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EFFECTS OF SEED POLICIES, LAWS AND REGULATIONS

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I. INTRODUCTION

1. The Commission on Genetic Resources for Food and Agriculture (Commission), at its last session, considered the document *Status and trends of seed policies and laws*¹ (hereafter referred to as the ‘preliminary study’), and took note of the review² undertaken. It requested that FAO undertake, in coordination with the International Treaty on Plant Genetic Resources for Food and Agriculture (Treaty) and in consultation with the International Union for the Protection of New Varieties of Plants (UPOV), in-depth case studies for consideration by the Intergovernmental Technical Working Group on Plant Genetic Resources for Food and Agriculture (Working Group) at its next session. The case studies should consider the effects of seed policies, laws and regulations on:

- (i) on-farm diversity of plant genetic resources for food and agriculture (PGRFA);
- (ii) smallholders’ access to sufficient, affordable, diversified and locally adapted PGRFA, including farmers’ varieties/landraces; and
- (iii) food security and nutrition under the different seed systems.

2. The Commission also requested FAO to clarify the terms “farmers’ seed systems”, “informal seed systems”, “formal seed systems” and “integrated seed systems”, taking into account submissions by Members and observers.³

3. This document summarizes a study on the implementation of seed policies and laws and discusses the possible effects of the findings on the diversity of farmers’ varieties/landraces (FVLs). The study *The impact of implementation of seed legislation on the diversity of plant genetic resources for food and agriculture* is contained in document CGRFA/WG-PGR-10/21/3/Inf.1.

II. USE OF TERMS

4. Seed policies, laws and regulations aim to assure farmers about the quality, especially the varietal identity, of seeds and planting materials. Countries usually designate competent authorities to enforce seed production and quality standards. This set of authorities, the seeds and planting materials covered by the regulatory instruments, and the network of organisations that breed the crop varieties, produce, assure the quality, market and distribute the seeds are commonly referred to as the formal seed system.

5. While there are no universally-accepted definitions for different types of seed systems, farmers’ or informal seed systems generally refer to seed production and commercialization processes in which regulatory frameworks are not used or followed. Under informal systems, the propagules of FVLs and crop varieties, which may have originally been developed and released within the formal system or have arisen through selection by farmers or via natural selection, are produced, multiplied, sold, exchanged or otherwise distributed without registration, inspections or controls by a competent seed authority. Diverse channels, including household production, exchanges between farmers, and sales in local markets, supply seeds and planting materials in farmers’ seed systems. Integrated seed systems refer to types of coexistence between formal and farmer systems. This coexistence may arise of its own accord, or be fostered through coordinated activities.⁴

6. In many countries, particularly developing countries, a large proportion if not most of the seeds and planting materials of staple crops, and nearly all of neglected and underutilized crops, are sourced from farmers’ seed systems. Informal seed systems therefore play an important role for the conservation and sustainable use of PGRFA, particularly FVLs.⁵

¹ CGRFA-17/19/9.3.

² CGRFA-17/19/9.3/Inf.1.

³ CGRFA-17/19/Report, paragraph 67.

⁴ Louwaars, N., P. Le Coënt, and T. Osborne. 2009. [Seed systems and PGRFA. Thematic background study for the Second Report on the State of the World’s Plant Genetic Resources](#)

⁵ [Voluntary Guidelines for the Conservation and Sustainable Use of Farmers’ Varieties/Landraces](#)

III. BACKGROUND

7. In 2018, the preliminary study reviewed texts of seed legislations of 94 countries, covering all regions and two regional organizations (the Andean Community and the European Union) that are stored in the FAOLEX database, against 15 questions to ascertain the possible impacts of the instruments on on-farm diversity of PGRFA, especially FVLs. These questions addressed: i) the scope of the seed legislation; ii) requirements for crop varieties to be registered prior to their commercialization; iii) the existence of a seed quality control system; and iv) farmers' representation in governing bodies of national seed authorities. For each question, a set of possible answers was provided, reflecting the range of possible legislative provisions.

8. The preliminary study's findings, summarized under five major parameters, were:

- i. *Registration requirements for seed producers.* In nearly three quarters of the countries studied, seed producers were required to be registered with a designated government agency in order to operate.
- ii. *Variety registration.* Crop variety registration was required for the commercial production or sale of seeds and planting materials of crop varieties in 74 percent of the countries reviewed. Registration requirements usually included distinctness, uniformity and stability (DUS) and, less frequently, value for cultivation and use (VCU). The DUS and VCU requirements may constitute significant hurdles for registering FVLs, which usually do not meet these criteria.
- iii. *Seed quality control.* Some form of seed quality control was required by 77 percent of countries for seed to be commercialized, with 62 percent requiring seed certification specifically. In 29 percent of the countries studied, the sale of seeds that were not certified was explicitly banned. As small-scale farmers may find it difficult to obtain certification, seed quality control may make it difficult, if not impossible, for them to produce seeds that would be recognized legally. This would pose an additional hurdle to the sale of seeds of FVLs, which would typically not be quality assured, and may affect the diversity of PGRFA, therefore.
- iv. *Representativeness of decision-making bodies.* In 35 percent of the countries studied, it was required that representatives of seed producers be amongst the members of the governing council or board of the national seed authority, while the memberships of the representatives of seed consumers (farmers) in these bodies were required in 28 percent of the countries. It is assumed that the more farmers are involved in decision making, the higher the chances that policy development and implementation would be enriched by their perspectives and, hence, favourable to them.
- v. *Multiple aspects of legislation in combination.* Twenty-six percent of the countries studied had a compulsory registration system for all varieties of every crop that is sold, but also recognized farmers' seed systems in their legal documents. This implies that seed legislations in some countries may explicitly be supportive of both the formal and farmers' seed systems at the same time. In contrast, 28 percent of countries required both the registration of all varieties of every crop and the certification of their seeds as preconditions for their marketing, implying therefore that the commercialization of all seeds was regulated.

9. The preliminary study did not examine how seed policies and laws were implemented and enforced, nor did it analyse the administrative practices of national authorities. For many countries, it remained unclear whether FVLs could be registered as varieties and if the seeds of such varieties could be produced or exchanged commercially. Therefore, the current study was aimed at exploring the actual implementations of regulatory provisions and the functioning of the relevant mechanisms. The results would provide further insights to the findings of the preliminary study and enable a better understanding of how seed policies and seed laws may affect the diversity, especially on-farm, of PGRFA.

IV. METHODS

10. The possibility for the legal commercialization or exchange of FVLs was used as a yardstick for inferring whether or not the provisions of seed policies and seed laws might be favorable for on-farm diversity. On this basis, two sets of countries were identified from the preliminary study. One set, comprised of 12 countries, had legislative provisions whose probable impact, if fully implemented, would be to restrict the use of FVLs. For the sake of brevity, this set is referred to as 'restrictive' in this report. The other set, comprising 26 countries, had provisions that potentially could enhance diversity or at the least, not limit it. This set is referred to as 'favourable' in this report.

11. The 12 countries were assigned to the 'restrictive' group based on three criteria: a) the scope of seed regulatory instruments covered all seeds and planting materials in the country, i.e. there were no exemptions for certain crop species or classes of seed; b) there was a compulsory registration system for all varieties; and c) registration of FVLs did not appear to be possible. The sole criterion for assigning the 26 countries to the 'favourable' set was that FVL registration appeared to be possible. These 38 countries were surveyed in order to determine whether assumptions on criteria underpinning restrictiveness or non-restrictiveness and their effects on FLV were true.

12. A questionnaire⁶ was developed, which grouped 14 questions into three themes: crop varietal registration; seed quality assurance; and the promotion and/or sale of FVLs. The first theme was further divided into two sub-themes: the registration of FVLs and the enforcement of crop variety registration regulations. The second theme was also sub-divided into enforcement of seed quality assurance regulations, and alternative systems for seed quality assurance. Questions were mostly closed-ended, offering a defined choice of possible answers, though some open-ended questions invited more detailed answers and examples. To harmonize the responses, the definitions of key terms were provided along with the questionnaire. For the purpose of the questionnaire, FVLs were defined as varieties that are often genetically and phenotypically heterogeneous, and are recognized or associated with traditional uses, knowledge, habits, dialects and celebrations of the people who developed and continue to grow them. Because of their heterogeneity, FVLs tend not to meet the requirements of distinctness, uniformity and stability of most seed laws/policies.

13. The questionnaire was administered in English, French and Spanish languages. For each country, it was sent to the officially-appointed National Focal Point (NFPs) for monitoring the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture, with a request that they complete the questionnaire in consultation with their respective national seed authorities.

14. Of the 38 countries identified from the preliminary study, only the 30 which had officially-appointed NFPs were surveyed for the current study. Completed questionnaires were returned by 18 NFPs, from Africa (5), Asia (4), Europe (3), Latin America and the Caribbean (5) and North America (1). Seven of the countries (two from Africa, one from Asia, four from Latin America and the Caribbean) were from the group whose legal frameworks were deemed potentially 'restrictive', with the remaining 11 from the potentially 'favourable' set (three each from Africa, Asia and Europe, one each from Latin America and the Caribbean and from North America).

15. This questionnaire-based methodology, submitted to NFPs, did not explore the effects of seed policies, laws and regulations on food security and nutrition, nor did it assess smallholders' access to sufficient, affordable, diversified and locally adapted PGRFA, including FVLs.

V. KEY FINDINGS AND CONCLUSIONS

16. **The differences between the potentially 'restrictive' and favourable' sets of countries in the implementations of seed laws and policies were not as marked as the provisions of their respective seed regulatory instruments had seemed to suggest.** For instance, even for the supposed biggest area of difference in the seed regulatory instruments, i.e. the ability to register FVLs, four of

⁶ CGRFA/WG-PGR-10/21/3/Inf.1

the seven potentially 'restrictive' countries responded that FVL registration was, in fact, legally possible. The assumption of a high level of homogeneity within the two sets of supposedly different countries was therefore not borne out by the results of the study. This is understandable considering that seed laws would not usually exclude FVLs explicitly from registration. However, often FVLs will not meet the registration requirements, implying that their registration may not be possible in practice.

17. Thus, the provisions of the seed regulatory instruments used in the classification were not sufficiently sensitive parameters for predicting how their implementation may actually affect the diversity of FVLs. The sampling for any future studies must be based on other more sensitive criteria that would capture within country variations – as countries do, in fact, implement regulations differently across crops. Higher value crops tend to be subject to more stringent regulations than staple crops, for instance.

18. **There was no indication that the commercialization of the seeds of unregistered FVLs was restricted through the implementation or enforcement of seed laws or policies.** Eight countries (four from each set) did not report taking any action against the sale of unregistered varieties. Where punitive action was taken against the sale of unregistered varieties, this was mostly in relation to industrial (e.g. soybean) or horticultural species (e.g. vegetables), with no indication that FVLs were targeted specifically for sanction. In fact, it would seem that the enforcement of seed policies, laws and regulations mainly focused on 'high value' crops, rather than unregistered FVLs.

19. While the registration of FVLs was often difficult – in countries with 'restrictive' and 'favourable' seed laws/policies alike – seed laws and policies were often only partially (e.g. for certain crops) or not enforced at all by the relevant enforcement agencies. Eight countries (four from each group) did not report taking any action against the marketing of unregistered varieties, while only five of the 18 countries stated that they would always take enforcement action following notification that unregistered varieties were being commercialized.

20. However, the lack of enforcement of regulations that bar the commercialization of certain seeds does not necessarily mean that such regulations have no effect. Even where regulations are not enforced, citizens may refrain from forbidden actions, such as the marketing of unregistered FVLs, in order to comply with the law or directive.

21. There were only three instances of farmers attempting and failing to register FVLs. The reasons cited for rejection were specifically disease susceptibility, discrepancies between the variety description and what was observed in the field, and the lack of permission from source community; they would have prevented the registration of any other variety irrespective of how it was bred or by whom. However, the seemingly low number of cases where registration of FVLs failed does not necessarily mean that registration requirements have no effect. In fact, given the DUS and VCU requirements for varieties of some plant species, farmers might not attempt to register FVLs, unless the law makes explicit provision for that, for example through modified DUS requirements.

22. In the instances where farmers' groups or organizations had expressed an interest in registering FVLs, but where regulations made it difficult or expensive to do so, there was no indication that informal sale or exchange FVLs had been prevented; they were just sold and exchanged without being registered.

23. A number of countries had provisions in their legislations that protected practices, such as sales of seeds between farmers, or had provisions that effectively exempted crops of less commercial value and the informal seed systems in which their seeds were sold from the scope of regulation. It could therefore be inferred that, at least in the limited number of countries analysed, the enforcement of national policies, laws and regulations was not usually directed at FVLs and that, therefore, any negative impact on the diversity of PGRFA would be negligible.

24. **An absence of restriction does not necessarily imply the active promotion of FVLs.** This is because out of the 12 countries (four 'restrictive', eight 'favourable') where registration of FVLs was indicated to be possible, five countries (two of them 'restrictive', three 'favourable') had not registered any FVLs. This could be due to a lack of interest, need or of the human or material resources to register FVLs. The non-registration of FVLs, in spite of the opportunity to do so, may also be on account of a lack of incentives. This would be the case if, for instance, there were no

tangible benefits, such as higher prices or increased market share, that might accrue from the additional investments of time and resources required for crop varietal registration.

25. Only three countries reported provisions to promote the production or sale of FVLs, with six countries reporting registration procedures for FVLs that were different from other varieties, generally more simplified. It may be worthwhile for countries to devote efforts to incentivise greater commercialization of FVLs.

26. **Farmers' groups or other organizations may not be seeking FVL registration.** In seven of the 12 countries where FVL registration was indicated to be possible, there was no reported instance of farmers' groups or other organizations having requested the registration of FVLs. This lack of requests may be due to the reasons stated above – the task of registering a FVL may be too onerous for the farmers' groups, or the benefits may just not be worth the additional efforts. It could be inferred that, in situations where the enforcement of variety registration was not mandatory for all crops and varieties or not enforced strictly, there may not be strong incentives for registering FVLs. As noted in one country, where FVLs were not registered, but were widely promoted and marketed by non-governmental organizations and farmers' groups, variety registration was seen as 'not necessary' for promoting the production and/or sale of the seeds of FVLs.

27. **These findings are based on a relatively small sample of 18 countries whose NFPs responded to a survey. The sample is not representative of all countries with seed laws and policies, nor does it reflect all possible scenarios for seed laws and policies.** While NFPs responding to the survey were expected to reflect all aspects of implementation of seed laws and policies in their countries and to consult with the National Seed Authority and possibly other stakeholders, as necessary for that purpose, it is not clear to what extent they actually did. For a more in-depth picture of the possible impacts of the implementation of seed policies and laws, a broader and more diverse group of stakeholders of each participating country might have to be interviewed, preferably in person. Therefore, these findings should not be considered as definitive, but rather as first step to developing hypotheses for more refined future examination of any possible relationships between the implementation of seed policies and laws on one hand, and the diversity of PGRFA available to, and used by, farmers on the other.

28. **Many factors, such as agricultural policies, urbanization, market development, or social change affect the diversity of PGRFA.** Their effects must, therefore, be factored into any considerations of the possible impacts of seed policies and laws on the range of PGRFA that are available to farmers. It should also be borne in mind that seed policies and laws may, in fact, exert positive, even if indirect, impacts on the diversity of PGRFA. This is because the predictability that they provide may serve as incentives for the formal seed sector to produce or import new varieties, impacts that may not be immediately apparent.

29. Evidence gathered over longer periods of time could improve the understanding of how changes in seed legislation may affect the diversity of seed supply. However, the inferences from even such a longitudinal study of policy implementation may be affected by the dearth of rigorous baseline data on PGRFA diversity before seed policies and laws were enacted. This would make it difficult to estimate any subsequent changes and to establish cause and effect relationships.

30. Any future study of the impacts of seed policies and laws should not use proxy evidence, but rather inquire directly with multiple stakeholders – such as farmers, seed producers, seed authorities, plant breeders, agricultural extension agents, etc.

VI. GUIDANCE SOUGHT

31. The Intergovernmental Technical Working Group may wish to
- a) Take note of the Study;
 - b) Recommend that the Commission request FAO to support countries in the development or revision of their national seed policy and legislation, taking into account the Commission's *Voluntary Guide for National Seed Policy Formulation*.