



CASE STUDY ON KALRO MODEL PLANT VARIETIES LICENSING AGREEMENT

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I. Abstract

Public plant breeding institutions, including National Agriculture Research Organizations (NARS), are significantly involved in seed breeding across Africa. NARS are driven by public mandates to develop plant and seed varieties and make them available for all interested farmers, researchers, and other users (i.e., as a public good). However, once seed is developed, it must be adapted and bulked for commercialization in order for it to be available in the market. While NARS are heavily focused on seed breeding, they do not have the same capacity to commercialize seed as the private sector, which often results in a lower presence of public varieties in the market.

Licensing agreements are emerging as a tool for fulfilling the public mandate of the NARS and better linking these public institutions with private companies that can commercialize their varieties and make them available in the market, while generating economic gains for both the public institution (in the form of royalties) and the private company (in the form of profit from seed sales without having to spend the resources to develop early generation seed (EGS) or foundation seed). In addition to these economic benefits, licensing agreements also serve other functions, including promoting the dissemination of seed technology to farmers and supporting further research activities by creating an additional source of income for the NARS. Having an additional source of income from royalties established through licensing agreements would give the NARS more flexibility and makes them less dependent on government resources, assuming that the royalty payments do not revert to the central treasury and are allowed to remain in the NARS.

This case study examines these dynamics through the case of a Kenyan national research organization, the Kenya Agricultural and Livestock Research Organization (KALRO), and its use of licensing agreements to achieve its mandate. This Case Study was developed by the New Markets Lab, a non-profit law and development center focused on leveraging law and regulation as tools for sustainable development, and Syngenta Foundation for Sustainable Agriculture (SFSA), a non-profit foundation focused on creating value for resource-poor small farmers in developing countries through innovation in sustainable agriculture and the activation of value chains under its Seeds2B program and Partnerships for Seed Technology Transfer in Africa (PASTTA) project. The Case Study will be used for educational purposes as a tool for training sessions on the use of licensing agreements. The Case Study follows the model licensing agreement used by KALRO and its application to licensing different varieties with various seed companies. The Case Study concludes with questions for discussion focused on evaluating lessons learned in how to balance the needs of the NARS and the private sector as they enter into licensing agreements.

The key findings from this case study include:

- KALRO has successfully used licensing agreements since 2001, and royalty clauses are generating financial returns.
- KALRO's approach has varied throughout the years and now focuses on a non-exclusive, non-IP based model that usually includes the following elements:
 - o Parties to the agreement and relevant objectives and goals
 - Varieties to be licensed
 - o Non-exclusive and non-transferable licensing clause
 - o 15-year duration
 - Royalty payments set as percentage of gross sales for the varieties in the previous FY
 - o Reporting duties as verification mechanism for royalty payments
- KALRO's licenses transfer the right to production, marketing, and selling based on use of a formally registered variety; the licenses are not based on plant breeders' rights (PBR), although Kenyan law does provide for PBR.
- The main challenges for KALRO have been legal and human resources to administer its 30 active agreements (and conclude new agreements) and royalty collection.

II. Introduction

Public plant breeding institutions play an important role in conducting research and developing high quality varieties for farmers and other beneficiaries in the market. In Africa, development of new varieties has been dominated by public research institutions, with an increase in private sector participation in the last decade. Public breeding efforts often focus on crops with "high social returns" that are attractive to farmers but may not be as popular among private sector companies. However, public breeding institutions depend on the private sector to commercialize seed varieties, and the relationship between public sector breeding institutions and the private sector require licensing agreements to facilitate the transfer of rights and resulting royalties.²

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¹ "Intellectual Property Rights and Public Plant Breeding," *Agronomy College of Agricultural and Life Sciences, University of Wisconsin*, available at: https://agronomy.wisc.edu/ipr-summit/.

² ISSD Africa, "Public Variety Use Agreements," 2017, Kit Working Papers, 6-2017.

Varietal research, development, and improvement is an expensive and long process, which, in some cases, can take up to fifteen years to complete.³ Additionally, once a variety is developed it must undergo a number of regulatory steps before it can be officially commercialized in the market, which, in most countries in sub-Saharan Africa, include variety release and registration, certification, and compliance with relevant standards, including phytosanitary standards when traded across borders. Consequently, developing a new variety and successfully commercializing it is an investment that requires time and resources. The public and private sectors both have different advantages and flexibilities that make them well suited to participate in different stages of the seed value chain; while public institutions tend to focus on the development and research stage, the private sector has better channels of commercialization and can reach a larger number of farmers.

Licensing agreements are a form of contract that in a sense bridges the gap between the research and development stage and the commercialization stage for seed. Licensing agreements are often negotiated between a public institution and a private company but can also be negotiated between public institutions or two private seed companies. The objective of the licensing agreements is to advance the commercial exploitation of a variety by licensing the right to use and commercialize a variety from a public institution (the licensor) to a private seed company (the licensee).

This case study follows the use of a standard licensing agreement used between KALRO and a private sector party. KALRO has been using licensing agreements as a way to market publicly developed varieties since 2001, following seed sector liberalization in Kenya in the mid-1990s. KALRO has approached licensing agreements as a link between scientists who develop seed and farmers, through private seed companies. The process to enter into an agreement is straightforward and fairly simple:

- Interested seed companies reach out to KALRO through a letter to KALRO's Director;
- Companies must submit their seed merchant license, company incorporation documents, and brief company profile;
- Once KALRO receives a request, it engages its scientist to gage whether the varieties requested are ready for commercialization; and
 - o If they are, KALRO responds to the letter with its model licensing agreement.

³ Nhemachena, Charity R.; Liebenberg, Frikkie G.; Kirsten, Johann, "The evolving landscape of plant breeders' rights regarding wheat varieties in South Africa," **S. Afr. j. sci.**, Pretoria, v. 112, n. 3-4, p. 1-8, Apr. 2016. Available from "http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S0038-access">http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S0038-access

on 09 Oct. 2019. http://dx.doi.org/10.17159/sajs.2016/20150164.

⁴ Katrin Kuhlmann and Yuan Zhou, "Seed Policy Harmonization in the EAC and COMESA: The Case of Kenya," Syngenta Foundation for Sustainable Agriculture and New Markets Lab, September 2015.

The main elements of KALRO's model licensing agreement, which will be discussed in detail in the following sections are:

- Identification of the parties to the agreement and relevant objectives and goals;
- Varieties to be licensed;
- Non-exclusive and non-transferable licensing clause;
- Licensing of right to produce, market, and sell seed;
- Duration of 15 years; and
- Reporting duties.

KALRO's approach has changed throughout the years and has resulted in a model licensing agreement that is currently in use. Initially KALRO exclusively licensed varieties to Kenya Seed Company, a state corporation, with the authority to further sub-license varieties to other companies. These agreements were concluded at a higher royalty rate than the one currently used. However, this model was abandoned when KALRO started implementing its 2005-2015 Strategic Plan, which established the KALRO Seed Unit with the mandate of promoting KALRO technologies and maximizing revenue. ⁵ Concurrent with the establishment of the KALRO Seed Unit was the adoption of non-exclusive licensing models for different crops, with beneficiary licensees either making upfront payments for seeds or paying royalties based on gross sales on an annual basis. ⁶ For KALRO, licensing agreements presented a promising avenue for collecting royalties on publicly-bred varieties.

These licensing agreements have now become standard practice for KALRO, which has found a way to balance use of licensing agreements and its public good mandate. The licenses have also proven to be financially beneficial through the generation of royalties, although some challenges do remain. KALRO currently has 30 licensing agreements with private seed companies and would likely have many more if capacity challenges noted in this case study could be addressed.

Finally, it is noteworthy that the KALRO licensing agreements have not been based on PBR, even though Kenya has a legal framework in place for PBR. Notably, licensing agreements based on PBR do carry certain benefits, as noted below. This could be a next-stage consideration for KALRO and should be evaluated when NARS wish to license varieties.

⁶ Thornstrom, C. G., Virgin, I., Thorn, E., & Ericsson, M. (2013). *Science, Genetic Resources and Regulation*. Sida ITP-Program Final Report: The GRIP experience 2003-2014 with focus on GRIP-12 and 13. SLU and Sida.

⁵ Rangnekar, D. (2006). Assessing the economic implications of different models for implementing the requirement to protect plant varieties: A case study of Kenya. A report prepared under the European Commission's 6th Framework Programme for Research (Contract No.503613) as part of the Project: Impacts of the IPR Rules on Sustainable development.

III. Understanding the Elements of KALRO's Standard Licensing Agreement

Licensing agreements allow breeders to transfer certain rights to plant genetic material.⁷ The structure and contents of any variety licensing agreement depend on the intent and interests of the parties, and it is important to understand the main issues underpinning an agreement and goals and objectives of the parties up front.⁸ For public institutions like KALRO, the contents of a licensing agreement will determine how a public variety is marketed and made available to farmers, which are central to the institution's mandate. The elements of a licensing agreement can all be evaluated based on these considerations, as outlined in further detail below.

IV. The Parties to the Agreement and Relevant Objectivities and Goals

The first element KALRO's standard licensing agreement, as is true of any contract, is a clear reference to the parties to the agreement and an understanding of the parties' goals. In KALRO's standard licensing agreement, the licensor is KALRO, which is national research institution established under the Kenya Agricultural and

Parties to the Agreement: This clause should define the two parties to the agreement and include all the information necessary to identify them

Licensor:

KENYA AGRICULTURAL AND LIVESTOCK RESEARCH **ORGANISATION** P.O. Box 57811-00200 **NAIROBI**

TEL: 20 4183301/20 FAX 20 4183344

E-mail: director.general@kalro.org

Licensee:

Name of Company Address TEL **FAX** E-mail:

Livestock Research Act of 2013. KALRO has three main goals: 1) to promote and regulate research in crops, genetic resources, livestock, and biotechnology; 2) to promote and regulate research in crops and animal diseases; and 3) to "expedite equitable access to research information, resources, and technology and promote the application of research findings and technology in the field of agriculture." ¹⁰ Understanding these goals is fundamental to the licensing agreement and will determine its form and function.

⁷ Malin Nilsson, « The In- and Out-Licensing of Plant Varieties," IP Handbook of Best Practices, http://www.iphandbook.org/handbook/ch11/p03/, last visited July 14, 2019.

⁸ Malin Nilsson, « The In- and Out-Licensing of Plant Varieties," IP Handbook of Best Practices, http://www.iphandbook.org/handbook/ch11/p03/, last visited July 14, 2019.

⁹ Kenya Agricultural and Livestock Research Act, No. 17 of 2013, Part II, sec. 3.

¹⁰ Kenya Agricultural and Livestock Research Act, No. 17 of 2013, Part II, sec. 5(1).

In order to achieve its goals, KALRO will either obtain plant genetic material from the International Agricultural Research Centers of the Consultative Group for International Agricultural Research (CGIAR Centers) or develop new genetic material within Kenya. When genetic material is obtained from the CGIAR Centers, it is typically transferred to KALRO through Material Transfer Agreements (MTAs).

Once KALRO has adapted a new variety for use within Kenya or developed a new variety, it can choose to share the new variety with seed companies through a licensing agreement. In this case, KALRO will be the "licensor" under the agreement, and the seed company will be the "licensee". The licensing agreement will describe how a particular variety can be used, commercialized, distributed, and marketed in order to ensure that the variety ultimately reaches as many farmers as possible. The licensing agreement is a legal instrument that creates a formal relationship between the rightsholder of the variety or varieties (or an authorized representative), and a legally eligible person who wishes to commercialize the variety. When PBR underpins the license, the rightsholder will also be registered as the owner of the variety.

The licensee, or entity authorized to commercially exploit the varieties developed by the NARS, is usually a private seed company that is registered in the country in which the agreement was created (Kenya in this case) and has the experience and market penetration to multiply and commercialize the variety. KALRO has been entering into licensing agreements since 2001 and currently has agreements with a number of companies covering several crops, including potato, maize, and cotton. For some agreements, like an agreement to commercialize seed potato, KALRO transfers the right to commercialize seed that it has registered. In other cases, including an agreement to transfer maize and cotton breeding lines, agreements transfer the right to use these lines for possible genetic transformation, with a share of royalties on any transgenic varieties that are ultimately developed.¹¹

V. Exclusivity Versus Non-Exclusivity

Once the parties to an agreement have been identified, along with relevant objectives and goals, a licensing agreement should consider the issue of exclusivity. Exclusivity provisions, as their name indicates, determine whether the licensor is transferring its rights of use and commercial exploitation of a variety to one seed company (exclusivity) or if it is transferring its rights to more than one seed company (non-exclusivity). Licensing agreements, therefore, may take several forms:

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¹¹ Malin Nilsson, « *The In- and Out-Licensing of Plant Varieties*," IP Handbook of Best Practices, http://www.iphandbook.org/handbook/ch11/p03/, last visited July 14, 2019.

- 1) Exclusive licensing agreements, whereby the licensee has the sole or exclusive right to use and market a particular variety);
- 2) Limited licensing agreements, whereby the licensor limits the scope of the rights conferred in certain ways; or
- 3) Non-exclusive licensing agreements, whereby the licensor is free to enter into any other agreement with other seed companies to market the variety.

The extent of exclusivity or non-exclusivity is determined by multiple factors, such as the territory of application of the agreement, the duration of the agreement, and the specific varieties that are being licensed. These issues will be discussed in more detail in the following sections. As discussed below, an agreement with underlying PBR protection is stronger than an agreement without PBR protection, since a licensing agreement, or any contract for that matter, is typically binding only to the parties to that agreement, which makes it enforceable only upon the parties. PBR protection, however, is binding and enforceable for all individuals within the territory of the protection.¹²

Exclusive agreements tend to be preferred by both breeders and seed companies, mainly because, when entering into an exclusive agreement, the parties essentially agree that there will be no competition in the market for that same variety. If the variety is commercialized successfully, this could mean higher revenue for the seed company and higher royalties for the public research institution. ¹³

Non-exclusive agreements, also have an economic rationale. Non-exclusive agreements have the potential of allowing the breeding institution to get a higher market penetration for the licensed variety. For the seed company, a non-exclusive agreement means more competition in the market, but it also means that more companies will be paying royalties for the same variety, which can consequently lower the royalty rate for each company. Additionally, public breeding institutions have an obligation to make their varieties available to farmers and other users. As a result, exclusive licenses are sometimes viewed as contrary to the public mandate of the NARS, because they exclusively transfer the right

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Non-exclusivity clause: KALRO, the LICENSOR hereby grants to the LICENSEE non-exclusive and non-transferable right to produce, market and sell seed of the following crop varieties and hybrids in *Kenya* (hereinafter referred to as the territory), namely [list of varieties to be licensed].

of commercialization to just one company and thus depend on that one seed company to get their high-quality seed out into the market. One concern is that a seed company might use a licensing agreement as a way to exercise control over a public variety that competes with one of their own varieties.

¹² Katrin Kuhlmann, Plant Variety Registration and Licensing Agreements, Presentation at AFSTA Congress Special Interest Groups Meeting on 5th March 2019.

¹³ Malin Nilsson, « *The In- and Out-Licensing of Plant Varieties*," IP Handbook of Best Practices, http://www.iphandbook.org/handbook/ch11/p03/, last visited July 14, 2019.

withholding it from the market instead of commercializing it. In this case, an exclusive licensing agreement may include a "use it or lose it" clause, which provides a sort of insurance for public breeding institutions, enabling them work with additional companies in the event that the original licensee is unable to get varieties on the market.

KALRO currently uses non-exclusive and non-transferable licenses agreements in its standard licensing agreement model, in part to ensure that the newly developed varieties are commercialized through private companies, but at the same time retaining the right to make the variety available to the public if needed. Even though nonexclusively can imply less market potential, it is one way in which public breeding institutions can ensure that they obtain revenue from their breeding activities while also ensuring access and availability of the varieties for the public. On the other hand, KALRO also uses non-transferability provisions, which give KALRO absolute control over who distributes and commercializes its varieties. In practice, deciding whether to use exclusive or non-exclusive licenses may create a tension. For example, the World Bank reports that KALRO has missed opportunities to license varieties to seed companies by refusing to use exclusive licensing agreements.¹⁴

A third type of exclusivity clause that could strike a balance between the use of non-exclusive and exclusive licenses is to limit the exclusivity to certain factors like territory or duration. KALRO limits the territoriality of its agreements to Kenya, for example.

Parties to licensing agreements also have absolute freedom to determine their duration, and duration can be a very important element of a licensing agreement. KALRO for instance has chosen a licensing agreement duration of 15 years. Duration also needs to be tied to overall goals and market factors and will be impacted by other choices in structuring agreements, such as the degree of exclusivity discussed above. Negotiating a very lengthy agreement could give a seed company the opportunity to establish continuity and presence

in a local market. However, if the licensing agreement is not yielding the desired results, either because there is no demand for the variety or because the seed company is using the licensing agreement as a way to keep the variety out of the market as noted above, entering into a very long agreement could be problematic. In addition, long-term licensing agreements usually leave

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Duration and Renewal: Unless previously cancelled or terminated in the manner hereinafter provided for, this Agreement shall be deemed to commence on the date of its signature and shall be in force for the duration of **15 Years** from the date of signature. At the end of this term, the Agreement *may be renewed* at the option of either party on such terms and conditions as may be agreed between the parties.

little wiggle room for renegotiating royalty fees, even with a change in market situations.

¹⁴ The World Bank, Intellectual Property Rights: Designing Regimes to Support Plant Breeding in Developing Countries, Report NO. 35517-GLB, page 36.

One way to address this issue could be to conclude shorter agreements (for example, agreements could be designed to last for two or three years) with automatic renewal, provided that the parties agree. This format could also give the parties the opportunity to renegotiate the terms of the agreement periodically. Even though the KALRO agreement duration could be considered long, the KALRO licensing agreements are also non-exclusive, which gives KALRO the flexibility to enter into other agreements.

Negotiating and drafting these elements can be done in different ways, either through independent clauses or as part of a single clause. KALRO's model uses separate clauses for non-exclusivity and duration, as referenced in this case study.

VI. The Rights Being Transferred

Rights being transferred: KALRO hereby grants to the LICENSEE non-exclusive and non-transferable right to produce, market and sell seed of the following crop varieties and hybrids in Kenya, namely [list of varieties to be licensed].

Another essential element for the negotiation of a licensing agreement is the actual scope of rights being transferred. Commonly, licensing agreements will transfer the right to produce, market, and sell the variety, which also transfers the underlying right to multiply a seed variety that has been registered. KALRO uses a standard production, marketing, and selling

license with seed companies and does not base licenses on PBR, as discussed below.

Ultimately, the rights transferred depend on whether the breeder or licensor has registered the variety and/or holds PBR protection for the variety. If the variety has been registered, the variety holder (KALRO in this case) may license the right to use, produce, market, and sell the seed, consistent with the provision shown above. When a variety is not protected by PBR, the breeder can transfer the right to use the variety registration and know-how concerning the variety, but the parties are not protected against misappropriation by a third party. Since few public varieties have PBR protection, and since KALRO has not used PBR-focused licensing agreements, this Case Study focuses on a licensing agreement of an unprotected variety. Licenses linked to PBR raise other important considerations, however, as briefly discussed below.

Although KALRO's licensing model is standard and includes production, marketing, and sales, the scope of rights transferred in licensing agreements can vary depending upon the qualities of the varieties being licensed. For example, some public breeding institutions may prefer to keep all or most seed production within their own control and may not enter into production licenses, limiting rights transferred to marketing and sales, especially for varieties that may be multiplied quickly and easily, such as those of species with small seeds and low sowing rates.¹⁵ In the case of hybrid seed varieties, a licensor may choose to

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protect the information about the components of the hybrid by keeping hybrid seed production within its own control.

Licensing agreements also commonly include clauses to ensure that the licensee follows all the legal and regulatory requirements associated with the rights being transferred within

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Adherence to legal and regulatory requirements for production and commercialization of seed: The LICENSEE shall produce seed of the said plant variety, hybrid, parental line or population strictly in accordance with:

- The Seed and Plant Varieties Act (Cap 326) that govern the production and marketing within Kenya; and
- The applicable rules and regulations of the Seed and Plant Varieties Act (Cap 326).

the territory of the agreement. Seed multiplication, production, and commercialization are highly regulated in many countries, and the responsibility to comply with requirements the legal commercialize seed fall on the entity actually producing and commercializing it, namely the company. KALRO's seed agreements often include a clause that explicitly confirms the responsibility of compliance with these legal and regulatory

requirements, ensuring that the Licensee or seed company will follow all relevant rules.

VII. Royalties

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Royalty set as a fixed percentage of gross sales: The Plant Varieties and/or Hybrids listed herein shall attract a royalty of xx% of [gross annual sales/INSERT ALTERNATIVE] of seed for varieties under this non-exclusive license, each within the financial year of the LICENSEE, to be indicated by the LICENSEE within one (1) month of signing of this Agreement by both parties.

For KALRO and other NARS, royalties are one of the most attractive elements of licensing agreements. Through the payment of royalties, public research institutions can get remuneration for their investment in developing new high-quality varieties and create additional sources of income to fund ongoing research. The fees paid by the licensee will be

negotiated and depend upon what the parties agree to under the licensing agreement. While negotiation is part of the royalty fee setting process, there are factors that breeding institutions like KALRO usually consider, including the length and cost of performance trials, cost of maintaining the variety on the national seed catalogue, licensee company's market size, market demand, and farmers' ability to pay, among others.

Most public breeding institutions use a fixed royalty rate over the income generated from selling the seed. This is not the only form of royalty model, but it is easily traceable through audit mechanisms set in place in the contract. KALRO, for instance uses a standard 2.5

percent royalty on the value of the seed sold of KALRO varieties. ¹⁶ The fixed rate will also vary depending on whether the license is exclusive or non-exclusive. In some countries (for example, France and Spain), public breeding institutions can involve farmers' representatives in the royalty negotiations with the breeder and the intended licensee company so that the fee agreed upon is representative of the farmers' interests. ¹⁷

After determining the type of royalty and the rate to be imposed, another important factor is to determine verification and collection mechanisms for royalties. Since royalty payments will vary throughout the duration of the licensing agreement, and because they will depend upon the amount of seed harvested or sold, it is critical that the agreement establish verification mechanisms to determine the total royalty payment for each period.

All of KALRO's agreements mandate that the seed company keep accurate records of the seed sold and make these records available to KALRO upon request. After each financial year, the licensee is to communicate the gross annual level of sales for the licensed varieties and pay the royalties within six months after the end of the Fiscal Year. As a verification mechanism, KALRO requires that the licensee provide an annual report, done by a reputable audit firm, of all seed produced, sold, and paid for within the financial year. KALRO also reserves the right to request an independent audit to verify the information in the summary provided. Auditing is one verification for use with licensing agreements, though not the only one. While it has benefits, it can also be an expensive verification mechanism.

Although it includes verification for royalties, KALRO's model licensing agreement does not cover collection of royalties. This is an important area for further consideration, as royalty collection is a common challenge among public breeding institutions.

VIII. Termination or Cancellation of the Agreement

All licensing agreements come with terms governing termination or cancellation of the agreement. One cause for termination is linked with a "use it or lose it" clause, as noted above. Because licenses entered into by KALRO and other public breeding institutions have the objective of making sure that beneficial technology reaches farmers, consistent with their mandate, it is in the interest of the public breeding institution to include a

¹⁷ See, the World Bank, Intellectual Property Rights: Designing Regimes to Support Plant Breeding in Developing Countries, Report NO. 35517-GLB, page 36.

¹⁶ Rangnekar, D. (2006). Assessing the Economic Implications of Different Models for Implementing the Requirement to Protect Plant Varieties: A Case Study of Kenya. Report prepared under the European Commission's 6th Framework Programme for Research (Contract No.503613) as part of the Project: Impacts of the IPR Rules on Sustainable development.

contractual mechanism to ensure that a variety is actually commercialized once licensed. If the licensee fails to fulfill its responsibilities, a clause is triggered in the agreement. Such a clause is included in KALRO's standard licensing agreements with seed companies; licensees are required to commercialize the variety within a period of two years from entry into force of the agreement. While KALRO uses these clauses in non-exclusive licensing agreements, they could also be used in exclusive agreements or agreements with other limitations to allow public breeding institutions to terminate licensing agreements that are not advancing their mandates and obligations as public institutions.

Other causes for termination can be incorporated, including termination when there is some sort of breach of terms (for example, non-payment or consistently delayed payments of agreed royalties). Termination clauses should exhaustively list the conditions for termination and establish a process to notify and execute termination. In KALRO's licensing agreements, causes for termination include liquidation of the licensee, significant breach of contract, and non-performance on the part of the licensee.

IX. Common Challenges with Administering Licensing Agreements

Once a licensing agreement has been negotiated, drafted, and signed, it has to be properly administered throughout its duration. Some of common challenges that may arise related to the administration of licensing agreements include the enforcement of royalty payments and limited legal and institutional capacity to administer the agreements. KALRO, for instance has only three lawyers monitoring and administering a large number of agreements (monitoring approximately 10 agreements a week), in addition to working with 51 other centers and about 70 institutes around Kenya. More legal capacity is needed within the NARS to fully exploit the use of licensing agreements.

Additionally, royalty collection can be a challenge and depends on a sound royalty collection mechanism and capacity for enforcement, especially when royalties are based on sales. ¹⁸ There may be skepticism on the part of the NARS concerning correct sales figures, particularly depending upon the royalty structure.

Capacity to enforce agreements can also be a challenge. In the past, KALRO has had limited capacity to enforce its agreements, acknowledging that additional support for enforcement is needed for the establishment of effective agreements, collection of royalties, compilation of adequate data on seed certification and/or sales, monitoring for unauthorized sales, and enforcement of violations. ¹⁹ As a strategy to enforce royalty

http://documents.worldbank.org/curated/en/528331468328595898/text/355170PAPER0In1ver0p09400401 PUBLIC1.txt, last visited July 14, 2019.

¹⁸ "Intellectual Property rights: Designing Regimes to Support Plant Breeding in Developing Countries," *World Bank*, available at:

¹⁹ "Intellectual Property rights: Designing Regimes to Support Plant Breeding in Developing Countries," *World Bank*, available at:

collection, KALRO has chosen to opt out of future licensing agreements when issues arise with respect to royalty payments, and an active agreement could also be terminated on these grounds as stipulated in a licensing agreement.

Finally, most public institutions face the challenge of matching research to commercial appeal, and varieties developed may not be commercially appealing to seed companies or may face low demand in the market. For example, it has been documented that some of KALRO's crop varieties, aside from hybrid maize or barely varieties (the latter have been used for beer production), have not proven to be of commercial interest to the private sector. Even though maize varieties have better demand from the private sector, that demand is still low compared to the investments the public sector makes in developing new varieties. For instance, in 2004, KALRO tendered 16 maize hybrids with the expectation that various seed companies would bid for production rights; however, the outcome was disappointing, and only three varieties were contracted to small seed companies.²⁰

X. Note of Plant Variety Protection

In some cases, licensing agreements also license ownership rights of a seed variety in the context of PVP laws and regulations, which establish a form of intellectual property right in the form of PBR. When PBRs exist, they underpin the transfer of rights to use, develop, commercialize, and market plant varieties. If the variety is protected by PBR, the breeder may transfer the intellectual property rights or PBRs, which can result in broader rights, including a more secure right to export. Based on the International Union for the Protection of New Varieties of Plants (UPOV) Convention, to which Kenya is a party, a breeder may authorize a licensee to produce, reproduce, propagate, offer for sale, sell or market, export, import, and stock seed.²¹ A breeder may also allow the licensee to further adapt a variety, in which case right should be tailored.

Because PBR rests not only upon the rules granting the rights but also the institution administering those rights, the efficiency with which PBR is granted is important. In order to claim PRBs, breeders must claim protection over the material they develop according to the rules of the applicable legal framework, (typically at the country level). The use of protected material can then be transferred via a licensing agreement. Although licenses can be done in the absence of PBR, as the KALRO model highlights, protecting a variety under PBRs grants the licensor an overarching right over the variety and would protect not only the breeder but also the seed company from any inappropriate use of the variety by any other actor in the market. When implemented effectively, PVP regulation supports the

http://documents.worldbank.org/curated/en/528331468328595898/text/355170PAPER0In1ver0p09400401 PUBLIC1.txt, last visited July 14, 2019.

²⁰ "Intellectual Property rights: Designing Regimes to Support Plant Breeding in Developing Countries," *World Bank*, available at:

http://documents.worldbank.org/curated/en/528331468328595898/text/355170PAPER0In1ver0p09400401 PUBLIC1.txt, last visited July 14, 2019.

²¹ Chapter V, Article 14 (1).

interests of both the licensor and licensee by facilitating technology transfer and incentivizing investment in the sector.²²

For both parties, the rights to use, multiply, transfer, and commercialize seed are stronger when based on PBR. For the licensor, PBR provides an incentive for the development of new varieties of crops. Providing the legal framework for breeders to get a fair chance to profit from their breeding efforts will generate further incentives for investments in variety development. ²³ Ensuring that improved varieties reach farmers improves farmers livelihoods by providing the technologies required for successful farming; ²⁴ however, without a legal framework to establish ownership over a variety, the licensing agreement will be less effective, meaning that a variety owner might not get as high of a return on investment in a variety. ²⁵ PBR-based licenses can also create a more actionable right in the market.

While this context is important to consider, licensing agreements can operate independently from PVP laws. NARS like KALRO can enter into licensing agreements even if the varieties licensed are not protected by PBRs. The difference between licensing agreements with or without PBRs is that PBR-based agreements enjoy an extra layer of security and protection. This is the case because licensing agreements of unprotected varieties are only binding on the parties to the agreement, namely the licensor and the licensee, but PBR protections are enforceable against any third party. Consequently, these arrangements can reduce the risk that any actor in the market will inappropriately use the variety.

The effectiveness of a country's PVP regime has concrete implications for the commercialization of public seed varieties and should be evaluated in the context of the unique roles of the private and public sectors in seed markets. In Kenya, the general legal structure of the plant breeders' rights system is founded upon the Constitution. The constitutional provisions are then further developed and implemented through laws and regulations that establish the procedures and institutional framework to administer PBRs. The Seeds and Plant Varieties (Amendment) Act of 2012 and its regulations deal with the substance of grants of plant breeders' rights. The law establishes the Kenya Plant Health

²² Malin Nilsson, « *The In- and Out-Licensing of Plant Varieties*," IP Handbook of Best Practices, http://www.iphandbook.org/handbook/ch11/p03/, last visited July 14, 2019.

²³ Katrin Kuhlmann, Plant Variety Registration and Licensing Agreements, Presentation at AFSTA Congress Special Interest Groups Meeting on 5th March 2019. *See also*, New Markets Lab, Legal Guide to Strengthen Tanzania's Seed and Input Markets, 2016.Available at: https://docs.wixstatic.com/ugd/7cb5a0_1f412c57810140ee8fcfbf96a402ea83.pdf.

²⁴ Malin Nilsson, « *The In- and Out-Licensing of Plant Varieties*," IP Handbook of Best Practices, http://www.iphandbook.org/handbook/ch11/p03/, last visited July 14, 2019.

²⁵ Malin Nilsson, « *The In- and Out-Licensing of Plant Varieties*," IP Handbook of Best Practices, http://www.iphandbook.org/handbook/ch11/p03/, last visited July 14, 2019.

²⁶ "Intellectual Property rights: Designing Regimes to Support Plant Breeding in Developing Countries," *World Bank*, available at:

http://documents.worldbank.org/curated/en/528331468328595898/text/355170PAPER0In1ver0p09400401 PUBLIC1.txt, last visited July 14, 2019.

Inspectorate Service (KEPHIS) as the body with the right to enforce PBR, among other functions. Initially, Kenya's plant breeders' rights system was based on the UPOV 1978 Convention. However, when the Seed and Plant Varieties Act was amended in 2012 Kenya aligned its system to the UPOV 1991 Convention. There are some differences between the UPOV 1991 Convention and Kenya's legal and regulatory PVP framework, however. For example, the updated framework does not provide for private and non-commercial use exception, an exception included under the UPOV 1991 Convention. While the Seeds and Plant Varieties (Amendment) Act of 2012 provides for the farmer's privilege exception in wording exactly matching that in UPOV 1991, implementing regulations are yet to be adopted to streamline this exception. As a member to the International Treaty on Plant Genetic Resources for Food and Agriculture (IT PGRFA), the African Regional Intellectual Property Organization (ARIPO), and the East African Community (EAC), Kenya will likely continue to adapt its regulations to fully align its regulatory framework with international and regional commitments.

XI. Questions for Discussion

- What are some of the benefits of using licensing agreements? How do these align with (or differ from) KALRO's experience?
- Based on the different elements of KALRO's model licensing agreement, which elements do you consider to be the most relevant when negotiating a licensing agreement with a seed company from the perspective of a NARS? Would your answer change if you were negotiating a licensing agreement from the perspective of a private company?
- In your opinion, using the KALRO Model Licensing Agreement as a reference, are there some provisions that could be problematic? Which ones and why?
- Which royalty model do you think would best suit a public breeding institution? Private licensee?
- Which termination provisions do you think are most important? In your option, how essential is it to include an explicit provision for termination due to non-payment of royalties?
- Given that royalty collection is a common challenge, could you think of alternative ways to streamline the enforcement of royalty collection?
- What are some of the benefits and challenges of having PBR-based licensing agreements? How do you think PBR-based licensing agreements can align with

the goals of public breeding institutions? Would you change any aspects of the KALRO model if negotiating an agreement based on PBR?