SEMINAR ON BREEDER'S EXEMPTION ON PVP CASE 3: GHANA's EXPERIENCE

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Introduction

The purpose of plant variety protection (PVP) is to establish a legal framework to protect the rights of breeders of new varieties of plants or plant groupings.

PVP seeks to promote the growth of the seed industry, safeguard the lawful rights and interests of breeders as well as regulate the production, offer for sale, marketing and advertisement of new varieties

Introduction

As Ghana's population continues to grow and arable land and other resources become scarce, there is the need to increase agricultural productivity (i.e. increase yields and quality using less input).

Challenges to Agricultural Production

- Rapid Declining soil fertility (especially nitrogen)
- Complexity of pests and diseases of crops.
- Postharvest losses and short shelf life of produce



- Inherent low yields of crops
- Lack of labour
- Bush fires leading to
- Loss of biodiversity







- Ecological concerns
- Illegal mining activities destroying agricultural lands and water bodies and distorting ecologies
- Loss of biological diversity
- Land constraints- problem of isolation distance





Climate Change

- Drought
- Flood
- Heat
- Erratic rainfall







Rapid Population Growth in Ghana

- About 54.7% of land suitable for agricultural production is currently under cultivation
- Ghana's population is currently estimated to be 31.7 million (2021) with annual growth rate of 2.15%
- Ghana's population is projected to be 51.7 million in the next 50 years.



Achieving food & Nutrition security in 2050

- Crop production will have to double/triple by 2050, using limited resources (land, water, nitrogen etc.)
- Need to increase productivity per unit area (intensification)
- Plant breeding has a role to play to achieve food and nutrition security

Variety Development Process

- Pre-breeding activities
- Preliminary studies to set objectives (Farmer survey and questionnaire administration and analysis.
- Germplasm collection and assembly
- On station evaluation and selection of potential parents / germplasm for breeding.

Breeding Activities

- Establish crossing blocks
- Inbred line development (to develop inbred lines (about 5-6 cycles of inbreeding / selfing per parental line. This can be done twice in a year.)
- Identify potential inbred line parents for hybrid development (combining ability studies)

Breeding Activities

- Establish evaluation trials on-station and out-station
- Assess disease and pest incidence and soveignty (onstation and out-station)
- Conduct multi-location evaluations (in all agroecologies including disease and pest and pest assessment / monitoring
- On-farm evaluations (across ecologies with farmers contribution)
- Sensory evaluation, physico-chemical and economic analysis of potential varieties

Release and registration

- Establish verification trials (on-station)
- Assessment / Evaluation by National Varietal Release and Registration Committee (at both vegetative and reproductive phase)
- Review meetings by the National Varietal Release and Registration Committee
- Present data to support proposal for the release of potential varieties.

• Post release activities

- Seed increase of approved varieties for dissemination
- Dissemination activities (demonstrations and publicity)
- Maintenance of lines to ensure continuous availability of germplasm (both cold-room storage and field establishments)

These activities (pre-breeding activities, breeding activities, release and registration as well as post-release activities) can cost about UDS15,000.00 – USD20,000.00 per year depending on the number of genotypes being evaluated and the number of trials set-up within the various ecologies.

Importance of Seed

• Improved seed is the only input to crop production that determines the limits of crop yield.

• Any input can be quantitatively adjusted and supplemented.

Importance of Seed Cont'd

• Quality seed, as a key input for improving productivity and ensuring food security, has a bearing on the efficiency of other inputs such as fertilizer, agro-chemicals, irrigation and skilled labour.

SOME ACHIEVEMENTS IN

BREEDING

Examples: The devastating nature of rosette virus in groundnut



Variety susceptible to rosette virus



Resistant variety

Improved cowpea variety compared with farmers variety





Farmers variety

Improved variety

CSIR-CRI developed high-yielding drought tolerant maize variety



CSIR-CRI cowpea varieties compared with farmers' varieties



Rice improvement at CSIR-CRI





CSIR-CRI rice varieties compared with farmers varieties



CSIR-CRI cassava varieties compared with farmers varieties



Legal Framework for the Protection of Plant Varieties in Ghana

- Plant variety protection Act, 2020, Act,1050
- Based on UPOV 1991 Convention
- Act 1050 grants IP protection for new plant varieties
- The Act has 63 sections consisting of 8 parts

Legal Framework for the Protection of Plant Varieties cont'd

- The provisions of the Act apply to all plant genera and plant species.
- Criteria for registration are same as those found in UPOV, namely ,novelty, distinctness, uniformity and stability.
- Act recognises priority of applications.
- Act includes possibility to register essentially derived varieties.
- Act recognises authorisation of holder for specific acts

Legal Framework for the Protection of Plant Varieties

- (a) production and reproduction
- (b) conditioning for the purpose of propagation
- (c) an offer for sale
- (d) sale or marketing;
- (e) exportation;
- (f) importation; and
- (g) stocking for any of the purposes mentioned in paragraph (a) to (f)
- Authorization may be subject to conditions and this also applies to EDVs

Legal Framework cont'd

Exceptions to plant breeder right; Section 20. (1) A plant breeder right shall not extend to cover any act done

(a) privately and for non-commercial purposes;(b) for experimental purposes; or(c) for the purpose of breeding other varieties,(i) except in relation to EDV's

Legal Framework cont'd

Farmers allowed to save seed for propagating purposes on own holding (Article 15 UPOV).

Minister required to make regulations, respecting the legitimate rights of the breeder and safeguarding the interest of breeder

• Reward breeders and different actors, with ultimate aim of enhancing food security.

Legal Framework for the Protection of Plant Varieties

Compulsory licence;

Section 26. (1) A person may apply to the Registrar for the grant of a compulsory licence in respect of a plant breeder right.The Registrar shall not grant a compulsory licence unless

- the person provides proof of financial status;
- indicate ability to exploit variety in a competent and efficient manner
- holder has refused to grant license on reasonable terms
- 3 years lapse after grant

Legal Framework cont'd

- Registrar shall grant the applicant the compulsory licence only where the grant of the licence is in the public interest.

Legal Framework cont'd



Legal Framework

- Challenges? Varied
- Law Initiated in 2000
- Passed in 2020.
- Misunderstanding of legal issues among others.
- Misconceptions and myths about plant variety protection.
- Propaganda from both local and international sources
- Petition to Parliament to stop passage in 2016 on s.19 and s.22
- Directed by Parliament to undertake national sensitisation
- Directives by Cabinet in 2019 to engage stakeholders again.

Lessons Learnt

- Importance of national dialogue
- Importance of national strategy
- Need for National Champions
- Availability of resources for capacity building and sensitization activities
- Collaborations

POTENTIAL BENEFITS OF ACT 1050

- Encourage the breeding of new varieties enabling farmers to respond to the environmental and economic challenges confronting agriculture.
- Provide farmers and growers with access to the best local and global varieties
- Enable variety choice to be combined with information and delivery of good quality planting material
- Offers a tool for capturing value through farmers and breeders

POTENTIAL BENEFITS CONT'D

- Facilitate 'win-win' cooperation between farmers and breeders
- Provide business opportunities for small farmers and growers
- Provide an incentive for farmers and growers to become breeders

CONCLUSION

• Positive engagements with all stakeholders including parliamentarians is necessary.

- The PVP system is a positive development which seeks to address the interests of plant breeders and other stakeholders along the seed value chain.
- The benefits of the Act cuts across several sectors of the economy and will promote national development.
- The PVP has an enormous potential to improve productivity, the seed system, protect genetic diversity, and empower farmers to access new markets and attract private sector investments in plant breeding.

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