



CGIAR **INTELLECTUAL ASSETS MANAGEMENT REPORT 2018**

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HIGHLIGHTS



Responding to the 2017 Resolution by the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture:

- The Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture issued [a resolution](#) following its 2017 biennial meeting calling on CGIAR to provide annual status reports concerning the implementation of the *CGIAR Principles on the Management of Intellectual Assets* relating to germplasm managed by CGIAR Research Centers under the framework of the International Treaty on Plant Genetic Resources for Food and Agriculture.
- The CGIAR System Organization and the Policy Module of the CGIAR Genebank Platform continued working closely with CGIAR Research Centers throughout 2018 to implement [a recommendation](#) by the CGIAR System Management Board to respond to the resolution through CGIAR's intellectual asset management annual reports and CGIAR Research Center public communications regarding their restricted arrangements permitted pursuant to the *CGIAR Principles on the Management of Intellectual Assets*.



Intellectual property rights and agreements limiting global accessibility as reported by CGIAR Research Centers in 2018:

- One provisional patent application
- Five plant variety protection applications
- Seventy-three limited exclusivity agreements
- Five restricted use agreements
- Justifications: The justifications provided by the CGIAR Research Centers for the above were deemed generally acceptable by the CGIAR System Organization and the System Council Intellectual Property Group according to the criteria as outlined in the *CGIAR Principles on the Management of Intellectual Assets*. Certain justifications, however, could be strengthened as stated herein.

KEY




Background
information




CGIAR
examples


KEY TOPICS

CGIAR's 2018 engagement with International Treaty frameworks

 *The International Treaty on Plant Genetic Resources for Food and Agriculture establishes rights and obligations which have implications for farmers, research organizations, non-governmental organizations, plant breeders, seed companies, and governments related to conserving, improving, and sustainably using Plant Genetic Resources for Food and Agriculture and to equitably share benefits derived from the use of those resources. CGIAR is committed to fully implementing and complying with the International Treaty on Plant Genetic Resources for Food and Agriculture.¹*

 *The Policy Module of the CGIAR Genebank Platform coordinates CGIAR activities concerning genetic resource policy issues in international fora. It provides periodic updates and recommendations to CGIAR Research Center Directors General and the CGIAR System Management Board on matters of risk and strategic importance, and receives guidance for engagement in international fora from those bodies. The Policy Module of the CGIAR Genebank Platform consults with a range of CGIAR scientists and research leaders through a variety of mechanisms, including the Article 15 genebank leaders group, CGIAR Legal/IP Network, and the CGIAR Genetic Resources Policy Working Group, which was established in late 2017.*

Farmers' Rights

 *Article 3 of the CGIAR Principles on the Management of Intellectual Assets recognizes the indispensable role of farmers, indigenous communities, agricultural professionals, and scientists in conserving and improving genetic resources. Furthermore, CGIAR Research Centers are required to respect national and international efforts to protect and promote Farmers' Rights as envisaged by the International Treaty on Plant Genetic Resources for Food and Agriculture and to support the development of appropriate policies and procedures for their recognition and promotion.*

In 2018, CGIAR representatives attended the first meeting of the Ad Hoc Technical Expert Group on Farmers' Rights organized by the International Treaty on Plant Genetic Resources for Food and Agriculture in Rome, 11-14 September 2018. In addition to CGIAR's active participation in a working group and events of the International Treaty on Plant Genetic Resources for Food and Agriculture addressing the issue of farmers' rights, in 2018 a number of initiatives were undertaken by CGIAR Research Centers to promote and strengthen farmers' rights.



Farmers' Rights

- Bioversity International supported national partners in Nepal to develop official guidelines for registration of farmers' varieties. In Bolivia, they supported farmers in producing and commercializing native potato varieties. Additionally, Bioversity International coordinated a report on CGIAR's experiences related to implementing Farmers' Rights, which was submitted to the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) in 2019.
- The International Center for Agricultural Research in the Dry Areas (ICARDA), in partnership with the International Food Policy Research Institute (IFPRI) and the Eurasian Center for Food Security, supported a farmers' association in the Sughd province of Tajikistan to introduce a heat-tolerant and short-duration mung bean to 31 smallholder farmers. This resulted in increased crop intensity, provided an additional USD\$150 to \$450 per hectare as net profit to each farmer, and improved soil health by fixing atmospheric nitrogen into the soil.
- In northern Jordan, ICARDA's efforts in knowledge transfer and capacity development assisted farmers to increase their milk production capacity from 5 to 50 liters.

¹ As per Resolution 4/2017 available in the Report of The Seventh Session of The Governing Body, accessible at <http://www.fao.org/3/MV606/mv606.pdf>

CGIAR involvement to enhance the functioning of the Multilateral System of the International Treaty on Plant Genetic Resources for Food and Agriculture

- The ongoing deliberations under the ITPGRFA's Ad Hoc Open-ended Working Group to Enhance the Functioning of the Multilateral System of Access and Benefit-sharing (WG-EFMLS)² have the potential to profoundly affect the day-to-day operations of the CGIAR genebanks and breeding programs. CGIAR participated in the 8th meeting of the WG-EFMLS held in Rome, 10-12 October 2018, as well as the following meetings where issues potentially relevant to the Multilateral System were considered:
- Ad hoc technical expert group on digital sequence information, Montreal, Canada, 13-16 February 2018;
- Meeting of the Informal Advisory Committee on Capacity Building for the Nagoya Protocol, Montreal, Canada, 20-22 March 2018;
- Subsidiary Body on Scientific, Technical and Technological Advice, Montreal, Canada, 2-7 July 2018;
- Informal consultations organized by the the International Treaty on Plant Genetic Resources for Food and Agriculture Secretariat as part of the process for enhancing the Multilateral System of the International Treaty on Plant Genetic Resources for Food and Agriculture in Rome on 13 July 2018, and in Addis Ababa, Ethiopia, 30-31 August 2018;
- Conference of the Parties to the Convention on Biological Diversity, Sharm El-Sheikh, Egypt, 17-29 November 2018.

2017 resolution by the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture

In 2017 the Governing Body adopted a resolution inviting the "CGIAR System to provide the Governing Body, through the Secretary, with the annual reports concerning the status of the implementation of the [CGIAR Intellectual Assets Principles] that relate to germplasm that the CGIAR Research Centers manage under the framework of the the International Treaty on Plant Genetic Resources for Food and Agriculture, including in cases where such germplasm, parts thereof, or information generated from the use of this

germplasm are the subject matter of patent or plant variety protection applications or are included in partnerships that qualify as restricted use or limited exclusivity agreements pursuant to the CGIAR Intellectual Assets Principles."³

The CGIAR System Management Board took note of the Governing Body's resolution at its 9th meeting in April 2018 and recommended "that the CGIAR System Organization and CGIAR Research Centers work together to make additional information available to the Governing Body through expanded reporting and/or other means." Throughout 2018 the CGIAR System Organization continued to work closely with the CGIAR Genebank Platform and CGIAR Research Centers to implement the recommendation through CGIAR's annual reports and CGIAR Research Center communications regarding restricted arrangements permitted pursuant to the CGIAR Principles on the Management of Intellectual Assets. These efforts included enlisting the support of the Policy Module of the CGIAR Genebank Platform to draft a Guidance Note designed to assist CGIAR Research Centers with the development of public disclosures of limited exclusivity agreements, restricted use agreements, and intellectual property applications in ways that will respond to the issues raised by the Governing Body's resolution. These were developed through a consultative process and released internally in May 2019. The Policy Module also contributed by raising awareness of Resolution 4/2017 to the CGIAR System Management Board, Directors General, intellectual property focal point, and others within the CGIAR System.



This CGIAR Intellectual Assets Management Report, which is published annually by the CGIAR System Organization, contains general and aggregated information⁴ regarding the restricted arrangements reported by CGIAR Research Centers on a confidential basis, as well as examples of limited exclusivity agreements and restricted use agreements. It includes observations by the CGIAR System Organization and CGIAR System Council Intellectual Property Group (SC IP Group) regarding the adequacy of the justifications provided by Centers regarding their restricted arrangements and also includes additional information about some particular, indicative examples of some CGIAR Research Centers' restricted use agreements,


² Convened at the 6th meeting by the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture and extended at its 7th meeting.

³ As per Resolution 4/2017 available in the Report of the Seventh Session of the Governing Body, accessible at <http://www.fao.org/3/MV606/mv606.pdf>.


⁴ Article 10.3 of the CGIAR Principles on the Management of Intellectual Assets requires the annual CGIAR System Intellectual Assets Management Report to be general and aggregated and that such general information is not expected to be agreement — or intellectual property application — specific.

limited exclusivity agreements, patents, and plant variety protection in 2018.

Pursuant to the CGIAR Principles on the Management of Intellectual Assets and the associated Implementation Guidelines CGIAR Research Centers are responsible for public communications concerning their limited exclusivity agreements, restricted use agreements and other intellectual property related information reported on a confidential basis, and are expected to use their best efforts to make publicly available key information regarding these arrangements.⁵ These public disclosures are compiled and published on the intellectual assets management section of the CGIAR website.⁶

 *This framework for accountability and transparency seeks to balance the expectations of donors and other stakeholders with the needs of CGIAR Research Centers and their partners to ensure confidential information is preserved and that communications are contextualized and strategically managed in terms of timing and content, taking into account the particular circumstances of each arrangement. The CGIAR System Organization reviews CGIAR Research Center public disclosures and ensures, in coordination with CGIAR Research Centers, that recommendations for improvement are made as appropriate. In light of the Governing Body's Resolution 4/2017, the CGIAR System Organization now also confers with the Policy Module of the CGIAR Genebank Platform concerning these disclosures and recommendations.*


CGIAR Research Centers and the Nagoya Protocol

 *The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity (Nagoya Protocol) entered into force in October 2014. Unlike the Multilateral System of the International Treaty on Plant Genetic Resources for Food and Agriculture established under the International Treaty, which facilitates access to certain Plant Genetic Resources for Food*

and Agriculture with a pre-established framework for access and benefit-sharing (as reflected in the Standard Material Transfer Agreement), the Nagoya Protocol reinforces a bilateral system of access and benefit-sharing requiring prior informed consent and mutually agreed terms for benefit-sharing for the access and use of genetic resources and associated traditional knowledge on a case-by-case basis.

Guidelines on the Nagoya Protocol for CGIAR Research Centers as drafted by the Policy Module of the CGIAR Genebank Platform in 2017 (in consultation with experts from inside and outside CGIAR) were approved by Directors General of the Article 15 Centers in February 2018 and were endorsed by the CGIAR System Management Board on 10 July 2018.⁷ At its 9th meeting in April 2018, the CGIAR System Management Board highlighted the importance of CGIAR Research Centers' compliance with both the International Treaty on Plant Genetic Resources for Food and Agriculture and the national and regional legislation implementing the Nagoya Protocol, and recommended that they make public statements concerning their compliance.

Patents and Plant Variety Protection

 *The CGIAR Principles on the Management of Intellectual Assets require that CGIAR Research Centers carefully consider whether to register/apply for (or allow third parties to register/apply for) patents and/or plant variety protection over the CGIAR Research Centers' respective intellectual assets. Under the policy, as a general rule, such applications will not be made unless they are necessary for the further improvement of the intellectual assets or to enhance the scale or scope of impact on target beneficiaries, in furtherance of the CGIAR Vision. As part of their justifications, CGIAR Research Centers are required to provide information concerning the foreseen or actual strategy for dissemination, including elements related to global access, impact, and communication. The justifications in support of non-provisional patent applications⁸ are expected to be more detailed than those for provisional patent applications⁹, as the latter requires additional steps to secure a patent.*

⁵ Pursuant to the Implementation Guidelines of the CGIAR Intellectual Assets Principles in the case of limited exclusivity agreements, restricted use agreements, and as per the System Council intellectual property (SC IP) Group's recommendations in the 2016 CGIAR Intellectual Assets Report for CGIAR Research Centers to publicly disclose all published patent applications on their website once they are registered in the applicable patent database(s) and include information on how the patent protection will further the CGIAR Vision.

⁶ Accessible at: <https://www.cgiar.org/how-we-work/accountability/cgiar-intellectual-asset-management/>.

⁷ Available at: <https://www.cgiar.org/how-we-work/accountability/legal-documents/>.

⁸ Non-provisional patent applications are capable of advancing directly to registration if approved (e.g. Patent Cooperation Treaty patent applications advancing to national filings; national non-provisional applications such as non-provisional utility applications in USA)

In 2018, the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) was the only CGIAR Research Center to report the filing of a patent application¹⁰ while the International Center for Tropical Agriculture (CIAT)¹¹, the International Maize and Wheat Improvement Center (CIMMYT)¹², and the International Potato Center (CIP)¹³ reported a total of five plant variety protection filings. Additionally, CIP provided an update regarding a patent application filed and reported in 2017.¹⁴

Whereas there was a slight reduction in 2018 in the number of patent applications filed by CGIAR Research Centers as compared with recent years, a slight increase was observed in relation to plant variety protection applications. Overall, the very low number of intellectual property applications being sought by CGIAR Research Centers in 2018 is consistent with previous years.

 CGIAR Research Centers' patent applications to date cover a range of innovations, including vaccines, planting methods, breeding methods, and agronomic traits. The latter are typically developed in CGIAR Research Centers' breeding programs and in most cases are derived or developed from materials that incorporate germplasm from the Multilateral System of the International Treaty on Plant Genetic Resources for Food and Agriculture (e.g. from CGIAR Research Center genebanks or elsewhere under a Standard Material Transfer Agreement). In such cases, CGIAR Research Centers pass on Standard Material Transfer Agreement requirements to assignees or licensees to ensure they do not enforce the patent in a manner that could limit facilitated access to the native traits and to ensure the benefit-sharing obligations are preserved if the commercialized downstream products incorporate upstream materials derived from the Multilateral System of the International Treaty on Plant Genetic Resources for Food and Agriculture. In the case of the International Rice Research Institute (IRRI), if a patent license is granted for traits derived from the Multilateral System of the International Treaty on Plant Genetic Resources for Food and Agriculture,

the license will be designed to trigger benefit-sharing consistent with the Standard Material Transfer Agreement, irrespective of whether there is incorporation of Multilateral System material in the product that is commercialized.¹⁵

Justifications provided in support of CGIAR Research Centers' patent applications can vary. For example, in developed countries, CGIAR Research Centers focus on the desire to prevent free-riding (e.g. by organizations that have the capacity to pay market rates for premium technology) and to generate revenue that can be used to fund the further development of the technology and/or be reinvested in the CGIAR Research Center's mission. For developing countries, justifications for patents may include responsible dissemination strategies designed to ensure that any products or services derived from the technology benefit smallholder farmers. CGIAR Research Centers also typically apply a differentiated approach to revenue generation whereby particular users (e.g. public sector organizations, smallholder farmers, etc.) are intended to access the technology on a royalty-free basis or at no cost.

 CGIAR Research Centers typically justify their patents on the basis that they are necessary to create incentives for downstream partners to invest the significant funds that are required to further develop the technologies concerned into commercial products or services and make them available to farmers. It is important to recall in this context that CGIAR Research Centers generally undertake the breeding and research to develop products/technologies, not the final stages of testing bred lines to prepare them for release. Additional investments are necessary from research partners – sometimes quite substantial investments – at least to prove that candidate cultivars are sufficiently novel, distinct, uniform, and stable to qualify for registration as cultivars, and that they have sufficient value for commercial use to justify their commercial release in the target markets. They may also undertake further genetic development, incorporating CGIAR lines and

⁹ Provisional patent applications lock in a priority date and require an additional filing to mature into a patent registration (e.g. Patent Cooperation Treaty applications and national level provisional applications as are available in certain countries such as USA and Australia).

¹⁰ Regarding "Molecular markers for the determination of fertility restorer lines" in India, as per the provisional filing reported in 2017.

¹¹ In relation three apomictic hybrids of *Brachiaria* (forage grass) in Colombia.

¹² In relation to a wheat variety 'Borlaug 100' in Australia.

¹³ In relation to a potato variety 'INIAP-CIP-LIBERTAD' in Ecuador.

¹⁴ Concerning a 'Nutritional composition from *Pachyrhizus* spp and *Ipomoea* Batatas with high concentration of micronutrients' filed in Peru.

¹⁵ Further information available at <http://irri.org/our-impact/technology-transfer>.

optimized traits in plant varieties that are ready for use. For those technologies, in the absence of a patent, the CGIAR Research Centers concerned would be unable to achieve these outcomes.

The justifications for the patent and plant variety protection applications reported in

2018 were deemed acceptable by the CGIAR System Organization and the SC IP Group according to the criteria for maximizing global accessibility and impact as outlined in the CGIAR Principles on the Management of Intellectual Assets.



Plant Variety Protection Example

In 2012, CIMMYT began distribution of Borlaug 100, an improved wheat variety developed by CIMMYT that exhibits the following traits: high-yielding, rust-resistance, drought resistance, maintenance of grain weight under stress, and lodging resistance. This variety was developed targeting particular ‘mega environment’ conditions¹, which include India’s Gangetic Valley, the Indus Valley in Pakistan, the Nile Valley in Egypt, and the Yaqui Valley in Mexico. CIMMYT distributes Borlaug 100 under the Standard Material Transfer Agreement of the International Treaty on Plant Genetic Resources for Food and Agriculture. Borlaug 100 is currently available as an international public good through at least 14 of its international nurseries with distribution in at least 80 countries, including India, Pakistan, Iran, Egypt, Tunisia, Kenya, Ethiopia, Mexico, China, and Zimbabwe.

Following an expression of interest by a company in Australia to commercialize Borlaug 100, CIMMYT tailored a dissemination strategy for the Australian market: the partner is permitted to apply for Plant Variety Protection to commercialize this variety in Australia, while CIMMYT continues to make the variety available worldwide. It is even available for other users in Australia for non-commercial research, breeding, and training in food and agriculture. CIMMYT may also make the variety available for commercial and non-commercial purposes in any country outside of Australia.

In developing this strategy CIMMYT undertook a thoughtful evaluation of the CGIAR Open Access and Data Management Policy and the CGIAR Principles on the Management of Intellectual Assets as well as circumstantial factors, including lack of conflict with CIMMYT’s focus regions,

increased distribution, continued performance improvement from data obtained, and a new funding stream from a high-income, developed country. CIMMYT determined that comparable requests were likely to arise and so it developed this approach as a model for commercialization by partners in high-income, developed countries as a means of accessing a previously untapped funding stream and ensuring partial cost-recovery for its research activities. Under this agreement, the partner will pay to CIMMYT a portion of its Borlaug 100 commercialization revenue to CIMMYT to support its mission to improve livelihoods through maize and wheat science.

Plant varieties subject to Plant Variety Protection in most countries, including Australia, are nevertheless available for research and breeding pursuant to a so-called ‘breeders exemption’ and so do not trigger the monetary benefit-sharing obligations imposed under the Standard Material Transfer Agreement of the International Treaty on Plant Genetic Resources for Food and Agriculture.

Because Borlaug 100 was developed from genetic resources held in-trust for the benefit of the international community, under the current arrangement the partner will make annual contributions to the International Treaty on Plant Genetic Resources for Food and Agriculture benefit-sharing fund pursuant to a formula agreed by contract with CIMMYT.

This dissemination strategy for high-income, developed countries preserves CIMMYT’s ability, with respect to Borlaug 100: 1) to continue to disseminate it for non-commercial research by public sector organizations worldwide (including Australia); 2) to grant rights to public or private entities to commercialize it outside Australia;

¹ In this instance ‘Mega Environment 1’ as defined by Braun, HJ., Rajaram, S. & van Ginkel, M. *Euphytica* (1996) 92: 175. <https://doi.org/10.1007/BF00022843>

3) to use it in response to food security emergencies; and 4) to obtain the Australian company's assistance to support the application for Plant Variety Protection and/or release of the variety in other countries. Additionally, this

dissemination model supports both the benefit-sharing fund of the International Treaty on Plant Genetic Resources for Food and Agriculture, and furthers the CGIAR Vision, with continued impact on resource-poor farmers in developing countries.



Patent example

Pigeonpea [*Cajanus cajan* (L.) Millsp.] is an important high-protein (20-22%) food legume grown by smallholder farmers in the rainfed tropics and sub-tropics of Asia, Africa, and South America. While the self-pollinating nature of legumes is a major bottleneck in exploiting hybrid vigor in these crops, pigeonpea has a unique advantage of being partially out-crossed. Breeding efforts have exploited this characteristic to develop hybrid parents with cytoplasmic male sterility (CMS). CMS is characterized by a flower's anthers failing to produce functional pollen while stigma develops normally. CMS in hybrid crops occurs through the interaction of extra-nuclear and nuclear genes. CMS facilitates large-scale hybrid seed production by preventing self-pollination.

In a study published in early 2018, researchers at ICRISAT identified the mitochondrial locus responsible for CMS in pigeonpea line ICPA 2039, which has been widely used as male sterile source. ICPA 2039 was originally obtained from a cross between a pigeonpea wild relative, *C. cajanifolius* (ICPW 29¹) and an ICRISAT-bred cultivar (ICP 11501). ICPA 2039, ICPW 29 and ICP 11501 are all designated as in-trust germplasm by the ICRISAT Genebank and available pursuant to agreements ICRISAT made with the International Treaty on Plant Genetic Resources for Food and Agriculture Governing Body in 2006.

The identification of the mitochondrial locus of CMS in ICPA 2039 (open reading frame –ORF-147) allowed ICRISAT scientists to develop a DNA segment assembled in a specific manner to achieve male sterility. The introduction and expression of this DNA construct in a female parent provides opportunities to develop hybrid seeds in a range of crops. Constructing a male sterile system using this DNA construct would overcome

the bottlenecks associated with the instability of CMS under certain conditions, parental and hybrid seed purity issues, and negative impacts of aberrant mitochondrial genes on the performance of hybrids. Moreover, the utilization of this DNA construct could save time in hybrid production by contributing to the generation of large numbers of parental lines, not only for pigeonpea, but also for crops where hybrid technology does not exist.

ICRISAT has had some initial experimental-level success introducing the DNA construct into different model species to demonstrate the proof of concept around this platform technology. Moreover, appropriate restoration mechanisms for commercial hybrid systems in these crops would need to be worked out for closing the loop. Hence, considerably more resources, time, and partnerships with scientists and organizations working with pigeonpea and other crops around the world are necessary for further development of the technology, and its deployment in predictable ways to develop and utilize this technology in hybrid breeding for a range of crops. ICRISAT does not have the resources, labs, and expertise across the range of potential crops to pilot such applications and to actually use it to have impact at scale in target regions.

ICRISAT submitted national patent applications in India (2016) and through the Patent Cooperation Treaty (2017) seeking protection of this intellectual asset in India, the United States, the European Union, Australia, and Canada. The patent application refers in particular to the method of obtaining the DNA construct developed by ICRISAT, which incorporates a promoter that restricts the expression to floral organs and eventually obtaining a male sterile plant harboring in its genome the DNA construct. ICRISAT will make use

¹ Originally collected from Andhra Pradesh, India, in 1981.

of its position as the owner of the technology to provide it to specific private-sector companies in a non-exclusive manner with the objectives to: 1) incentivize private investments for the further development, improvement, and testing of the technology in a range of crops; and 2) promote commercialization of hybrid varieties resulting from the application of the technology under certain terms and conditions (including in relation to seed price, seed quality, and geographical coverage). In addition, the non-exclusive licenses with private actors can provide opportunities for generating additional funds for future research and development efforts on hybrid technologies for ICRISAT mandate crops. Finally, the patented technology can also provide opportunities for favorable negotiations with private-sector partners to access their propriety technologies for use in developing public goods.

ICRISAT will provide royalty-free, non-exclusive access to this technology to public research

organizations for its deployment in research and breeding programs, and for emergency uses, as per the CGIAR Intellectual Assets Principles. When granting access to this technology to public and private partners ICRISAT will act in accordance to its commitment to provide varieties tailored to the needs and capacities of smallholder farmers.

ICRISAT's licenses with companies that will commercialize hybrid varieties derived from use of this technology, will require licensees to make payments to the Benefit-sharing Fund of the International Treaty on Plant Genetic Resources for Food and Agriculture. The patent will not affect others' access and uses of the in-trust germplasm from which the technology was derived.

ICRISAT will monitor the impact of the technology and of its licensing strategy in terms of yield increases and resulting economic and social benefits among smallholder farmers in Asia, Africa, South America.

Limited Exclusivity Agreements

Limited exclusivity agreements arise pursuant to Section 6.2 of the CGIAR Principles on the Management of Intellectual Assets, which permit CGIAR Research Centers to grant limited exclusivity for commercialization of the intellectual assets they produce, subject to certain research and emergency use exemptions. The exclusivity must be justified as being as limited as possible in duration, territory, and/or field of use, and necessary for the further improvement of the underlying Intellectual Assets or to enhance the scale or scope of impact on target beneficiaries, in furtherance of the CGIAR Vision. The exemptions ensure that the intellectual assets remain available for use by public sector organizations for non-commercial research purposes, and for use in food emergencies anywhere in the world. Deviations from these exemptions require compelling reasons which must be approved in advance by the CGIAR System Organization.

As part of their justifications, CGIAR Research Centers are required to provide information concerning the foreseen or actual strategy for dissemination, including elements related to global access, impact, and communication.

CGIAR Research Centers typically justify their limited exclusivity agreements on a comparable basis to their patent applications, which as mentioned above, are often necessary to create incentives for downstream partners to invest the significant funds that are required to further develop the technologies concerned into commercial products or services and make them available to farmers.

In 2018, 73 limited exclusivity agreements were reported by Centers: 68 by CIMMYT¹⁶, two by the International Institute of Tropical Agriculture (IITA)¹⁷, and one each reported by CIAT¹⁸, the International Livestock Research Institute (ILRI),¹⁹ and IRR²⁰, respectively. As was the case in 2017, CIMMYT's exclusivity arrangements resulted in a

¹⁶ Sixty-six limited exclusivity agreements relate to the commercialization of CIMMYT- bred maize hybrids in Sub-Saharan Africa as extensively profiled in the 2017 CGIAR IA Report. The remaining two limited exclusivity agreements relate to the commercialization of wheat variety 'Borlaug 100' in Australia, and commercialization arrangements concerning hybrid wheat with differential treatment according whether the country is 'developed', 'developing' or 'in transition' and which were initially reported in 2013.

¹⁷ Concerning commercialization of a biocontrol product in Nigeria and distribution arrangements for the commercialization of the product in Burkina Faso.

¹⁸ Concerning commercialization of three hybrids of Brachiaria (forage grass), which are also the subject of plant variety protection applications reported by CIAT in 2018.

¹⁹ Concerning commercialization arrangements for a patent-protected East Coast Fever vaccine, in respect of which ILRI is a joint owner.

²⁰ Concerning commercialization of rice hybrids in the Philippines.



Limited Exclusivity Agreement example

A research project in which ILRI was a participant resulted in the development of a vaccine for contagious bovine pleuropneumonia in cattle. The project was conducted in collaboration by the Vaccine and Infectious Disease Organization - International Vaccine Centre (VIDO-InterVac) at the University of Saskatchewan, Canada, and the Kenya Agricultural and Livestock Research Organization (KALRO), funded under a grant by the International Development Research Centre of the Government of Canada. ILRI participated in the project via a subcontract from KALRO (then the Kenya Agricultural Research Institute) in 2011 and contributed its know-how and research on the expression of candidate vaccine Mycoplasma proteins and the antigens to use. Bioinformatic analysis by ILRI further contributed to the identification of a number of Mycoplasma mycoides antigens, enabling identification of the candidate vaccine and diagnostic antigen targets.

The vaccine is patented¹ and licensed by the Licensors (VIDO-InterVac, KALRO, and ILRI) to the Kenya Veterinary Vaccines Production Institute

(KEVEVAPI) under a Limited Exclusive License Agreement. Under the Agreement, VIDO-Intervac is the patenting and commercialization lead and KEVEVAPI is granted a limited exclusive right to manufacture, use, lease and sell the vaccine in Burundi, Democratic Republic of Congo, Ethiopia, Kenya, Rwanda, Sudan, Tanzania, Uganda, Malawi, Mozambique, Namibia, Swaziland, Zambia, and Zimbabwe.

The rationale for applying for the patent is to ensure continued availability of the vaccine to poor farmers, prevent misappropriation by third parties for profit-making and to ensure the delivery of improved products and technologies in developing countries.

In accordance with the CGIAR Principles on the Management of Intellectual Assets, the licensors retain the right to use and make the vaccine for non-commercial research conducted by public sector organizations, educational and/or scholarly research uses undertaken or performed by employees, students, or visitors of the Licensors, as well as for food security emergencies that pose

¹ See PCT application with International Application No.: PCT/CA2016/050864 concerning 'immunogenic compositions and methods for treating/preventing Mycoplasma infection' accessible at <https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2017011919&redirectedID=true>

substantial increase in the total number of limited exclusivity agreements observed, whereas for the remainder, CGIAR Research Center arrangements were as typically observed in the years 2012 through 2017.

The justifications for the 73 limited exclusivity agreements reported in 2018 were deemed acceptable by the CGIAR System Organization and the SC IP Group according to the criteria for maximizing global accessibility and impact as outlined in the CGIAR Principles on the Management of Intellectual Assets.


Restricted Use Agreements



Restricted use agreements arise pursuant to Section 6.3 of the CGIAR Principles on the Management of Intellectual Assets, which permit CGIAR Research Centers to acquire and use

third-party intellectual assets on terms that restrict the global accessibility of the resulting products/services for commercialization, research, and development, provided that certain conditions are fulfilled. CGIAR Research Centers must confirm that they are, to the best of their knowledge, unable to acquire equivalent intellectual assets from other sources under no or less restrictive conditions, and that the resulting products and services will further the CGIAR Vision in the countries where they are made available. They must also confirm their best efforts to ensure that such third-party intellectual assets are only used in relation to, or incorporated into, such intended products/services. As part of their justifications, CGIAR Research Centers are required to provide information concerning the foreseen or actual strategy for dissemination, including elements related to global access, impact, and communication.

In 2018, five restricted use agreements were reported by CGIAR Research Centers: four by CIMMYT²¹ and one by IRRI²². These small numbers are consistent with the equally small numbers observed in the years 2012 through 2017.

 *Restricted use agreements typically cover the application or incorporation of a partner's technology into improved genetic resources developed in a CGIAR Research Center's breeding program, usually in the form of improved plant varieties comprising open pollinated varieties, inbred parental lines, and/or hybrids. Unless indicated otherwise, these are also understood to incorporate germplasm from the Multilateral System of the International Treaty on Plant Genetic Resources for Food and Agriculture (e.g. from a CGIAR Research Center's genebanks or from elsewhere under a Standard Material Transfer Agreement). A (co)development phase typically precedes any commercialization of resulting products or services in which transfers of Plant Genetic Resources for Food and Agriculture under Development are transferred using the Standard Material Transfer Agreement. Commercialization is subject to the requirements of the Standard Material Transfer Agreement ensuring that the partner, its assignees, or downstream licensees, are subject to the benefit-sharing obligations of the Standard Material Transfer Agreement if the commercialized downstream products incorporate*

upstream Multilateral System of the International Treaty on Plant Genetic Resources for Food and Agriculture materials. The extent to which information concerning the third-party technology or the development of CGIAR Research Centers improved varieties is available depends on the restrictions imposed by the technology provider. CGIAR Research Centers strive to secure the technologies under the most permissive terms.

Restricted use agreements allow CGIAR Research Centers to acquire and use cutting-edge technologies that would otherwise be inaccessible either because of their proprietary nature or the research and development capacity constraints of the CGIAR Research Center concerned. CGIAR Research Centers' responsible dissemination strategies for resulting products and services are designed to flow down the restrictions imposed by the technology provider, which typically relate to the geographic scope of dissemination and end-user requirements, such as additional approvals and/or stewardship requirements.

The justifications for the restricted use agreements reported in 2018 were deemed acceptable by the CGIAR System Organization and the SC IP Group according to the criteria for maximizing global accessibility and impact as outlined in the CGIAR Principles on the Management of Intellectual Assets.

²¹ Regarding CIMMYT's acquisition and use of proprietary technologies associated with CIMMYT's efforts to develop or improve (i) non-transgenic hybrids with increased maize productivity under low-fertility and drought-stress conditions; (ii) breeding tools related to hybrid wheat; (iii) an Enterprise Breeding System developed in-house, which supports breeding, genealogy, phenotyping, and inventory management; and (iv) CIMMYT's evaluation and breeding efforts related to CGIAR-led Harvest Plus project focused on introducing biofortified crops with elevated micronutrients.

²² Regarding IRRI's acquisition and use of proprietary technologies associated with the Institute's efforts to develop non-GM imidazolinone tolerant rice parental lines and hybrids.



Restricted Use Agreement example

The Improved Maize for African Soils (IMAS) project, led by CIMMYT and funded by the Bill & Melinda Gates Foundation, aims to improve African maize varieties for resource-poor farmers in a number of sub-Saharan African countries, ultimately improving their livelihoods and reducing the cost of maize production. The project is now in its second phase.

IMAS relies in part on the use of cutting-edge, proprietary breeding technology of a key partner, which will enable small-scale seed companies to produce high-quality hybrid maize more efficiently and at a more affordable price. The breeding technology was not available from another provider on more preferential and less restrictive terms. Additionally, two African-based partners contributed germplasm adapted to African soil conditions, expertise in breeding operations, seed production techniques, and region-specific approaches to technology acceptance. CIMMYT contributes its improved germplasm as Plant Genetic Resources for Food and Agriculture under development for use in the project pursuant to the terms and conditions of the Standard Material Transfer Agreement¹ of the International Treaty on Plant Genetic Resources for Food and Agriculture, and

in accordance with the CGIAR Principles on the Management of Intellectual Assets, the CGIAR Open Access and Data Management Policy, and relevant CIMMYT policies. CIMMYT will share the data and other information resulting from the project, as well as the underpinning publications, through online repositories and appropriate licenses.

In addition to knowledge and information arising from the project, CIMMYT will make the improved maize varieties broadly available on a royalty-free basis to regional seed companies. In turn, the seed companies will sell the improved maize varieties to smallholder farmers at the same cost as other types of improved maize seed. Prior to the close of this phase of the project in 2024, the goal for IMAS is to ensure that the improved varieties are licensed on a non-exclusive basis to seed companies, which can then sell it to farmers in at least one or two African countries.

In its third phase, IMAS will broaden distribution to a number of other sub-Saharan African countries and CIMMYT will make further public communications on its website as the partnership arrangements for scaling are put in place.

¹ Available at <http://www.fao.org/3/a-be623e.pdf>

SYSTEM COUNCIL INTELLECTUAL PROPERTY GROUP INDEPENDENT REPORT

The System Council Intellectual Property Group (SC IP Group) finds that overall, the CGIAR Research Centers have complied with the CGIAR Principles on the Management of Intellectual Assets and that the justifications provided in the CGIAR Research Centers' reports have been adequate in many respects, albeit with a need for continuous improvement regarding the timely release of robust public disclosures related to limited exclusivity agreements, restricted use agreements, and, particularly in this review cycle, intellectual property protection filing. Excellent progress is observed across all CGIAR Research Centers in the implementation of Open Access policies.

More detail, along with specific findings, observations, and recommendations from this year's review, is set forth below.

I. FAO's International Treaty on Plant Genetic Resources for Food and Agriculture, Convention on Biological Diversity, and Nagoya Protocol

In response to Resolution 4/2017 of the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture, the SC IP Group notes several activities based on recommendations made by the CGIAR System Management Board and the [CGIAR Genebank Platform Policy Module](#). These bodies initiated the process in 2018 by urging and assisting CGIAR Research Centers to improve reporting standards and to write robust public disclosures of limited exclusivity agreements, restricted use agreements, and intellectual property applications. For this purpose a useful "Guidance Note on CGIAR Research Center Public Disclosures related to the Management of Intellectual Assets" has been developed. Despite these important developments, however, the SC IP Group observes continued reservations or reluctance amongst some CGIAR Research Centers to provide adequate public disclosures in a timely matter.

The SC IP Group further observes that the current version of the Implementation Guidelines for the CGIAR Principles on the Management of Intellectual Assets (approved by the Consortium Board on 14 June 2013) may have inadvertently created the misimpression that Article 10.4 of the CGIAR Principles on the Management of Intellectual

Assets on "public disclosure" applies only to limited exclusivity agreements and restricted use agreements, and not to intellectual property applications. The SC IP Group does not agree with this unduly narrow interpretation, noting that the plain language of Article 10.4 does not limit the public disclosure requirement to limited exclusivity agreements and restricted use agreements, and indeed, underscores the fundamental policy of "observing the need for transparency and accountability with respect to the use of public sector funds". The SC IP Group has for this reason repeatedly reminded CGIAR Research Centers that timely disclosures of CGIAR Research Centers' intellectual property applications — particularly when these are derived, at least in part, from germplasm that CGIAR Research Centers hold in-trust for the international community — are of utmost importance to explain how such intellectual property applications are used to further the CGIAR mission and preclude any reputational risks (see Section II. "Patent and Plant Variety Protection Applications" for more information).

With the approval of the "Guidelines on the Nagoya Protocol for CGIAR Research Centers" and the establishment of a CGIAR Genetic Resources Policy Helpdesk, the System has taken yet another significant step in securing compliance with national and international Access and Benefit-sharing requirements. Given that the Access and Benefit-sharing landscape in many countries remains complex, it is good to see that some CGIAR Research Centers have taken measures to map the regulatory framework applicable in the countries they operate in, including for materials other than plant genetic resources.

CGIAR Research Center reporting regarding Article 3 of the CGIAR Principles on the Management of Intellectual Assets on Farmers' Rights remains scarce. Some notable exceptions include ICRISAT and Bioversity International, both of which report in detail about their efforts to promote farmers' participation in decision-making processes, facilitation of farmers' access to genebank materials, and support in the development of country policies and procedures that recognize Farmers' Rights. In addition, the SC IP Group is happy to note that three CGIAR Research Centers have included arrangements for voluntary

contributions to the International Treaty on Plant Genetic Resources for Food and Agriculture's Benefit-sharing Fund in their arrangements with third parties as reported under this year's annual review.

The SC IP Group would like to encourage CGIAR Research Centers to continue to commit to and invest in activities that support Farmers' Rights, including participatory approaches that place farmers central to breeding and variety selection processes.

II. Patent and Plant Variety Protection Applications

One patent application and five plant variety protection applications were reported in 2018.

A. Patents

As described above, in 2018, no provisional patent applications were reported and only one non-provisional was reported. The reported non-provisional raised questions regarding the adequacy of the public disclosure and associated justifications. This concerned, particularly, ICRISAT's non-provisional patent application in India, regarding "molecular markers for the determination of fertility restorer lines" (based on their provisional filing in 2017), and its Patent Cooperation Treaty application for "Cytoplasmic male sterile gene of pigeonpea" (as reported last year). The SC IP Group made clear that ICRISAT's reference to published journal articles failed to constitute a "public disclosure" for purposes of explaining the justifications for the filing of these two patent applications, and that public disclosures were especially critical in this case given the need for full ICRISAT transparency in explaining to the global community the nature of the technology and scope of the proposed protection, including fulfillment of applicable access and benefit-sharing requirements where applicable.

The SC IP Group is happy to note that it received an update in June 2019 showcasing robust and transparent public disclosures ready for release, which had been prepared by ICRISAT in close collaboration with the Genebank Platform Policy Module, and which follow the newly established "Guidance Note on CGIAR Research Center Public Disclosures related to the Management of Intellectual Assets". These public disclosures were among the best the SC IP Group has received to date.

In 2018, IRRI discontinued one national phase patent application (US patent 20160355838A1-

Anaerobic Germination-Tolerant Plants and Related Materials and Methods) after the milestone review showed that there was not enough interest from the private sector to justify continued investment in this patent (however, no public disclosure of this discontinuation was provided in accordance with IRRI's own intellectual property policy). As of December 2018, IRRI has one patent application filled in eight countries and one Patent Cooperation Treaty application, which were reported in previous years and for which updates were provided in IRRI's 2018 Intellectual Assets Report.

B. Plant Variety Protection

In 2018, five plant variety protection applications were reported with clear and substantive justifications in compliance with the CGIAR Principles on the Management of Intellectual Assets. The CIMMYT plant variety protection application provides a good example of how plant breeders' rights can be applied to generate revenue from the commercialization of a new plant variety in a developed country while the same variety remains publicly available in developing countries. The plant variety protection application reported by CIP is a good example of how such plant variety protection applications can be used to incentivize and protect small-scale seed producers to multiply and market the protected variety while at the same time retaining control over the price, amount, and quality of the produced planting materials in order to secure farmers' access to good, healthy, and affordable planting materials. The SC IP Group encourages CGIAR Research Centers to establish guarantees that the plant variety protection rights will not be enforced for smallholder farmers who, as part of their traditional farming practices, exchange or trade excess of production amongst each other (i.e. non-commercial use).

III. Limited Exclusivity Agreements and Restricted Use Agreements

A. Limited Exclusivity Agreements

A total of 73 limited exclusivity agreements were reported and all were deemed to be in compliance with the CGIAR Principles on the Management of Intellectual Assets. The high number is explained by CIMMYT having established a broad dissemination strategy of semi-exclusive commercialization by territory (totaling 68 agreements), as described in last year's report. The template agreements are identical within the categories of public sector and private sector licensees and all agreements comply with the CGIAR Principles on the Management of Intellectual Assets requirements. Of the other

five limited exclusivity agreements, one notable example was CIAT's Collaboration Agreement for Breeding, Development, and Commercialization of Grasses with Papalotla, which provides an exemplary model of an exclusive license granted with diligence requirements for the licensee, specifying performance milestones for timely and continuous dissemination, as well as evaluation and testing of experimental and commercialization of selected plant variety protection protected apomictic hybrids of the forage grasses. Failure to meet the requisite targets would result in prompt conversion of the exclusive license to non-exclusive rights.

B. Restricted Use Agreements

Five restricted use agreements were reported, which were all deemed to be in compliance with the CGIAR Principles on the Management of Intellectual Assets. The SC IP Group would like to commend CIMMYT for providing very clear information and robust justifications for all four restricted use agreements, including reasonable timelines for all public disclosures to be completed. IRRI included in its report, as a courtesy, a framework agreement, which is in itself not a restricted use agreement, but which will govern potential future restricted use agreements.

IV. SC IP Group's Terms of Reference and input into SIMEC Discussions

At the invitation of the Chair of the Strategic Impact Monitoring and Evaluation Committee (SIMEC), the SC IP Group joined a SIMEC discussion on 12 November 2018 regarding how best to incorporate the SC IP Group's traditional oversight and advisory role within the new structure. This SIMEC discussion preceded the CGIAR System Council's 7th meeting, where SIMEC subsequently engaged with the wider System Council on perspectives and ideas about seeking important advice on intellectual property for the System Council and for the CGIAR System as a whole.

Following robust discussion at the SIMEC meeting, the SC IP Group was invited to provide input into revised Terms of Reference for the SC IP Group. The SC IP Group observes that the development of a strategic plan for 2030, particularly given the anticipated engagement with the private sector, provides a critical opportunity for the CGIAR System Council and CGIAR System Management Board to think strategically about the role of intellectual property in the System more broadly. The draft revisions to the existing SC IP Group Terms of

Reference indicate that such consideration appears to be underway with many of the proposed revisions significantly broadening the scope of SC IP Group activities.

The SC IP Group noted that the CGIAR System Council and SIMEC should consider "mainstreaming" strategic intellectual property management and capacity in a more integrated way within the Research Programs and System overall, rather than building such capacity into an independent body such as the SC IP Group. The SC IP Group looks forward to ongoing engagement with SIMEC over these revised Terms of Reference and its implications for the existing membership.

V. CGIAR System Organization Responses to Last Year's SC IP Group Recommendations

The SC IP Group noted overall improvement in the quality of public disclosures with some exceptions noted above. The SC IP Group anticipates that this trend of more fulsome public disclosures will continue to improve significantly with the relatively recent development and distribution to all CGIAR Research Centers of the "Guidance Note on CGIAR Research Center Public Disclosures related to the Management of Intellectual Assets."

Developments in 2018 involved ongoing administrative uncertainty over the role and membership of the SC IP Group, including the issue of lapsed membership and ultimate need for retroactive System Council action to accommodate the Group's ongoing contributions to SIMEC's Terms of Reference review. One of the three SC IP Group members stepped down and, with too little time to select a new third member, this year's review has been executed by the remaining two members.

Finally, arrangements confirmation of, and dates for, concerning this year's review were still somewhat compressed. The SC IP Group was encouraged by CGIAR System Organization's expressed intent to leverage technology for greater efficiencies by adopting intellectual assets management process improvements, for example, to streamline CGIAR Research Center reporting through an online, dynamic system.

IX. Summary of SC IP Group Recommendations

The SC IP Group has the following overall recommendations:

- 1) Public disclosures should be promptly available

— ideally well in advance of any independently publicly available notice of the patent filing by a CGIAR Research Center — in accordance with the “Guidance Note on CGIAR Research Center Public Disclosures related to the Management of Intellectual Assets” for patent protection, especially where protection is being sought regarding genetic materials themselves. All limited exclusivity agreements, restricted use agreements, and patent application or plant variety protection filings should have up-to-date public disclosures available Pursuant to the Guidance Note and well in advance of the upcoming 8th Session of the Governing Body in November 2019. Active and ongoing management of issues identified by annual intellectual property reviews is recommended to ensure that Center “compliance” with the CGIAR Principles on the Management of Intellectual Assets requirements becomes monitored on a more frequent cadence by standing System organs rather than only by the SC IP Group during annual review cycles.

- 2) The Implementation Guidelines for the CGIAR Principles on the Management of Intellectual Assets (approved on 14 June 2013) should be reviewed and updated (with the input of the SC IP Group) both in general and to explicitly clarify that there is nothing in the CGIAR Principles on the Management of Intellectual Assets to restrict public disclosures to limited exclusivity agreements and restricted use agreements, and that public disclosures should also be promptly made in all cases of patent or plant variety protection applications.
- 3) The SC IP Group would like to encourage CGIAR Research Centers to continue to strengthen their commitment to, and investment in,

activities that support Farmers’ Rights as reflected in Article 3 of the CGIAR Principles on the Management of Intellectual Assets, for example via:

- Participatory approaches that put farmers central to breeding and variety selection processes;
 - Assurances in agreements with third parties (and their public disclosures) that intellectual property applications concerning CGIAR Research Centers’ genetic resources will not be enforced on smallholder farmers who, as part of their traditional farming practices, exchange or trade excess of production amongst each other (i.e. non-commercial use);
 - The inclusion of arrangements for voluntary contributions to the International Treaty on Plant Genetic Resources for Food and Agriculture’s Benefit-sharing Fund in exclusive agreements with private partners involving genetic resources that CGIAR Research Centers hold in-trust for the international community.
- 4) The SC IP Group should be consulted throughout the CGIAR System Management Office’s current and much-welcomed initiative to streamline CGIAR Research Centers’ online intellectual assets reporting process (through simplified and sequenced questions ideally resulting in more concise and cumulative reports).
 - 5) Ongoing improvements to the process for establishing stabilized SC IP Group membership terms and for providing more advance notice to enable SC IP Group members to plan and prepare for intellectual property review cycles.

ANNEXES

Annex 1: Implementation of recommendations from the 2017 CGIAR Intellectual Assets Management Report

This section provides updates on the three recommendations of the SC IP Group presented in the 2017 CGIAR Intellectual Assets Management Report, which was approved by the CGIAR System Management Board at its 10th meeting in Nairobi, Kenya, 26-27 September 2018.

Recommendation 1: More robust and timely public communications by the CGIAR Research Centers regarding intellectual property rights applications and exclusivity agreements, including information on how the Intellectual Assets management enhances impact and scope to target beneficiaries.

Response: The CGIAR System Organization worked closely with the Policy Module of the CGIAR Genebank Platform and CGIAR Research Centers to improve public disclosures associated with intellectual assets. These efforts included supporting the Policy Module of the CGIAR Genebank Platform in drafting a Guidance Note designed to assist CGIAR Research Centers with the development of public disclosures of limited exclusivity agreements, restricted use agreements, and intellectual property applications; holding calls with CGIAR Research Centers to review the Guidance Note; and reviewing public disclosures and providing advice and guidance to CGIAR Research Centers when requested.

Recommendation 2: More robust and timely communication, engagement and coordination by the CGIAR System Organization with the SC IP Group.

Response: The CGIAR System Organization has taken note of this recommendation and will continue to identify ways to engage with the SC IP Group.

Recommendation 3: Increased intellectual property IP capacity at the CGIAR System Organization to assist CGIAR Research Centers and provide overall IP leadership.

Response: The CGIAR System Organization is considering alternative approaches to increase various capacities, not just IP, given the multi-disciplinary nature of intellectual asset management.

Annex 2: Mandate and composition of the CGIAR System Council Intellectual Property Group

The role of the CGIAR System Council Intellectual Property Group is to facilitate coordination between the CGIAR System Council and the CGIAR System Organization by working in cooperation with the CGIAR System Organization with regard to implementation of the CGIAR Principles on the Management of Intellectual Assets and advising the CGIAR System Council in order to enable it to provide adequate oversight of intellectual asset management in CGIAR.

The SC IP Group receives all 15 CGIAR Research Centers' intellectual asset reports, which include information and justifications about the CGIAR Research Centers' limited exclusivity agreements, restricted use agreements, and patent and plant variety protection applications.

In order to safeguard the sensitive or confidential nature of the material contained in these reports, or of additional information requested by the SC IP Group, this information is received on an in-confidence basis by the SC IP Group. The SC IP Group then filters this internal information to produce high-level observations and strategic recommendations to both the CGIAR System Organization and the CGIAR System Council.

Through to 31 December 2019, the SC IP Group is comprised of the following two members, who serve in their personal capacity and not as representatives of their affiliated organizations:

- Aline Flower, Bill & Melinda Gates Foundation
- Bram De Jonge, Wageningen University

The SC IP Group members are appointed by the CGIAR System Council for a two-year term on the basis of demonstrated expertise and practical experience in the management of intellectual assets and intellectual property (IP) rights. They may serve for more than one term.

Annex 3: Article 15 Centers

All 11 CGIAR Research Centers that host germplasm collections in CGIAR genebanks (termed Article 15 Centers) have agreements with the Food and Agriculture Organization of the United Nations, placing these collections within the purview of the Multilateral System of Access and Benefit-sharing of the International Treaty on Plant Genetic Resources for Food and Agriculture. Pursuant to these agreements, Article 15 Centers hold and manage these collections in trust, for the benefit of humanity.

The Article 15 Centers are:

CENTER (SHORT NAME)	CENTER (FULL NAME)
AfricaRice	Africa Rice Center
Bioversity	Bioversity International
CIAT	International Center for Tropical Agriculture
CIMMYT	International Maize and Wheat Improvement Center
CIP	International Potato Center
ICARDA	International Center for Agricultural Research in Dry Areas
ICRAF	World Agroforestry
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IITA	International Institute of Tropical Agriculture
ILRI	International Livestock Research Institute
IRRI	International Rice Research Institute



CGIAR is a global research partnership for a food-secure future. CGIAR science is dedicated to reducing poverty, enhancing food and nutrition security, and improving natural resources and ecosystem services. Its research is carried out by 15 CGIAR Research Centers in close collaboration with hundreds of partners, including national and regional research institutes, civil society organizations, academia, development organizations and the private sector.

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