

GLOBAL SEED SYSTEM MODELS

UNIVERSITY OF NAIROBI

*SEED ENTERPRISE MANAGEMENT (SEMIS) SHORT COURSE ON:
NATIONAL PLANT PROTECTION ORGANIZATIONS (NPPOS) AND SEED
QUALITY REGULATORS COURSE*

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AFSTA

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AFSTA

- ▶ Africa Seed Trade Association
- ▶ Established in 2000 to promote trade in quality seeds in Africa
- ▶ Hosted in Nairobi, Kenya with a regional office in Dakar, Senegal
- ▶ AFSTA is mandated to dialogue with seed stakeholders of public and private sectors at national, regional and global levels, on issues that contributes to the development of the Africa seed industry

AFSTA in Africa

Mission: *Promoting Trade in Improved Quality Seeds in Africa*



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GLOBAL SEED SYSTEMS

What is a seed system?

- ▶ A chain of interlinked seed activities involving
 - breeding research for new superior varieties,
 - seed multiplication process,
 - seed marketing and distribution,
 - use of the seed by farmers
- ▶ A well functioning seed system has the potential to increase agricultural production quickly and economically

GLOBAL SEED SYSTEM

A Functioning Seed System;

- ▶ Provides seeds of appropriate varieties for use by different category of farmers
- ▶ Has a legal environment that allows for regular release of superior varieties with traits sought by farmers
- ▶ Multiplies and distributes quality seeds on time and at a price suitable to farmers
- ▶ Has appropriate regulatory systems that maintains the seed quality
- ▶ Is supported by effective providers of agro-inputs, credit and market systems
- ▶ Must be compatible with the national agricultural development

TYPES OF SEED SYSTEMS

Formal system

- ▶ Dominant in the developed countries
- ▶ Seed production and supply is regulated and involves a chain of activities leading to clear products which are certified seed of specified varieties
- ▶ Mainly covers economically viable crop species with good recurrent seed demands, such as vegetables, hybrids and some self-pollinated crops

Informal system

- ▶ Controls almost 90% of seed supply in the developing countries
- ▶ Consist of traditional arrangements used by farmers to supply the seeds they need mainly for food crops of low commercial interest
- ▶ Heavily depends on local resources and inputs and highly vulnerable to natural disaster and social political disruptions

MODELS OF SEED SYSTEMS

State/parastatal model

- ▶ This is a public/state seed production that aims to support modern farming through provision of improved crop varieties to farmers.
- ▶ Characterized by state researchers who provide the breeders seed to state agencies for multiplication and supply to farmers
- ▶ All seed production activities are done by state agencies

State/private model

- ▶ The private sector is involved in the seed activities.
- ▶ The balance between the role of public and private sector varies among crops, countries and regions
- ▶ Generally the public sector is more involved in seed production of self-pollinated and open-pollinated crops of underutilized species, while the private sector concentrates on crops of commercial interest

Community oriented seed model

- ▶ Covers a wide range of local seeds supply system e.g farmers, faith based and community organization
- ▶ Generally used for food crops and seed production is rarely regulated
- ▶ Mainly supported by NGOs,

INDIA SEED SYSTEM

India

- ▶ 7th largest country in the world
- ▶ Has 29 states
- ▶ Agriculture contributes about 30% of GDP
- ▶ Over 60% of farmers purchase seed
- ▶ Produces surplus food for export

INDIA SEED SYSTEM

India has both formal and informal seed systems

Formal seed system

- ▶ Consist of both public and private sector
- ▶ Modernization of agriculture in India dates back to 1957 aimed at providing high yielding varieties for the high potential areas
- ▶ Each state has a university and a research institute that provides breeder seed to seed producers in the private sector and public agencies
- ▶ A national seed program coordinates the seed production in each state

INDIA SEED SYSTEM

Informal seed system

- ▶ Dominant in non-commercial food crops
- ▶ Practiced by majority of the small holder farmers
- ▶ Is supported by the government through the 'seed villages' initiatives

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VIETNAM SEED SYSTEM

Vietnam

- ▶ Agriculture accounts for 20% of GDP
- ▶ World leading exporter of rice, tea, coffee among others crops
- ▶ experienced food insecurity 20 yrs ago but currently has surplus for export
- ▶ Operates both formal and informal system
- ▶ Formal system is both public and private with breeder seed mainly produced by the universities and research institutions. Distribution is by private companies and public agencies
- ▶ Informal system is operated by smallholder farmers on food crops through farm saved seed systems
- ▶ Informal system is supported by the government through training of farmers and extension staff

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THAILAND SEED SYSTEM

Thailand

- ▶ 3rd largest seed exporter in Asia, after Japan and China
- ▶ Development of the seed industry dates back to 1959
- ▶ Operates both formal and informal systems
- ▶ In the formal sector public sector dominates development of breeders seed
- ▶ The research department of Agriculture develops and multiplies varieties. Farmers associations, private companies and public institutions produce and supply the seed.
- ▶ The public institutions have seed centers that contract farmers as seed growers and pay them at a premium above normal prices
- ▶ The informal sector is mainly by the smallholders and is supported by the government through the community seed development agencies

PHILIPPINES SEED SYSTEM

Philippines

- ▶ Formal seed industry dates back to 1970s
- ▶ The formal system is operated both by the public and private sector but the public is dominant
- ▶ 50% of seed price is subsidized and public seed has a fixed price and operates on 'plant now – pay later' system
- ▶ The farmers have organised themselves to form Seed growers associations which produces the bulk of seed

END

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