

1. INTELLECTUAL PROPERTY POLICY OF OUAT

With the formation of World Trade Organization(WTO) in 1st January,1995 and India becoming a member of it and signing the Trade Related Aspects of Intellectual Property Rights (TRIPs)agreement,it has become necessary to develop appropriate Intellectual Property policy guidelines at each research and development(R&D) units and Institutions in the country .

Orissa University of Agriculture & Technology (OUAT) being the premier institution of the state and devoted to the agricultural research and education is committed to protect its intellectual properties by protecting them under the existing law of the country. It believes that this will improve the quality research, generate fund for the university and open up scope for public - private partnership. and faster availability of technology for public application. Though generating profit from research investment is not the sole aim of the university but some return from research investment is essential to make university financially sound. University also believes in benefit sharing with its researchers and faculties to make them competitive.

The university recognizes that research in frontier sciences requires Intellectual Property (IP) protection through patents, plant variety protection and other forms of Intellectual Property Rights (IPR). The transfer of IPR enabled agricultural technologies through commercial route will gain greater importance in coming days. In this endeavour public-private partnerships will play an increasing role in the advancement of agricultural research and its transfer to end users under the IPR regime.

In response to the changing scenario of technology generation and dissemination in WTO regime, ICAR has developed a policy framework for agricultural technology protection that will guide the management of IP created by scientists/innovators for State Agricultural Universities too. OUAT recognizes ICAR guidelines in principle and also that of TRIPS compatible IPR laws in India and in other member countries.

1.1 Objectives of IP Protection:

- 1.1.1 To encourage the university faculty, students and supporting staff to engage in basic and applied innovative research for the development of products/process that can be transferred to the benefit of farmers and other members of the public, the State, and Nation;
- 1.1.2 To provide protection to the University's innovations, in consistent with India's "Right to Information Act, 2005"¹;
- 1.1.3 To enable the faster transfer of these innovations to application for public benefit and commercial use, in transparent operations consistent with India's "Right to Information Act, 2005";
- 1.1.4 To provide incentives to the faculty, students and supporting staff to participate in the creation of inventions, IPR protection and commercial licensing activities.

1.2 Key Considerations of Policy

- 1.2.1 University recognizes that commercialization of IPR enabled technologies and other

know-how, through public-private partnership would lead to their accelerated and efficient transfer. Improvement in the rate of adoption of technologies by producers will in turn lead to increase in Productivity, production, farmers' incomes and employment. The process of technology transfer through commercialization will be rational and selective. Key considerations would be (i) state priorities relating to food security, (ii) sustainable use of natural resources, (iii) enhancing the incomes of small and marginal farmers, and (iv) employment generation.

1.2.2 Protection of public sector research can be used as defense mechanism to keep innovations in the public domain. IPR enabled University technologies could be utilized to negotiate/bargain access to strategic research tools and technology from the private sector.

1.2.3 An effective IP management regime would have in-built incentive for scientists/ innovators to engage in knowledge creation and its transfer through licensing. This would lead to greater professional recognition for them. This is likely to lead to further innovations thus resulting in faster technological progress.

1.2.4 Agreement culture shall be introduced to conduct the research in collaboration with other agencies/departments/institutions etc.

1.3 Application of Policy

This Policy and the subsequent Regulations are applicable to all university faculty members, students and supporting staff, and shall be interpreted in accordance with current Indian Intellectual Property Management Acts.

1.4. Intellectual property Rights

1.4.1 The university strongly encourages the applied research and development activities of its faculty members, students and supporting staff for the benefit of farmers and other members of the public, with the terms of collaboration with any third parties generally consistent with this Policy, including the sharing of benefits.

1.4.2 Ownership of all inventions made by university faculty members, students and supporting staff within the scope of their technical expertise and/or assigned duties shall be owned by and assigned to the University.

1.4.3 When the university chooses to proceed in the transfer and commercial application of an invention, it shall award to the inventor(s) a reasonable share of proceeds from royalties and/or other income which may arise from such commercial application, as an incentive to participate in the protection of IPR

1.5 Responsibilities of Faculty, Students and Supporting Staff: In the course of scholarship and research, students and scientists may create Inventions which have commercial application and can best be transferred to benefit the public through the processes of IPR protection and commercial licensing to one or more private sector partners. The IP protection and licensing process is difficult at best, and almost impossible without close cooperation between the IPR Cell and the Inventor(s). Accordingly, it is suggested that inventors be full partners in the IPR protection and commercialization

processes, including but not limited to exercising the following responsibilities:

- (a) Proper documentation of research data and record keeping at departmental level shall be enforced by Head of Departments and identify to the IPR Cell those applied research developments which may have practical benefit for the farmers and other citizens.
- (b) It will be per-requisite for faculty members/students to do IPR search while preparation of projects/synopsis in order to generate quality research products. Before submission/disclosure of results or go for publication, they will also see the patentability aspects of their work. Patent/protection is granted if the information 'is not in public domain.
- (c) Cooperate with the IPR Cell in documenting Inventions on forms prescribed by funding agencies and made available by the IPR Cell.
- (d) Cooperate with the IPR Cell in drafting the patent applications to be filed with the competent government agencies.
- (e) Cooperate with the IPR Cell in identifying personal and corporate contacts in the private sector that would be candidates for licensing of disclosed Inventions.
- (f) Cooperate with the IPR Cell in completing intellectual property reports to funding agencies.
- (g) Serve as a technical resource to the IPR Cell in the process of negotiating a license agreement for a respective Invention.

2. IPR MANAGEMENT REGULATIONS IN OUAT

2.1 The Technological Assets: OUAT technological assets include a number of improved high yielding crop varieties, animal and poultry breeds and fish strains, packages of improved crop and animal husbandry practices, natural resource management technologies, improved tools, equipment and farm machinery, improved dairy, poultry and fisheries technologies, post harvest technology, vaccines and several other processes and products of agriculture and the allied sectors. The PPV&FR Act is in harmony with the provisions of the Article 27.3(b) 7of the TRIPS Agreement. Besides, Essentially Derived Varieties, all Extant Varieties of OUAT that were notified under section 5 of the Seeds Act, 1966 that have not completed 15 years from their notification date are register able and can be protected as IP under the PPV&FR Act. Scientists can help in protecting the Farmers/ Community Varieties that will strengthen plant breeding efforts. Similarly Geographical Indications (GIs) are important in broader contexts.

2.2 Legal Assets: The IP management approach as per Orissa requirements and ICAR guidelines will be the force behind the management. The approach shall confirm to the National IPR laws, ICAR guidelines and policies in force in the country. It will be in line with the Indian legal framework developed as per the TRIPS Agreement. The provisions of the Convention on Biological Diversity (CBD) and the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) will be recognized. The IPRs are provided mainly by following major Indian Acts:

The Copyright Act, 1957 as amended in 1983, 1984, 1992, 1994 and 1999 along with Rules 1958 and the International Copyright Order, 1999,2000 (Copyright Act)

The Patents Act, 1970 as amended in 1999, 2002, 2004 (Ordinance), 2005 and 2006 along with Rules 2005 (Patents Act)

The Trade Marks Act, 1999 along with Rules 1999 (Trade Marks Act)

The Designs Act, 2000 along with Rules 2001 (Designs Act)

The Geographical Indications of Goods (Registration and Protection) Act, 1999 along with Rules 2002 (GI Act).

The Semiconductor Integrated Circuits Layout-Design Act, 2000 along with Rules 2001 (IC Layout-Design Act)

The Protection of Plant Varieties and Farmers' Rights Act, 2001 along with Rules 2003 (PPV&FR Act)

The Biological Diversity Act, 2002 along with Rules 2004 (Biodiversity Act) specifies procedures for access to biological/genetic materials for agricultural research and their IPR protection.

The IP management approach will be in harmony with developments in the National legislations and the relevant international agreements, conventions/ protocols, and treaties/undertakings concerning IPR. OUAT will amend its policy framework and guidelines from time to time to continue to remain compatible.

2.3 Submission of Applications: Protection of all IPs generated in OUAT that are protectable and worth protecting will be sought in the first place in India as per the respective IPR laws. Where National IPR laws do not have enabling provisions to safeguard a strategic or commercial interest in India but laws outside the country provide for this and the market prospects are favorable, OUAT may seek IPR protection in those respective countries on the merits of each case based on strategic or commercial interest to India and State as well as the research and development interests. For seeking protection of its IP abroad OUAT will use the appropriate multilateral fora of which India is a member, e.g., the Patent Cooperation Treaty (PCT). Where such a multilateral platform is not available, the bilateral route will be followed

2.4 Safeguarding the Farmers' Interest: It will always be in focus. All technologies which are of direct relevance to the farmers' field application will be accessible to the farmers as was in Past. If any of these technologies is patented, it will be released under public interest license Which means without license fee.

2.5 Licensing: The IPR enabled OUAT technologies could be transferred to end users through private, cooperative, non governmental and public channels. Licensing could be for commercial use or for research or both. Commercialization of IPR enabled technologies and other know-how, through public-private partnership would lead to their accelerated and efficient transfer. Improvement in the rate of adoption of technologies by producers will in turn lead to increase in productivity, production, farmers' incomes and employment. The process of technology transfer through commercialization will be rational and selective. Case-specific decisions will be taken regarding which technologies will be placed in public domain open access and which others will be commercialized through non-exclusive or exclusive licenses or public interest licenses.

2.6. Application of Incentives and Benefit Sharing: University recognizes that by sharing of benefits with scientists/innovators at this university would improve the overall research environment and provide impetus for greater creativity and knowledge generation. Through licensing fees and royalties a proportion of the monetary gains would flow to the researchers. By sharing of monetary incentives with its scientists, university will encourage greater creativity in the research system. OUAT will provide incentive and share the benefits accrued from commercialization of its IPR enabled technologies with its scientists/innovators to encourage innovativeness and for generating cutting edge technologies. OUAT will follow the ICAR approach.

2.7 Income Generation: It will be the aim but not the primary motive for IP protection in university. Farmer's interest will be the primary concern. Nevertheless, resources generated through commercialization of technologies would be useful for important gap filling requirements for research and development purposes.

2.8 Introduction of Agreements Culture: Material Transfer Agreement (MTA), Sponsored Research Agreement (SRA), Confidentiality Discloser Agreement (CDA) etc. shall be the part of IP generation and management. All concerned scientists/innovators and other employees of university shall enter into appropriate confidentiality agreement before divulging any undisclosed information/ research results/ know-how even if it is to be disclosed for a short term. Confidentiality of the technological aspects/IP of university must be ensured. The scientists/innovators shall appropriately/confidentially disclose the IP contemplated from their research results in IPR Cell for IPR protection under the law.

2.9. Ownership

2.9.1 Ownership of Intellectual property

Ownership of all Inventions made by university students or technical staff within the scope of their technical expertise and/or assigned duties shall be owned by the University, and formally assigned to university upon filing for statutory protection.

2.9.2 The term "Inventions" incorporates the following forms of intellectual property: Patents (and accompanying Know-How), Industrial Designs, and Plant Varieties (and related Biological Resources and Materials).

2.9.3 The university seeks no claim of ownership to copyrightable works developed by faculty members, students and supporting staff of the University, unless a copyrightable work is commissioned by the University as a "Work for Hire." University shall also initiate necessary steps to protect post-graduate dissertations as per ICAR guidelines.

2.9.4 Ownership of an Invention resulting from a research project sponsored by the private sector at the university shall be defined in the Memorandum of Understanding (MOU) negotiated to govern such sponsored work.

2.9.5 Ownership of Intellectual Property developed in the course of research collaboration between OUAT and another university or other public organization shall be defined in the Memorandum of Understanding negotiated between the collaborators.

2.9.6 The University shall own and control the use of all Trademarks representing the "brand" of the university in any form or application.

2.10 Publication of Research Results: The university scientists/innovators may publish if they do not impinge upon OUAT interests in the protection of IP. They will not reveal inventive steps, if applicable, in such publications. They shall defer any publication of inventive steps/ potential IP with commercial or strategic implications until an application for their IPR protection has been filed and recorded. Wherever university decides not to apply for IPR protection, efforts will be made to quickly publish the research results and thereby bring the information/knowledge into public domain. This will also be done through digitalization of the publications creating widely accessible as prior art so that any unacknowledged use of the public domain information generated in OUAT is, forestalled.

2.11 Registration and Documentation for Plant, Animal and Fish Genetic Resources ;

Protection and facilitated access to plant varieties and plant germplasm is granted under the PPV&FR Act and the Biodiversity Act. The ICAR has a system in place for plant germplasm registration and documentation at its National Bureau of Plant Genetic Resources (NBPGR) for long, much before the aforementioned legislations came into force. Bureau of Animal Genetic Resources (NBAGR) and National Bureau of Fish Genetic Resources (NBFGR), respectively have similar facility for animals and fish germplasm. University shall use these facilities to give protection to its germplasm,

2.12 Safeguards from Infringements: If required OUAT will put in place an IP watch system. This will include creating a detailed IP database and appropriate facilities for patent/IP search together with establishing a mechanism of market watch. Subject matter specialists in OUAT with the help of experts from legal and business backgrounds will monitor the internal, national and global scenario. Wherever requisite professional expertise is not available within university such expertise will be obtained through engagement of consultants or outsourcing the task. The IP watch system will identify the IP that may require safeguarding from infringement as well as that which may have to be defended when challenged. Initial action can be taken according to the normal practice and procedures at respective levels. If, however, advanced legal action is required this will be taken.

2.13 IP Protection in Other Agency Projects: In addition to budgetary support from State government and ICAR, the university receives research funding from other public and private sector agencies as well as externally aided projects. In all such cases, IPR will be shared on mutually agreed terms. In the collaborative projects where more than one partner is involved, multilateral agreement/memorandum of understanding (MOU) which will be signed and implemented together with a joint intellectual property management plan (JIPMP).

2.14 IPR Compatible System of Research: To harness the benefits under the IPR regime, there will be IPR compatible formulation, execution, reporting and monitoring of research projects in OUAT. Whenever project planning or IP generation is contemplated, patent search will be a prerequisite. Also, through the prior art search, duplication of efforts will be avoided.
Research

2.15 Priority setting will be done to the scope of IP contemplated as well as freedom to operate for further/commercial use of research results, if required. The research system will be sensitized for generating cutting edge technologies.

2.16 Linkage with Private Sector and intra and inter institutional collaboration will be encouraged. The public-private partnership has the potential to improve agricultural research and technology transfer in the IPR regime. Such partnership will be useful in areas of mutual interest such as (i) joint validation of agricultural production technology, (ii) scaling up process, (iii) cost-effective quality production, (iv) mechanization of production technologies, and (v) joint exploration of local and global markets for the commercialization of technologies, etc. It will help in generation of new Intellectual Properties.

Role of KVKs: Function of KVKs in technology management will be the most important in WTO era. KVKs can be very helpful in identifying the genome savior farmers, geographical indications, identification of inventors for different machine and tools, animal & crop varieties saviors among the farmers and communities etc. The KVK shall in fact be helpful to researchers in many ways and also in protecting the traditional know-how.

2.16 Strengthening IP Search Facilities in Library: OUAT shall establish central patent/ IP search facilities at university library along with at computer centres of the colleges, IPR Cell and at identified zonal research stations.

2.17 Human Resource Development: There is an urgent need for creating skilled human resources so as to build capacity and develop the new agricultural research approach that is compatible with IPR and commercialization requirements. Therefore, suitable HRD and training & awareness programmes will be organized for enhancement of knowledge, know-how and skill in IPR portfolio management and technology transfer, including the areas, such as, patent/IP search, IPR compatible record keeping, drafting MOUs, patent documents, license agreements, confidentiality agreements, enhancing negotiation skills, patent/IP/market watch, dispute prevention/settlement, substantive and procedural aspects of litigation, etc. A course on IP Management and commercialization shall be introduced at UG & PG levels.

2.19 Institutional Management: OUAT will manage its IP through the following mechanism:

2.19.1 IPR Cell: Successful implementation of protection of an intellectual property and commercial licensing program within an academic institution requires open and cooperative engagement between the designated IPR Cell and the creators of the new knowledge. Most importantly, the IPR Cell is a "service unit" or facilitator having three or more scientists as per requirement to provide assistance to the university's technical staff and students to manage the administrative and often bureaucratic aspects of the IPR protection and licensing processes. Accordingly, the primary responsibilities of the

IPR Cell in its role as a facilitator for the university's inventors include, but are not limited to, the following activities:

- (a) Build awareness within the university regarding the importance of applied research, intellectual property protection and commercial engagements for the improvement of the quality of life and the contribution to economic growth and development, through all means reasonably available, such as training workshops, web-based ^- resource materials, printed documents, department meetings, and the like.
- (b) Assist researchers to identify technology with potential application for public benefit and/or commercial development, through frequent networking and communication regarding the status of on-going university research programs.
- (c) Serve as the repository or "one-stop shop" for all tools, forms, and procedures to assist university scientists in documenting discoveries, complying with reporting requirements to funding agencies, and completing other administrative requirements of the intellectual property protection and licensing program,
- (d) Serve as the university's point of communication with the concerned government agencies in the preparation of patent applications for Inventions, as well as complete all administrative requirements in accomplishing patent filings and maintenance.
- (e) Initiate communications with private sector entities in the State of Orissa the nation of India, and internationally regarding the university's technological developments, to create research collaborations, license agreements to intellectual property, and other mutually-beneficial partnerships.
- (f) Negotiate and execute license agreements with private sector partners for commercialization of the university's intellectual property.
- (g) Work closely and on a frequent and regular basis with the IPR Management Committee in implementation of these objectives.
- (h) Report at least once per year to the IPR Advisory Committee on issues such as policy recommendations, "trouble-shooting" new developments encountered in implementation of the program, as well as performance measures and trends recorded for a defined reporting period.
- (i) The IPR Cell would process all issues referred to it by the Director of Research or Director of Extension Education related to IP protection.
- (j) Patent filing is a time bound activity; therefore, IPR Cell may accept and process proposals directly with the approval of the Vice-Chancellor.

2.19.2 IPR Advisory Committee: The committee shall be headed by the Vice-Chancellor (Chairman). At the university level the IPR Advisory Committee shall monitor and guide the functioning of the IPR Cell on broad policy matters including protection mission, policy implementation, government-university interactions and other high level advisement and review to the IPR Cell. It is envisaged that the committee shall meet at once per calendar years. Following will be the members of the committee:

1. All Deans and Directors of the University
2. University Librarian
3. Comptroller
4. University Legal Retainer(LR)
5. All members of the IPR Cell
6. Directors of the State Departments of Agriculture, Animal Husbandry, Horticulture, fisheries and Forestry.
7. One representative of the private sector (to be nominated by the Vice-Chancellor for a period of two years).
8. One farmer (to be nominated by the Vice-Chancellor on the recommendations of DEE for a period of two years).
9. Dean of research will be the Member Secretary.

2.20 Dispute Resolution: In the event of any conflict of right or interest related to sharing of IP, it will be resolved as per mutually agreed terms set out in the agreement signed between OUAT and the other party. To arrive at settlement mediation, reconciliation or arbitration will be made. Arbitrator will be appointed by Vice Chancellor. arbitration clause may be incorporated in the agreement.

2.21 Scientist Entrepreneurship: Some OUAT scientists/innovators involved in the development of potential technologies may themselves be interested in taking up commercial ventures based on these technologies. OUAT in principle will encourage such entrepreneurship by its interested scientists.

2.22 Reports and Monitoring: For IP protection and licensing, the strong documentation of research data, process and achievements is required at departmental levels to help the IP management process. All departments and concerned Directorates of OUAT will develop suitable and systematic reporting and monitoring mechanisms to rapidly secure protection and facilitate commercialization of IPR enabled technologies but not to compromise with the secrecy/confidentiality requirement.

2.23 Benefit Sharing: The benefit sharing formula of ICAR can be adopted which is as under:

Monetary and Non-Monetary Benefits: University will realize monetary and non monetary share of benefits from the licensee(s) of its IPR enabled technologies in the following ways, subject to the license agreement, (i) upfront lump sum payment, (ii) upfront payment plus royalty on actual sale, (iii) royalty on actual sale, (iv) in-licensing/cross licensing of tools of technology generation in frontier areas, (v) research capacity building, (vi) research chair, (vii) research fellowship, etc. University will share the income resulting from commercialization of an IP with individual(s) responsible for the innovation. The amount to be distributed/shared will be the accruals after deduction of service tax and the amount retained for augmenting IP management. The payment will be treated as bonus income of the individual and shall be taxable under the Income Tax Act.

Sharing of Benefit Money. The net revenue/benefit money available for sharing between various stakeholders will be determined as follows.

Head	Amount
1. Gross Revenue (commercial benefits accrued from license fees/royalties)	= A
2. Service Tax already paid or due	= B
3. Amount retained by OUAT for augmenting for IP Management = 30% of A	= C
4. Net revenue/ benefit money to be shared as incentive	= A - B - C = X

Sharing of Net Revenue/ Benefit Money. The net revenue/ benefit money will be shared in the following proportion/manner among (i) university scientists/innovators and other staff, (ii) Department(s), and (iii) University headquarters.

Stakeholder category	Share of net revenue
1. OUAT scientists/innovators and other team members (50% for PI and rest of the 50% divided into others based on contribution and agreement)	60%
2. Department (includes 5% of net revenue/benefit money for staff welfare and rest for the strengthening of department).	25%
3. University (includes 5% of net revenue/benefit money for staff welfare and 5% for IPR Cell)	15%

3. DEFINITIONS

3.1 Biological Resources or Biological Materials : Biological resources means plants, animal and micro-organisms or parts thereof, their genetic material and by-products with actual or potential use or value, but does not include human genetic material under Indian law. Should a patent application mentions a biological material in the patent specification, the patent application may be rendered valid only by deposit of a sample of the biological material with an international depository authority under the Budapest Treaty of 1980, of which India is a signatory. Deposit of the biological materials must be made before the filing of the patent application.¹

3.2 Biological Diversity: Biological diversity refers to variability among living organisms from all sources and the ecological complexes of which they are part, and includes diversity within species and of eco-system.

3.3 Benefit Sharing in OUAT means the sharing of monetary benefits accrued from commercialization of its technologies among its scientists/innovators, including that for staff welfare fund. Benefit Sharing would also mean, in relation to plant varieties where applicable, any sharing of the commercial benefits by OUAT from its registered/protected variety as may be determined by the PPV&FR Authority under section 26 of the PPV&FR Act.

3.4 Breeder within OUAT means a researcher who has made principal contribution in the development of a plant variety/strain².

3.5 Commercialization in OUAT means the transfer of its IPR enabled technologies or other know-how through licensing under the terms and conditions specified in the license agreement entered into for the purpose or through auction or sale.

3.6 Copyright and Related Rights. A copyright is an original work of authorship which has been fixed in any form of expression, such as books; computer software; sound recordings; literary, artistic, dramatic and musical works; and cinematographic films. A copyrightable work may be the product of a single author or a group or others who have collaborated on the creation of the work. The copyright protects only the form of expression of ideas, not the idea themselves. Copyright law protects the owner of against those who "copy" the form in which the original work was expressed. Unlike other forms of intellectual property, copyright vests in a work immediately upon its creation. Registration is available and is recommended at times to document the creator and the date of the creation of a work of authorship. Registration is made at the Indian Registrar of Copyrights within the Ministry of Education.³

²The Biological Diversity Act, 2000, Section 2(a), and the Budapest Treaty on the International Recognition of the Deposit of Micro-organisms for the purpose of Patent Procedure, 1980

³The Biological Diversity Act, 2000, Section 2(b).

Confidentiality Agreement means a document (in any format) signed by persons who have agreed to keep the particular information (whether already shared/to be shared in the course of collaboration) among them, whether oral, written or otherwise, as confidential and not to reveal it to any other party without each other's consent.

3.7 OUAT Technologies mean the technologies generated/produced by department/ network of university including the Institutes designated with the prefixes out reach research stations and and the *Krishi Vigyan Kendras* (KVKs).

3.8 Discovery versus Invention : According to section 3(c) of the Patents Act, "the mere discovery of a scientific principle or the formulation of an abstract theory or discovery of any living thing or nonliving substances occurring in nature" is not patentable. In this context, the difference between discovery and invention as interpreted in the Indian Patent Office's Manual of Patent Practice and Procedure, 2005, is that a 'discovery' adds to the amount of human knowledge by disclosing something, which has not been seen before whereas an 'invention' adds to the human knowledge by suggesting an act, to be done. Only the latter is patentable.

3.9 Extant Varieties : As per the PPV&FR Act, an extant variety is the variety available in India which is either (i) notified under section 5 of the Seeds Act, 1966 (54 of 1966), or (ii) a farmers' variety, or (iii) a variety about which there is common knowledge, or (iv) any other variety which is in public domain. The following procedure may be followed for registration and protection of extant varieties of OUAT.

3.10 Exclusive License of an IPR enabled technology means a license which will entitle the licensee, or the licensee as well as person(s) authorized by him, to exclude all other persons (including the patent holder himself) in the commercial use of the technology covered in the license.

3.11 Farmers Rights and Community PPV: Within the PPV and FR Act of 2001, indigenous farmers are recognized as legitimate sources of new plant varieties with DUS. Such varieties are eligible for registration, protection and subsequent derived benefits. Furthermore, such plant varieties may arise through the efforts of an individual or groups of farmers in a village, may have resulted from years of use in the village or locale, and may have value for use in other regions of the nation and the world. In such cases, registration of the variety may be filed on behalf of the community, with any benefits subsequently derived deposited in the National Gene Fund. No other parties may utilize the registered variety without the express permission of the community of farmers who made the contributions in the development or preservation of the registered variety

3.13 Geographical Indications: Geographical indications identify a good as originating in a geographical region or locality where a given quality, reputation or other characteristic of the good is attributable to its geographic origin. Geographical indicators are not individual property rights, but rather, suggest the geographical origin of a good, which any producer of the good in the respective region may use. A "Geographical Indications Registry" has been established in India wherein the producer of a good designated by the registered indicator can file for registration

as an authorized user of the respective name.⁵

3.14 Innovators in OUAT means its employees/post graduate research scholars who have made an invention/innovation or have authored a work or developed the variety or generated IP in any other form.

3.15 Intellectual Property (IP) in OUAT constitutes the research results derived by its scientists/innovators which could be protected by patents, plant variety protection or any other form of intellectual property rights such as copyright, trade mark, design, etc. This also includes know-how that may be protected as undisclosed information by suitable agreements.

3.16 In-Licensing means acquiring research-tools that are already protected by patents/IPR for research and technology generation under specific terms and conditions, e.g. research/commercial use.

3.17 Infringement of OUAT's IPR will occur/deem to occur when someone willingly/unwillingly uses the IP/know-how without its permission

3.18 Invention: Any technology which has not been anticipated by publication in any document or used in the country or elsewhere in the world before the date of the filing of a patent application with complete specification, i.e. the subject matter has not fallen into or that does not form part of the state of the art.⁶

3.19 Industrial designs : An industrial design refers to the features of shape, configuration, pattern or ornament applied to any article by any industrial process or means whether manual, mechanical or chemical, separate or combined, which in the finished article appeal to an end judged solely by the eye. Designs are the shapes, patterns, etc. applied to an article and not the article itself. Designs may be protected by registration which confers to the owner the exclusive right to apply the design to any article in the class in which the design is registered.⁷

⁵ The Protection of Plant Varieties and Farmers' Rights Act, 2001, Chapter 6.

⁶ TRIPS, and the Indian Geographical Indication of Goods Act, 1999.

⁷ The Patent Act, 1970, as amended by the Patent Rules, 2003, and the Patents Rules, 2005, chapter 2(g)(1).

Indigenous Traditional Knowledge (ITK) - ITK is an intangible resource or know-how regarding India's biological diversity and the applied use of biological resources, such as medicinal value of certain plants, cultivars of freshwater fisheries; drought resistance of certain varieties; methods of cultivation of varieties to enhance productivity; methods of preservation of foods; families of livestock with resistance to certain diseases, and the like. ITKs are not individual property rights, but rather, comprise "collective village wisdom" resulting from years of use or practice. The Central Government has established an electronic database - the "Traditional Knowledge Digital Library" - with data made available to international patent offices to establish ITKs as "prior art" preventing an incorrect grant of patent for an ITK in the public domain. Additionally, documentation of the knowledge of the local people regarding the status, uses and management of biological resources may be registered with the Indian "People's Biodiversity Registers" for similar prevention of inappropriate patents seeking to claim ownership in the traditional biological knowledge of Indian farmers, tribes and indigenous population.

3.20 **IPR Cell.** The Intellectual Property Rights Cell or "IPR Cell" is a division within the Directorate of Research, which is responsible for the day-to-day management of intellectual property rights and commercial licensing, resulting from the research and development activities at OUAT, as well as the implementation of these Regulations.

3.21 **Joint Intellectual Property Management Plan (JIPMP)** means a document embodying the mutually agreed terms concerning the IP aspects of collaborative research jointly carried out by the research partners. This includes the ownership details and conditions for use of IP resources already available with different partners, mutually agreed terms for in-licensing of proprietary research tools, sharing the ownership of IP generated, licensing of IPR enabled technologies, and sharing of commercial benefits, etc. Joint IP management plan can be altered mid-way with mutual consent of research partners.

3.22 **Know-how.** Know-how is undisclosed information that may be an aggregation of processes or procedures, accumulation of data, a formulation which has not been revealed, knowledge of variables known by the inventor to improve a process, or other combinations of knowledge which are not generally known to the public. Know-how is often transferred together with the licensing of patent rights to third parties to better teach the practice of the patented invention(s), or under other commercial partnerships.⁸

3.23 **License** means the document embodying legal permission from OUAT to the other party (ies) to use its technologies/IP/Knowledge for commercial or other purposes under the terms and conditions and limitations, including a license fee and/or royalty, as negotiated and specified in the license.

3.25 Material Transfer Agreement (MTA) means a document embodying the mutually agreed terms in the transfer of a material (any genetic resource or IP) from OUAT to another organization/ establishment/ person or vice versa. It may be in a standard or a specific format.

3.26 Non-Exclusive License of an IPR enabled technology means a license which will confer on the licensee the right to commercially use that technology whereas, at the same time, the same right could also be made available to other licensee(s) on same, similar or different terms.

3.27 Partnership Agreement by OUAT in research with other research organizations/ establishments means undertaking research in togetherness, by agreement. Deemed agreement of partnership is set out in the project document which covers details of objectives, work plan, activities by each partner, respective rights and obligations of each party, other terms, conditions and limitations, if any. Partners would share the ownership of research results as per the mutually agreed terms. They also owe each other the responsibility of good faith and shall be jointly and severally liable for the debts of the partnership, whether or not they were concerned in incurring them.

3.28 Patent A patent is a government granted and secured legal right to prevent others from practicing, i.e., making and selling the invention(s) claimed by the patent. A patent is a personal property which can be licensed or sold like any other property. An invention is patentable if it is new, involves an inventive step (i.e. is not obvious) and is industrially applicable. The object of the invention is the applying of the well-known principles to the achievement of a practical result not yet achieved.⁹

3.29 Principal Investigator (PI) for a research project carried out in OUAT means the lead scientist involved in and responsible for it.

3.30 Public Interest License means license without royalty to serve the general interest of public/farmers.

3.31 Protection of Plant Varieties (PPV). In India, protection is available for any new plant variety or hybrid which possesses the characteristics of "Distinctness, Uniformity and Stability" or "DUS". The registration of a new variety with the Central Government's "National Registry of Plant Varieties" provides (a) exclusive rights to breeders (or their employers) for production and marketing of the variety, (b) authorizes use of registered varieties by scientists and researchers for development of further improved plant materials; and (c) provides clear rights to Indian farmers to collect and use the seeds harvested from their own crops for planting for their next crop. Finally, the law includes stiff penalty for any individual or company which markets spurious propagation material commercially as an improved and registered plant variety.

3.32 Scientist/ Scholar Entrepreneurship: When OUAT shall permit any scientist/ scholar to proceed on scientist-entrepreneurship to either set-up his/her own enterprise or to work with some private agency for up-scaling/ commercial venture with the IP generated by him/her in OUAT, the terms of use of such IP shall be clearly spelt out in the agreement between the OUAT and the concerned scientist/ scholar.

3.32 True and First Inventor means a scientist/innovator who has created/generated the patentable research results and whose name is recorded in the patent application accordingly.

3.33 Trademark: A trademark is any sign, or any combination of signs distinguishing the goods or services of one undertaking from those of other undertakings. Such signs may include words, personal names, letters, numerals, figurative elements and combinations of colors. The owner of a trademark holds the exclusive right to prevent others from using in the course of trade any identical or similar signs for similar goods or services where such use would result in a likelihood of confusion of ownership in the mind of the public.

4. PROTECTABLE INTELLECTUAL PROPERTIES OF OUAT

4.1 Patentable IP: Research results in any field of technology, whether processes or products, which are new, inventive (non-obvious) and useful (industrially applicable), and are patentable under the Patent Act, constitute the patentable IP of OUAT. The following research results in OUAT, for example, will constitute the patentable IP:

- Various microorganism based formulations, such as those of bio-control agents, bio-fertilizers, specific dairy catalysts, etc., and the processes for their use.
- Various genetically engineered microorganisms for an array of specific uses, such as biodegraders, bio-stimulants, bio-protectants, etc., and the processes related to their application/use.
- Novel dairy and horticultural products, by-products, such as enzymes, and processes for their production and use.
- Plant based agro-chemicals, their purification and testing processes, and various formulations.
- Diagnostic kits.
- Vaccines
- Designs of agricultural machinery, implements, and laboratory equipment.
- Research tools of genetic engineering, such as gene primers, constructs, and gene transfer tools like gene gun, etc.
- Information systems and software, etc.
- Patentable part of know-how, for scaling up of research results or manufacture of prototypes/ commercial products, etc.
- Any other technology/ achievement having patentability as per laws.

4.2 Patents on Microorganisms: OUAT will seek patents on microorganisms as per the Patents Act. In particular, it will not seek patent on a microorganism in the same form in which it is retrieved from its natural habitat. Institute of Microbial Technology, Chandigarh receives certain species for protection.

4.3 Protection of Plant Varieties: OUAT varieties of field, horticultural and agro-forestry crops, including the new, extant, essentially derived varieties (EDV), and transgenic plant varieties protected as per the PPV&FR Act/ plant variety protection (PVP) laws of other countries will constitute its protectable IP. These include

- > All extant varieties of OUAT, i.e., the previously notified varieties under section 5 of the Seeds Act, 1966, which have not completed 15 years from date of their notification. Protection of these varieties will be secured at the earliest.

- > New plant varieties identified for their worth (value for cultivation and use) in OUAT, which fulfill the essential criteria of distinctiveness, uniformity, and stability under the PPV&FR Act.
- > OUAT plant varieties and transgenic plants, protectable as per corresponding PVP laws of other countries, in the form of PVP certificate, plant patent, etc.

4.4 Improved Breeds/ Strains of Animals/ Poultry/ Fish can not be Protected: Animal/ poultry breeds, fish strains, etc., cannot be protected in India as patents or variety protection. Improved breeds/ strains developed in OUAT, however, constitute valuable assets. OUAT shall take the help from ICAR in this direction.

4.5 Collective Mark/ Trademark: OUAT will identify its marks which can be used as trademark and same will be protected.

4.6 Copyright: Faculty, students and other staff of OUAT will have copyright over their individual, literary and scientific creations/works.

4.7 Designs: Designs of any commercial value, developed in OUAT, may be protected as registered designs under the Designs Act *or* under the Copyright Act as per law.

4.8 Any Other IPR Form : On a case-to-case basis, any research result of OUAT, which is protectable as IPR in any other form under the Indian law, shall be protected and maintained for its IPR enabled transfer and use.

4.9 Know-How : A know-how available with OUAT, which could lead to development of prototype/ commercial product from an IP generated by its scientists/ scholars, constitutes an important, potentially useful property, irrespective of whether it is patentable or not. Such know-how may be utilized for strategic commercial use in the technology production chain. OUAT may protect such know-how as trade secret. Therefore, a confidentiality agreement with the other party shall be entered into before any demonstration of the technology or its validation or scaling up is undertaken.

4.10 Traditional Knowledge: The Indian Patents Act and some other IPR Acts require a disclosure of traditional knowledge used in the invention/innovation. Accordingly, OUAT shall also disclose the traditional knowledge related to the innovations made in its set up in all its patent/ IPR applications to the best of its knowledge and information.

4.11 Novel genes from microbial and higher biological systems; Isolation of indigenous genes from plant and animal systems and their application for specific target traits will have special significance and prospects. Therefore, elite genetic material will be got registered in genetic resources bureaus for plants, animals, fish and agriculturally important microorganisms. This is to discourage any patenting of the public domain traditional knowledge.

4.12 Patentability of Biological Inventions

4.12.1 According to section 3(i) of the Patents Act, " any process for the medicinal, surgical, curative, prophylactic, diagnostic, therapeutic or other treatment of human being or any process for a similar treatment of animals to render them free of disease or to increase their economic value or that of their products" cannot be patented. In this context, prophylactic treatment such as vaccination, inoculation (prophylactic immuno-therapy) in animals is to be regarded as therapy, which includes treatment, and is not patentable. Patent may, however, be obtained for surgical therapeutic or diagnostic instruments or apparatus.

4.12.2 According to section 3 of the Patents Act, " plants and animals in whole or any part thereof other than microorganisms but including seeds, varieties and species and essentially biological processes for production or propagation of plants and animals, for example, clones and plant varieties" are not patentable in India. However, processes leading to the development of Genetically Modified Organisms (GMO) can constitute patentable subject matter.

4.12.3 Patentability of biotechnological inventions: Any clarification on the patentability of biotechnological inventions may be seen from the Manual of Patent Practice and Procedure 2005 of the Indian Patent Office (<<http://patentoffice.nic.in>>). The guiding points for the examination of patent applications by the patent examiners given in this manual could be helpful in a prejudgment on the patentability of inventions, before a patent application is to be filed. For example, the following points are noteworthy:

Patentable :

- > The living entity of artificial origin (produced with human intervention) such as microorganisms, vaccines are patentable.
- > The biological material such as recombinant DNA, Plasmids and processes of manufacturing thereof are patentable provided they are produced by substantive human intervention.
- > The processes relating to microorganisms or producing chemical substances using such microorganisms are patentable.

Non-Patentable

- > The living entities of natural origin such as animals, plants, in whole or any parts thereof, plant varieties, seeds, species, genes and microorganisms are not patentable.
- > Any process of manufacture or production relating to such living entities is also not patentable.

- > Any method of treatment such as medicinal, surgical, curative, prophylactic, diagnostic and therapeutic of animals or other treatments of similar nature are not patentable.
- > Any living entity of artificial origin such as transgenic animals and plants, any part thereof are not patentable.
- > The biological materials such as organs, tissues, cells, viruses etc. and process of preparing thereof are not patentable under Section 3(c).
- > Gene sequences, DNA sequences without having disclosed their functions are not patentable for lack of inventive step and industrial application.
- > Essentially biological processes for the production of plants and animals such as method of crossing or breeding etc. are not patentable.
- > Any biological material and method of making the same which is capable of causing serious prejudice to human, animal or plant lives or health or to the environment including the use of those would be contrary to public order and morality are not patentable such as terminator gene technology.
- > The processes for cloning human beings or animals, processes for modifying the germ line, genetic identity of human beings or animals, uses of human or animal embryos for any purpose are not patentable as they are against public order and morality.
- > Any invention which in effect is traditional knowledge or which is an aggregation or duplication of known properties of traditionally known components is not patentable.

4.13 Biological Material Used in the Invention: Specific attention will be given to the following points:

- The source or geographical origin of biological material used in the invention disclosed in the patent application will be mentioned in the specification.
- New biological materials used in the invention disclosed in the patent application are required to be deposited in any of the International Depository Authorities (IDA) recognized under the Budapest Treaty on or before filing of the application, to supplement the description for sufficiency of disclosure of the invention. Reference of such a deposit has also to be made in the patent specification. As of now, there is only one recognized depository in India under Budapest Treaty. It is the Institute of Microbial Technology (IMTECH), Chandigarh, which receives specimens of certain microbial species only.
- The reference samples deposited at the Genetic Resources Bureaus of ICAR will be helpful for internal reference only. However, in case of any litigation it is likely that the evidence in the form of such duly characterized and documented referral sample can be held valid at the discretion of a Court of Law. Therefore, related departments of OUAT must take individual initiative of depositing a referral sample at the respective National Bureaus for Plants, Animals, Fish and Microorganisms Genetic Resources before filing a patent for any invention based on biological material.

- The Indian Patent Office did not grant patents on " *A method for cultivation of an algae*" (264/Cal/79) and " *A method for producing mushroom plant or production of mushrooms*" (445/Del/93) for the reasons that the production of mushrooms and cultivation of an algae are analogous to agriculture, since they belong to plant kingdom and therefore fall within the provisions of non patentability. These were held not patentable also for the reasons that the purpose of applicants' inventions was to achieve varying degree of growth promotion, increased output, improved quality which increases their economic value. On the other hand, an ICAR Patent No. 18367957 dated 15 January 1998 on "*A new bed for mushroom cultivation by utilizing biogas waste slurry and straw for improved mushroom cultivation*" from National Institute for Research on Jute and Allied Fibre Technology, Kolkata, was granted. Thus, there is need to further explore more critically and judiciously, on a case-to-case basis, a legitimate securing of the IP contemplated.

4.14 Patents on Value Addition. Patents can be secured on inventive steps irrespective of whether these steps are big or small. Therefore, patents can be obtained on incremental research results provided these qualify the patentability criteria, and have scope and worth.

4.15 Method of Agriculture or Horticulture. According to section 3(h) of the Patents Act, "*a method of agriculture or horticulture*" does not constitute patentable invention. Some specifically construed patent claims on processes and products related to agriculture and horticulture could be found in order for acceptance by the patent offices.

5. IDENTIFICATION AND PROTECTION OF PATENTABLE IP

5.1 First Step of scientists/innovators: After conducting IP search at his/her level, the scientist(s) who consider that they are in possession of a patentable IP from their research results, or that such a result is likely to emerge soon from their research/work, where individually or jointly with other scientists/innovators, shall approach the IPR Cell to file the application for patent without disclosing the invention at any other place/form. In case it is suggested to go ahead for patenting the scientist should fill-up the disclosure form and submit it under a sealed cover to IPR Cell.

5.2 Next Action by Innovators: The interested scientist/innovator may approach his/her controlling officer to indicate his/her interest in filing a patent application with the university IPR Cell of the-university.

5.3 Initial Patent Search: Each application by scientists/innovators for seeking patent on an invention shall be accompanied with an initial patent search report and the declaration as to the novelty of invention. Initial patent search can be carried out at the Internet sites such as:

- > **WIPO (World Intellectual Property Office),**
- > **Indian Patent Office Database,**
- > **CIPO (Canadian Information Patent Office)**
- > **espacenet.com (European Net Work of Data Use),**
- > **uspto.gov (United State Patent and Trademark Office Database and**
- > **EKASWA A&B Databases for Indian patents,**

All the databases may be available from Patent Facilitating Centres (PFC), Technology Information Forecasting and Assessment Council (TIFAC), Department of Science & Technology, Government of India, etc. Concerned scientists must gain a good background on the subject area of invention, particularly about the inventions from the subject area if already patented in any country. This will help in recognizing whether the results of present study/experiment qualify for the essential criterion of novelty or not. In case it is considered that the invention is novel, and the patent search is reasonably made to fortify the claim, one may safely conclude that OUAT is in possession of a patentable invention. If possible and arrangements are made, OUAT shall file Patent applications through any suitable agency including NRDC/ DST

5.4 Submission of Particulars by Scientists/Innovators : The Principal Investigator/ Project Leader (PI) shall furnish particulars for making the application (specification, claims and other particulars excluding the know-how) with due signatures of all Inventors/Innovators to his/her Controlling Officer. The Controlling Officer would record his/her recommendations and forward the application to the Director of Research in case it is an invention by scientist; to the Director

of Extension Education in case of farmers/community innovations/ plant varieties and Dean, Post Graduate Studies in case of students' research. The Director of Research or Director of Extension Education or Dean, Post Graduate Studies, as the case may be, would forward the proposal to the IPR Cell for further action.

- > An undertaking covering the bonafides of the deemed IP, including title; novelty, non-obviousness/inventiveness, industrial applicability/commercial usefulness aspect; project/activity under which the IP was generated; dates/duration of the project/activity, etc.
- > A certificate mentioning that there is no lawful ground for objection to the grant of patent on the innovation/work.
- > An affirmation to keep IPR Cell informed about any further developments in relation to the deemed IP.
- > Assignment of the innovation/work to OUAT, with signatures, names and address of two witnesses.

5.5 Information for Central Database : The IPR cell will document a copy of the forwarding letter of the information provided by the PI/ inventor, including the title of invention, name(s) of true and first inventor(s), and date, in the institutional/zonal/central database for information and record. Inventor must provide electronic copy of it to IPR cell

5.6 Disclosure Requirements: It is necessary that the concerned PI/scientists/innovators make sufficient disclosure that fully defines the invention, its feasibility and application so that patent can be granted on that disclosure without any objection. They will also make sure that the source and geographical origin of the biological material used in research or mentioned in the complete specification and also any traditional knowledge of India, which may be the basis of the invention is disclosed in the application as per the requirement of the Patents Act. Similarly, it will be necessary that the absence of any Genetic Use Restriction Technology (GURT) is declared in all applications based on biotechnological invention/genetic engineering.

5.7 Record Keeping: Patent application pass through lot of scrutiny. Therefore all Departments/ scientists/ innovators shall maintain appropriate and adequate work records and duly authenticated/ countersigned log books while conducting research leading to patentable invention. It should be possible to re-construct on time scale from those records as to when the work related to the invention was conceived and actually started, when the inventive step was taken and when the result was first successfully demonstrated in the laboratory.

5.8 Writing a Patent Document: The primary information collected as above shall be collated to prepare the patent application (patent document) for filing in the patent office through any suitable agency including NRDC or DST For more details on writing the provisional and complete specification, claims, abstract, and preparing drawings, websites www.ipindia.nic.in, may be referred along with the Manual of Patent Practice and Procedure 2005, published by the Indian Patent Office. The Manual is available on the Internet <<http://patentoffice.nic.in>>.

5.9 Filing a Patent Application:

- **Filing a Provisional Application:** A provisional application will be filed by the university or through NRDC/DST to secure the Priority Date for the invention. This will be done at the earliest, with minimum loss of time. The application will be filed at the patent office Kolkata under whose jurisdiction the institute's headquarters fall.
- **Filing a Complete Application in India:** When the document is finalized, and it appears to be well in order, the Complete Application will be filed by the university or through NRDC/DST/ICAR in the relevant patent office as per procedure under the patent law.
- **Filing a Patent Application Abroad:** The university through NRDC/DST will take steps to file a PCT application if required. India is a member of the Patent Cooperation Treaty (PCT). Under this treaty, there is an international filing system for patents. It is a simple and economical procedure for seeking protection for the inventions in many countries. In this system, the applicant gains an international filing date in all the designated countries, and can confer late entry (up to 31 months) to the national offices without affecting the priority date. Indian Patent office is a receiving office for international applications under PCT by nationals or residents of India. A PCT international application may be filed in India as per law, either in English or in Hindi. However, a PCT International Application can also be filed in the World Intellectual Property Office (WIPO) in Geneva. For entering the national phase in other designated countries, separate applications will have to be made within 31 months from the filing of international application to claim the priority date in these countries under their respective patent laws. It is not mandatory for the applicant to submit all the documents while entering the national phase of individual countries as it is obligatory on the part of WIPO to send the published application along with search report, etc., to the designated offices. However, copies of original documents should be submitted for the sake of convenience and faster processing. Services of international patent attorneys and legal translators should be hired as per need.

6. COMMON PRECAUTIONS FOR IP MANAGEMENT

6.1 Ownership : All claims in application for IP ownership, as applicable, will be made only in the name of the legal entity, viz. ORISSA UNIVERSITY OF AGRICULTURE & TECHNOLOGY even though the research is conducted by scientists/innovators working in its various institutions.

6.1.1 IP with exclusive ownership: OUAT will be the sole owner of IP generated from research work conducted in university in the following cases:

- > Using funds received from Government of Orissa
- > Using external funds, public or private where OUAT has been assigned sole ownership by the funding agency or where such prior agreement with the funding agency does not exist.

6.1.2 IP with joint ownership :

• **Collaborative Research ;** IP generated by OUAT under collaborative research projects will be jointly owned by the university and its collaborators/ partners on mutually agreed terms.

■ **Post Graduate Research ;** IP generated in research by post graduate research scholars in OUAT will, in principle, be jointly owned on mutually agreed terms in the following cases:

- > If the terms and conditions of scholarship from the external funding agency so require.
- > If the postgraduate research is conducted at more than one institutions/laboratories in/outside.

6.2 Declaration by Inventor (S): OUAT scientists/innovators shall assign the IP rights in the research results obtained by them to their employer, viz. the 'ORISSA UNIVERSITY OF AGRICULTURE & TECHNOLOGY' . While they will not be entitled to claim ownership of the IP generated by them, they shall be recognized as True and First Inventor(s)/ Innovator(s)' of that IP. However, they will have their own copyright over the publications authored by them as per Central Civil Services(Conduct)

6.3 Preliminary Steps for applicants: The following steps will be taken to seek IP protection in ORISSA UNIVERSITY OF AGRICULTURE & TECHNOLOGY

6.3.1 All inventors/innovators/breeders/authors shall assign the IP rights in their research results to the university.

DECLARATION BY INVENTOR(S)

I/We _____ (Name(s) of Inventor(s) with Designation and Address) _____ declare that all rights for the invention _____ (Title of Patent as given in the Application) _____ are assigned by me/us to the applicant "Orissa University of Agriculture & Technology, Bhubaneswar-751003" and the application is signed on behalf of the assignee by the authorized official of University.

Dated this day of 20.....

Inventor Name	Signatures
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Witnesses (Two):

Name	Designation	Signatures
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6.3.2 All applications shall be made in the name of "ORISSA UNIVERSITY OF AGRICULTURE & TECHNOLOGY".

6.3.3 Patent/PVP/IPR applications filed by OUAT, shall mention the names of all concerned scientists/innovators as True and First Inventors/Innovators.

6.3.4 Patent/PVP/IPR applications will be signed by the Authorized Signatory (Head of Department and Director of Research/Director Extension Education).

6.3.5 Processing of all patent/PVP/copyright/other IPR applications and maintenance of IPR titles will be undertaken as per the respective IPR laws.

6.4 Institutional Arrangement: After identification of IP at department and college levels, the application for protection be submitted to IPR Cell for further process.

6.5 IP Management:

> **Confidentiality Agreement:** All concerned scientists/innovators and other employees of university shall enter into appropriate confidentiality agreement before divulging any undisclosed information/ research results/ know-how even if it is to be disclosed for a short term. Confidentiality of the technological aspects/IP of university must be ensured. The scientists/innovators shall appropriately/confidentially disclose the IP contemplated from their research results in IPR Cell for IPR protection under the law.

> **IP Protection and Maintenance :** All action pertaining to the filing of IPR applications and their follow up under the law including the maintenance of IPR, and the further management of IP, will be initiated/undertaken through ICAR or National Research Development Corporation (NRDC) or Department of Science and Technology (DST) or any other such agency through MOU.

- > **IP Generated in Coordinated Projects** : As per ICAR guidelines where IP is generated under an All India Coordinated Research/Network Project (AICRP) whose coordinating unit is located in an ICAR institution, the IP protection will be secured by the institution where the AICRP Unit is located..
- > **IP Generated in a Krishi Vigyan Kendra** : Where IP is generated in a *Krishi Vigyan Kendra* (KVK), the IP protection will be secured by Director Extension Education of the university.
- > **IP Generated in Collaboration with a Foreign Partner**; Protection of IP shall be undertaken by the university. Application shall be filed in India to secure the priority date. The IP ownership and further course of action will be decided on the basis of policy framework for IP management and mutually agreed terms with the foreign partner.
- > **Shared IP** : IP shared between OUAT and other collaborator(s)/partner(s) will be processed for protection and maintained by OUAT or as per the mutually agreed terms. In case a joint owner is not interested in the IP it can be assigned back exclusively to OUAT.

7. PROCEDURE FOR PLANT VARIETY PROTECTION

Plant Variety Protection

The IP protection of plant varieties developed by the university, including the extant varieties, will be secured under the PPV&FR Act by submitting the application to Authority.

Address: PPV & FR Authority : Website: www.plantauthority.in

**Protection Of Plant Varieties and Farmers Rights Authority, Government of India,
N.A.S.C. Complex, DPS Marg, New Delhi110012 ,**

**Protection Of Plant Varieties and Farmers Rights
Authority, Government of India, N.A.S.C. Complex, DPS
Marg, New Delhi110012 ,
Ph. No. 011- 25848127, 20911443,
25840777**

**Shri R.K. Trivedi
Registrar,**

FAX: 011-25840478

E-mail: registrar@plantauthority.in

This step in turn will enable a more rapid and effective transfer of plant varieties to the end users and also the protection of genetic resources. However, a decision shall be taken by the university even after the plant protection variety (PPV) certificate has been obtained as to whether a particular variety will be transferred for commercial use through exclusive/ non-exclusive licenses or it will be placed solely in public domain to meet some specific national need/situation. Where it is considered necessary in public interest to specifically promote some university varieties for food and nutritional security or for diversifying agriculture, special steps will be taken as may be deemed fit by the competent authority.

7.1 Protection of Extant Varieties:

- > Protection of all extant varieties of university, which have not completed 15 years from the date of notification shall be taken up under the PPV&FR Act as a priority activity in a time-bound manner.
- > Registration and protection of plant varieties of field, horticultural and agroforestry crops, developed by university, which meet the essential criteria for their protection, will be obtained by them in the name of ORISSA UNIVERSITY OF AGRICULTURE & TECHNOLOGY, under the PPV&FR Act. The period for which the PPV title of the protected varieties to be maintained will depend on the actual performance/adoption of the variety. This will be periodically reviewed

by Directorate of Extension Education of university and Department of Agriculture, Government of Orissa.

- > University may also file joint applications with other collaborating Institutions /research establishments in the public or private sector for varieties which have been developed through collaborative efforts. Where the collaborator/research partner is an International agency or a foreign client, and the variety/ hybrid/ transgenic is developed in ORISSA UNIVERSITY OF AGRICULTURE & TECHNOLOGY,, the ownership and the licensing rights will be determined on mutually agreed terms. The MOU with the collaborator/partner will be executed. Other terms and conditions, and limitations of the MOU will be entered as per the mutual agreement.
- > ORISSA UNIVERSITY OF AGRICULTURE & TECHNOLOGY,shall provide all the necessary information required under the PPV&FR Act/Rules for registration of extant varieties developed by them to NBPGR. This will include the particulars required for the National Register of Plant Varieties, such as the denomination of the variety, names of breeders involved in its development, pedigree details, salient features of identity *vis-a-vis* most similar varieties, zone(s) of adaptation, performance limits under specified situations particularly for DUS traits, etc. along with a referral seed sample.
- > Authenticated seed samples of the variety will also be deposited in the active and base collections at the national gene bank at NBPGR on immediate basis. Availability of adequate quantity of nucleus/breeder seed will be simultaneously ensured.

7.2 Protection of New Varieties/ Hybrids/ Essentially Derived Varieties :

- > The Principal Investigator (PI)/ Plant Breeder will inform the Director of Research and Variety Release Committee of the University about the availability of any prospective material developed by him/her which can qualify for a new, distinctive, uniform and stable crop variety as per the requirements of the PPV&FR Act.
 1. The salient DUS particulars of the prospective varietal material along with name(s) of most similar varieties will be provided by the Pi/Breeder.
 2. In case of a hybrid, similar/appropriate information on parental lines shall also be provided by the Pi/Breeder.
 3. In case of transgenic variety, information will be provided with respect to the initial variety (and its parents), the gene sequences (including the promoters) and their source, and the transgenic events.

4. In case of seed propagated crops, the above early information will be given at least four months prior to the next crop season; after duly completing the harvest, seed processing and storage, appropriate statistical analysis and interpretation of results of the previous crop season. In case of vegetatively propagated crops like sugarcane such information will be given while the crop is still standing.

- > All elite plant genetic materials shall be got registered by concerned departments at NBPGR, New Delhi
- > The university will make necessary recommendations for registration of varieties on the basis of the following:
 1. Assessment of the potential varietal materials in the experimental plots as per given schedule.
 2. Consideration of the performance data in station and cooperative trials in the previous years.
 3. DUS parameters vis-a-vis the most similar varieties.
 4. Some extraordinary or exceptional merit seen in the varietal material, if any, based on which it can be taken up for filing PVP application at an early date.

7.3 Decision to File PPV Application : Director of Research and Variety Release Committee of the University shall evaluate and make recommendation about registration/ filing. Therefore, the basic information required for filing the PPV application as per the PPV&FR Act should be kept ready by the respective PIs/Breeders. University will thus normally prefer filing its applications for variety protection only when there is satisfaction with respect to the outcome of value for cultivation and use (VCU) of identified varieties from the AICRP trials. In exceptional cases, on a case-specific merit basis, early application can be filed by university / institutions for registration and protection of prospective varietal materials.

7.3.1 In case of new varieties and hybrids, PPV application will be filed under section 14 and that for the essentially derived varieties under section 23 of the PPV&FR Act.

7.3.2 Nucleus and Breeder Seed : The PI/Breeder will accord priority to the production/ maintenance of nucleus seed of the prospective varietal material(s) reported to the Director of Research and Variety Release Committee as candidate varieties for PPV.

7.3.3 The concerned Breeder shall take up production of breeder seed of prospective varieties, i.e., most promising varieties in advance varietal trials, one year prior to filing the application for their registration.

7.3.4 Performance Limits: All concerned breeders/scientists shall specifically provide the performance limits under each of the different environments/situations that are considered suitable for cultivation of the variety proposed for registration and protection under the PPV&FR Act. This would be necessary to avoid any uncalled for litigations/compensation for under-performance provided for in the PPV&FR Act. -

7.3.5 Maintenance of Seed/ Propagules of Protected Plant Varieties: Concerned institutions/ breeders will be responsible for the maintenance of varietal purity, and will ensure the availability of breeder seed for public supply or commercial use, as applicable.

7.3.6 Variety Registration and Protection: Director of Research and Variety Release Committee will undertake and pursue the needed steps under the PPV&FR Act/PVP law required for seeking registration and protection of plant varieties.

7.3.7 Maintenance of Title of Protection: The Director of Research and Variety Release Committee will maintain the PPV titles secured by them by payment of requisite recurrent fees to the Registrar as per the PPV&FR Act. The Directorate of Research will undertake periodical reviews and decide on further the maintenance of titles by payment of requisite fees based on (i) actual performance of variety, (ii) further licensing potential of the variety in India or abroad, (iii) potential use of the variety for further variety development programme, or (iv) any other specific/ relevant criteria considered appropriate for the purpose.

7.4 Dispute Prevention and Settlement:

In each plant breeder will be address the following matters to avoid/settle any dispute/ possible dispute.

7.4.1 Critically examine the ownership issues pertaining to the initial varieties, breeding materials, germplasm, landraces, farmer varieties, genes, events, processes used in the development of a variety/hybrid/transgenic variety. For this purpose the concerned Pis/breeders/scientists of shall maintain in their breeding programmes an inventory of genetic resources/ stocks and other IP assets belonging to the institution/others.

7.4.2 Monitor unauthorized use of a protected variety and initiating necessary action, if needed,

7.4.3 Highlight the performance limits and ranges of performance of the protected varieties in specific situations/conditions/environments, particularly for DUS parameters. Concerned PIs/ breeders/scientists shall build up and provide the necessary information.

7.4.4 Consider and discharge any liability as may be determined under the PPV&FR Act by the PVP Authority or the PVP Appellate Tribunal, or any court of law.

Mediation, reconciliation or arbitration, as appropriate, will be used as mode of dispute settlement. The arbitrator will be appointed by the Vice Chancellor.

7.5 Farmers' Rights: All matters related to farmers' rights arising in the protection of plant varieties by OUAT will be taken up/ resolved as per the provisions of the PPV&FR Act.

8. MANAGEMENT OF OTHER FORMS OF IP

For securing IPRs in forms other than patents and plant variety protection such as copyright, trade marks, geographical indications, industrial design, and others are highlighted here.

8.1 Copyright Protection

> **Copyright and Related Rights** : A copyright is an original work of authorship which has been fixed in any form of expression, such as books; computer software; sound recordings; literary, artistic, dramatic and musical works; and cinematographic films. A copyrightable work may be the product of a single author or a group or others who have collaborated on the creation of the work. The copyright protects only the form of expression of ideas, not the idea themselves. Copyright law protects the owner of against those who "copy" the form in which the original work was expressed. Unlike other forms of intellectual property, copyright vests in a work immediately upon its creation. Registration is available and is recommended at times to document the creator and the date of the creation of a work of authorship. Registration is made at the Indian Registrar of Copyrights within the Ministry of Education.¹

- > **Recognition of Copyright:** Irrespective of whether the copyright has been registered under the copyright law or not, it subsists in any original literary work, including scientific publications, popular articles, and other published material; computer programme/software database; audio/video and multimedia products, websites, material on a CD-ROM, etc., of university as well as individual works of all its scientists/innovators and other staff. Nevertheless, registration of copyright work under the Copyright Act will be its prima facie proof.
- > **Expression of Copyright,** Ownership of copyright on a publication or any other copyright work as explained above may be expressed by merely putting the symbol "©". It is more appropriate to use the word copyright along with its symbol "©", the year of publication and the name of the author.

The following specific examples are given to cite the expression of copyright notice on any one of the mentioned copyright works:

- i. On a book, only one copyright notice will be printed inside the title page as per Customary practice.

¹ The Copyright Act, 1957 as amended the Copyright Rules, 1999.

- ii. On leaflets, brochures, hand outs, etc. one copyright notice will be printed on each item,
- iii. On web pages, copyright notice will be printed on every page,
- iv. On CDs and cassettes, one copyright notice will be printed on each CD and Cassette and also on any accompanying sleeve or booklet,
- v. On photographs and designs, a copyright notice will be printed at the bottom or on the reverse of the photograph or the design work as appropriate,
- vi. On manuscripts like invited lectures or keynote addresses, a single copyright notice on the front will be normally sufficient.

It will be important to put date/year along with copyright notice. In cases of any ownership dispute or disputes for novelty (originality) of a work, the display of date may be a determining factor in establishing the claim.

8.1.1 Ownership and Claim of Copyright: ORISSA UNIVERSITY OF AGRICULTURE & TECHNOLOGY, or its scientists/ staff will hold the copyright as per the following illustrations:

- 1. ORISSA UNIVERSITY OF AGRICULTURE & TECHNOLOGY, will own copyright over its regular publications and registered copyright works.
- 2. In cases of commissioned work, in the absence of any agreement to the contrary, the ORISSA UNIVERSITY OF AGRICULTURE & TECHNOLOGY, and/or the sponsoring agency/organization will jointly own the copyright.
- 3. ORISSA UNIVERSITY OF AGRICULTURE & TECHNOLOGY, scientists / innovators / other staff can claim their individual copyright, whether registered or not, over their creations/work published by them as per rules.
- 4. Protection to post-graduate research dissertation will be provided as per ICAR Guidelines.

8.1.2 Copyright Registration: Any copyright registration shall be taken up as per the provisions of the Copyright Act.

8.2 Trade Marks

- > Registration of Trade Marks which ORISSA UNIVERSITY OF AGRICULTURE & TECHNOLOGY, feels fit will be sought under the Trade Marks Act.
- > ORISSA UNIVERSITY OF AGRICULTURE & TECHNOLOGY, will use a Trade Mark as its goodwill sign vis-a-vis I PR, for commercialization/ marketing of ICAR products/ technologies. This will have a two-fold advantage. First, with the use of trade mark by university and its licensees, marketing of the OUAT technologies can be secured from unfair competition/trade practices through free ride. Secondly, by insisting upon use of its Trade Mark by licensees,

University will also emphasize on the product quality control of its technologies/ seeds/ propagules.

8.3 Geographical Indications of Agricultural Goods :

The GI Act governs the protection of agricultural goods indicated to specific geographical territories/regions e.g. **Basmati**. Geographical indications, as a distinct form of IP are not related to ownership/ usership interest to university but can be of broader relevance. Like trade mark, GI is a form of IPR used in product marketing, represented in words, figures, graphics, diagrammatic presentations or any specific combination of these indications, but it essentially governs a collective rather than individual right that represents a specific link between goods (whether agricultural, natural or manufactured goods) and place of their production. GI is the collective intellectual property of the entire community or society or organization of the geographical region to which the good belongs. However, only the registered users can independently exploit the GI for commercial purposes. Therefore, appropriate promotion of GI registrations of important agricultural goods of specific territories will depend on both collective initiative of concerned potential beneficiaries and the government policy in notification of specific zones for particular goods. KVKs shall identify the GIs in their regions and promote for registration.

8.4 Registration and Use of Designs :

- > ORISSA UNIVERSITY OF AGRICULTURE & TECHNOLOGY, may seek Design protection for technologies involving considerations of shape (like shape of moldboard plough), configuration (like hitched implements, mounted implements) and pattern (like straight type harrow or triangular hoe) under the Designs Act.
- > A design covers only features of shape, configuration, pattern, ornamentation or composition of lines or colors applied or applicable to an article by any industrial process. The features of the design in the complete article should appeal to and are judged solely by the eye. Thus, design protection is primarily of an aesthetic nature (showcase value) and it does not protect any technical or functional features of the article to which it is applied.
- > Any new farm machine or any process equipment in prototype stage can also be registered as design if considered suitable. Its further refinements shall be updated for the same design.

9. TECHNOLOGY TRANSFER : COMMERCIALIZATION OF IP/ TECHNOLOGIES

The technology transfer/commercialization, costs and pricing of technology, and various aspects of technology licensing will be as per adopted procedure of ICAR.

9.1 Technologies:

- > The IPR enabled OQAT technologies ready for transfer/commercialization will also be given publicity through appropriate means.
- > The IPR enabled technologies will be transferred for commercial purposes with suitable understanding/agreement or contracts with the concerned parties. Specific terms of licensing can be negotiable.
- > Licenses will be case-specific non-exclusive or exclusive licenses. Appropriate joint commercialization agreements would also be entered into.
- > The university will determine the license fee and royalty and/or sale price of its IPR enabled technologies either on a fixed basis, through negotiations with the licensee, or through an open bidding process as appropriate. Expert opinion and judgment viewpoint together with the following points will be considered in determining the price/license fee.
 1. Cost of IPR protection and maintenance.
 2. Cost of production and handling.
 3. Other institutional costs as appropriate.
- > The life of an IPR enabled technology in the market will vary and so will its popularity and sales. The recurring royalties will be mainly based on these factors. Therefore, the modes of payment (license fee and/or royalty) will be on mutually agreed terms with the licensee, and flexible/determined on a case-to-case basis rather than rigid. The terms of commercialization may also be revised overtime.
- > Normally, non-exclusive licenses will be executed for technologies such as inputs (e.g. bio-pesticides or bio-fertilizers) so that these can lead to their wider adoption and thereby maximize research benefits to farmers and other end users. For non-exclusive licenses there will be flexibility in fixing the license fee.
- > When a technology is licensed through an open tendering/bidding process it will normally be given to one licensee. But depending upon the licensee' s manufacturing capacity and

size of business, other interested parties from outside the territory of his business/interest may also be considered if the technology has to be rapidly and widely disseminated. Alternately, a sub-licensing clause will be incorporated, which may require the licensee to share a part of the license fee and/or royalty from any sub-licenses that he may enter into with that technology.

- > Exclusive license will also be issued when (i) an IPR enabled university technology is to be commercialized in countries abroad, and (ii) the technology is to be disseminated in difficult areas offering low incentives. As exclusive licenses are preferential, commensurate license fee and/or royalty will be negotiated and settled on mutually agreed terms with the licensee.
- > The duration for which OUAT will issue licenses will also be negotiated with the licensee and settled on mutually agreed terms.

9.2 Commercialization of Plant Varieties :

Based on state and national priorities and issues of food and nutritional security, university may decide to place a plant variety solely in the public domain or else it may be licensed for commercial use on exclusive or non-exclusive basis. However, registration and protection of all protectable varieties will be ensured under the PPV&FR Act before placing them in public or commercial domain.

1. ORISSA UNIVERSITY OF AGRICULTURE & TECHNOLOGY, may consider any appropriate proposal for the grant of exclusive license to a private seed company or public seed agency for commercialization of its protected plant variety abroad. All such varieties of university which have commercialization potential abroad, shall be licensed under suitable arrangements/ agreement keeping in view the interest of Indian farmers and national priorities.
2. Advance breeding material or parental lines shall not be transferred/ licensed on exclusive basis. These will first be registered with NBPGR before any material transfer/licensing agreement is to be negotiated/ entered into.

9.3 Licensing of Seed and Planting Material:

Licensing : As the OUAT technologies like seed and planting/propagating material have direct impact on the productivity and production in agriculture, their transfer on priority through licensing to various seed producers and distributors shall be facilitated through licensing.

Non-Exclusive Licenses: University will provide commercial licenses, preferably nonexclusive licenses, for the commercialization of seed/planting material of registered and protected university varieties to any interested party such as the following.

1. Central and State Departments of Agriculture on national/state basis for wide dissemination, popularization and public distribution of seeds/propagules for development and cooperation.
2. Public Seed Agencies - Central and State Seed Corporations for multiplication and distribution widely.
3. Private/Cooperative seed producers on regional basis for encouraging local multiplication and promoting use of specific varieties.
4. Other contracting parties including foreign clients in seed business who may be interested in commercializing university seed/propagules in other countries. The terms and conditions of the license will include, among other things, securing protection of OUAT varieties in the respective countries by the foreign client.
 - > **Exclusive Licenses:** Exclusive licenses may be given after negotiations and on mutually agreed terms. In the license agreement for an exclusive license, a sub-licensing clause will be negotiated /incorporated so that a part of the license fee and/or royalty from sub-licenses given by the licensee is provided to OUAT. Also, negotiation will be undertaken for a time-line for re-negotiation of the license, if needed, which will be recorded in the agreement.
 - > **Public interest license:** Those technologies which have directly relates to farmers, shall be made available free of royalty.
 - > **Compulsory Denomination:** The university seed and planting/propagating material shall be licensed under only the registered denomination. The licensee will be required to print the same denomination on the label and to sell the seed/ planting material essentially under that denomination. Subsequently, it shall also not be changed by the licensee or by any third party with whom the licensee deals with in that seed.
 - > **Use of OUAT Mark:** Along with the use of registered denomination, all license holders shall be required to use OUAT Collective Mark/Trade Mark on all packets of seed/ propagules of the licensed seed. In this context if the licensee is interested to simultaneously use its own trade name in the licensed seed, the same can also be agreed to.
 - > **Seed Quality Assurance:** OUAT would provide breeder seed and will lay down the condition before the licensee to maintain the seed quality and purity.

However, it will not be responsible for the quality of subsequent lots produced and sold by the licensee. Thus, the agreement with the licensee shall also have the following clauses.

1. Assurance clause that the licensee will maintain the seed quality and genetic purity of the plant variety licensed by OUAT.
2. Disclaimer clause that OUAT will not be held responsible for the seed quality/purity of the subsequent lots commercialized by the licensee.
3. Indemnity clause that the licensee indemnifies the licensor OUAT from any legal consequences of his deals in subsequent lots of licensed seed / propagules.

1. **Joint Ownership Cases:** Varieties for which OUAT has joint ownership with SAUs or other; the joint owner will be given the first priority to use the variety for commercial purposes on mutually agreed terms.

9.4 Breeder Seed:

- Depending upon the terms and conditions of the license agreement breeder seed will be supplied by concerned institutions only once or recurrently. Subsequent agreement may also be made with the licensee for making fresh supply of breeder seed.
- University shall maintain seed purity and health of all their released / registered varieties and breeder(s) will maintain and supply the breeder seed of respective registered and protected plant varieties as per license agreements.
- Breeder seed will be provided to the licensee under the terms and conditions that the licensee (seed agency / company producing commercial seed of university varieties) will be responsible and liable for maintaining genetic purity of the seed / propagule and seed quality during the entire term of licensee and the licensor will not bear any liability for spurious seed.
 1. University shall have the right to monitor seed genetic purity of the licensee's seed lots at the cost of the licensee, which will be recorded in the licensing contract.
 2. University may provide consultancies on request to the licensees for technical opinion / assistance / advice to maintain the genetic purity and seed quality of seed / other propagules.
- A clause will be included in the license agreement to the effect that no plant variety license will be valid unless the licensee agrees to produce and distribute / sell quality seed in the respective zone mentioned in the license agreement on a regular basis " in sufficient quantities and at a reasonable price".

9.5 License Fee/Sale Price of Breeder Seed and Royalty:

The concerned departments will determine the license fee and royalty and/or sale price of breeder seed either on a fixed basis, through negotiations with the licensee, or through an open bidding process as appropriate. Expert opinion and judgment together with the following points will be considered to fix the price/license fee.

1. Cost of seeking and maintaining the plant variety right of the variety to be licensed.
2. Cost of production, handling and supply of breeder seed.
3. Other institutional costs as appropriate.

9.6 Research Exemption and Benefit Sharing :

- > There will be exemption for research use of all registered and protected plant varieties and registered genetic stocks of university.

> OUAT will consider/discharge any liability of benefit sharing that may be fixed by the PPV&FR Authority under section 26(5) of the Act.

9.7 Records and Confidential Information:

> Standard records of genetic stocks at the department along with confidential records (codes) where applicable shall be maintained in signed and countersigned notebooks/ registers.

> All confidential information, such as codes, etc., will be kept safely and would not be revealed by individuals/institutions except through confidentiality agreements which will expressly mention the purpose for sharing such information and other terms and conditions.

10. PUBLIC –PRIVATE PARTNERSHIP

Scope and Areas of Partnership: The partnership between OUAT and “for –Profit” and “not-for Profit” private sector organizations will be in all fields of agricultural and allied technologies on mutually agreed terms. The scope of public-private partnership will broadly include the following.

1. Dissemination of IPR enabled agricultural technologies.
2. Joint validation of technologies.
3. Up-gradation /incubation /up-scaling for product development/transfer of technologies
4. Mechanization of production technologies
5. Cost-effective quality production.
6. Joint exploration of local and global markets for requisite demand
7. Test marketing of new products and market development
8. Facilitating access to foreign technology
9. Training, consultancies, collaborations, contracts, education etc. in mutually identified areas.
10. Identification of other relevant areas of partnership.

Note. For enhancing collaboration ICAR guidelines will be followed