

Documentation of IP assets in national agricultural research system in India

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The protection of data generated out of IP exercises influences the public research priorities, investment in research, and prioritization of research agenda. Such a change may also encourage private-public collaboration to take advantage of the impressive infrastructure and HRD capability available with the public sector in the diverse areas of crop improvement.

Public good investments in agriculture face an uncertain future because of (1) increased emphasis on market mechanisms forcing publicly funded organizations to respond to broader economic opportunities; (2) tendencies to limit free exchange of germplasm for national agricultural research; and (3) changes brought about by the introduction of intellectual property rights (IPR).

A National Agricultural Research System (NARS) must take into account (1) the policy framework guiding its mission, objectives and programs, (2) its stake holders, and (3) its research scientists. The primary purpose of intellectual property ownership by NARS, however, is to promote the fundamental research mission of the institute, keeping in mind the development of products available for use by small and medium-scale farmers. Management needs to ensure that (1) ownership of intellectual property used by a research organization is respected by all who use the property, and (2) organizations are in a position to identify, secure, manage, and exploit the intellectual property that they generate.

Protected IPs can provide the researchers several options for sharing their creations with public. Depending on the need, IPs can be made freely available at no cost or with no obligations as was being done earlier. But in the post-TRIPS era, compulsions due to prevailing environment in international trade may force researchers to adopt options like selling, (which means losing control on their inventions), or transfer through licensing which gives economic benefits to the inventors. Using some of instruments to gain successes in face of competition is to be learnt and researchers need to gear up to build strong IP portfolios for research institutions and use them as “bargaining chips”. However, any exclusiveness in production and marketing will generally result in relatively high prices, which the users pay for in using or purchasing the product.

Therefore, an integral element in the protection of intellectual property is to ensure that there is a balance between the interests of the innovator and institution on one hand and the user on the other hand to harmonize development of knowledge and products. While it may be possible that all the public research intellectual assets, having commercial value, generated may have to be protected for future licensing, benefit sharing, and higher reinvestment in research. Such flow of return may provide incentive to the concerned scientists and help in encouraging their competitiveness and a general improvement in the competitiveness across the public system. Public sector can also be equally successful as much as the private sector in acquiring special capability and expertise through mutual agreements. Public research can match and compete with the private sector by streamlining its research management to enhance efficiency, speed and competitiveness. Such a change may also encourage private-public collaboration to take advantage of the impressive infrastructure and HRD capability available with the public sector in the diverse areas of crop improvement. In this paper we discuss the database types as instruments that need to be protected for the benefit of public research system to harness the fruits of research investment in agriculture.

Identifying intellectual property assets at institute level

1. Biological resources

- 1.1 Varieties
- 1.2 Hybrids
- 1.3 Parental lines (A and B, R lines)
- 1.4 Pre-breeding materials at various stages of development
- 1.5 Germplasm
- 1.6 Plants
- 1.7 Cultures
- 1.8 Microorganisms

2. Data book

2.1 Field book

- 2.1.1 Details of experiments
- 2.1.2 Details of staff contributing
- 2.1.3 Detailed layout
- 2.1.4 Data on observations
- 2.1.5 Details of data recorder

- 2.1.6 Details of data verifier
- 2.1.7 Details of data feeder

2.2 Lab book

- 2.2.1 Details of experiments
- 2.2.2 Details of staff contributing
- 2.2.3 Detailed procedure of the analysis with reference
- 2.2.4 Data on analysis
- 2.2.5 Details of sample analyser
- 2.2.6 Details of data verifier
- 2.2.7 Details of data feeder

2.3 Resource data book

- 2.3.1 Genetic resources in medium-term storage (MTS-I)
- 2.3.2 Varieties, hybrids & parental line stock in (MTS-II)
- 2.3.3 Breeders, trials and nursery material (MTS-III)
- 2.3.4 Plants in glass-house I (all scientists use)
- 2.3.5 Plants in glass-house II (Transgenic)
- 2.3.6 Plants in glass-house III (DUS)

2.4 Other data book

- 2.4.1 Pedigree management system
- 2.4.2 Elite breeding stocks
- 2.4.3 Area, production and productivity
- 2.4.4 Farmers survey
- 2.4.5 Industrial survey

2.5 AICSIP data book

- 2.5.1 Trials and nursery
- 2.5.2 Discipline-wise experimental data
- 2.5.3 Material sharing
- 2.5.4 Status of genetic resources/material generated

3. Photographs

- 3.1 Indoor photographs with proper label
- 3.2 Outdoor photographs with proper label

4. Publications

4.1 Public

- 4.1.1 Research articles in national and international journals
- 4.1.2 Papers presented in conferences
- 4.1.3 Technical bulletins
- 4.1.4 Manuals
- 4.1.5 Books or book chapters
- 4.1.6. Popular articles
- 4.1.7 Pamphlets
- 4.1.8 Newspaper items
- 4.1.9 Radio talks
- 4.1.10 Posters
- 4.1.11 Videos

4.2 In-house restricted circulation

- 4.2.1 Details of experiment
- 4.2.2 Results of experiments
- 4.2.3 Discipline-wise annual reports

5. Project reports

5.1 ICAR projects

- 5.1.1 RPF I: Project proposal
- 5.1.2 RPF II: Annual progress
- 5.1.3 RPF III: Final report

5.2 Externally funded projects

- 5.2.1 Project proposal
- 5.2.2 Half-yearly/Annual progress report with Statement of expenditure

5.2.3 Final report

6. Institute/AICSIP reports

- 6.1 Annual report
- 6.2 Newsletter
- 6.3 Sorghum news
- 6.4 AICSIP – discipline-wise annual progress report
- 6.5 Project coordinators report
- 6.6 Public-private partnership report

7. Technology

- 7.1 New process and procedures
- 7.2 New technology
- 7.3 Modified technology
- 7.4 Adopted technology from farmers

8. Evaluation & monitoring/ Field visits

- 8.1 ICAR/SRC/RAC/QRT/IMC officials visit for showing progress
- 8.2 Scientists visit for selection
- 8.3 Farmers visit for demonstration
- 8.4 Front-line demonstrations

9. Institutional activity

- 9.1 Germplasm exchange
- 9.2 Breeders seed production
- 9.3 Distinctness Uniformity and Stability test

10. Personal evaluation

- 10.1 Annual assessment report
- 10.2 Six-monthly report on targets and achievements for DG
- 10.3 Self-appraisal report for CAS

Managing intellectual property assets at institute level

1. Clarifying institutional roles

Relating legal status of the institute to relevant legal frameworks, regulatory regimes and stakeholders

- Institutional policies: Assembling and using an IP portfolio, includes how research is conducted, and its publication and disclosure
- Clarifying opportunities available for scientists between research financed for/by commercial sector versus that disseminated as public goods
- Develop cost calculations and records for IP

2. Identifying IP

- Promoting general awareness and understanding of the importance of IPRs
- Conducting an inventory of IP used in the institute
- Disclosing IP generated to the research liaison officer

3. Securing ownership

- Introducing IP rules as a part of contracts for research staff and visitors
- Obliging the disclosure of IP generated by researchers
- Attending to the registration of IPRs

4. Managing IP

- Liaison with IP suppliers
- Policing licensed IPRs
- Integrating IP policy with institute's mission to benefit expected end-users
- Instructing researchers as "expert witness" in case of infringement or other inquiries

5. Technology transfer and marketing IP

- IP evaluation
- Liaison with IP exploiters (industry and commerce)
- Developing IP agreements (license and material transfer agreements-MTAs)
- Formulating a remuneration strategy

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