

Demand-led plant variety design for emerging markets in Africa

Core concepts and competencies

Dr Viv Anthony

Educators workshop

Nairobi, 11.11.2014

New variety design – drivers and trade-offs

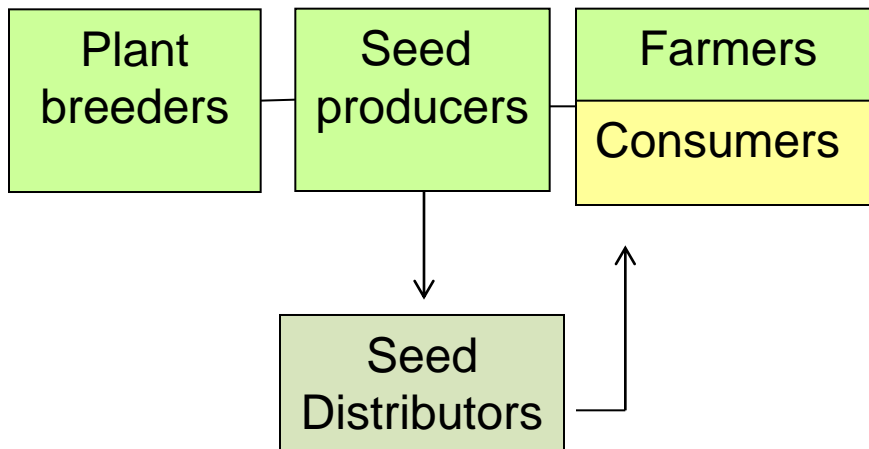
- Smallholder farmers needs
- Plant breeders expertise and training
- Technology
- Institution resources and finance
- Donor priorities
- Government policies
- Institution R&D policies
- Market and consumer drivers

Breeder led

“Technology/policy/donor-push”



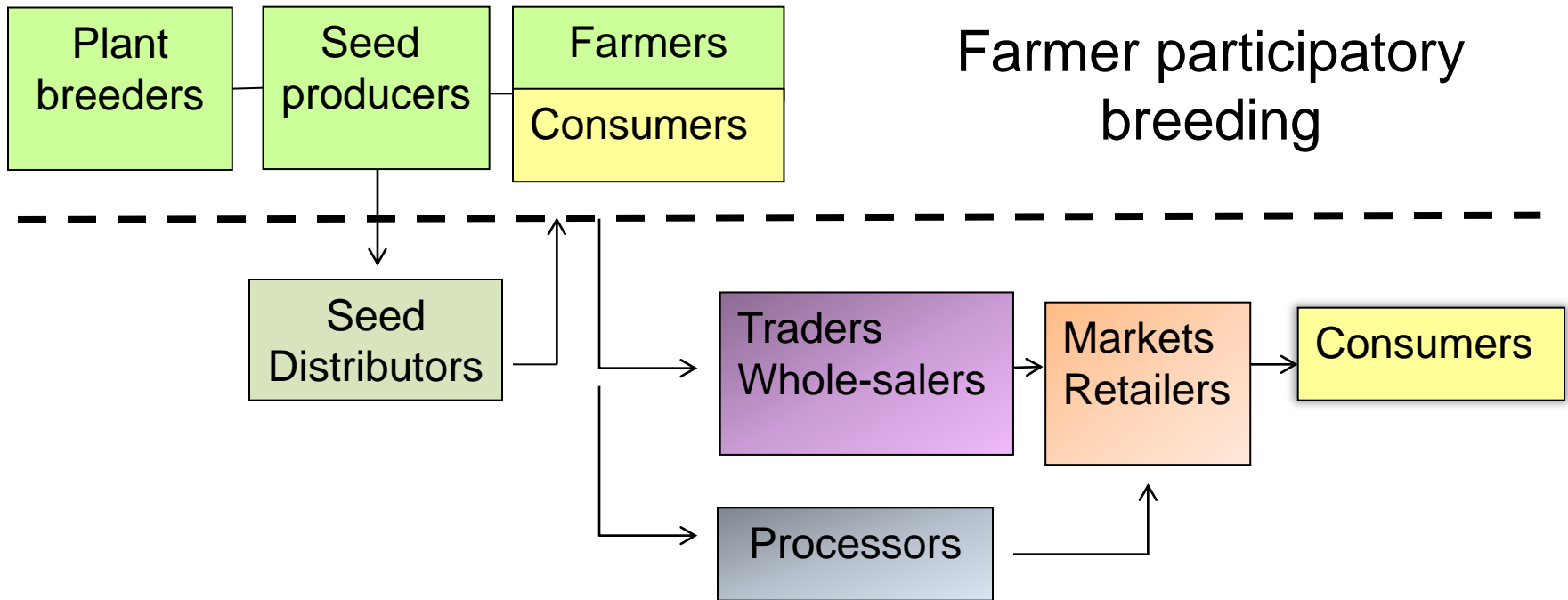
Crop production



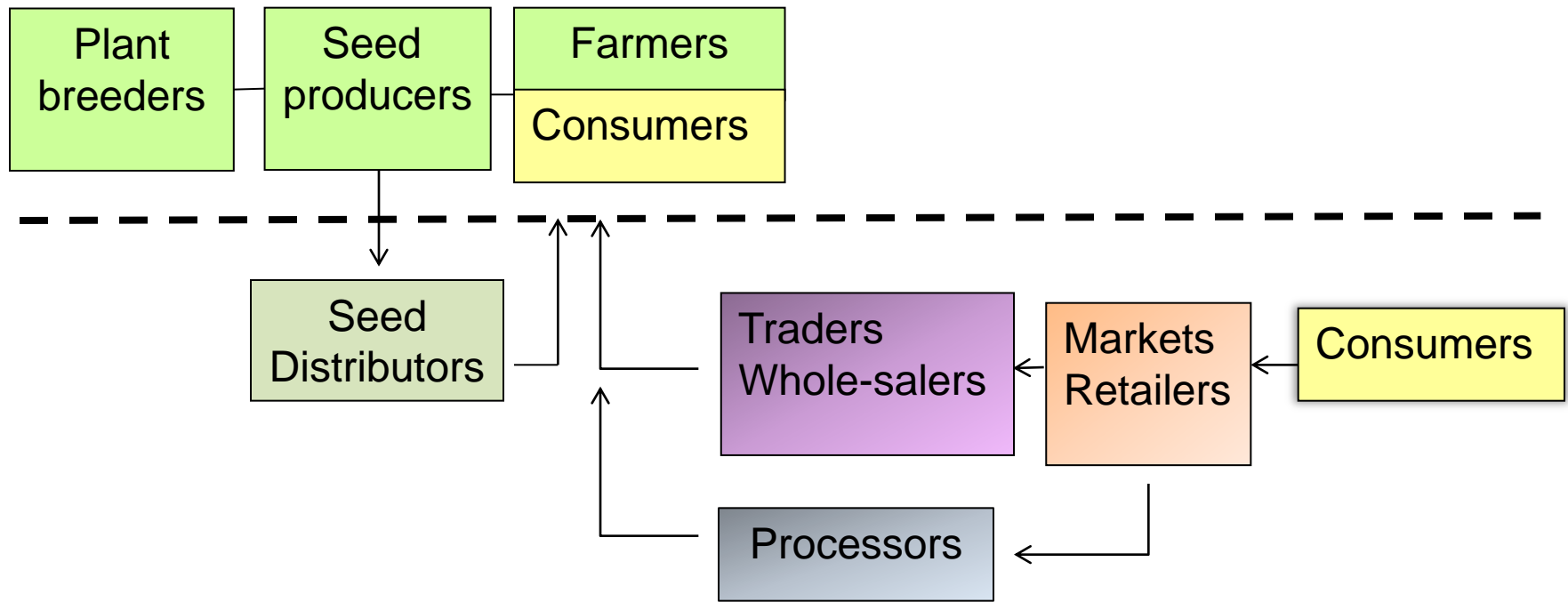
Farmer participatory
breeding

“Technology/policy/donor-push” 

Crop production drives new varieties



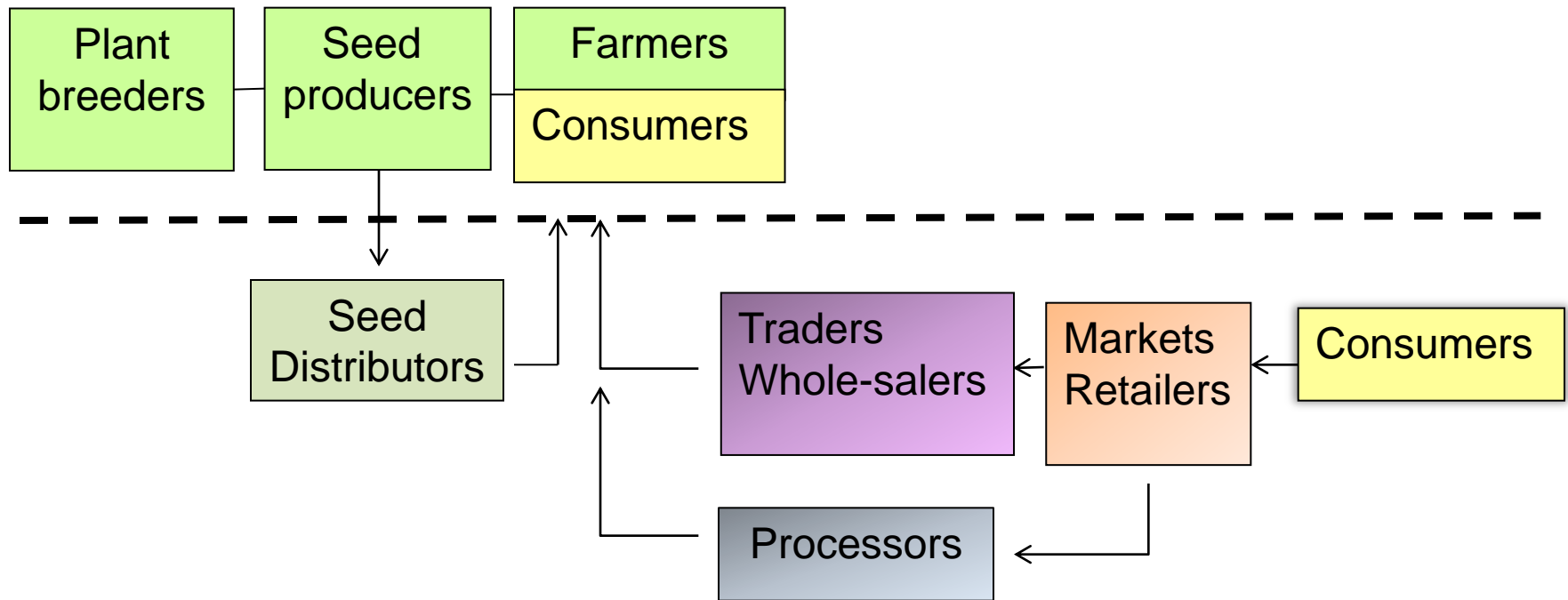
Value chain and consumers



“Demand-led pull”

Value chain and consumers

Customer and consumer demand drives new varieties

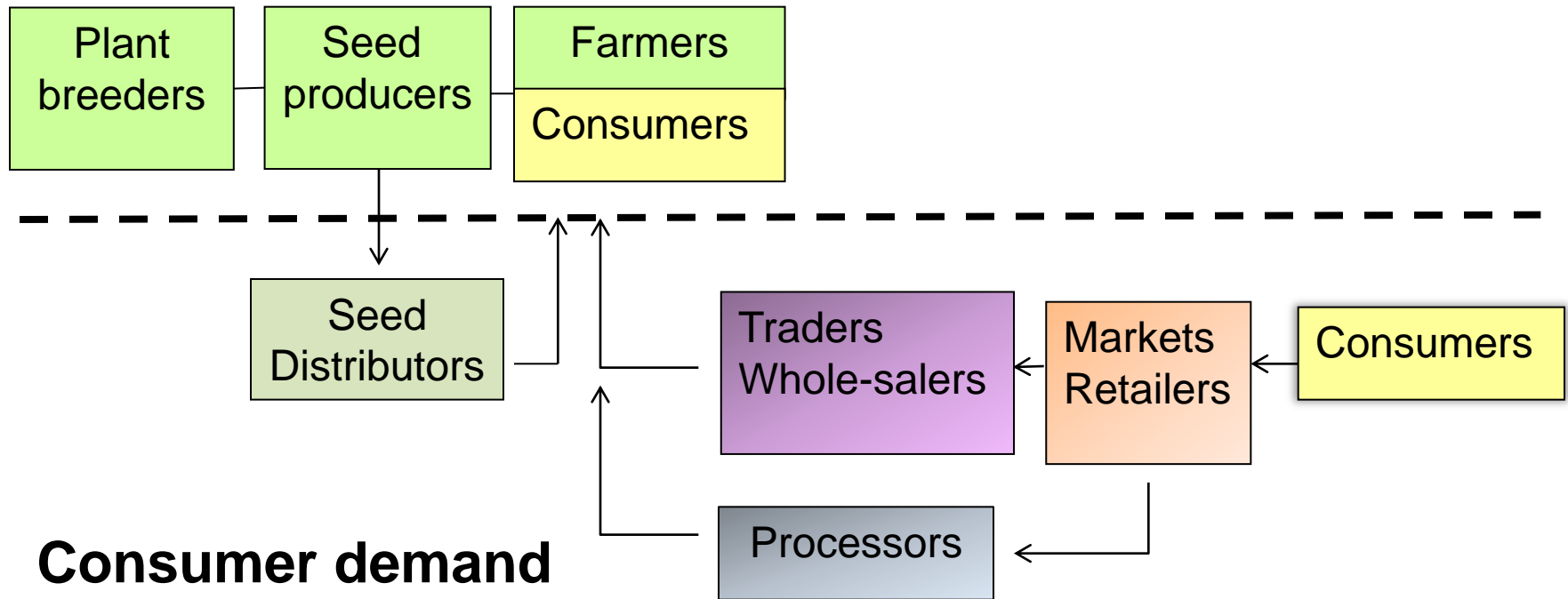


“Demand-led pull”

Shifting the current balance

“Technology/policy/donor-push” 

Crop production



Consumer demand

“Demand-led pull” 

Systematic demand-led market research

Farmers

Crop performance and resilience

- Yield and abiotic stresses: heat and drought etc.
- Pest and disease resistance
- Agronomic and harvesting characters
- Performance with low inputs
- Genetic diversity and climate change
- Transportation robustness

Seed producers

Seed and parent production

- Fertility and scalability
- Propagation and production considerations
- Cost of production

Consumers

Quality characteristics

- Taste
- Colour
- Appeal
- Nutritional value
- Cooking qualities
- Storage

Processors

Processing traits

- Performance and suitability for processing
- Cost variables
- Storage

Core principles -1

1. **Smallholder farmers and consumers**

- Understand needs and preferences
- Put first to drive the priority-setting

2. **Value chain**

- Understand buying and selling decisions of each stakeholder in the supply chain: farmer to consumer (“key buying factors”)

3. **Market research**

- Rigorous use of proven MR tools/approaches with farmers, consumers and stakeholders
- Define the performance standard and priority of each varietal characteristic
- Test and validate key assumptions throughout variety development

4. **Market trends and drivers**

- Longer-term visioning of key drivers of change and needs of farmers and markets e.g. government production and trade policies, enabling regulatory environment, climate change etc
- Development timescales

5. **Public-private knowledge and expertise**

- Integration of best practices from both public and private sectors
 - linking breeders with seed distribution and value chains
 - market research
 - breeding priority setting
 - designing variety specifications
 - technology solutions
 - linking farmers with markets
- Public private partnerships (PPPs) where benefits cannot be achieved by parties alone

6. **Varietal design and solution development**

- Multi-functional team approach
- Full range of creative possibilities including: feasibility, cost and trade-offs of needs vs. likelihood of success
- Concept and prototype testing with farmers , consumers and value chain throughout variety development and release/distribution

Demand led breeding competencies

Value proposition for change

- Demand-led approaches
- Setting breeding goals
- Performance benchmarking

Customers and information seeking

- Understanding the customer
- Customers within value chains
- Customer market research

Market and landscape foresight

- Predicting future landscape
- Scenario planning
- Risk management

Variety design and standard setting

- Product profiles
- Translating product profiles to breeding goals
- Setting standards
- Validating customer demand
- Variety adoption tracking

Development timelines

- Development stage plan decisions
- Variety registration
- Timelines and planning
- Critical paths and risk management
- Investment-cost equation

syngenta foundation
for sustainable
agriculture