Outline of Paper

1. Background
This section will provide an overview of the issues to be covered by the paper. It will also include a summary of the different sections and the key findings of the paper.

2. Review and comparison of approaches in the used in the promotion and sustainable utilisation of under-utilised plant species
This section will review current approaches used in the promotion and sustainable utilisation of under-utilised plant species (e.g. commodity chain approach and livelihoods approach) with emphasis on the importance of an integrated and holistic perspective – referring as well to the sustainability criteria/ good practice criteria. Review will include an analysis of:

- Differences and similarities of current approaches used in the promotion of under-utilised plant species
- Identification of weaknesses and strengths of the different approaches with regard to their potential pro-poor impact.

2.1. Commodity chain approach
This section will draw from several areas:

Jean-Yves Guiomar. 2002. NUCs and Commodity Chains Analysis: Potential for NUCs in Sustainable Livelihoods’. MSc in Sustainable Agriculture and Rural Development, Imperial College, UK.

Experiences of the M S Swaminathan Research Foundation (MSSRF), Asia, on a pilot project to Conserve Plant Genetic Resources (PGR) through development-oriented research.

2.2. Sustainable livelihoods approach
(This will draw heavily from the discussion paper by S. Guendel, “Taking a livelihoods perspective on neglected crops”. April 2002.

2.3. Resources to Consumption approach
The paper draws heavily from a recent review of experience with developing agricultural technologies for women (Kaaria and Ashby, 2000). The review identified the need for a novel approach to technology development, starting from a beneficiary-based diagnosis to understand intra-household allocation and control over resources, and constraints and

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opportunities for intensification and improvement of nutrient management. New innovations need to be compatible with women’s constraints and opportunities in managing both the natural resource base and the agricultural production system because adoption of new resource management and production technologies is heavily dependent on the productivity of women’s labour and on their control over assets.

3. Development of the Resource-to-Consumption approach
A proposal for applying the “resource-to-consumption approach”, for the promotion and sustainable utilization of under-utilized plant species. The R-to-C approach brings together the main elements of the production-to-consumption chain, with an added dimension of natural resource management (NRM). The resource-to-consumption (R-to-C) framework extends the commodity chain to include investment in natural resource management, and specifically links INM to market opportunities. This is a new approach, which focuses on increasing household food security and producing crops that have an identified market opportunity. This differs from the conventional approach of trying to find markets for excess production at harvest time when commodity prices are at their lowest. The R-to-C approach links the management of natural resources with the production and post-harvest management, through processing aspects to the marketing and consumption, of crops and products.

3.1. Key Components of the Resource-to-Consumption approach
The R-to-C approach links farmer participatory research, market opportunity identification, and development of technologies for integrated soil and nutrient management, with a focus on women and the poor. The active involvement of stakeholders in the design of the INM system points to ways of tightening the nutrient cycle, for example, in relation to women’s management of small livestock, and the use of multipurpose legumes as sources of biomass for soil fertility, forage, fuel and fencing.

By focusing on the entire resource to consumption system, technical innovation to improve poor peoples agricultural productivity can link the goals of improving small farm competitiveness; increased assets, nutrition and independent income to the sustainable management of the natural resource base. This approach is expected to be especially beneficial for poor rural women who need technologies that improve returns on their labor at several points in the chain of activities that go from production to marketing and consumption, and feed back into how they manage productive resources such as soils.

A broad survey of experience in sustainable agriculture shows that many projects have achieved significant gains in developing ecologically sound agriculture practices with the participation of poor farmers (Pretty and Hine, 2001). However, there is a major difficulty in making sustainable agriculture practices economically competitive and self-

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sustaining. This in turn, is an obstacle to scaling up the size, scope and coverage of participatory, sustainable agriculture initiatives.

The R-to-C approach aims to break through this barrier by taking market opportunity identification and small farm competitiveness as a starting point for sustainable technology development with farmers. The approach applies innovative participatory market research approaches to orient technology development for production and soil improvement and other participatory research approaches to blend local farmers’ knowledge with world-class scientific know-how in the following three aspects:

3.1.1. The identification of market opportunities for competitive products that will increase farm income and employment. Strong evidence indicates that there is a strong association between increasing labor productivity through intensification in agriculture and increased incentives to invest in improved and sustainable natural resource management.

3.1.2. The development and adaptation, with farmer participation in research, of competitive production technologies, which stimulate the use of practices for integrated soil fertility management because of these products’ technical requirements for competitive production and marketing.

3.1.3. The organization of farmers so that their perceptions and know-how and scientific expertise are integrated with into the process of identifying, selecting and testing marketing strategies and technologies. Experience shows that Farmer Research Groups are a crucible for the formation of small agro-enterprises (CIAT, 2000). In these groups farmers acquire skills in planning, teamwork, accounting, project implementation and monitoring, and business development.

Other innovative features of the project’s “resource to consumption framework” are that: (a) It takes a ‘community’ rather than a ‘commodity’ focus to technology development. Research objectives are defined by combining the needs of communities for food production and income generation, objectives are client- and market-oriented, and not driven by potential production gains or technology supply. (b) Technology development is driven by a comprehensive beneficiary diagnosis, to flesh out differences in intra-household allocation and control over resources and responsibilities in order to understand constraints and opportunities to technology adoption. (c) Gender and stakeholder differentiation of roles and perceptions is explicit and integrated into the technology development process.
Figure 1. Resource to Consumption Framework for linking FPR to participatory market research (adapted from: R. Best 2002. Agroecology highlights, CIAT Africa).
4. Applying the resource-to-consumption approach: Case study of Muguli B Community, Uganda

In 2001 testing of the resource-to-consumption (R-to-C) approach with a community called Muguli B in Kabale District, Southwestern Uganda. The approach involves the following steps:

4.1. Steps in the R-to-C system for building assets of rural women

4.1.1. Participatory diagnosis with the community, with strong emphasis on gender and stakeholder analysis to identify differentiation of roles and perceptions

4.1.2. Participatory market analysis to identify market opportunities for competitive products that will increase farm income and employment

4.1.3. Prioritization of opportunities and selection of household food consumption and agroenterprise options

4.1.4. Formation of farmer research (FRG) and market research groups, and building their capacity to participate actively in selecting, testing and evaluating marketing strategies and technology options

4.1.5. Identification of research questions related to entire R-to-C system

4.1.6. Planning and implementation of experiments and marketing strategies with FRG and market research groups

4.1.7. Development of community enterprise and strengthening their agroenterprise initiatives

4.1.8. Feedback of results to the community and R&D institutions, and identification of further research questions

4.1.9. Participatory monitoring and evaluation, learning to derive lessons and impacts, and scaling-up and out of PR results and community-enterprise development process

Figure 1 diagrammatically illustrates the different steps of the Resource to Consumption framework for linking FPR to participatory market research (PMR).

The participatory diagnosis process in Muguli B involved all members of the community. Participation empowered the community and ensured that priorities and differences in perception of different stakeholders (e.g., women, the poor) are taken into consideration in identifying and selecting options. During the meeting a consensus was reached as to the products or groups of products that should be investigated further for their income-generating and food potential. This process was not just community based as researchers brought in new ideas and information for consideration by the community.

Following these initial investigations and prioritization, a second round of market information gathering, discussions with extension agents and cross-site visits to other villages to gather more accurate information were realized. The community selected pyrethrum based on criteria developed by them such as the level of market demand; potential numbers of farmers that would be involved and could benefit from the
enterprise; the role of women; and any negative effects that producing the products might have on the environment.

The next stage involved the systematization of information, detection of knowledge gaps and the identification of potential research questions during a follow-up community meeting attended by the farmers, pyrethrum extension agents (private company), NGO and CIAT staff. During this meeting the community raised many questions. This led to the identification of research questions that need to be addressed through strategic on-station research; adaptive research conducted by National partners and adaptive research conducted by farmers.

5. Lessons Learned
This section will discuss some of the initial results from this initial testing of the R-to-C framework and some of the key lessons learned.

6. Adapting the Resource to Consumption approach for the promotion and sustainable utilisation of under-utilised plant species
The section will discuss adaptations and modifications to apply the R-to-C approach to the promotion and sustainable utilisation of under-utilised plant species and some recommendations.