Gender & Breeding Initiative

CGIAR

Design elements for gender-responsive breeding

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The breeding cycle

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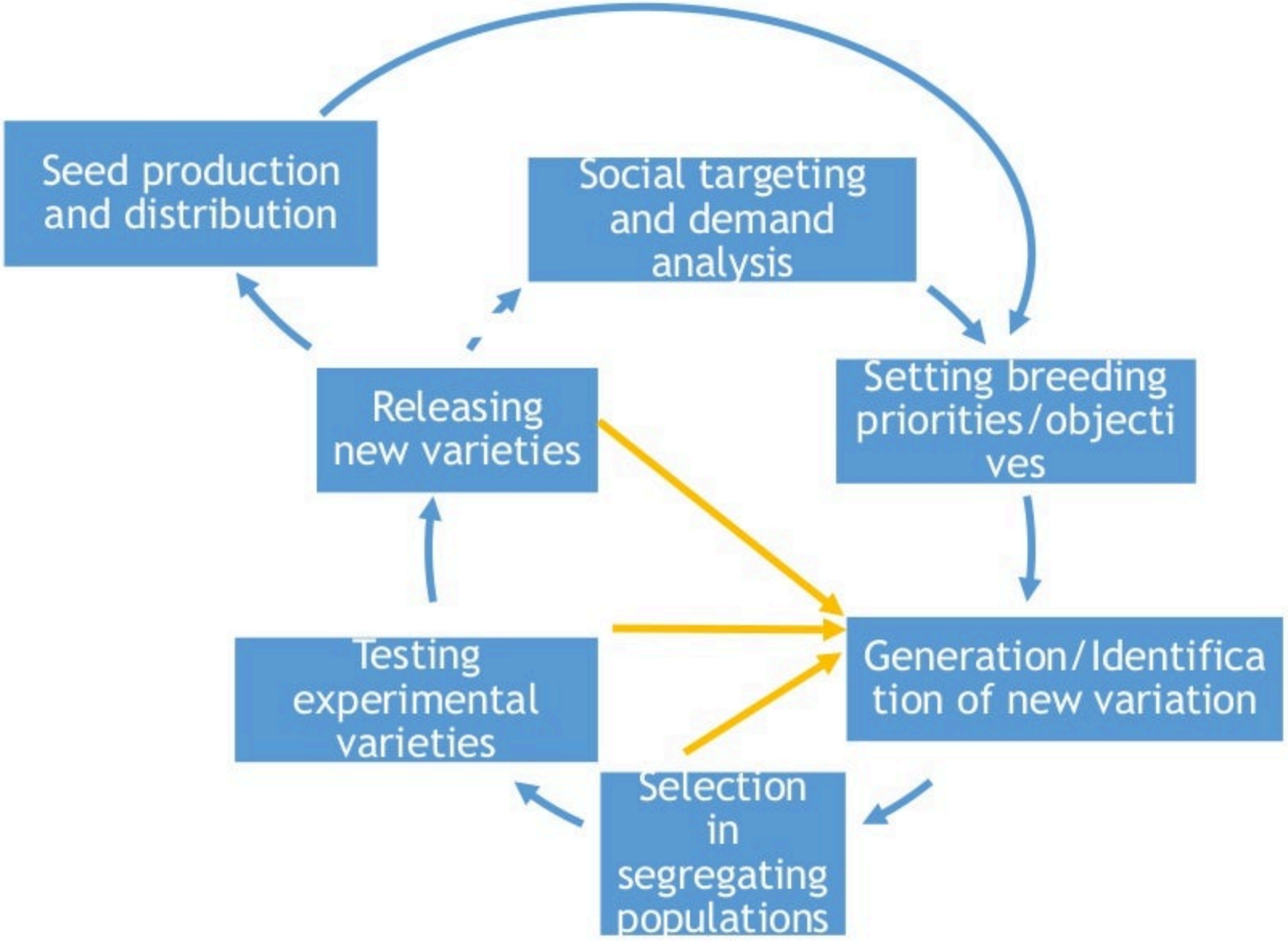
Breeding Cycle - Main Stages



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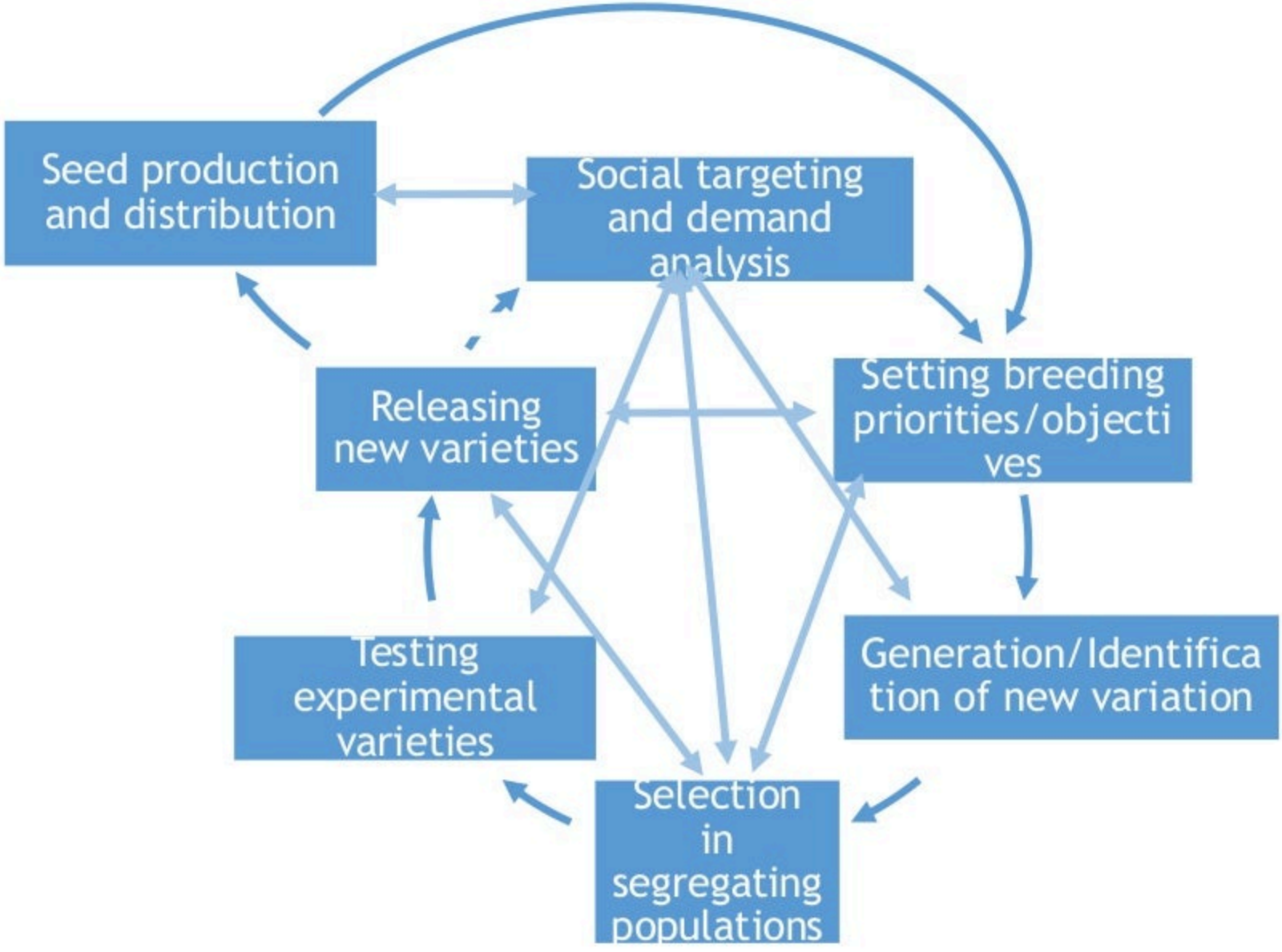


Social Targeting and Demand Analysis

- Who are we breeding for?
- What is the economically, culturally and socially important demand for gender differentiated traits and products that breeders can realistically develop?
- What are the entry points in the breeding cycle where breeders could make use of information about gender relations?

Setting Breeding Priorities and Objectives - Product Profile

- Target - region, agro-ecosystem, market segment
- Purpose (self-consumption, local market, processing, export)
- End-user profiling
- Variety type
- Key traits required
- Other requirements – multipurpose crops
- Breeding targets

Farmers Take Several Different Decision to Optimize the Value of their Production

A woman's economics may differ from a man's

The farmer's expected value must outweigh her cost of production

Expected Value is a function of:

- Increased calories available
- Cash income from selling marketable surplus
- Improved nutrition & health
- Impact on natural resource base
- Culture/status
- Perceived risk – price, loss, food safety
- Trade-offs

Multipurpose Crops

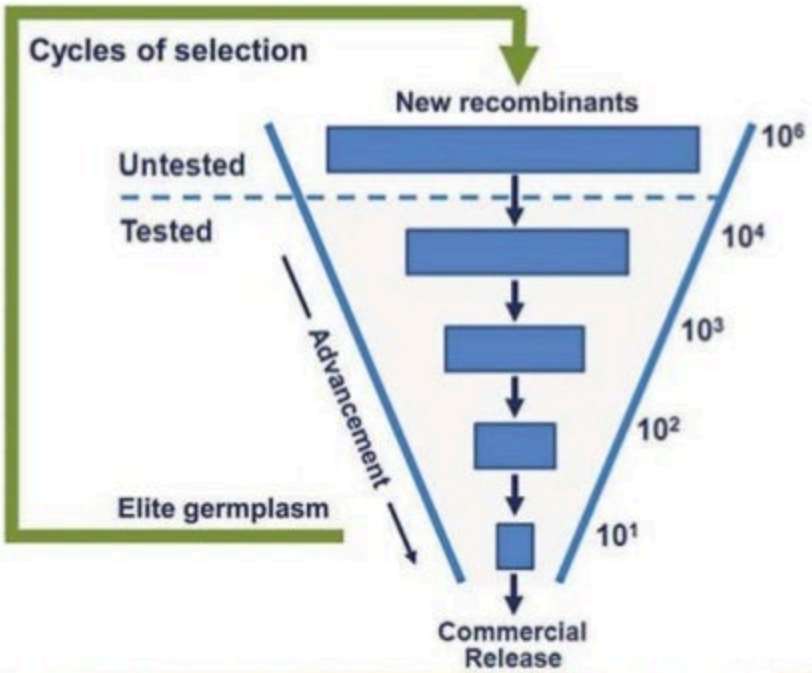
- Fulfill many different functions in the farming system and in farmers' livelihoods
- Farmers often use different products - the value of "by-products" can exceed that of the main product
- The importance of multipurpose uses can vary largely from crop to crop and for different groups of farmers
- A successful variety presents a good match between the demand and supply of traits or their combinations

Cowpea in Uganda - Grains and Leaves

Generation and Identification of New Genetic Variation

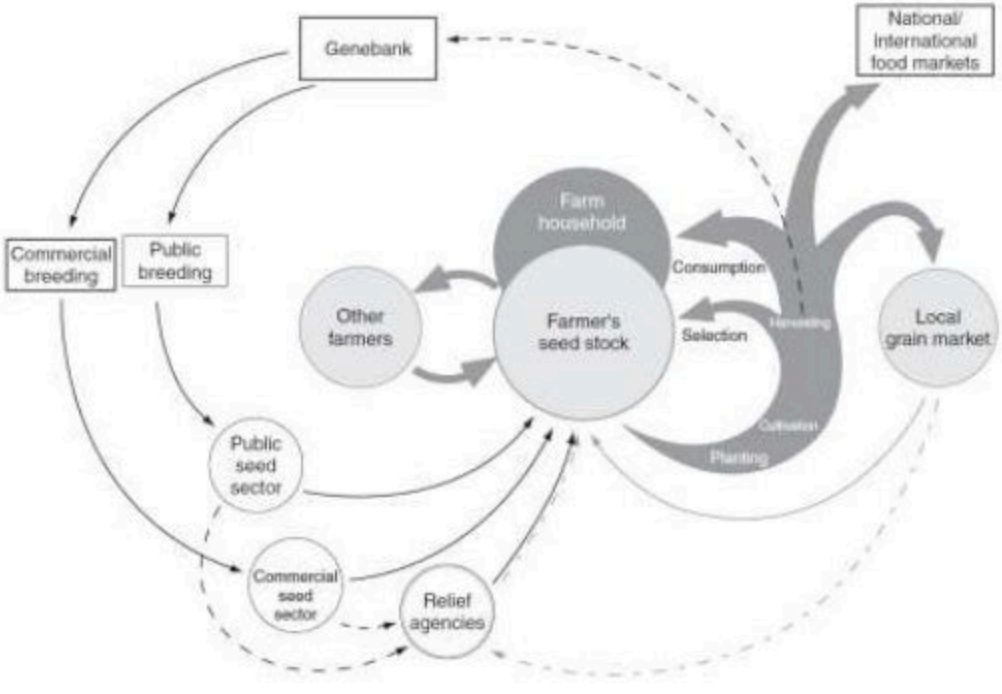
- Parent identification/Crosses
- Existing variation – cultivated and conserved
- Trait dissection and discovery – interactions with environmental conditions
- Trait expression
- Allele, gene, trait discovery
- Functional and structural genomics
- Pyramiding trait packages for diverse environments, users, cropping systems, and markets
- Large-scale genotyping/phenotyping of world collections of genetic resources

Selection and Testing of Experimental Varieties



- Changes in the scale from selection to testing
- Selection and testing environments
- Selection and testing criteria
- Trait complexes
- Which traits, where, and by whom
- Farmers/users participation

Release, Seed Production and Distribution of New Varieties



Weltzien and Christinck, 2008

- Formal and informal seed systems
- Partnership – private sector
- Farmers' role
- Differential diffusion and adoption

Gender Responsive Breeding

- Take into account important differences in opportunities and constraints faced by women and men that breeding can influence
- Understand how gender dynamics and norms may affect preferences for breeding products and uptake
- Anticipate how decisions along the breeding cycle may impact and be influenced by gender differences in availability of resources including labor and of future options
- Design breeding objectives specifically to address gender dynamics, to benefit women users as a distinct beneficiary group and consider their needs, constraints and knowledge in the breeding program
- Measure success and limitations of the breeding program including success for women as well as for households or users in general