



Product Impacts (at farm level)

- **Production gains**
- **Biodiversity enhancement**
- **Reaching women and the poor**

Production Increase + Variety Diversity Increase

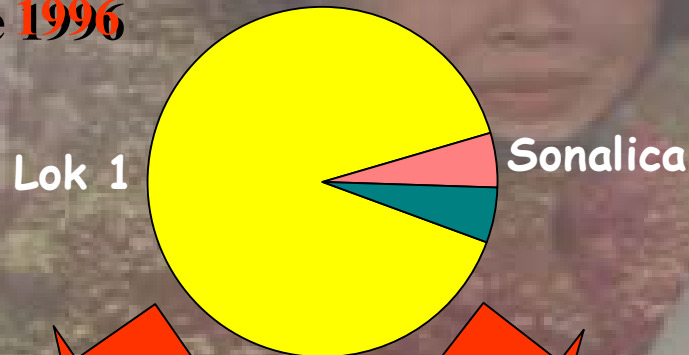


Low Potential Areas:
Northeast Brazil

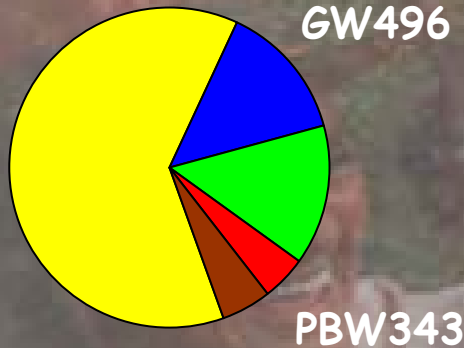
W.Fukuda, and N.Saad, 2001

Increasing Research Efficiency: Production Increase + Variety Diversity Increase

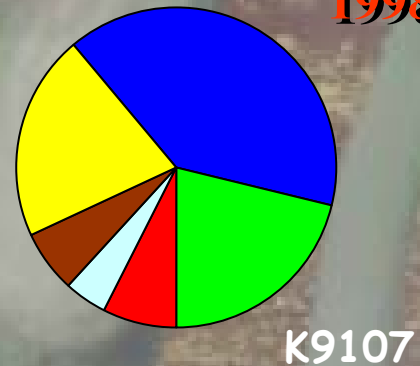
Baseline 1996



**Three-Village
mean 1998**



**Panchmaudia
1998**



High Potential Areas:

PVS Wheat in Gujarat, India

(DFID/LIBIRD/WIRFP/PAU, Oct, 1999)

Greater research efficiency

(plus functional impacts at farm level)

- **Lower failure rates**
- **Cut in costs/time**
- **Higher adoption among diverse groups**
- **Greater range of varieties adopted**
- **Adoption in “non-adoption” environments and user groups**

<p>Intermediary Impacts</p> <p>ICARDA/AREA- YEMEN</p>	<p><u>Description of specific impact</u></p>	<p><u>Indicators and measured Impact</u></p>
<p>Effects on formal breeding process (feedback to research)</p>	<p>Farmer criteria better understood/used in research Germplasm base changed to include landraces</p>	<p>New farmer criteria in lentil integrated into evaluation. 15 local landraces of lentil used in the field trial.</p>
<p>Effects on how formal research organizations organize breeding/seed</p>	<p>AREA interest in PR increased Breeding programs start to be decentralize</p>	<p>AREA extended the project to six villages PR entered in the research agenda of AREA</p>
<p>Effects on farmer acceptance</p>	<p>Widening farmer concept of lentil and barley genotypes.</p>	<p>Farmers apply their selection criteria on varied genotypes and improve skills.</p>
<p>Effects on farmer production</p>	<p>Production increase</p>	<p>Yield increase 26-59% in the 3 villages.</p>
<p>Effects on farmer-held diversity</p>	<p>Farmer awareness.</p>	<p>Farmers preserve early maturing, high yielding + drought tolerant genotypes</p>
<p>Effects on how local people organize/manage crop development</p>	<p>Discussions on selection and seed multiplication issues</p>	<p>Farmers discussed these issues during Qat session in detail.</p>
<p>Effects on empowerment</p>	<p>Farmers demand specific actions from formal scientists</p>	<p>Request to extend the approach to other crops.</p>

Reaching women and the poor



Farmer Selection Criteria

(drawn from PVS programs)

ENVIRONMENTAL CRITERIA

Tolerant of soil limitations:
 fertility / variable water conditions / textural variability

Tolerant of climatic factors:
 heat / old / wind / rainfall variability

Biotic pressures:
 insect pests / animal pests / human predators / weed / competition / weed suppression

Disease tolerance

AGRONOMIC CRITERIA

General
 intercropping ability / shade / tolerance / flowering characteristics / dormancy features

Yield
 earliness of production / plant form

Tuber distribution
 Flexibility in planting and harvest

Crop Morphology
 size of tuber, grain or cob (bigger is not always better) / shape of plant / tillering habits / color

CULTURE, PRODUCTION and USE

Labor demand
 germination characteristics / planting ease / cultivation / weeding / harvesting

Processing (ease of)
 dehulling / pounding / peeling / milling / humidification / breakage characteristics

Culinary
 taste / texture / aroma / quality of broths / ritual uses / nutritional factors / quality in fermented products

Storage
 Exchange utility
 Commercial utility

ANCILLARY FEATURES

Quality and palatability of leaves for humans

Quality and palatability of leaves for animals

Calibre of stover fodder

Ratooning ability

Craft uses of fibers

Mulch materials

Staking materials

Construction materials

(Hecht, ms)

To Reach Women and the Poor with PPB

Emphasis is needed on:

- Cultivar performance in intercropped systems
- Importance of ancillary products as both food for humans and animals
- Earliness of production
- Labor demand characteristics
- Post harvest processing concerns
- Culinary dimensions

**PRGA Small Grant:FIDAR/CIAT
Low-Cost In-Vitro Cassava Propagation
'Gendered Process Impacts'**

- **Women trained in hygiene management procedures—for the cassava propagation chamber---Led them to organize to improve their communities' own health regime**
- **The facility operators given literacy and numeracy training---spilled over into informal reading, writing, maths activities with wide range of neighbors.**

Formal-led PPB: Impacts

Quality of Science and Participation

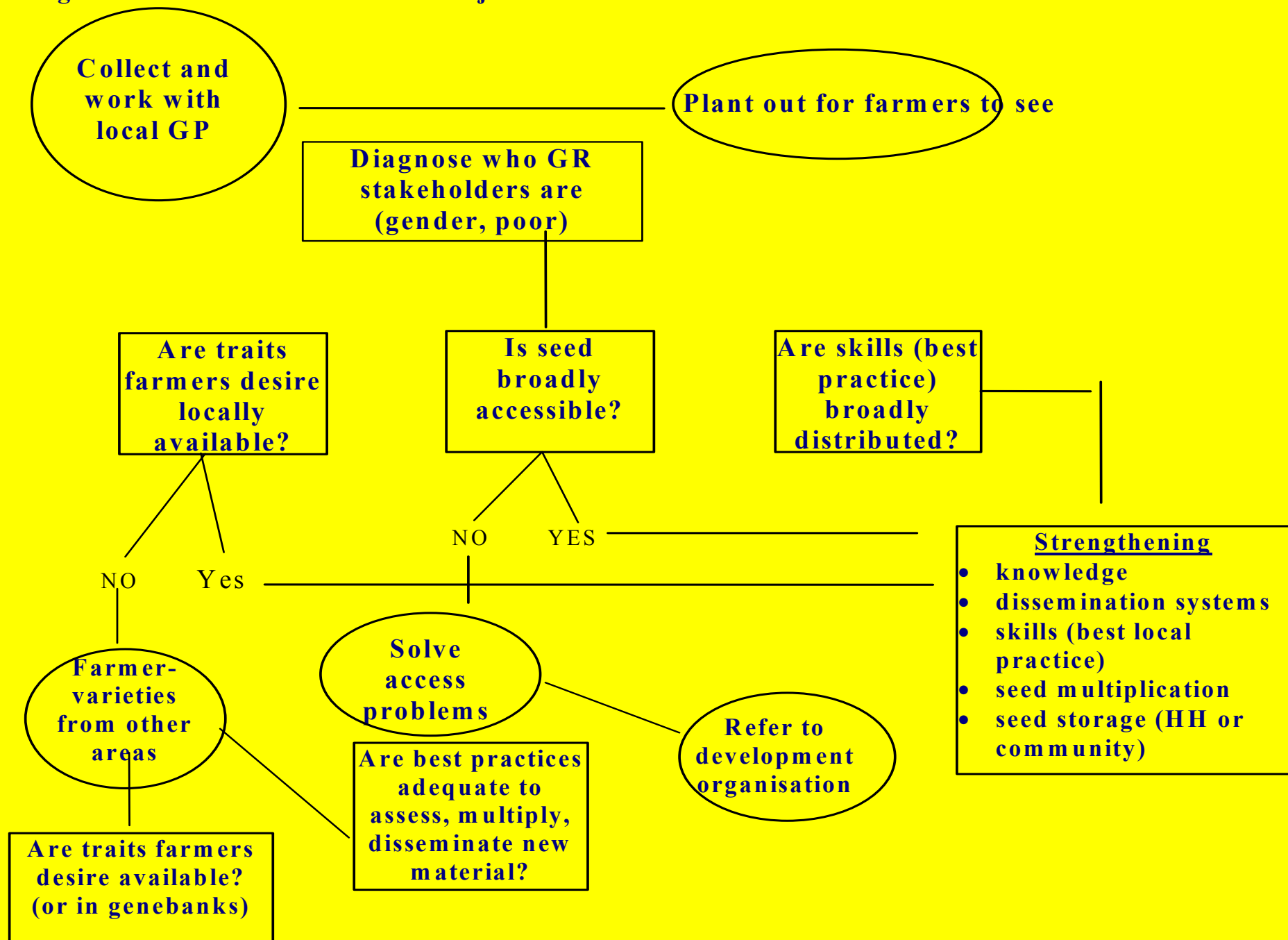
- **Plant breeders move to farmer-oriented science (process changes at institutional level)**
- **Important product gains— yield/biodiversity increases, higher/faster adoption— at farm level**
- **Few process gains at farmer level (less skills/farmer learning)**
- **Use of Gender and user analysis and practice- still limited, but**
 - **Greater openness-**
 - **Wealth of knowledge ‘how to’**

Fertile time to build on this work—and PUSH it (institutionalization proposal)

Farmer-led PPB

(locus: in rural community)

Diagram 2: A flowchart of the major Elements of Farmer-led PPB Collaboration



What are the goals of farmer-led PPB ?

- **Conserve/improve germplasm (heavy focus farmer variety base)**
- **Introduce new crop options**
- **Promote self-reliance**
- **Adjust to change or disaster**

(McGuire et al, 1999)

Farmer-Breeder Workshop

PRGA: 2001

13 farmers (6 women) northcoast Colombia

- **Workshop Topics:**
 - Cassava plant production
 - Basic genetics
 - Botanical seed and seedlings
 - Variability and segregation
 - Making crosses and handling early generations
 - Varietal evaluation and segregation
- **Workshop Follow-up**
 - Breeding action plans
 - Measures for sharing knowledge and skills in community