



**Guidelines for Public-Private Sector Partnership in the
Hybrid Rice Development Consortium (HRDC)
2019**



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1. Rationale

- 1.1** The International Rice Research Institute (IRRI), a nonprofit autonomous international organization, through the HRDC, plays a leading role in developing elite parental lines and hybrids suitable for different agro-climactic conditions. HRDC materials are bred for higher yield, better grain quality, improved resistance to biotic and abiotic stresses, and good level of seed production.
- 1.2** Hybrid rice is a key technology in bridging yield gaps as well as raising rice yield potential, thus increasing the income of rice farmers and providing food security to consumers who depend on rice as a staple food.
- 1.3** Seed and agro-supply companies in the private sector have a comparative advantage in product-oriented R&D, large-scale commercial production, and marketing, over IRRI and National Agricultural Research and Extension Systems (NARES). However, the public sector has a comparative advantage in the areas of rice research, development of breeding lines and traits specifically suited to changing environments, generating phenotypic and genotypic information, integrating different agricultural tools, and capacity building.
- 1.4** Closer public-private sector collaboration is required to enhance innovation and widen the access to new germplasm and information on all aspects of hybrid rice technology. The HRDC provides a tried and tested operational mechanism for such multi-sectoral successful collaboration.
- 1.5** The HRDC also provides a sustainable support mechanism to further enhance IRRI's contributions to hybrid rice development. Major strengths of IRRI and contributions to the HRDC include:
 - a. Research on enhancing hybrid heterosis and improving hybrid seed production yields, including research on rice genetics and breeding, rice general management and production practices for specific inbred parents and hybrid combinations;
 - b. Research on the genetic control of key traits for hybrid rice, by exploiting rice genome sequence information, and advances in genomic prediction, gene editing, transformation, and bioinformatics;
 - c. Development of new traits, parental lines, and hybrids with high yield and multiple resistance to pest and disease by exploiting IRRI's publicly available germplasm collection;
 - d. Research on improving grain quality, including developing methods for grain quality testing at the early stages of hybrid rice development;
 - e. Worldwide and regional research collaboration with national partners, including experience through the International Network for Genetic Evaluation of Rice (INGER), in exchange of germplasm and processing of associated intellectual property, quarantine, biosafety requirements, exchange of scientific expertise and information, and multi-location testing of new parents, hybrids, and breeding lines through various IRRI breeding networks and consortia;
 - f. Research on soil and crop management to realize the full yield potential of hybrid rice under both favorable and marginal conditions;
 - g. In collaboration with research partners and the rice industry, providing information on hybrid rice technology and associated best management practices to farmers using

information and communication technology and other means for information dissemination;

- h. Training and capacity-building activities, including various training courses and the use of IRRI's Rice Knowledge Bank and e-learning courses;
- i. Monitoring and evaluation of the economic, social, and environmental impact of hybrid rice technologies within and across countries; and
- j. Policy research to support national advocacy for further development and use of hybrid rice technology.

2. Definitions

2.1 *"Breeding"* refers to the process of genetic enhancement, including making crosses, selecting the appropriate germplasm at each stage, making combinations between the hybrid parental lines, and conducting trials and tests required to evaluate candidates.

2.2 *"Final development"* refers to all the steps that may or must be undertaken, without further genetic enhancement, with candidate parents and hybrids before they are commercialized. These may include final testing and evaluation; filing for and being granted PVP with associated Distinctness, Uniformity, and Stability (DUS) testing; registering for commercial sale with associated Value for Cultivation or Use (VCU) testing; and the pre-commercial production of breeder, foundation, registered and certified seed.

2.3 *"Plant Genetic Resources for Food and Agriculture under Development"* (PGRFA under Development) is defined in the Standard Material Transfer Agreement (SMTA). The term applies here to all breeding lines and candidate parents and hybrids throughout the process of breeding and final development up to the moment they are commercialized.

2.4 *"Commercialize"* and *"commercialization"* is also defined in the SMTA. The terms apply here to the sale of a hybrid or its parental lines for financial gain, directly or indirectly, in the marketplace.

3. HRDC Objectives

The overarching goal of the HRDC is to develop and maintain a steady supply of elite parental rice lines that primarily caters to the hybrid rice seed industry and public institutional needs, to develop the high yield potential of rice hybrids for varied market requirements, developing genetic and agronomic means for efficient seed production to bring down the cost of hybrid rice seeds, making it accessible and widely available to rice farmers, thereby enhancing rice productivity and production in a sustainable manner. This further allows the members to develop better hybrids that are genetically resource use-efficient with multiple tolerances for abiotic and biotic stresses, thereby reducing dependence on chemical inputs and raising rice yields, making rice production more efficient and sustainable and keeping rice affordable for billions of people who depend on it as a staple food.

IRRI-HRDC understands that, to unleash the full potential of hybrid rice technology, it is important to have a steady infusion of elite, multiple stress-tolerant parental lines into the seed industry that would in turn be invigorated to develop more hybrids that are heterotic.

Under the new HRDC guidelines, HRDC-funded activities will be carried out on project mode, in which HRDC members, through a survey and discussion will identify targeted HRDC priority activities, which will further be approved through the advisory committee. An IRRI hybrid rice breeder will then execute the mutually agreed upon tasks by utilizing HRDC funds and provide the

progress of the targeted breeding activities and give a report each year during the annual HRDC meeting.

3.1 Support research on developing elite parental lines and hybrids as per market requirements

- a. To cater to the hybrid seed industry and public institutions;
- b. To significantly enhance yield heterosis in both dry and wet seasons;
- c. To incorporate requisite floral traits, to increase and stabilize yields of seed production;
- d. To improve tolerance to abiotic and biotic stresses; and
- e. To improve hybrid rice grain quality, to meet market requirements in the target regions.

3.2 Provide better information on the performance of hybrids and develop best management practices through

- a. Multi-location hybrid performance trials, conducted in collaboration with public and private sector partners; and
- b. Local research on hybrid rice seed production, and best management practices for key hybrid rice mega-environments.

3.3 Support information sharing, public awareness, and capacity building by

- a. Conducting assessments of key constraints to hybrid rice adoption and providing science-based information to policymakers;
- b. Evaluating the socioeconomic and environmental performance and impact of hybrid rice in different regions/countries/environments;
- c. Making information on hybrid rice widely available and providing up-to-date content for print and electronic media; and
- d. Developing the next generation of hybrid rice specialists with added focus on empowering women to be trained in research and business aspects through training courses, degree and non-degree education, with partners for public and private sector employees.

4. Governance of HRDC

The Director General of IRRI appoints an HRDC Head, who is also a full-time staff member of IRRI, with an assistant to manage daily HRDC activities. An *Advisory Committee* (see below) provides strategic and technical guidance to the HRDC Coordinator.

Table 1. Composition of the Advisory Committee

	Advisory Committee	
Composition	Three (3) members from the Platinum and Gold categories Two (2) members from the Platinum Green and Green category Two (2) representatives from IRRI	
Chairperson	IRRI - Rice Breeding Platform Leader	
Term	Three (3) years	

IRRI, in consultation with the Advisory Committee and with the input received from HRDC members, proposes the general research direction and prioritization for research activities under HRDC. Every

HRDC member is encouraged to contribute suggestions regarding HRDC research prioritization and activities but is not allowed to place any restriction on the use of HRDC funds or interfere with the actual implementation of the research agenda.

4.1 HRDC Technical Consultants

HRDC secures the support of Technical Consultants with recognized experience and expertise relevant to the HRDC program, as needed and on a case-to-case basis.

5. Membership Categories

HRDC membership categories are classified according to the nature of the member (e.g. for profit or not-for profit organization), annual membership contribution, possibly additional commitments, and benefits received from HRDC. Table 2 below introduces each of the membership categories.

Table 2. HRDC Membership Category, Annual Contribution, Benefits and Eligibility

Category	Annual membership contribution	Benefits	Eligibility
Platinum	USD 45,000 to be paid each year before February 1.	<ul style="list-style-type: none"> a. Access to HRDC Material; b. Access to information and expertise relevant to hybrid rice sector; c. Receives around 40% more material (quantity of seeds and/or number of populations) than the Gold member (A, B and R lines, F₂ population); d. Access to IRRI proprietary DNA markers relevant for hybrid rice breeding; e. Access to IRRI-proprietary QTLs (individual or pyramided or paired) for biotic stress tolerance and other commercially important traits; f. Access to parental material (A/B/R lines) with specific grain quality traits (cooking and eating; and/or milling); g. Free and early access to certain additional IRRI-proprietary non-HRDC material for breeding purposes, for the first 15 parental lines; in excess of the 15 parental lines it will be available for a fee (USD 1000/line per year – subject to changes for the succeeding years); h. Access to finished HRDC hybrids for multi-location testing at members’ target locations; i. Lesser royalty fee at commercial phase (please refer to Table 4). 	<ul style="list-style-type: none"> • Any for-profit organizations or companies that have commercial activities related to rice R&D and/or selling of seeds and other products and services, including business entities under public organizations • Commitment to report diligently in writing the results to HRDC

Gold	USD 20,000 to be paid each year before February 1.	<ul style="list-style-type: none"> a. Access to HRDC Material; b. Access to information and expertise relevant to hybrid rice sector; c. Receives the moderate amount of material (A, B and R lines, F₂ population); d. Access to IRRI proprietary DNA markers relevant for hybrid rice breeding; e. Access to certain additional IRRI-proprietary non-HRDC material, for breeding, at an additional cost (USD 1000/line/year); f. Access to RETA for evaluating finished hybrids of HRDC; g. Higher royalty fee at commercial phase (please refer to Table 4). 	
Silver	USD 10,000 to be paid each year before February 1.	<ul style="list-style-type: none"> a. Access to information and expertise relevant to hybrid rice sector; b. Access to starter kit (15-20 parental lines each year) material from HRDC for first and second year of membership; Note: By default, the membership of Silver members active in breeding and/or marketing of rice seed varieties will be upgraded to Gold membership from the third year onwards; All the benefits and annual fee of gold membership eventually will be applied. c. All the benefits of “HRDC Gold” from year 3 to 5 of the membership d. Access to RETA for evaluating finished hybrids of HRDC; e. Higher royalty fee at commercial phase, after upgrade to Gold (please refer to Table 4). f. Participation in HRDC forum; g. Possibility to showcase their product, service, and technologies to HRDC members by the way of presentations in HRDC forum; h. No access to HRDC materials until upgrade to Gold i. Can nominate one (1) hybrid per year under MRYT 	
Green-Platinum	Voluntary	<ul style="list-style-type: none"> a. Access to HRDC material; b. Access to information and expertise relevant to hybrid rice sector; c. Access to IRRI proprietary DNA markers 	<ul style="list-style-type: none"> • Not-for-profit institutions that are primarily

		<p>relevant for hybrid rice breeding;</p> <p>d. Free and early access to certain additional IRRI-proprietary non-HRDC material for breeding purposes, for the first 15 parental lines; in excess of the 15 parental lines it will be available for a fee (USD 1000/line per year – subject to changes for the succeeding years)</p>	<p>supported by public funds² which voluntarily and actively participate in and materially add value to HRDC¹</p> <p>Commitment to phenotype HRDC and IRRI materials at member's cost at their locations according to IRRI specifications</p> <ul style="list-style-type: none"> • Commitment to report diligently in writing the results to HRDC
Green	Voluntary	Material (HRDC and non-HRDC) shared upon request	<p>Not-for-profit institutions that are primarily supported by public funds² which participate in HRDC as observers</p> <ul style="list-style-type: none"> • Commitment to report diligently in writing the results to HRDC

¹ As deemed and approved by HRDC Advisory Committee.

² For example, government-funded national research institutions, public universities, international or regional research centers, professional organizations with no direct commercial activities, civil society and farmers' organizations with no direct commercial activities, etc.)

6. Membership Process, Term and Payments:

- 6.1** Partners who wish to become a member of HRDC should follow this procedure:
- a. Interested organization submits their application form (Annex 2) to the HRDC Coordinator/Secretariat
 - b. A Due diligence process is conducted by IRRI
 - c. Advisory Committee reviews and approves the application
 - d. Upon approval, the HRDC Head sends the Letter of Agreement to the applicant for signature, and an invoice for year 1 membership fee
- 6.2** Minimum membership duration for each category is five (5) years, with a commitment to pay yearly membership fee and to report yearly on results of HRDC lines and hybrid testing by Partner.
- 6.3** Payment of annual membership contribution for current members shall be made every 1st of February of the current membership year. New members joining after the month of February shall pay the membership contribution on the joining month of that membership year. Succeeding payments of annual membership contribution of said new member will be on subsequent February 1, following the new protocol. After consulting the Advisory Committee, IRRI reserves the right to increase the membership fees, in order to cover the operational program of HRDC.
- 6.4** Every HRDC member can request for membership upgrade in writing, at any time within their membership term. The “upgraded” membership term is applicable for a period of five (5) years from the date of approving such an upgrade (the “Effective Date”). The annual HRDC membership fees to be paid would need to be adjusted, with a *prorata* calculation for the year in which the request is made. If the upgrade request is made later than October 30 in a given calendar year, then the member will enjoy benefits of upgraded membership from the Effective Date, with no adjustment of membership fee during the calendar year of the Effective Date. Such member will start paying the ‘upgraded’ membership fees from the 1st Feb of the immediate following year.
- 6.5** The Silver members that have a breeding and/or commercial seed activity are automatically upgraded to Gold membership after two years in the Silver category. They will pay annual membership fees applicable to “Gold” from year 3 through 5; upon upgrade, they are eligible for same benefits as available to Gold members. Upon request, they can be upgraded to Platinum category.

7. Access and Sharing of Results and Materials

- 7.1** In order to allow for increased genetic progress, results and data obtained by an HRDC member, using HRDC parental lines and hybrids, are to be shared in writing with IRRI, within 2 months of the end of each season. HRDC members allow IRRI to use such results and data, and to share with other HRDC members the aggregated results obtained on specific HRDC lines and hybrids.
- 7.2** HRDC reserves the right to withhold HRDC material requested by any member who failed to submit the results of their testing of HRDC lines and hybrids.
- 7.3** HRDC members are not authorized to share the IRRI and HRDC Material with 3rd party, except if they secure a prior written permission to do so from IRRI.

8. Termination of Membership

- 8.1** Any member may withdraw membership from the HRDC through a written notice to the HRDC Head three (3) months prior to the proposed termination date at the end of the five (5) year

period. However, the membership fee paid in advance for that membership year will not be refunded by HRDC.

- 8.2** HRDC members who fail to pay the annual membership fee for more than 60 days will have their membership terminated.
- 8.3** An organization whose membership has been previously terminated needs to go through the full procedure of membership application.
- 8.4** Contact for membership and for further information (<http://hrdc.irri.org>)

Dr. Jauhar Ali
Head, HRDC
IRRI
Municipality of Los Baños
Province of Laguna
Republic of the Philippines
Tel: +63-2-580-5600, ext. 2541
email: j.ali@irri.org

Ms. Ma. Anna Lynn A. Sevilla
HRDC Assistant Coordinator
IRRI
Municipality of Los Baños
Province of Laguna
Republic of the Philippines
Tel: +63-2-580-5600, ext. 2262
Email: a.sevilla@irri.org

9. Benefits for HRDC members and rice farmers

- 9.1** The HRDC provides a sustainable funding mechanism for accelerating hybrid rice development work in those areas to which the public sector can contribute most. Accelerated research progress will be obtained by extensively using IRRI's HRDC program resources, resulting in a wider range of traits and parental lines available for the public and private sectors.
- 9.2** The HRDC significantly enhances capacity for hybrid rice research and product delivery while providing services and/or support to the private sector in its product development and delivery, which will benefit the general public.
- 9.3** Attendance at the HRDC annual meeting enables early access to information on traits, parental lines, hybrid performance in different environments, crop statistics, and environmental characterization that is relevant for hybrid rice.
- 9.4** HRDC members get to test their own candidate hybrids in multi-location replicated yield trials **(MRYT/1000F1 Trial), thereby making use of HRDC's multi-country, diverse testing network.**
- 9.5** Improved crop management practices to maximize the advantages of hybrid rice are developed and evaluated through cooperation with other IRRI programs and networks.
- 9.6** The HRDC publicizes science-based information on hybrid rice technology, including better information for policymakers on defining national hybrid rice development strategies.
- 9.7** Capacity building activities are conducted for both the public and private sector.
- 9.8** The HRDC provides support to major events such as international or regional scientific workshops on hybrid rice.
- 9.9** In addition to the general guidelines and benefits associated with membership to the HRDC, members may also develop additional bilateral or multilateral research agreements with IRRI and its partners in specific areas of mutual interest for collaboration.
- 9.10** NARES and other public organizations engaged in hybrid rice research and development are among the primary beneficiaries of funds generated by the HRDC. Major benefits for NARES will

include support for collaborative research in hybrid rice improvement and management, capacity building at all levels, and professional development of scientists involved in hybrid rice research.

9.11 Farmers benefit from easier access to hybrid rice-based technologies, quality seed and more and better hybrids, as well as knowledge and services provided by the private and public sectors to increase farm income.

9.12 HRDC members' material can be tested and showcased by HRDC, at HRDC cost. HRDC members are free to contact directly the owner of the material and/or technology to secure access to those assets keeping HRDC in loop which would play a role of facilitator;

10. General Reservation Clause

10.1 IRRI reserves the right to amend, modify, alter, or change (hereinafter "Changes") the HRDC Guidelines and its Annexes at any time it deems fit and proper. Any and all Changes shall be effective only after notice of the same is given to the HRDC Advisory Committee, and then to HRDC members at least three (3) months prior to the effective date.

10.2 Further, IRRI reserves the right to terminate a member from HRDC if the continued membership of that member: a) prejudices the reputation of IRRI; or, b) violates the 1995 International Agreement Recognizing IRRI as an International Organization; or, c) violates the Charter of IRRI; or, d) violates the Headquarters Agreement between IRRI and the Government of the Republic of the Philippines and/or a Host Country Agreement entered into by IRRI with other countries; or e) any other agreement that is material to IRRI's authority to operate and exist either in the Philippines or in any other country where its offices, research activities and/or staff are located.

10.3 Nothing in this guideline, membership or in any document or arrangement relating thereto shall be construed as constituting a waiver of privileges or immunities of IRRI, nor as conferring any privileges or immunities to the HRDC member or its staff.

11. Access to HRDC Hybrid Rice Germplasm Materials

11.1 The HRDC guidelines relate to germplasm that has been contributed to or developed within the HRDC hybrid rice breeding program. It is expressly understood and agreed that membership in the HRDC does not provide access to IRRI genetic material, which is or was developed outside the HRDC breeding program, unless it is explicitly specified in the current HRDC guidelines and/or extended by the way of HRDC annual report (eg the Power Breeding and Multi-Stress Tolerant Lines referred to in 2018 HRDC annual report). IRRI reserves all rights to amend the list of non-HRDC material to be introduced to the HRDC members time to time.

11.2 The main principles governing the conditions of access include:

- a. Providing wide, non-exclusive or limited-exclusive access to HRDC germplasm under development and rice hybrids to HRDC members in order to accelerate the development and dissemination of new products to farmers;
- b. Recovering costs of R&D and handling through a transparent mechanism that is consistent with the general business practices in the seed industry and to establish improved, sustainable, and sufficient support for international public hybrid rice research and capacity building;
- c. Providing protection of plant breeders' rights on released hybrids and their parents through the system of plant variety protection as per the International Union for the Protection of

- New Varieties of Plants (UPOV), including the so-called “breeder’s exemption,” allowing use of the material for further breeding and research; and
- d. Access to HRDC germplasm for further development will be subject to the Standard Material Transfer Agreement (SMTA)¹, with additional conditions as appropriate. Noting that Article 6.1 of the SMTA prohibits the direct commercial use of germplasm transferred with SMTA, access for the purposes of direct commercial use will be through a license. Both instruments will be used where both are necessary.
 - e. The HRDC members understand and agree that IRRI, as a member of the CGIAR, is bound by the CGIAR Principles on the Management of Intellectual Assets (“CGIAR IA Principles”)² and also by its own Intellectual Property and Commercialization (IP&C) Policy³.

12. HRDC germplasm available to HRDC members:

HRDC germplasm materials, which require either further development (research, breeding, and testing) or are directly commercialized, are available for HRDC members.

12.1 F₂ population produced by the crosses of selected R/R and B/B

- a. Information is provided, as available, on traits present in the parents of those F₂ plants, and on different target trait markers to allow easy selection in the progeny.

12.2 IRRI-designated elite hybrid rice parents and pilot hybrids from HRDC.

- a. Promising HRDC hybrid parents and pilot hybrids, named as per IRRI nomenclature, which have been fixed and characterized with basic agronomic, yield performance, and grain quality information.
- b. These materials have generally been tested in various experimental trials and need no further genetic enhancement, but **do need final development before they can be available for commercial sale.**

12.3 Commercial parents and hybrids

- a. Parents and hybrids developed by the HRDC program that are fully developed, having passed all the required steps of **final development** and released officially as commercial varieties.
- b. As per the breeder’s exemption, officially released materials are available to all HRDC members and non-members without restriction.
- c. Access for commercialization—a non-exclusive or limited-exclusive license—will be used for commercialization, limited only to a defined country or group of countries for a limited number of years. License fees are a percentage of gross hybrid seed sales (see Table 4), chargeable while the hybrid remains protected. This option is not available in countries prohibited by a previous limited-exclusive license. A license to commercialize shall be accompanied by an SMTA and additional MTA as appropriate, with option for limited exclusivity and shall always incorporate the condition that if the licensee wishes to use the hybrid and/or its commercial parental lines for further breeding and research, that

¹ Available at <http://www.fao.org/3/a-bc083e.pdf>

² Available at

<https://cgspace.cgiar.org/bitstream/handle/10947/4486/CGIAR%20IA%20Principles.pdf?sequence=1>.

³ Available at <http://irri.org/images/downloads/Approved-IPC-Policy-291017.pdf>

breeding and research shall be subject to the SMTA as well as additional MTA as appropriate (Annex 3).

Table 3. Germplasm categories available to HRDC members with corresponding purpose and MTA requirements

Germplasm Category	Access Option	General Conditions of Access
1. F ₂ population	Breeding & Research	Standard Material Transfer Agreement (SMTA) + appropriate MTAs (Annex 3)
2. IRRI-designated hybrid rice parents and pilot hybrids	Breeding & Research	SMTA + appropriate MTAs (Annex 3)
	Final Development	RETA (Restricted Evaluation and Testing Agreement);
3. HRDC hybrids and parents for Commercial purposes	Breeding & Research	SMTA + appropriate MTAs (Annex 3)
	Commercialization	Commercial License Agreement + SMTA

13. Non-HRDC germplasm and/or technologies available to HRDC members

13.1 IRRI non-HRDC germplasm and/or technologies

- a. IRRI reserves the right to make available to HRDC members, for breeding and research, non-HRDC licensable material developed by IRRI, and/or technologies relevant to hybrid rice breeding and production.
- b. Platinum members would benefit from early, free access to such non-HRDC materials and/or technologies for research and breeding for the first fifteen (15) non-HRDC licensable parental lines every year. Lines in excess of those 15 lines will be made available to Platinum members for a fee of USD 1,000/line/year. Other members can have access to same non-HRDC materials and/or technologies for further breeding, at an additional cost (USD 1,000/line/year) starting from the first line.
- c. Platinum Members will have access to non-HRDC licensable material containing traits for biotic and abiotic stress developed by IRRI.

13.2 Third-party non-HRDC germplasm and/or technologies

- a. HRDC, as a benevolent facilitator, intends to offer HRDC members an access to certain 3rd party materials such as elite germplasm, high-value traits, and technologies useful for hybrid rice breeding and production, subject to the agreement from owners of the material.
- b. Such Third party material is tested and showcased by HRDC, at HRDC cost. HRDC members are free to contact directly the owner of the material and/or technology to secure access to those assets keeping HRDC in loop, which would play the role of facilitator.

14. Licensing of HRDC commercial parental lines and hybrids

14.1 Direct non-exclusive License from IRRI

- a. A non-exclusive license is directly signed through an agreement with IRRI (or as a joint license with another public or private partner if the hybrid is jointly developed) with payment of an upfront fee, plus annual royalty based on hybrid seed gross sales as per the membership category is chosen.

14.2 Limited-exclusive (by region, country, or duration) license from IRRI

- a. Limited-exclusive licenses for particular HRDC hybrids are negotiated with interested HRDC members for a specific country or a group of countries, on a first come – first served basis with a written request.
- b. For a hybrid licensed to an HRDC member, the hybrid designation can be changed into a company trade name, with IRRI’s prior written permission. IRRI will keep the pedigree confidential and will not license the same hybrid(s) to another HRDC member in the licensed country/region within the scope of limited exclusivity.
- c. IRRI reserves the right to introduce a varietal identification number (VIN) for each of the licensed hybrid. This VIN shall be displayed by the Licensee on each of the seed packets/bags. This number shall add an extra layer of security to confidential and commercially sensitive pedigree information. The VIN may enable IRRI to effectively track the diffusion, adoption, and impact of HRDC and non-HRDC materials and/or technologies.
- d. However, the use of the same parent combination as that used to generate hybrid, which is granted a limited exclusivity is prohibited.
- e. Limited exclusivity agreements (LEAs) would need to comply with CGIAR principles and with IRRI IP&C Policy. Specifically, IRRI will request the partner’s commitment to impact assessment and impact acceleration.

Table 4. Rates of royalties to be paid to IRRI by an HRDC member for commercial use of IRRI hybrids and parental lines

Product	Non-exclusive License		Limited Exclusive License**
	Platinum Member	Gold/ Silver Member or commercial entity of a Green Member	
Hybrid developed by IRRI using IRRI male and female lines	1.75%	2.5%	Average 5.0 - 7.0%
Hybrid developed by HRDC member using unmodified IRRI male and female lines	1.5%	2.25%	Average 4.0 - 6.0%
Hybrid using unmodified IRRI female line	1.25%	1.5%	Not applicable
Hybrid using unmodified IRRI male line	0.50%	0.75%	Not applicable

* Percentage of annual net sales revenue of that hybrid.

** Negotiable by-products and conditions of license agreement.

*** Upfront and milestone payments may apply

14.3 Licensing of HRDC hybrids co-developed with the Green and Platinum Green members

- a. For the co-developed hybrids released in a specific country with the help of the national partner (Green member), all licensing will be done jointly between IRRI, the HRDC Green member (the “Parties” and individually “Party) through mutual agreement. Neither Party is allowed to license a hybrid that contains parental lines developed by either Party without the consent of the other Party.
- b. All licenses granted to third parties will be non-exclusive.
- c. **Licensing for commercialization in the Philippines.** The Party which contributed the most to the development of the hybrid will act as the main licensor. Typically, this is the “breeding institution” cited in the National Seed Industry Council (NSIC) registration. In each joint license, the development contributions of each Party will be valued as follows in terms of and of sharing of the proceeds from royalties:
 - i. Breeding for developing the female parent 40%
 - ii. Breeding for developing the male parent 30%
 - iii. Making the hybrid (cross and initial testing) 15%
 - iv. National evaluation and approval (registration) 15%
- d. **Licensing for commercialization outside the Philippines.** For licensing in the countries outside of the Philippines, following terms will apply:
- e. IRRI will be the sole licensor for other countries if both hybrid parents were bred by IRRI.
- f. National partner (HRDC Green member) will be the sole licensor for other countries if both hybrid parents were bred by said HRDC Green member.
- g. If the hybrid contains one parent from each institution, IRRI and HRDC Green member will grant a joint license in that country outside the Philippines and share revenue/proceeds as follows:
 - i. Breeding for developing the female parent 45%
 - ii. Breeding for developing the male parent 35%
 - iii. Making the hybrid (cross and initial testing) 10%
 - iv. National evaluation and approval (registration) 10%
- h. In countries other than the country of the national partner, IRRI is granted a license on material developed from joint collaboration.

ANNEXES

Annex 1

HRDC Multi-location Replicated Yield Trial (MRYT) combined with 1000F1 Evaluation Trial

1. IRRI-HRDC organizes a 1000F1 evaluation trial combining with the existing multi-location replicated yield trial (MRYT) nominated materials of hybrid rice to assist the consortium members in assessing the performance of their products and to enable seed companies, particularly those without multinational testing capabilities, to generate reliable performance data across a set of test locations.
2. This project is expected to yield superior parental lines that meet the different market segments of HRDC members through high-quality collective phenotyping and genotyping activities. Under this project, a thousand F1s will be evaluated in ten (10) irrigated ecosystems across Asia (i.e., four (4) locations in India, two (2) locations in Bangladesh, two (2) locations in the Philippines and one (1) location in Indonesia). Partners will be invited to evaluate the shared materials and also to volunteer for conducting the trial.
3. In this study, 100 hybrids will be planted per location in an augmented design with overlaps across the ten (10) locations, including a set of same checks (i.e. 20 best checks in the locations) in all locations. Grain yield performance of all hybrids for each location will be predicted.
4. Best hybrid combination for different and across regions will be identified wherein each cooperator would be able to know which combinations are doing well in their respective location.
5. Performance of the parental lines will be determined and will be improved further through systematic breeding for delivering ideal parental lines for different target regions.
6. General experiment protocol (“GEP”) will be provided by IRRI and the HRDC member commits to follow the GEP, and diligently share results with IRRI in writing.
7. HRDC coordinates all activities for seed entries, including seed health/quarantine-related testing, constituting and dispatching trial sets and field books, receiving data (and monitoring to the extent possible), analyzing data, and sending reports to participating members.
8. Test results will be made available to all HRDC members within four (4) months after harvest, but without revealing the identity of the test entries.
9. Through this project, new elite breeding materials will be developed based on these outputs. In three years times, through the RGA approach, superior breeding lines will be developed and shared with all the HRDC members.

Table 5. MRYT Options per Membership Category

	Option 1: Provide testing site*	Option 2: Nominate own hybrids	Option 3: Provide testing site AND nominate own hybrids
Platinum	√	4 entries	√
Gold	√	2 entries	√
Silver	N.A.	1 entry	N.A.
Green-Platinum	√	4 entries	√
Green	√	1 entry	√

* *Voluntarily provided by members with at least 3 years of commitment to have a stable testing environment.*

Annex 2

Hybrid Rice Development Consortium (HRDC) Membership Application Form¹

Organization Name:					
Address:					
Membership Category (please select one)					
	<input type="checkbox"/> <u>Platinum</u>	<input type="checkbox"/> <u>Gold</u>	<input type="checkbox"/> <u>Silver</u>	<input type="checkbox"/> <u>Platinum Green</u>	<input type="checkbox"/> <u>Green</u>
Primary Contact Person					
Signature:					
Name:					
Position:					
Email:					
Telephone:					
Secondary Contact Person					
Signature:					
Name:					
Position:					
Email:					
Telephone:					
Brief Self-Introduction of the Applicant's Organization and Possible Contribution to the HRDC					
<p><i>(Signed on date)</i> <i>(Please add name of signatory, title, and authorized signature)</i></p>					

¹By signing on this membership form, the (Name of Organization) hereby confirms that it will abide by the terms and conditions as stated on the HRDC Guidelines.

Further, in case of Platinum, Gold and Silver members, (Name of Organization) will pay the corresponding annual membership fee, upon receipt of an invoice issued by IRRI, for five (5) consecutive years.

Annex 3

HRDC-OMTA and HRDC-CMTA Templates

**HRDC MATERIAL TRANSFER
AGREEMENT FOR
IRRI GERMLASM UNDER DEVELOPMENT**
(hereinafter referred to as “HRDC-OMTA)
(To be used for sharing HRDC-PUD1 materials with HRDC members)

PARTIES:

PROVIDER: The International Rice Research Institute (IRRI)
University of the Philippines Campus Los Baños
Municipality of Los Baños, Province of Laguna, Republic of the Philippines

And

RECIPIENT [Name of the Institution]
[Address]

DATE:

IRRI develops and shares germplasm of rice (*Oryza* spp.) with partners who use these materials to develop new rice varieties with improved characteristics for the benefit of the rice farmer and consumer. The germplasm (from both conventional and biotechnology-assisted breeding) are products of research carried out wholly or in part by IRRI and are considered intellectual assets of IRRI.

This germplasm, including identified genes and DNA sequences together with associated genetic information and know how, hereinafter collectively referred to as the “Material”, is being provided by IRRI, under the following additional conditions as permitted in the Standard Material Transfer Agreement (SMTA) article 6.6, for Plant Genetic Resources for Food and Agriculture (PGRFA) under Development.

A list of the Material being provided is provided in Annex 1 of the SMTA.

1. IRRI is making the Material available at the Recipient’s request for breeding and research. The sale, lease, license, or other transfer for consideration of the Material, hereinafter referred to as “Commercial Purposes”, is not permitted under this HRDC-OMTA.
2. Recipient agrees that:
 - a) New information that results from evaluation studies of the Material shall be shared with IRRI in writing, and shall be jointly owned by IRRI and the Recipient as tenants-in-common.
 - b) If Recipient wishes to use the Material as received for Commercial Purposes, Recipient

must first obtain a commercial license from IRRI. IRRI is free to grant limited exclusive or non-exclusive licenses to others for the same Material.

- c) If Recipient wishes to use Material for direct use as a parent of a commercial hybrid, Recipient shall provide a written request to IRRI. Commercial terms shall be as per the Hybrid Rice Development Consortium (HRDC) Guidelines (version valid at time of transfer of Material);
 - d) Subject to Recipient fulfilling all its obligations to HRDC, the following generation advanced by Recipient (“Derived Material”) shall belong to Recipient. The term “Derived Material” mentioned herein, means any plants and/or seeds/ and/or parts of plants derived, directly or indirectly, from the Material provided by IRRI, including but not limited to crossing with other material, or genetic modification, or genetic editing or selection based on information or tools associated with the Material. Recipient shall inform IRRI in case Recipient plans to use Derived Material for Commercial Purpose, and no royalty payment shall be due by Recipient to IRRI for such commercialization,
3. Recipient shall ensure that the Material is exclusively used for the above stated purpose in their institution.
 4. Recipient shall not claim ownership over the Material, nor seek Intellectual Property Rights (IPRs) over the Material, or its genetic parts or components, in the form received from IRRI.
 5. Recipient shall keep IRRI informed of the results obtained through use of the Material and shall provide IRRI a copy of any manuscript or other communication that describes the work with the Material prior to submission for publication, and shall acknowledge IRRI’s contribution to the work reported.
 6. Recipient shall not transfer the Material, in whole or in part, to a third party without the express written consent of IRRI. Any third party requesting a sample shall be referred to IRRI.
 7. Confidentiality:
 - a. Recipient shall not disclose Material marked “Confidential” or “Proprietary” to any third party nor use such Confidential Information for any purpose other than that given above without written permission from IRRI.
 - b. Recipient shall use the same degree of care to protect Confidential Information received under this Agreement as it uses to protect its own information of a similar nature, but in any event not less than reasonable care under the circumstances.
 - c. The Confidential Information shall be excluded from confidentiality if Recipient can demonstrate that (a) it had possession of the information prior to disclosure, or (b) the information generally is available to the public at the time of disclosure, or becomes generally available, after disclosure, through no fault of Recipient; or (c) Recipient receives the information from a third party having the right to the information and who does not impose confidentiality.
 8. IRRI reserves the right to distribute the Material to other parties.

9. Both parties acknowledge and agree to comply with all applicable laws and regulations pertaining to possession or transfer of biological materials.
10. Upon expiration of this HRDC-OMTA or the completion of the activities to be performed under this agreement, whichever is earlier, the Material shall be returned, destroyed or otherwise disposed of by the Recipient as instructed by IRRI.
11. IRRI makes no warranties as to the safety or title of the Material, as described in Article 9.1 of SMTA (copy attached).
12. All other conditions, as outlined in the SMTA and agreed to by the Recipient, are applicable, except Article 5(a), as provided for in Article 6.5(a).
13. Recipient expressly recognizes that IRRI possesses independent legal personality and has the status of an International Organization that is recognized and granted privileges and immunities by the Government of the Republic of the Philippines and under general and customary international law. Any legal action by IRRI shall not be construed as a corresponding waiver of any of the said privileges and immunities granted to it. Any dispute arising out of or in connection with this HRDC-OMTA, including any question regarding its existence, validity or termination, shall be referred to and finally resolved by arbitration under the UNCITRAL Arbitration Rules, which Rules are deemed to be incorporated by reference into this clause. The seat, or legal place, of arbitration shall be Municipality of Los Baños, Province of Laguna, Republic of the Philippines.

This HRDC-OMTA for **IRRI germplasm under development** shall become effective upon date of acceptance of the Material and shall continue in effect for a period of three (3) years; provided, however, that the obligations assumed by Recipient, regarding the maintenance of confidentiality, under this HRDC-OMTA shall remain in effect for five (5) years from the expiration of this HRDC-OMTA; and provided also that the conditions of the SMTA shall remain in force as specified in the SMTA.

HRDC MATERIAL TRANSFER
AGREEMENT FOR
IRRI GERmplasm UNDER ACTIVE DEVELOPMENT
(hereinafter referred to as “HRDC-CMTA”)
(To be used for sharing HRDC-PUD2 Materials with HRDC members)

PARTIES:

PROVIDER: The International Rice Research Institute (IRRI)
University of the Philippines Campus Los Baños
Municipality of Los Baños, Province of Laguna, Republic of the Philippines

And

RECIPIENT [Name of the Institution]
[Address]

DATE:

IRRI, a non-profit autonomous, international organization, represented by its Director General, Dr. Matthew K. Morell, and with headquarters seat at the University of the Philippines Campus at Los Baños, Municipality of Los Baños, Province of Laguna, Republic of the Philippines.

IRRI is a member of the CGIAR and as such, is bound with the CGIAR Principles on the Management of Intellectual Assets (“CGIAR IA Principles”) (<https://cgspace.cgiar.org/bitstream/handle/10947/4486/CGIAR%20IA%20Principles.pdf?sequence=5>), and IRRI’s Intellectual Property and Commercialization Policy (<http://books.irri.org/Approved-IPC-Policy-291017.pdf>)

IRRI’s mission is to reduce poverty and hunger, improve the health of rice farmers and consumers, and ensure environmental sustainability of rice farming; and accordingly, IRRI leads a network of national partners, research institutions, and private entities in strategic and global rice programs for the purpose of achieving effective and sustainable solutions to poverty and hunger in the developing world.

IRRI develops and shares germplasm of rice (*Oryza* spp.) with partners who evaluate the agronomic characteristics of or use these materials to develop new rice varieties with improved characteristics for the benefit of the rice farmer and consumer. The germplasm (from both conventional and biotechnology- assisted breeding) are products of research carried out wholly or in part by IRRI and are considered intellectual assets of IRRI.

This germplasm, including identified genes and DNA sequences together with associated genetic information and know how, hereinafter collectively referred to as the “Material” are being provided by IRRI, under the following additional conditions as permitted in the Standard Material Transfer Agreement (SMTA) article 6.6, for Plant Genetic Resources for Food and Agriculture (PGRFA) under Development..

For the purpose of this HRDC-CMTA, the term “Derived Material” mentioned herein, means any plants and/or seeds/ and/or parts of plants derived, directly or indirectly, from the Material provided by IRRI, including but not limited to crossing with other material, or genetic modification, or genetic editing or selection based on information or tools associated with the Material. For clarification, Derived Material does not include lines which are Essentially Derived from IRRI Material. “Essentially Derived Varieties (EDV)”, as defined under the India Plant Variety Protection and Farmer Rights Act shall be considered as IRRI Material and will not be owned by the Recipient. To further clarify, EDV is defined by the number of backcross made with the Material. If Recipient makes more than one (1) backcross using the Material, the resulting Derived Material shall be 100% owned by IRRI.

A list of the Material/s being provided is attached in Annex 1 of the SMTA and made an integral part of this HRDC- CMTA.

1. IRRI is making the Material available to the Recipient for Research Purposes, including testing and further breeding. The transfer of the Material and Essentially Derived Varieties for any purpose whatsoever is prohibited under this HRDC-CMTA. Furthermore, the sale, lease, license, or other transfer for consideration, of the Material and EDV hereinafter referred to as “Commercial Purposes”, is not permitted under this HRDC-CMTA.
2. Recipient agrees that:
 - a. New information and intellectual property that results from the evaluation of the Material by Recipient shall be promptly shared in writing with IRRI. This information and IP shall be IRRI’s Intellectual Property and shall be fully owned by IRRI;
 - b. The Material, and/or plants selected from the field trials, shall not be used for genetic transformation without a separate prior written agreement with IRRI;
 - c. The Material, can be used for DNA marker evaluation, genetic mapping or DNA analysis provided markers raw data is promptly shared with IRRI which shall have the right to use it for internal research;
 - d. Subject to Recipient fulfilling all its obligations to HRDC, the Derived Material developed by Recipient shall belong to Recipient (except “Essentially Derived Varieties”) and be commercialized by Recipient in full compliance with the terms and conditions of the SMTA .
3. Recipient shall ensure that the Material is exclusively used for the above stated purpose in the institution.
4. Recipient shall not claim ownership over the Material, nor seek Intellectual Property Rights (IPRs) over the Material, or its genetic parts or components, in the form received from IRRI.
5. Recipient shall keep IRRI informed of the results obtained through use of the Material and shall provide IRRI a copy of any manuscript or other communication that describes the work with the Material prior to submission for publication, and shall acknowledge IRRI’s contribution to the work reported. A report shall be sent by Recipient to IRRI once a year and the first report shall be submitted one (1) year after the commencement date of this HRDC-CMTA.

6. Subject to restrictions of confidentiality and/or third party rights associated with genetic material, Recipient shall make best efforts to inform IRRI of the location of all field trials that contain the Material, Derived Material and/or EDV, and to allow representatives from IRRI access to such field trials in the growing season upon the request of IRRI. Such visits shall be at IRRI's sole expense.
7. Recipient shall not transfer the Material including Essentially Derived Varieties, in whole or in part, to a third party without the express written consent of IRRI. Any third party requesting a sample of the Material including Essentially Derived Varieties shall be referred to IRRI.
8. Confidentiality:
 - a. Recipient shall not disclose Material marked "Confidential" or "Proprietary" to any third party nor use such Confidential Information for any purpose other than that given above without written permission from IRRI.
 - b. Recipient shall use the same degree of care to protect Confidential Information received under this HRDC-CMTA as it uses to protect its own information of a similar nature, but in any event not less than reasonable care under the circumstances.
 - c. The Confidential Information shall be excluded from confidentiality, if Recipient can demonstrate that (a) it had possession of the information prior to disclosure, or (b) the information generally is available to the public at the time of disclosure, or becomes generally available, after disclosure, through no fault of Recipient; or (c) Recipient receives the information from a third party having the right to the information and who does not impose confidentiality.
9. IRRI reserves the right to distribute the Material and EDV to other parties.
 - a. Both parties acknowledge and agree to comply with all applicable laws and regulations pertaining to possession or transfer of biological materials. In addition to the foregoing, IRRI does not waive any of its applicable privileges and immunities.
10. Upon expiration of this HRDC-CMTA or the completion of the activities to be performed under this HRDC-CMTA, whichever is earlier, the Material including Essentially Derived Varieties shall be returned, destroyed or otherwise disposed of by the Recipient. Recipient shall inform IRRI in writing that it has returned, destroyed or otherwise disposed the Material including Essentially Derived Varieties, no later than two (2) weeks after expiration of this HRDC-CMTA or completion of activities.
11. IRRI makes no warranties as to the safety or title of the Material, as described in Article 9.1 of SMTA. In the event of a conflict between the provisions of this HRDC-CMTA and the provisions of SMTA, the provisions of the SMTA shall prevail.
12. All other conditions, as outlined in the SMTA and agreed to by the Recipient, are applicable, except Article 5(a), as provided for in Article 6.5(a).

13. In case Recipient is found in breach of any of its obligations, then IRRI has the right (not the obligation) to immediately terminate this HRDC-CMTA and demand immediate return, destruction or disposal of Materials and EDV in accordance with Article 10 above.

14. Recipient expressly recognizes that IRRI possesses independent legal personality and has the status of an International Organization that is recognized and granted privileges and immunities by the Government of the Republic of the Philippines and under general and customary international law. Any legal action by IRRI shall not be construed as a corresponding waiver of any of the said privileges and immunities granted to it. Any dispute arising out of or in connection with this HRDC-CMTA, including any question regarding its existence, validity or termination, shall be referred to and finally resolved by arbitration under the UNCITRAL Arbitration Rules, which Rules are deemed to be incorporated by reference into this clause. The seat, or legal place, of arbitration shall be Municipality of Los Baños, Province of Laguna, Republic of the Philippines.

This HRDC-CMTA shall become effective upon date of final signature and shall continue in effect for a period of 5 (five) years; provided, however, that the obligations assumed by Recipient, regarding the maintenance of confidentiality, under this HRDC-CMTA shall remain in effect for five (5) years from the expiration of this HRDC-CMTA.

ACCEPTED FOR THE INTERNATIONAL RICE RESEARCH INSTITUTE:

_____	_____	_____
Dr. Jacqueline Hughes	Deputy Director General - Research	Date
_____	_____	_____
Name of IRRI Scientist	Title/Designation of IRRI Scientist	Date

ACCEPTED FOR THE RECIPIENT:

_____	_____	_____
Name of Head	Title/Designation	Date

READ AND UNDERSTOOD BY:

_____	_____	_____
Name of Recipient Scientist	Title/Designation of Recipient Scientist	Date