realized quickly that good practice in one context might not be replicated in another context in exactly the same way. It was also realized that there was neither time nor funds to pilot all 33 GPDs in different sites across all four project partner countries. Consequently, a few GPDs were selected for piloting in different sites in the same country and in the other three countries, with some adjustments to suit the local context.

The practice of organizing diversity fairs is one of the GPDs that was identified, piloted and adopted widely, repeated many times at village and national levels, and scaled up and mainstreamed in every country. In contrast to the planned 20 diversity fairs, a total of 61 fairs were organized during the project period across four countries, from relatively small but vibrant local village fairs to large exhibitions in major cities targeting high-level policymakers and consumers. A second GPD that was adopted successfully elsewhere was the side-grafting technique, learned from farmers in Thailand, which was adopted by farmers in Sirsi, India. Certain research methods, such as Four Cell Analysis (see Chapter 2), have been taken up by researchers regionally and globally. Similarly, the concept of ‘custodian farmers’, which emerged gradually through the experiences of project implementation, has been widely embraced as reflecting a useful reality. The concept was explored in a dedicated workshop (New Delhi, 11–12 February 2013; Sthapit et al., 2013) and is informing current research on in situ and on-farm conservation.

Though only a few practices could be adopted wholesale across sites and countries, one unexpected outcome of the project was a flourishing cross-
fertilization between good practices across countries and sites through the sharing of knowledge, practices and procedures at various meetings, workshops, fairs and exposure visits. A specific knowledge share-fair was organized in Thailand in March 2012 to promote the piloting and scaling of good practices. What happened during and after the event was that farmers, researchers and policymakers unpacked certain GPDs and picked out the most interesting elements and principles, which they then repackaged in their own sites and contexts. In other words, farmers and researchers tend to pick up principles rather than the practice per se. For example, all countries’ government partners have taken up work or pledged to work with custodian farmers beyond the TFT project. The Indian government partner (ICAR) has organized several farmer and researcher meetings to identify and decorate custodians across the country for their role in crop diversity conservation. Following this, Indonesian government partners (ICHORD and BPTP) have shown great interest in supporting a network of custodian farmers as an on-farm conservation strategy and as an important link to their *ex situ* conservation mandate and programmes. Similar types of activities, in which custodian farmers were interviewed, invited for key meetings or fairs and received informal or formal recognition for their role in conservation, took place in Malaysia and Thailand, and beyond project countries such as Bolivia and Nepal.

**Mainstreaming**

Researchers, development workers and donors eventually wish to scale up and scale out GPDs to translate benefits to a wide range of beneficiaries. However, a ‘silver bullet’ or ‘copy and paste’ strategy will not suffice for GPDs. Good practices for on-farm conservation of tropical fruit tree diversity are innovations for achieving household food security, livelihood improvements and resilience. This requires a strategy of collective action and networking that enables agencies to digest diverse sources of knowledge, skills and materials, develop the capacity to integrate scientific knowledge into traditional knowledge systems and often co-produce new techniques and practices that solve local problems and collective needs. This dynamic process fits very well in a CBM approach. Greater impacts are achieved by communities who have the capacity to critically analyze their situation, to build complementary collaborations to plug gaps and weaknesses and to develop new approaches from the comparative advantages of contrasting systems. Taking a CBM approach, although it requires a long-term commitment, can create an enabling environment for farmers to innovate GPD over time. The facilitator of this process needs to:

- Build relationships, developing trust and clarity
- Gain understanding and appreciate local reality
- Integrate diverse sources of knowledge
- Develop capacity to unpack and repackage a set of good practices so they are relevant to the local situation
• Facilitate change that enables shifts and breakthroughs
• Review change along pre-set indicators to document impact and outcomes achieved

Lessons learned

Good practices in the management of agricultural biodiversity are highly context specific and sometimes difficult to recognize and disentangle from context. Besides, GPDs should not be treated as good agricultural practices in a general sense, but should be unpacked and repackaged through learning platforms. Understanding the elements, functions and underlying principles is thus more important than replication. The three analogies below illustrate the lessons learned by the researchers during the project, which might help to give readers and practitioners a better understanding of GPDs.

**GPD as a house (understanding the concept)**

Houses look different all over the world as the result of environmental conditions and socio-cultural traditions; some have flat roofs with very small windows whereas others are made from wood and are built on stilts. Nevertheless, they are built to provide comfortable living conditions for families. In spite of their apparent differences, all houses share several key elements (i.e. doors, windows, roofs and walls) and provide the same key functions to users (i.e. safe place to sleep, eat and live together). Similarly, good practices for on-farm conservation look different across the world because they are embedded within their local socio-cultural and environmental contexts, but they have recognizable key elements and key functions. GPDs are often a constellation of several interlinked key activities, regulations and organizational arrangements. When these key elements are connected, they facilitate the two major functions of a good practice: facilitating conservation of agricultural biodiversity and improving the well-being of its users.

**GPD as a green parrot in a green tree (identification)**

It is difficult to distinguish a green parrot in a green tree. However, because you can hear the bird, you are sure the parrot is there. Similarly GPDs are sometimes difficult to recognize and describe although you catch some information that makes you sure it is there. It takes a while and several iterations before you can disentangle and distinguish what is part of the good practice and what is part of its context. GPDs are interwoven into their local context and belief system. Once a GPD is identified, one should strive to keep the practice description as concise and simple as possible, including only those elements that directly contribute to its functions.
GPD as LEGO® building blocks (mainstreaming)

Lego® blocks are a widespread toy for children, made of interlocking plastic bricks of different sizes and colours. A Lego® set is a structure such as a car, house or airplane made from several smaller building blocks with precise and exact building instructions included. However, after obtaining several Lego® sets, children often break up all the original constructions, pool all the building blocks together and start making new (imaginary or otherwise) structures. Similarly, GPDs are mainstreamed by unpacking good practices from one context, identifying key elements and principles that can be used to build, innovate or strengthen practices in other geographic regions or sites by custodians, practitioners, researchers or policymakers.

Emerging principles

There are certain basic but essential principles that we should understand before we attempt to pilot and disseminate a GPD to other sites and contexts. Considering the analogy of a house, which has different forms to express the same functions in different environments and socio-cultural contexts, the main characteristics of a GPD are that over time and space it maintains, enhances and creates crop genetic diversity and ensures its availability to and from farmers and other actors for improved livelihoods on a sustainable basis. From this it follows that the key principles of a GPD are that it:

- is embedded in local culture and practices
- is dynamic: it needs to be constantly refined by integration of diverse knowledge sources
- should improve livelihoods (people-centric) and well-being of people
- is contextual, i.e. specific to local situations
- is knowledge intensive and links nature, biodiversity and culture
- needs to be viewed collectively and undertaken together with other practices (although there can be unique, standalone examples)
- aims for empowerment and livelihood improvement and conservation goals
- ensures the maintenance of unique or diverse species or varieties.

A way forward

Our findings suggest that empowering farmers and their institutions, creating space for social learning and innovation and a dynamic system of small-scale innovation might be a sustainable way to mainstream good practices. Experience tells us that approaches, processes, methods and principles are more practical for scaling up than context-specific good practices. Farmers who have better adaptive capacity can pick up principles and adapt practices for their own situation. Such innovation could be more productive, simple, low-cost and
sustainable in practice. It is still a debatable issue what kind of approaches create the enabling environment for such small-scale innovation. Research is required to find ways to make such learning platforms effective and efficient in terms of producing a wide range of improved and sustainable GPDs across actors and geographic sites with limited costs. Consolidating roles of custodian farmers in the identification, piloting and mainstreaming of GPDs within a CBM approach might be one way forward. Furthermore, it has been a challenge to formulate general impact indicators and measure the impact of GPDs as they vary so widely in their content and context. Research into learning platforms, custodian farmers, CBM and impact indicators to evaluate the costs and benefits of good practices might pave the way for better results.

References


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