

INTEGRATED CROP MANAGEMENT: CONCEPTUALIZATION AND IMPLICATIONS FOR RESEARCH AND DEVELOPMENT

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An international learning workshop was conducted in Bandung, Indonesia, from 28 March – 2 April, 2000. Around 20 of CIP and UPWARD's partners on the ESEAp and SWA regions attended this workshop. A growing interest was observed by CIP and its partners to develop and apply an Integrated Crop Management (ICM) approach to sweetpotato and potato research and development. Particularly in the Asian region, CIP's collaborative activities have applied ICM as a mechanism to: 1) integrate research efforts by various researchers, projects and institutions; 2) facilitate participatory research with farmers and build on their holistic perspective of the farming enterprise; and 3) enable researchers and farmers to work together in achieving key goals such as sustainability, capacity development, and field-level impact.

Through the ICM initiatives of various CIP projects, several research frameworks, concepts and methodologies have begun to emerge in recent years. Sharing and learning from these field experiences is a key step towards developing an ICM approach that CIP and its partners could later apply and adapt in specific project contexts.

The learning workshop served as a unique opportunity to review, compare and synthesize experiences: 1) in both potato and sweetpotato; 2) in different country settings; and 3) in relation to location-specific constraints. More importantly, it provided the opportunity of a joint learning process for CIP and its partners in conceptualizing ICM and establishing a shared ICM framework, including core principles and menu of best practices. The objectives of the workshop were:

- To exchange experiences relating to potato and sweetpotato Integrated Crop Management (ICM) research and development.
- To achieve a common understanding about the concept of Integrated Crop Management, and its implications for research and development.
- To increase participants' knowledge on ICM components and approaches, and mechanisms for ICM research and development.
- To enhance participants' skills to identify ICM needs and design ICM research and development agendas.

A major output of the workshop was a conceptualization of ICM in the form of a description of a set of underlying principles and components.

Underlying principles of ICM

- **Improving crop production quantity and quality** taking into concern:
 - **Sustainability** with regard to ecological and economic aspects.
 - **Optimization** of local resources and **minimization** of external inputs.

- Environmental and human **health** as a central focus.
- **Integrating** agroecological, economic and human resource aspects, including local and science-based knowledge.
- Emphasizing **interrelatedness** of various components, i.e. management practices in relation to crop conditions.
- Requiring **empowerment and collectivity** at the farmer level relating to crop management needs assessment, decision-making and implementation.

Components of ICM

- Variety selection and conservation.
- Seed quality and health.
- Integrated Pest Management (IPM): prevention of pest outbreak, including insects, diseases, weeds and vertebrates, and sustainable management with emphasis on natural control.
- Integrated Disease Management (IDM): prevention of disease outbreak and sustainable management
- Integrated Nutrient Management (INM): soil health, disorder analysis and improvement, fertilization.
- Water management and conservation.
- Cultural practices.
- Harvesting.
- Post-harvest handling and storage.
- Marketing.

This conceptualization is considered a first step of a process that will develop over time. All participants made individual follow-up workplans and we look forward to receiving feedback on the implementation of these workplans leading to a further crystallization of research and development for Integrated Crop Management.