# Synthesis Report on TARI's Licensing of Public Plant Varieties

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# Table of Contents

## Acronyms

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| ASA | Agricultural Seed Agency |
| AVISA | Accelerated Varietal Improvement and Seed Delivery of Legumes and Cereals in Africa |
| CG Center | Consultative Group of International Agricultural Research |
| CIP | International Potato Center |
| DLC | Dryland Legumes and Cereals |
| EGS | Early Generation Seed |
| ICRISAT | International Crops Research Institute for the Semi-Arid Tropics |
| IITA | International Institute of Tropical Agriculture |
| IP | Intellectual Property |
| IPMC | Intellectual Property Management Committee |
| IRRI | International Rice Research Institute |
| MAFC | Ministry of Agriculture, Food Security, and Cooperatives |
| NARES | National Agricultural Research Institution |
| NML | New Markets Lab |
| PBR | Plant Breeders' Rights |
| PVP | Plant Variety Protection |
| SADC | Southern African Development Community |
| SFSA | Syngenta Foundation for Sustainable Agriculture |
| TARI | Tanzania Agricultural Research Institution |

## Executive Summary

The agricultural sector plays a significant role in Tanzania's economy, contributing about 30% of its gross domestic product (GDP), employing more than three quarters of its population, and sustaining the country's food and nutritional security. Agricultural research and development are the backbone of agricultural productivity in Tanzania, and the Tanzania Agricultural Research Institution (TARI), which is one of the National Agricultural Research Institutes (NARES), is mandated to conduct crop research and development of well-performing crop varieties for farmers. However, in the past, TARI has faced various challenges regarding the dissemination of research and developed crop varieties, to the detriment of the ultimate intended beneficiaries. Associated problems have included limited funds to popularize, and market developed technologies and distribute them widely to the country's vast geographical areas. As a result, most of the improved seed varieties remain shelved, unable to reach farmers.

Tanzania is one of the latest countries in sub-Saharan Africa to focus on licensing as a strategy for commercialization and adoption of public varieties. In 2014, TARI started licensing its varieties to commercialize and get quality varieties to farmers in line with its mandate, as well as to collect royalties that could be funneled back into research. This experience with licensing ended in 2019, and it was unsuccessful, with no royalties collected. TARI's current renewed interest in plant variety licensing makes Tanzania an interesting case for studying how TARI could effectively do licensing this time around.

TARI views licensing as a way to establish a more reliable source of income to support research, development, and promotion of new crop varieties, which are important but expensive and time-consuming processes. For a vast country like Tanzania, it is close to impossible that publicly developed technologies will reach all parts of the country unless innovative approaches are used. If well-designed and implemented, licensing agreements could help TARI achieve its goals. Licensing agreements can also commercialize more diverse seed varieties, reaching more farmers than the NARES can sometimes access on their own and generating market growth through the commercialization of public varieties.

Due to the importance of licensing strategies for the NARES, this has been a key focus under the Accelerated Varietal Improvement and Seed Delivery of Legumes and Cereals in Africa (AVISA) project, now the Dryland Legumes and Cereals (DLC) Initiative, which is part of a more extensive collaboration with CIMMYT and other partners from the International Agricultural Research Centers (CG Centers). The New Markets Lab (NML), in partnership with CIMMYT, is working with TARI to rebuild its system for licensing, using tools previously developed by NML under AVISA, namely an Annotated Guide on

Flexible Licensing Models and Agreements (Licensing Guide) and the Tanzania Guidebook for Regulatory Aspects of Dissemination of Public Varieties (Tanzania Guide) and Tanzania Model Plant Variety Licensing Agreement, the latter of which has been approved by TARI management and the Attorney General for commercialization of TARI varieties through licensing.

NML has used these tools to conduct training workshops on licensing and plant variety protection for the TARI management team and the seed industry in Tanzania, with the first workshop conducted for the TARI management team in Dodoma on November 20 and 21, 2023. The workshop focused on key concepts in licensing agreements, including their rationale and regulation and comparative licensing approaches undertaken by other NARES in sub-Saharan Africa, as well as the legal and regulatory framework on plant variety protection (PVP) and plant breeders' rights (PBR). At the end of the workshop, NML supported the TARI management team to develop a licensing roadmap composed of short- and long-term goals based on recommendations identified by NML during consultations. This workshop was followed by a second one in Arusha from December 18-19, 2023 for TARI, the Agricultural Seed Agency (ASA), a semi-autonomous body under the Ministry of Agriculture, and the Tanzania Official Seed Certification Institute (TOSCI) legal units and senior management teams, which centered on a discussion of licensing concepts and facilitation of negotiation of a cooperation agreement among TARI, ASA, and TOSCI to facilitate effective licensing for TARI. The workshop resulted in finalization of a draft of the TARI/ASA/TOSCI Cooperation Agreement that is now awaiting signature by the relevant authorities in these institutions. A list of participants in these workshops is included in an Annex to this report.

This synthesis report was developed by NML in partnership with CIMMYT under the DLC Initiative, and it focuses on an analysis of TARI's previous licensing approaches, including successes, gaps, and challenges, along with recommendations on how TARI could more effectively use licenses to transfer its improved plant varieties to the private sector. It assesses TARI's challenges and successes in its prior licensing activities, as well as the effectiveness of its renewed approach to licensing. It was created through stakeholder consultations with key stakeholders, including TARI, regulators, and some seed companies, as well as discussions at the licensing training workshops facilitated by NML and CIMMYT.

Table 1 summarizes the report's findings, including challenges with licensing and proposed recommendations for TARI and DLC partners.

**Table 1: Summary of Findings and Recommendations**

| Challenges with Licensing | Proposed Recommendations |
|---|---|
| **Limited Capacity and Knowledge on Licensing and Regional Variety Registration** which affects negotiation of licensing terms and wider market reach. | Increase capacity building efforts through workshops on licensing approaches, plant breeders' rights (PBR)/ plant variety protection (PVP), and regional variety registration.<br><br>Disseminate relevant training materials, including licensing guides. |
| **Leakage and Limited Availability of early generation seed** affects compliance with TARI's obligations under licensing agreements. | Fast track finalization and signing of the cooperation agreement among TARI and its sister agencies, the Agricultural Seed Agency (ASA), and the Tanzania Official Seed Certification Institute (TOSCI) to enable TARI to trace (unauthorized) use of its protected varieties.<br><br>Identify structural and financial investments aimed at better maintenance of parent material and improved production of early generation seed. |
| **Limited Knowledge of Plant Breeders' Rights (PBR), a Stringent Legal Requirement for Licensing, and Challenges Meeting Protection Requirements,** which affect licensing. | Increase capacity building efforts through workshops on PBR/PVP, leverage partnerships with CG Centers to obtain authorization to register varieties sourced for PBR, compile a list of market viable varieties to protect, asses revision of the TARI legal framework to remove the mandatory requirement to protect varieties prior to licensing, and explore registration of varieties for PBR under the Zanzibari PBR regulatory framework, which has an exemption on the novelty requirement until February 2024. TARI may also wish to create a policy that covers Intellectual Assets (IA) more broadly, including but not limited to Intellectual Property (IP). |
| **Institutional Gaps in Coordinating and Overseeing Implementation of Licensing** affects follow up on licensing agreements and collection of royalties in particular. | Create a specialized IA/IP Management Committee and Office to conduct and implement activities related to licensing of TARI technologies.<br><br>Equip the IPMC and IP Office with the relevant staff and resources to enable them to perform their duties effectively, creating more distinction |

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| Limited coordination exists among the different TARI Centers and the directorates directly responsible for licensing within TARI. | between other duties of the legal office and other parts of TARI. |
| **Absence of an Intellectual Property Policy** to guide TARI's licensing activities, even when mandated to have one under the TARI Act. | Develop an IA/IP Policy to regulate the acquisition, management, and commercialization of IA and IP for TARI technologies, including guiding its licensing activities.<br><br>The IA/IP Policy could include TARI's IA/IP management framework, position on type of licenses to be granted, criteria to be met by prospective licensees, procedures for application and granting of licenses, procedures for staff to declare developed technologies, access and benefit sharing, application for IP protection for institution's technologies, and a standard licensing agreement (building upon the model developed by NML under Seeds2B and customizing it for Tanzania). |
| **Absence of Database of Varieties** for licensing, which makes tracking of varieties for licensing difficult. | TARI should **compile a Variety Licensing Database** to track licensed varieties and activities related to their use, including a variety's traits, the agro-ecological zones suitable to the variety, which varieties have been licensed, who holds the licensees, which varieties are protected under PVP, which parent material that is still available, along with other related information. |

# I. Background on TARI Licensing Instruments and Approach

Across sub-Saharan Africa, most crop variety breeding is done by public research institutions. Unfortunately, most of these institutions are significantly resource constrained, with limited capacity and finances to continuously and sustainably engage in crop research and development and to widely popularize, market, and distribute the developed technologies, which affects continuous breeding and uptake of developed technologies.[1]

Licensing is a tool that NARES often look to for increased adoption of publicly bred varieties.[2] Licensing agreements can formalize the relationship between NARES and the private sector, which can improve traceability of the licensed materials and help NARES gauge market preferred traits.[3] NARES could also leverage private sector partnerships to improve production of early generation seed (EGS), facilitating farmer access to improved publicly bred varieties in a timely manner.[4] With the royalty payments from licensing, NARES can support further research and breeding, provided that a good institutional structure is in place to collect and manage royalties.[5]

TARI does most of the crop variety breeding in Tanzania[6] through its nine research centers in Kihinga, Ukiriguru, Selian, Mlingano, Tumbi, Makutupora, Uyole, Ilonga, and Naliendele and eight sub-centers across the country.[7] TARI centers often conduct research in collaboration with CG Centers, from which they obtain most breeding material.[8] These include CIMMYT, the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), the International Institute of Tropical Agriculture (IITA), the International Rice Research Institute (IRRI), and the International Potato Center (CIP).

Until 2016, TARI existed as a department of research within the Tanzanian Ministry of Agriculture, Food Security, and Cooperatives (MAFC). In 2016, TARI was formally

[1] New Markets Lab, "Annotated Guide on Flexible Licensing Models and Agreements," 2019. Seeds2B African and Syngenta Foundation for Sustainable Agriculture. See also, ISSD Africa, "Public Variety Use Agreements," 2017, Kit Working Papers, 6-2017.
[2] Id.
[3] Id.
[4] Id.
[5] Id.
[6] About TARI, TARI, available at https://www.tari.go.tz/#service; Parliamentary Act No. 10 of 2016, The United Republic of Tanzania.
[7] Research Centers, TARI, available at https://www.tari.go.tz/#team.
[8] New Markets Lab, Tanzania Guidebook on Regulatory Aspects of Dissemination of Public Varieties, 2019. Seeds2B African and Syngenta Foundation for Sustainable Agriculture.

created under the TARI Act No. 10 of 2016 (TARI Act),[9] and established as a semi-autonomous body with the mandate of conducting, regulating, promoting, and coordinating agricultural crop research activities in Tanzania. The TARI Act is supplemented by the TARI Regulations of 2023 (TARI Regulations),[10] which provide procedural guidelines for implementation of the TARI Act. Under the TARI Act, TARI is authorized to commercially explore any discoveries it considers important and arrange with any person to buy, sell, take, or grant intellectual property rights in such discovery or invention, subject to the institute's IP Policy.[11] This is reiterated under the TARI Regulations, with TARI permitted to enter into agreements with seed dealers and grant them the rights to access and use protected varieties by paying royalties.[12] These provisions lay a binding foundation for licensing of protected crop varieties by TARI.

Since the legal framework requires that TARI license protected varieties, the other instruments relevant to TARI's licensing activities include the 2012 Plant Breeders' Rights Act and the Protection of New Plant Varieties (Plant Breeders' Rights) Regulations of 2018, which provide a legal framework and conditions for the protection of varieties. Licensing agreements and their implementation also must align with the 2003 Seeds Act (as amended) and 2007 Regulations (as amended),[13] which govern the registration of crop varieties, seed certification, and marketing. Table 2 summarizes the instruments relevant to TARI's licensing.

Before TARI was formally created, licensing of public crop varieties in Tanzania was done by MAFC under the Ministerial Circular on Licensing of Protected Varieties of Plants of 2011 (Ministerial Circular). The Ministerial Circular provided for conditions for licensing public crop varieties and benefit sharing by research teams from the royalties collected. This circular was later revised in 2016 to address issues that had arisen regarding its implementation, including relaxation of the strict conditions to be met by the private sector prior to licensing and alignment with the creation of TARI.[14] A 2016 Ministerial Circular authorizes TARI to contract with the private sector in transferring EGS for commercialization.

In 2014, TARI issued its first licenses for 13 varieties to eight companies. All licenses were for five years, based on plant breeders' rights, and on a non-exclusive basis. The licenses

[9] TARI Act No. 10 of 2016, available at: file:///C:/Users/Dazzle/Downloads/6266f56712c53513742a22fd2bf37ad4.pdf.
[10] TARI Regulations, 2023, Government Notice No. 448T published on 30/6/2023. Available at: file:///C:/Users/Dazzle/Downloads/eb08100a6b0e53cd06dd446a7ca0619e.pdf.
[11] Section 18(2) of the TARI Act.
[12] Regulation 33(2) of the TARI Regulations.
[13] New Markets Lab, "Tanzania Guidebook on Regulatory Aspects of Dissemination of Public Varieties," 2019. Seeds2B African and Syngenta Foundation for Sustainable Agriculture.
[14] Id.

transferred the right to produce, market, and sell formally registered TARI varieties. In 2019, all the licenses expired without the licensees paying any royalties to TARI.

**Table 2: Legal and Regulatory Instruments Governing TARI's Licensing**

| Instrument | Year | Primary Contribution |
|---|---|---|
| **A. Law** | | |
| **TARI Act** | 2016 | Establishes TARI and provides for effective coordination, governance, management, and conducting of agricultural research activities and other related matters. |
| **Plant Breeders' Rights (PBR) Act** | 2012 | Provides for the granting and protection of plant breeders' rights, creation of a PBR office, and other related matters. |
| **Seeds Act, No. 18 (2003, as amended) (Tanz.)** | 2003 | Provides for the promotion, regulation, and control of plant breeding and variety release, multiplication, conditioning, marketing, importing, and quality assurance of seeds and other planting material. |
| **B. Regulations** | | |

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|---|---|---|
| **TARI Regulations, Government Notice No. 448T.** | 2023 | Provides guidance on the implementation of the TARI Act. |
| **Protection of New Plant Varieties (Plant Breeders' Rights) Regulations** | 2018 | Provides guidance on the implementation of the Plant Breeders' Rights Act. |
| **Seeds Regulations, GN No. 37 (2007) (Tanz.)** | 2007 | Provides guidance on the implementation of the Seed Act. |
| **C. Guiding Instruments** | | |
| **Ministry of Agriculture, Food Security, and Cooperatives Ministerial Circular on Licensing of Protected Varieties of Plants.** | 2016 | Allows TARI to directly contract with the private sector in transferring foundation seed for commercialization. |

# II. Current Challenges with TARI's Licensing Strategy

In November and December 2023, NML and CIMMYT, in collaboration with TARI and other local institutions, conducted consultations in Tanzania to understand stakeholder experience with licensing. Stakeholders included TARI breeders from various centers, the TARI management team, seed companies, ASA, and representatives from the Ministry of Agriculture, including TOSCI, the National Plant Genetic Resource Centre, and the Plant Breeders' Rights office. The consultations were supplemented by two workshops on licensing for the TARI management team intended to build TARI's knowledge and capacity for licensing. Both the workshops and consultative meetings revealed numerous challenges and opportunities associated with TARI's licensing strategy.

## A. Limited Capacity and Knowledge Regarding Licensing

Understanding licensing concepts is key to effective negotiation of a licensing agreement and subsequent implementation. The licensing institution should have enough financial and human resource capacity to oversee the implementation of the licensing agreement, including follow up on payment of royalties. Each party should clearly understand its obligations and the consequences of noncompliance.

Some companies noted during consultations that they had not clearly understood the terms of the licensing agreements. Others noted that while they thought they would have exclusive rights, and that non-exclusivity created such stiff competition in the market that the licenses did not make financial sense. The workshop and consultations revealed a limited understanding of licensing processes and the related concept of licensing with PBR protection, both among the TARI breeders and the seed industry. For instance, given that TARI materials are public varieties, some breeders and seed companies considered the need for licensing and PBR to be very low. While PBR could add a layer of protection to prevent unauthorized use of the protected variety, some breeders, who could not see how licensing or PBR would be of individual benefit to them, were largely disinterested in the matter. TARI was also unsure of how to deal with requests for licenses to use TARI varieties outside the country or how regional registration of TARI varieties could be relevant to the institution. TARI breeders were also unsure of their rights in CG Center material, even though this is spelled out in the CG Principles on the Management of Intellectual Assets.[15]

Consultations revealed TARI has not previously had adequate human and financial capacity to oversee the implementation of licenses. There is only one lawyer mandated to

[15] See CGIAR Principles on the Management of Intellectual Assets, 2012. Available at: https://cipotato.org/wp-content/uploads/2014/01/CGIAR-IA-Principles-approved-as-of-7-March-2012.pdf

oversee all legal issues relating to TARI centers and its sub-centers, who handles over 300 legal issues. TARI has put in place a temporary IP committee, composed of three people, to develop a new strategy for licensing and oversee its licensing activities until a time when a more permanent structure can be put in place. While this is a temporary solution, more capacity building is needed for this team.

## B. Limited Knowledge of PBR, Stringent Requirement for Protection Prior to Licensing, and Challenges Meeting Protection Requirements

Under TARI's legal framework, TARI can only issue licenses based on PBR. TARI noted this as a challenge, because of the cost and requirement for obtaining PBR and because this limits the scope of TARI's licensing program.

In order to obtain PBR, there is an application fee of USD 200, a USD 250 fee for the PBR certificate, and an annual maintenance fee of USD 200 per variety. TARI cannot afford to pay these fees for its many varieties, especially those that are not commercial enough to fetch royalties. TARI breeders also noted compliance with PBR registration requirements as a major challenge to the institution's licensing. The novelty of a variety is a key prerequisite for obtaining PBR, and a variety is only new if it has not been sold with the consent of the breeder more than one year before an application for PBR.

Because of the PBR requirement, several varieties, including those that are old but still preferred in the market, are disqualified. With a "breeder" under the PBR Act defined as one that has "bred, discovered, or developed a variety,"[16] breeders were unsure whether TARI could claim PBR for varieties originating from CG Centers that they only evaluate for release. These form the largest percentage of TARI varieties. It is notable that CG policy states that these varieties are not eligible for PBR, highlighting an important knowledge gap.

## C. Limited Availability of EGS

EGS is usually the licensed product under agreement, and thus its flow, quality, and timely supply should be carefully overseen by the licensor. Some companies mentioned that, while they had intended to implement the licensing agreements, TARI did not have the EGS or parental lines (for hybrid varieties) for some of the licensed varieties. Moreover, ASA, a semi-autonomous agency mandated with making seed available to farmers, and some breeders within TARI, continued to provide licensed products (foundation seed) to paying companies, farmers, and cooperatives in the absence of licensing agreements. As a result, there was no motivation for those companies with licenses to pay royalties.

[16] Section 2 of the Plant Breeders' Act, 2012.

Discussions during the workshop in Dodoma highlighted that documentation is not clear on some parental material, especially where the specific breeders have either retired or otherwise left the institution. In addition, because of limited resources, some TARI centers do not have proper facilities for maintenance of all germplasm. This is why it is crucial for TARI to consult breeders and respective centers prior to licensing to determine whether a variety is available for licensing. Further, EGS production requires both resources and time, and breeders noted funds are often inadequate.

## D. Institutional Gaps in Coordinating and Overseeing Implementation of Licensing Agreements

With multiple centers under TARI, it is important that activities relevant to licensing are centrally coordinated to ensure effective implementation of the licensing agreements. Consultations revealed a lack of institutional coordination within TARI regarding licensing activities. There is no centralized system to manage licensing activities in TARI, and every TARI center operates somewhat independently. While licenses were issued by TARI headquarters, the respective centers and even the breeders were unaware that the varieties they had worked on had been licensed, yet they provide licensed products, including EGS. During consultations, seed companies that had previously held licenses with TARI revealed no one had followed up on royalty payments and they were unsure how or where to pay them.

## E. Absence of an Institutional Intellectual Assets/Intellectual Property Policy

An institutional policy on intellectual assets and intellectual property would guide the licensing activities of the institution, and its absence is a major gap. TARI is mandated under its legal framework to have an IP Policy to guide its licensing activities. The IP Policy could give legality to the current acting IP committee and create a specific IP management framework, define TARI's position on licenses it issues, define the procedures for application and granting of licenses and coordination of TARI staff and centers on declaration and management of developed technologies, define royalty benefit sharing with breeders; and include an application for IP protection for institution's technologies and a standard licensing agreement for public reference, among other things. TARI might also consider a policy that covers Intellectual Assets more broadly, including IP, since not all its innovations are (or can be) covered by IP.

The absence of institutional clarity on many issues is very problematic for TARI and the private sector enterprises that could be interested in accessing its varieties through licensing. The single legal officer within TARI is overworked, as noted, and the addition

of drafting, reviewing, and negotiating licensing agreements would be overwhelming. There is also no clear institutional strategic plan on licensing, or a seed business strategy aimed at attracting the market and seed companies to adopt institutions' varieties, which are drivers for licensing.

### F. Limited Flow of Information Between TARI and the Private Sector

Effective licensing by NARES hinges on strategic partnerships which ensure a clear flow of information between the NARES and the private sector. Effective communication would enable the private sector to better understand key licensing concepts and facilitate improved negotiation among the parties, as well as increased awareness of the NARES varieties available for licensing and their viable traits. Consultations revealed that some licensees only realized after getting the licenses that the varieties did not have a market, as farmers' preferences had shifted to newer varieties with better traits. Companies were also unwilling to invest in promotional activities, since many other companies had access to the same varieties. Moreover, TARI has limited resources to effectively publicize and promote most of its varieties in a manner that can create demand in the market.

Several companies noted that, in the absence of a variety catalogue or database, they were unaware which varieties were available for licensing. Also, the process for obtaining licenses is unclear, and, while some had written to TARI requesting licenses, they reportedly never received a response.

## III. Recommendations

The challenges detailed by the stakeholder meetings also present opportunities for improving TARI's licensing strategy. Consultations revealed that a number of local seed companies in Tanzania lack breeding programs, and public varieties continue to be trusted and demanded in the market. As the private sector grows, it is becoming better equipped to produce seed in bulk and commercialize public varieties, something TARI could leverage for licensing. Now that TARI is considering reinstating its licensing strategy, a few changes and actions will, however, have to be taken for more effective licensing. This report recommends the following, most of which would be the direct responsibility of TARI, in order to improve licensing. Implementation of the recommendations will heavily depend upon improved coordination among TARI Centers and the support of private sector and development partners.

### A. Capacity Building for Both TARI and the Private Sector

Capacity and knowledge gaps have been a challenge to TARI's licensing efforts. To address these gaps, capacity building workshops and the adoption of legal tools could be a focus. These methods could address key licensing components, including options for a wider licensing base, including marketing in other countries. Uganda's National Agricultural Research Organization (NARO) IP Management Committee, for instance, conducts regular online trainings for the seed industry and has successfully experimented with licensing, with licenses that also allow the private sector to commercialize varieties at the regional level within the Common Market for Eastern and Southern Africa (COMESA).

Capacity building could also include expanding resources for the relevant units responsible for licensing within TARI. For instance, increasing human resources for the legal department and acting IP Committee will be critical. This could be done with the support of private sector actors and development partners.

Further, the legal tools developed under AVISA and the DLC Project could form a basis for ongoing training, and the tools could be updated to reflect current challenges and opportunities.

### B. Streamlined Institutional Framework for Licensing

TARI could consider establishing a more permanent institutional structure for managing its intellectual property (and intellectual assets) and licensing activities. While TARI has recently put in place an acting IP Committee, it is temporary, and its roles are not clearly defined. The three members of the committee have other permanent jobs, diverting their focus from licensing. For instance, one member is the TARI lawyer who is already overwhelmed with other institutional legal duties. TARI could learn lessons from NARO in Uganda, which has created a specialized IP Office and management committee with defined roles and regular meetings. A specialized IP office could streamline the licensing process, particularly with permanent capacitated staff and adequate resources. TARI could also prioritize support and partnerships aimed at training relevant TARI personnel in key PVP and licensing good practices, including through cooperation with relevant institutions in developing economies and the exchange of good practices. In 2021, there was an exchange between KALRO and TARI, where KALRO shared its experiences with licensing with key TARI staff as part of a capacity building exercise. The training workshops facilitated by NML and CIMMYT in 2023 were also a key tool in building licensing capacity for the TARI management team.

### C. Develop an Institutional IA/IP Policy

As mandated under the TARI Act, TARI could consider developing an IP Policy to regulate the acquisition, management, and commercialization of its technologies and intellectual

property, including through licensing. The policy could enhance the transfer and commercialization of the organization's technologies, innovations, and inventions for revenue generation. The policy could include TARI's IA/IP management framework, types of licenses that could be granted and criteria for prospective licensees, procedures for application and grant of licenses, procedures for staff to declare developed technologies, access and benefit sharing, application for IP protection for institution's technologies, and a standard licensing agreement, the latter of which could be based on the model developed by NML and Seeds2B Africa under AVISA. Because TARI is currently required to claim IP for assets that it wishes to license, an IP Policy could be the right framework; however, TARI has assets beyond those eligible for IP (and has limitations on what it can claim as IP), so a broader policy covering Intellectual Assets is warranted.

### D. Finalize Cooperation Agreement with ASA and TOSCI

Effective licensing by TARI is closely linked to the availability of EGS, including EGS sales by ASA. Under the DLC project, NML and CIMMYT have been supporting TARI to negotiate a cooperation agreement among TARI, ASA, and TOSCI to enable TARI to track use of its varieties. TARI also intends to employ this information to explore legal action against unauthorized use of protected TARI varieties. The draft cooperation agreement includes provisions on streamlining EGS distribution and sharing information on third party production of TARI crop varieties. The last roundtable meeting among TARI, ASA, and TOSCI was held at the December 2023 workshop in Arusha. The final agreement is scheduled for signature by the authorities in the respective institutions by February 2024.

### E. Develop a Strategy on Protection of Varieties and Consider Revision of the TARI Legal Framework

The private sector is interested in obtaining access to public varieties that are popular in the market. Given the requirement that only protected TARI varieties can be licensed, and considering the associated expense, it would be prudent to focus on commercially viable varieties for protection and licensing. Since some varieties are old and cannot meet the novelty criterion under the PBR law, claiming rights under the Zanzibari PBR legal framework might be possible, under which an exemption exists for protection of older varieties runs through February 2024. TARI could also explore obtaining authorization from CG Centers to register the varieties for which they do not meet the "breeder" requirement.

In the long-run, TARI could consider advocating for revision of its Act and Regulations to remove the requirement of licensing only protected varieties. This provision is too

restrictive, denying TARI the opportunity to commercialize popular varieties that are old and cannot be protected. Protection and maintenance of registration are too costly, which results in PBR protection for only a few varieties, which also restricts the scope of varieties available to TARI for licensing. Notably, licensing of public varieties can be done with or without PBR, and this is an approach that has been explored by other NARES in the region, including in Uganda and Kenya.

### F. Compile a TARI Variety Licensing Database

TARI could be supported to compile a catalog/database containing its varieties and their licensing status to help TARI track its varieties and activities related to their use. It could include the variety's traits, the agro-ecological zones suitable to the variety, which varieties have been licensed, who the licensees are, which varieties are protected under PVP, varieties for which parent material is still available, and other related information. The catalogue would help the private sector know which varieties are available for licensing and would help TARI manage its varieties and other assets. The catalogue/licensing database should be made publicly available and updated every cropping season.

## IV. Conclusion and TARI's Licensing Roadmap

While TARI's first attempt at licensing its varieties was unsuccessful, there is currently an opportunity to reinstate an improved licensing strategy. Consultations revealed that several companies have contacted TARI to request variety licenses. Numerous challenges remain to effective licensing, however, including limited capacity and knowledge gaps, EGS issues, limited coordination among TARI centres and responsible units, lack of a permanent institutional structure for licensing and IP management, absence of a complete licensing catalogue of database, challenges complying with PBR rules, limited flow of information from TARI to the private sector, and absence of an IP Policy.

At the conclusion of the December 2023 training workshop, NML presented the recommendations above and worked with TARI to develop clear short- and long-term licensing action plans:

- The short-term action plan includes compiling an initial list of protected and viable varieties available for licensing, developing guidelines on application for licenses, including the criteria to be met and office to which applications should be addressed, liaising with other key stakeholders in the industry, and highlighting the possibility of protection of market public preferred varieties under the Zanzibari PBR legal framework.

- The long-term licensing plan includes ongoing capacity building on licensing issues for both TARI staff and the seed industry, development of a TARI IP Policy, strengthening capacity in TARI's legal office, making improvements to mechanisms for market promotion of TARI varieties to create licensing demand, and development of a digital platform to trace the institution's licensing activities. While TARI showed willingness and vigour to implement these action plans, it will need support of the private sector and development partners for implementation, which will require both human resources and financial capacity.

## Annex: List of Workshop Participants

| No. | Name | Institution | Title |
|---|---|---|---|
| **1.** | Dr. Geoffrey Suleiman Mkamilo | TARI | Director General |
| **2.** | Mr. Zephania R. Mshanga | TARI | Director of Administration & Human Resource Management |
| **3.** | CPA Patience A. Ntakwa | TARI | Chief Internal Auditor |
| **4.** | CPA Mohammed Mwandege | TARI | Chief Accountant |
| **5.** | Dr. Deogratias N. Lwezaura | TARI | Manager of Planning, Monitoring & Evaluation |
| **6.** | Dr. Furaha P. Mrosso | TARI | Manager of Crop Research & Post Harvest Management |
| **7.** | Frank Mmbando | TARI | TARI SRO |
| **8.** | Dr. Hildelitha B. Msita | TARI | Manager of Agric Natural Resources Management & Engineering Research |
| **9.** | Ms. Mshaghuley Ishika | TARI | Ag. Manager of Technology Transfer and Dissemination |
| **10.** | CSP Eric S. Kaswaka | TARI | Manager of Procurement Management |
| **11.** | Ms. Ediltruda D. Maseko | TARI | Manager of Administration |
| **12.** | Mr. Joseph P. Ndumuka | TARI | Manager of Human Resource |
| **13.** | Ms. Irene R. Sawe | TARI | Head of Legal Services Unit |
| **14.** | Mr. Festo R. Tulo | TARI | Head of Information Technonogy Communication |
| **15.** | Ms Joyce Mgaya | TARI | Manager of Knowledge Management and Communication |
| **16.** | Dr. Geradina P. Mzena | TARI | Manager - National Plant Genetic Resource Centre |
| **17.** | Dr. Atugonza Bilaro | TARI | Breeder – TARI Uyole |
| **19.** | Dr. Papias Binagwa | TARI | Breeder – TARI Selian |
| **20.** | Twalib Njohole | PBR Office | Registrar, Plant breeders Rights |
| **21.** | Patience Ntatiwa | TARI | G.A TARI |
| **22.** | Zuberi M. Bira | TARI | Principle Researcher - TARI |
| **23.** | Mtengia M. Swai | TOSCI | Director VTE - TOSCI |
| **24.** | Gerald Alex | TARI | Research officer - Naliendele |
| **25.** | Godson Urassa | TARI | SRO - TARI |
| **26.** | Evelyne Mpashe | TARI | PPRO |
| **27.** | Heladius Tumwesigye | TARI | IA |
| **28.** | Grace N. Sylivester | TARI | HRO |
| **29.** | Cosmas Casmir | TARI | POA |
| **30.** | Elisabeth John | TARI | PS |

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| **31.** | Jacob Kiyyo | TARI | TARI-Ilonga |
| **33.** | Dr. Nicholaus Kuboja | TARI | Manager SE & MR |
| **34 .** | Johnson Tillya | ASA | Senior Agricultural Officer |
| **35.** | Valentine Kamugisha | ASA | Senior Legal Officer |