Opening the treasury box
Discovery of promising crop attributes of minor crops and landraces

The major difficulty when marketing minor crops and landraces is how to know which species or variety has market potential? This exercise helps you to discover which species or varieties could be sold based on their favourable and distinct traits or characteristics; i.e. crop attributes. The market potential of species and varieties depends on the availability of favourable traits and characteristics that meet:

a) Market trends such as interest in nutritional or medicinal properties
b) Consumer preferences such as taste, colour or flavour
c) Functional traits such as suitability for processing, transportation or storage
d) Agronomic traits such as high yield (or pest resistance)

Often communities have little knowledge about markets and consumer preferences. However, as most minor crops and landraces are merely used for home consumption, farmer households themselves are a good initial entry point to assess consumer preferences, especially for local markets. Rapid Market Appraisal can be used to substantiate or validate those or assess consumer preferences in more distant markets.

This exercise helps farmer and women groups to:
- Identify and describe potential crop attributes based on traditional home uses.
- Identify unique crop attributes that will provide a competitive edge for a specific species or variety over the others.
- Determine a way of consumption that is attractive and convenient for consumers.

The common and most popular species and varieties have clear and strong favourable traits or characteristics; i.e. crop attributes. However, conventional bulk markets often overemphasize on agronomic and functional traits and undervalue specific and unique market and consumer traits. On the other hand, substantial part of agricultural biodiversity has just limited market value as species or varieties do not match consumer preferences or have additional negative traits that limit their marketability. This exercise will not focus on those limitations, but help to explore and dig out the potential of lesser known species and varieties to exploit their unique market, consumer or functional traits.

The challenge is to identify crop attributes and potential ways of consumption or products for species and varieties of which they thought had little market value. This requires participants to think out of the box. Participants should explore and brainstorm about potential traits that (might) match consumer interests. Besides, participants are challenged to explore crop attributes specifically for the rare species and varieties (i.e. minor crops and landraces). However, many of such favourable traits that address consumer interests and preferences are embedded in their own traditional uses, recipes and knowledge.

Step 1 – Identify lesser known species and varieties
First create a list of all the varieties and species available in the community. Conduct a focus group discussion using Four Cell Analysis or organize a local diversity fair. Identify the common and rare species and varieties. We will focus hereafter predominantly on the rare, unique and home use species and varieties. It might be helpful to do the evaluation also for common species as this will be easier to answer for the participants. Fill-in the names of species and varieties in the first column of
table 1 and mention of variety is common or rare in the second column based on Four Cell Analysis results; i.e. common varieties (many trees; many households), unique varieties (many trees; few households), home use (few trees; many households) and rare varieties (few trees; few households).

**Step 2 – Identify existing traditional uses, recipes and products**

Look back to the results of the Trait Scoring Diagram or ask the farmers or women group *why they like to grow specifically Variety I?* For which traditional purpose or recipes this variety is used? Which dishes, condiments or products do they make from that specific species or variety? Continue to ask these questions for each of the species or variety listed. Think of all the different parts that can be used such as fruits, leaves, rinds, seeds, bark, fluid or oil from seeds or leaves. Fill-in the answers in the third column of table 1.

**Step 3 – Identify key attributes & potential way of consumption**

Subsequently, to identify promising crop attributes one should ask *why the farmers prefer the variety or species for this specific use, traditional recipe or product?* Try to identify with the group which species or variety is preferred most for a certain use, traditional recipe or product. Which fruit component, particle or feature does explain or cause the preference? The answers will provide the specific crop attributes (i.e. unique traits or characteristics of the species or variety). Crop attributes are often related to specific tastes, shapes, colours or conveniences. Fill-in the results in the fourth column of table 1.

**Step 4 – Identify potential product or way of consumption**

Based on the existing uses, recipes and key crop attributes, try to come up with potential ways of consumption (fifth column). Try to think out of the box, it is not necessary to evaluate the economic feasibility of the potential new product, but to create a long list of potential new products that are convenient or attractive for consumers. Do not limit yourself; it will probably be difficult to really come up with innovative product ideas or market opportunities. List the potential products in the last column of table 1.

Table 1: Identification of key uses, crop attributes and potential products

<table>
<thead>
<tr>
<th>Variety or species name</th>
<th>Result FCA</th>
<th>Key use of specific parts, traditional recipe or related way of consumption</th>
<th>Key crop attributes (traits &amp; characteristics)</th>
<th>Potential product(s) or way of consumption</th>
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</thead>
</table>
| 1. Lal baba (M. indica) | rare (few HHs, few trees) | fresh consumption of fruit and often given away to family or friends during fruiting season or special family occasions/celebrations | - very good sweet taste with lightly sour after taste  
- nice red colour  
- high vitamin C content | - Sold fresh per piece as healthy snack  
- Sold as packed pre-cut slices  
- Make fresh juice |
| 2. Malan-ji (M. indica) | home consumption (many HH, few trees) | used for making pickle of whole fruits or sliced fruits and often eaten as side dish or starter before dinner | - nice distinct aroma  
- soft and smooth taste compared with other pickle varieties  
- mango chunks keep crispy and fresh for long time | - home-made mango pickle |
| Variety 3 | | | | |
| Variety 4 | | | | |
| Species 1 | | | | |
Tips for implementation:

- Plan and do this activity first of all your marketing activities. Try to think out of the box, this is much harder then often expected. Do not worry about technical or economical feasibility of products now. Later on, in the next step, the Impact Filter will help to evaluate technical and economical feasibility and to decide which 1 or 2 products to select, develop and launch for the market.
- You might think of identifying potential products for respectively the A grade and B or C grade fruits.
- It will be difficult to evaluate crop attributes related to nutritional, medicinal or technical properties based on the knowledge of farmer communities only. To correctly evaluate these you need to carry out laboratory analysis to measure availability of critical properties such as vitamins, anti-oxidants, micro-nutrients, essential oils or medical active substance. However the detailed listing of home uses and curative functions of the species, variety or product will help to gauge the existence of such active substance. The results of this exercise will help you to identify those species or varieties that need to be selected and included for detailed laboratory analysis.
- If the group cannot identify specific crop attributes for specific species or varieties, it means the level of knowledge is very low or those species have just very little use value. You might need to find and include more knowledgeable farmers or experts in the group or design a conservation strategy for those species and varieties.
- If the group cannot come up with many potential products, it means the level of market knowledge within the group is still very low. Involve some traders or entrepreneurs or conduct a Rapid Market Appraisal to collect information on potential products or consumer preferences. Use Table 1 to select those products and related species or varieties for which you need more information and want to do a Rapid Market Appraisal. You can use the Impact Filter to make this initial decision or just make a ranking of the species and varieties.
Result crop attribute exercise, Kiriwong village, Thailand Dec 2012