



**UNIVERSITY OF NAIROBI**  
**Seed Enterprise Management Institute**

**National Plant Protection  
Organizations(NPPOS) and Seed Quality  
Regulators Course.**

**OVERVIEW OF SEED VALUE CHAIN**

Seed Enterprises Management Institute

University of Nairobi

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**25<sup>th</sup> August, 2014** <sup>1</sup>



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# OVER VIEW



1. Introduction
2. Requirements for success
3. Seed value chains: Cultivar development
4. Seed value chains: On farm testing
5. Seed value chains: Registration of varieties
6. Seed value chains: Production and marketing
7. Conclusions

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# 1. Introduction

- The seed industry is backbone of all agriculture because quality seed is the starting point of all good agricultural practices
- Seed has potential to address both food security and poverty through income generation because the potential of agricultural production is locked up in the seed for other inputs to exploit
- To produce adequate food, a seed supply systems that adequately responds to the farmers requirements must be in place.



# ...INTRODUCTION

- This training program is designed to promote an efficient seed industry through developing skilled human capacity
- We hope to promote use of good seed that will contribute into improved incomes and nutrition
- Good seed comes from good seed value chain systems.

# SEED VALUE CHAINS

## REQUIREMENTS FOR SUCCESS

- There is need to:

- Deploy new varieties from the researchers; research products must be delivered through the seed systems.

- Farmers have to be facilitated by the agro-dealers and other stakeholders; there many players, each with their own roles



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## ...REQUIREMENTS FOR SUCCESS

➤ Improved collaboration between NARS research system and the private seed sector is necessary if companies have to access good germplasm (research products); linking private sector (private business) and public sector technical efforts is essential for success

➤ However, we also need greater financial support and better infrastructures to succeed

➤ Similarly, there is a need for streamlined seed policies and regulatory systems

## ...REQUIREMENTS FOR SUCCESS

- Better seed value chains are required to promote good cultivars through the agricultural system;
- Seed systems are only a component of the agricultural production system
- To be useful, seeds require an appropriate environment of soils, rainfall, temperatures, disease and pest management protocols etc

## ...REQUIREMENTS FOR SUCCESS

- An efficient marketing system should also be in place to meet the product demand; if absent, demand should be created
- To repeat, there are many players in the service chain, each with their unique roles;

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# SEED VALUE CHAIN

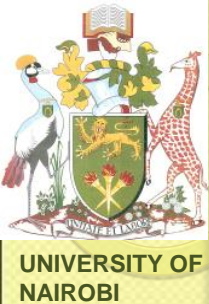
## DEFINITION

- The sum of all interlinked activities that add value in the process of converting inputs into outputs which, in turn create competitive *financial* advantage to a product, is called *a value chain*.
- Development of a seed value chain (SVC) is all about promotion of a seed system which targets delivery of high quality seed in an efficient and sustainable manner.

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## ...SEED VALUE CHAIN

A SVC has ten elements:

1. Cultivar development and release, itself a complex phase
2. Establishment of seed enterprises
3. Access to foundation seed from cultivar developers
4. Access to inputs and other resources (i.e. procurement)
5. Production and all post harvest processing operations

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# ...SEED VALUE CHAIN

6. Marketing and selling (distribution and all associated logistics e.g. after sales services)
7. Seed research (post-production quality control)
8. Human resource development
9. Corporate infrastructure
10. Quality assurance.

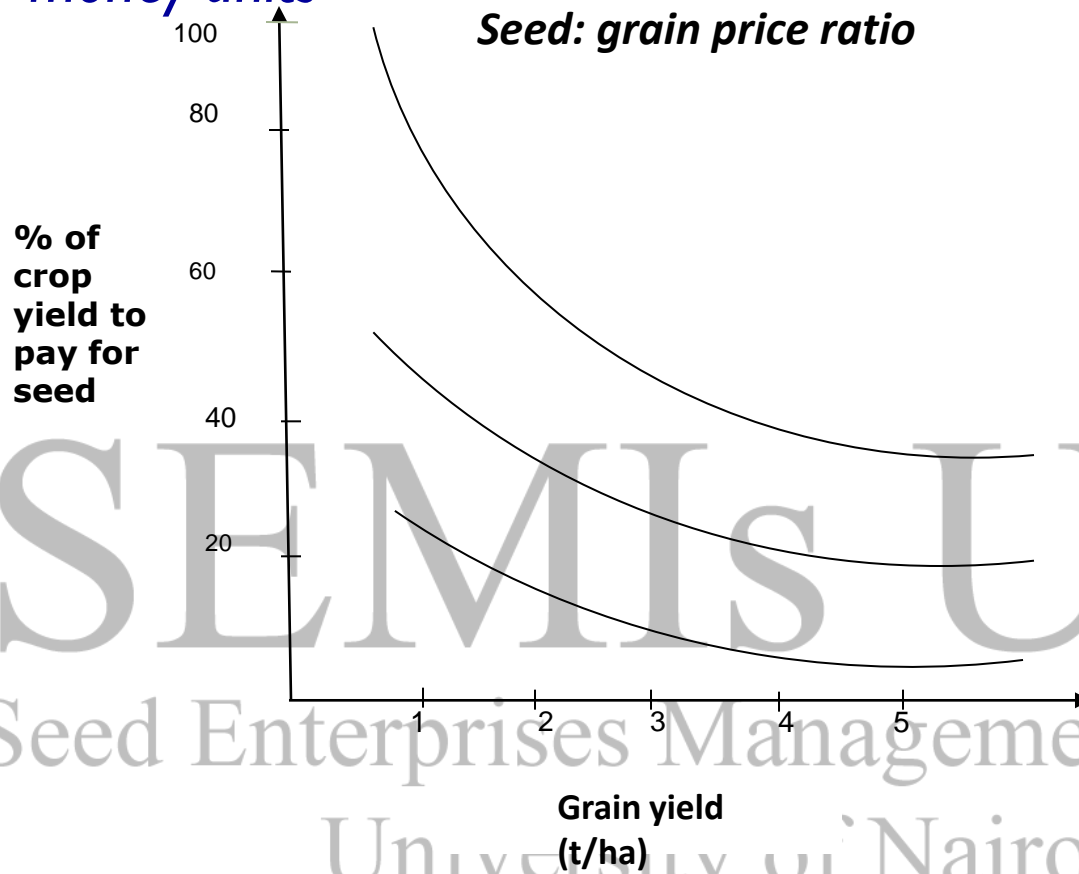
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# Efficiency of a value chain

*Remember: Efficiency of a value chain should be in money units*



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## ...Efficiency of a value chain: is team work

- Seed sector is a complex of processes that interact;
  - It involves many actors all of them essential to each other's success!
  - All should be supportive and positively influence.
  - Each determines how fast and how large the company grows
- Success is also at the mercy of various bottlenecks and opportunities.

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# \_Value Chain Players



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## I. Cultivar Developers:

- Development of superior cultivars is a costly process undertaken by N.A.R.S (NARIS & universities), C.G.I.A.R and some large seed companies.
- The process should be under the influence of farmers, merchants, processors and end users to ensure success
- Several problems characterize the process:
  - High staff turnover (in N.A.R.S)
  - Poor research infrastructure
  - Inadequate funding
  - Lack of appropriate germplasm
  - Ever present threat of new pests, diseases
  - Climate change threat

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## ...Value Chain Players

### Strategies to improve outcome:

- The public and private breeders should work together to make appropriate germplasm available
- New breeding tools (e.g. MAS & DH technique) should be incorporated
- Support of government and others should be sought
- Participatory variety testing has to be part of cultivar development
- Results at research stations (controlled environment) need on farm to confirm superior performance

# ...Strategies



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## 2. On-farm testing

**Has 3 advantages:**

- Tests superiority over standard checks
- Confirms adaptability in target areas.
- Identifies entries meet farmer preferences.
- But too lengthy testing before registration should be avoided

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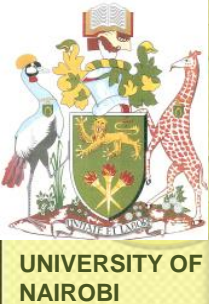


## ...Strategies

### 3. Registration of Varieties

- Needs to be through a known and trade system that is regulated nationally, regionally & globally.
- Have to be registered using known procedures
- Lack of breeder rights, high cost & lengthy testing durations are a major hindrance in some countries.

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# ...Strategies

## 4. Production and Marketing

- Requires the most attention/innovation in seed value chain
- Production & conditioning/processing requires carefully selected farms, staff and physical infrastructure e.g. machinery & irrigation
- Adequate storage is important optimize production
- Throughout quality assurance is always essential.
- Production of FI seed is particularly demanding on quality control

# CONCLUSIONS

Success of a seed business is controlled by:

- Valuable research products, careful production of the products as per regulations and good marketing strategies. All these are heavily interdependent on each other.
- Efficient seed production, processing and distribution under quality assurance standards may still not work as expected due to the influence of external factors; four of these are particularly patent:



# ...Conclusions

1. Restrictions from the national regulations set on seed quality standards
  2. Inappropriate market restrictions
  3. Low farm productivity that makes the enterprises unprofitable.
  4. Functionality of product (and value addition industries) and the markets.
- Success in seed is intertwined with success in agricultural economy, and **seed is only one of the key factors.**





**THANK YOU FOR  
LISTENING**

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