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## Intellectual Property Rights (IPR): Importance and Procedural Aspects in Natural Resource Management Research



Institute Technology Management Unit (ITMU)  
Indian Institute of Soil Science  
Nabibagh, Bhopal – 462 038 (M. P.)

**Preamble:** This publication is meant to sensitize scientists, especially those who are working in the field of Natural Resource Management on some issues of Intellectual Property Rights (IPR). The publication outlines some of the relevant IP assets and some processes or procedures that the innovator needs to follow for owning an Intellectual Property (IP).

Being the agency responsible for the promotion/development of IP assets in the Institute the ITMU (Institute Technology Management Unit) of Indian Institute of Soil Science has prepared this publication. We believe that this may motivate the scientists/innovators to protect their innovations that have already been developed as well as to orient the future line of research for the development of some IP assets.

## Intellectual Property Rights in Agriculture

Intellectual property Rights (IPRs) aim at safeguarding creators and other producers of intellectual goods and services by granting them certain time-limited rights to control the use made out of those productions. But, those rights do not apply to the physical object in which the creation may be embodied but instead to the intellectual creation as such. IPR is a general term covering Patents, Copy Rights, Trade Marks, Geographical Indications, Traditional Knowledge, Protection of Undisclosed Information (Trade Secrets), Plant Variety Protection (PVP), and Layout Design of Integrated Circuits. Two types of IPR are of primary interest in agriculture: i. Utility Patents that constitute the main forms of property rights for products of agricultural and biological research, and ii. Plant Breeders' Rights (PBR) means a patent like right extended to the breeder to protect a new plant variety for 17-20 years. This publication concentrates on some important aspects of type-I IPR that are more relevant to the research/innovations in the domain of Natural Resource Management

**Patent** is an exclusive right given by a country to the owner of an invention to make, use, manufacture and market the invention, provided the invention satisfies certain conditions stipulated by the law. A patent by the law is a property right and so, can be gifted, inherited, assigned, sold or licensed. The validity of any patent is 20 years from the date of filing in general but, it may be 5 years from the date of sealing of the Patent or 7 years from the date of filing (whichever is shorter) for an invention regarding a method/process of manufacture of a substance capable of being used as a drug, medicine or food.

**Copyright** is a right, which is available for creating/given by the law to creators of an original literary or dramatic or musical or artistic work. It gives protection for the expression of an idea and not for the idea itself. The Copyright Act, 1957 as amended in 1983, 1984, 1992, 1994, and 1999 governs the copyright protection in India. Computer programmes and software are covered under literary works and are protected in India under copyrights. The term of copyright protection is authors life plus sixty years and it gives the right to the creator of the work to reproduce the work, make copies, translate, adapt, sell or give on hire, and communicate the work to the public. Any of these activities done without the consent of the author is considered as infringement of the copyright.

**Geographical Indications (GI)** means an indication which identifies goods such as agricultural goods, natural goods or manufactured goods as originating, or manufactured in the territory of a country or a region or a locality in that territory, where a given quality, reputation or other characteristics of such goods is essentially attributable to its geographical origin; in case such goods are manufactured goods, one of the activities of either the production or processing or preparation of the goods concerned takes place in such territory, region or locality, as the case may be.

**Trademark** is a distinctive sign, which identifies certain goods or services as those produced or provided by a specific person or enterprise; may be one or combination of words, letters, numerals, drawings, symbols, three dimensional signs such as shape and packaging of goods, or colours uses as distinctive features. The initial registration of both Trade Secrets and GI shall be for a period of ten years but may be renewed from time to time for an unlimited period by payment of the renewal fees.

**Protection of Undisclosed Information:** Undisclosed information generally known as **Trade Secret** includes formula, pattern, compilation, programme, device, method, technique or process lawfully within the control of a natural person or legal person as a secret that has a commercial value. It is perhaps the most important form of protection for industries, R&D institutions and other agencies dealing with IPR though the least known to the players of IPR.

## IP Regime in Natural Resource Management

Research results in any field of technology whether processes or products which are new, inventive and industrially applicable are patentable under the Patent Act. Compared to life science research or crop science research institutes IPR opportunities are less for the natural management research institutes. Still, those patentable IP from the natural resource management research may include various microorganism based formulations like biofertilizers; genetically engineered microorganisms like bio-degraders, bio-protectants etc. and processes related to their application and use; diagnostic kits; patentable part of know-how for scaling up of research results or manufacture of commercial products etc.

**Patent on Microorganisms:** The Indian Patent Act has specific provision to get a patent for a microbiological process and also products emanating from such processes. The inventor is required to deposit the strain of a microorganism in a recognized depository, which assigns a registration number to the deposited microorganism. This registration number needs to be quoted in the patent application dealing with the microorganism.

**Copyright:** Whether registered or not ICAR's copyright exists in all its institutional creations like publications, audio-visuals, designs, computer programmes etc. and all ICAR staff have copyright over their individual scientific and/or literary works.

**Trademark/Collective Mark:** The ICAR emblem is registered as collective mark so that all the institutions under ICAR can use the same. Each ICAR institution still can register their own trademark for their respective logo/slogan or any other marks in order to differentiate their products/technologies in the commercial aspect. For instance the trademark of Indian Agricultural Research Institute 'PUSA', Indian Institute of Horticultural Research 'Arka', Central Marine Fisheries Institute 'cadalmin'; Directorate of Sorghum Research 'Eat Rite' etc. are famous along with their technologies.

**Trade Secret:** ICAR may protect those know-how from its research system that could lead to the development of a prototype/commercial product as trade secret and such trade secrets may be utilized for commercial use in the technology production chain on a 'confidentiality agreement' basis with the third party who will be interested to use the same.

### Existing IP in the Natural Resource Management Research:

1. A process for the production of blue green algal biofertilizer (IARI, New Delhi)
2. Spray chemigation of poisonous/polluting gas (CSWCTRI, Dehradun)
3. Mushroom cultivation technology using biogas slurry and straw (CRIJAF, Barrackpore)
4. Soil moisture indicator (SBI, Coimatore)
5. Data management system for AICRPS agronomy trials data (DSR, Indore-Copyright)

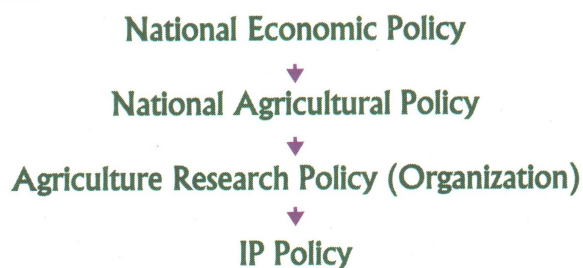
### Emerging IP in the Natural Resource Management Research

1. A multi-nutrient organic manure synthesized from high ligno-cellulosic crop residues and the process for synthesizing the same (CAZRI, Jodhpur)
2. Pusa Soil Test and Fertilizer Recommendation Meter (IARI, New Delhi)
3. USAR- An EIA Tool for managing salt affected agricultural lands and irrigation waters (IARI, New Delhi-Copyright)

## ICAR Policy in IP Management

Indian Council of Agricultural Research (ICAR) consists of institutions addressing a range of commodities, issues, resources, and stakeholders and therefore the IP policy for each institute needs to be specific to its purpose and function. The technology assets of ICAR include 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, computer software and data sets, and several other processes and products of agriculture and allied sectors.

For the management of IP created by its researchers/innovators at its institutions or elsewhere, developed with its support, and technology transfer/commercialization ICAR has developed a policy document. This document includes the ICAR Policy framework as well as guidelines for IP management and technology transfer/commercialization. ICAR ensures IPR protection of its relevant innovations as per the Indian law and in conformity with the international agreement to which India is a signatory. Like other policies the IP policy of ICAR is also a subset of other higher level policies of government of India/National Agriculture Research System (NARS). The hierarchy of IP policy of ICAR is as follows



Being a public research system ICAR needs to generate and transfer innovative technologies for the farming community and the IP policy of ICAR attempts to promote the generation of new technologies. However, ownership of IP generated within the ICAR system shall vest in the ICAR and the institutions shall not claim the IP ownership in their own names. However, the individual scientists/staff of ICAR responsible for the creation of its IP shall be recognized as the True and First Inventor/Inventors. ICAR scientists/Innovators may publish such research results of academic or public significance that do not impinge upon ICAR's interest in the protection of IP. However, they should not reveal any inventive steps in such publications and may 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. ICAR scientists/Innovators will have their own copyright over the publications authored by them as per the rules (Central Civil Service (Conduct) Rules).

If IP has generated from a research where more than one ICAR institutions involved, the IP protection normally be secured by the institution where Principal Investigator (PI) of the project was posted. Similarly, IP generated from an All India Coordinated Research/Network Project (AICRP) whose coordinating unit is located in an ICAR institution need to be protected by the institution where the AICRP Unit is located. In case the coordinating unit of an AICRP is not an ICAR institute as well as innovation generated from the research of a Krishi Vigyan Kendra (KVK) the IP protection will be done by the Zonal Technology Management Centre (ZTMC) in whose domain the AICRP unit/KVK belongs to.

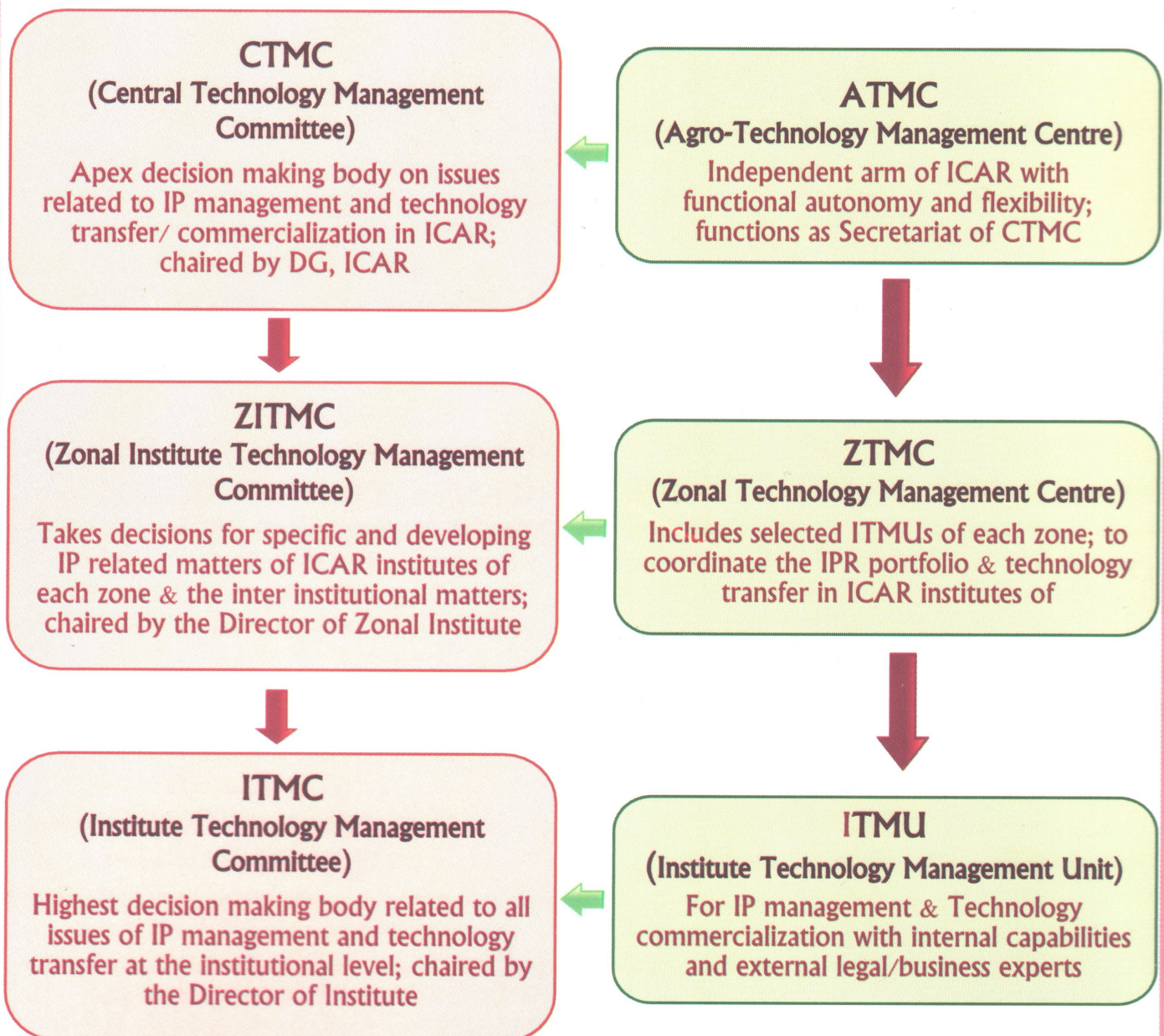
If the IP has evolved from a research where ICAR receives research funding from other public and private sector agencies, and externally funded projects IPR will be shared on mutually agreed terms with the funding agency. In case of collaborative projects where more than one partner is involved, multilateral agreement/memorandum of understanding (MoU) will be signed and implemented together with a Joint intellectual Property Management Plan (JIPMP).

## Commercialization of IP/Non-IP Technologies (Licensing)

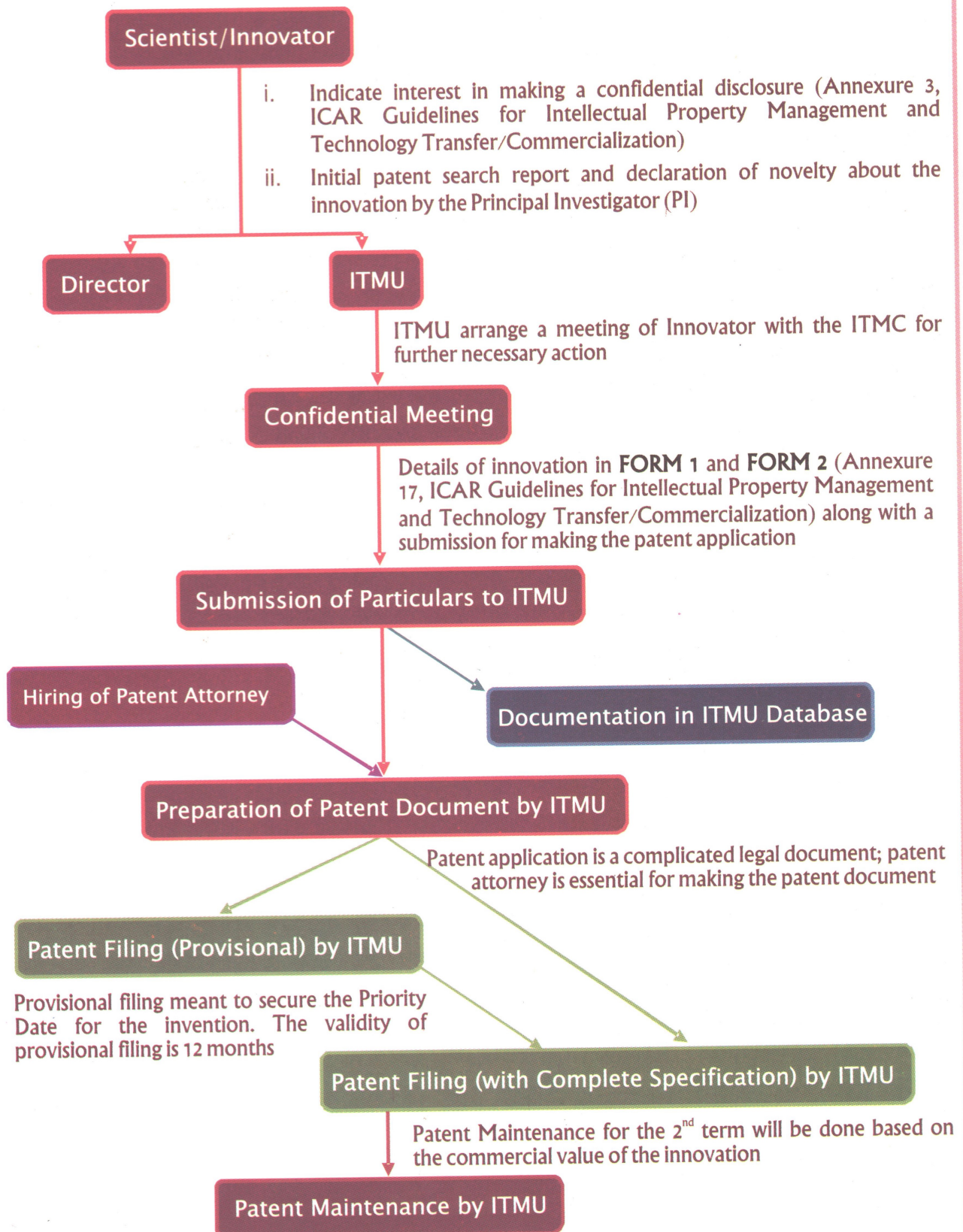
Licensing is an approach for commercializing an IP enabled/non-IP potential technology generated in the public research system. It is a permission given by the licensor (research organization) to the licensee (Pvt. Company) to commercially exploit the technology on the basis of a MoU (Memorandum of Understanding) for a certain period of time; and that would be an infringement without the license. The terms of licensing agreement are the most important aspect in the licensing process and an effective licensing strategy will minimize the risks for both parties. Licensing can be done for either long term or short term basis as a Non-exclusive agreement (allows more than one company to utilize the licensed technology) or as an Exclusive agreement (allows only one company to license the invention). The licensor will be benefited through the initial license fee as well as the royalty payment by the licensee (usually 1% to 10% of the net sales).

In the ICAR system the licensing fee and royalty rate for the technology will be fixed by the ITMC (Institute Technology Management Committee) of the respective institute based on the type of technology, commercial value of the technology, the strength of the IP associated with the technology, the profit margin for the anticipated product etc.

### Institutional Setup for the IP Management in ICAR



## Procedure of IP Management in ICAR Institutes



Published by: Dr. A. Subba Rao, Director, IISS, Bhopal

Prepared by: Sanjay Srivastava, Shinogi K.C., Hiranmoy Das, Pankaj Sharma, P. Dey, I. Rashmi, A.K. Biswas, and A. Subba Rao

Institute Technology Management Unit (ITMU), IISS, Bhopal