

REPORT ON THE WORKSHOP
Costa Rica,
23-24 September 1999
IDENTIFYING THE NEEDS FOR
MANAGING INTELLECTUAL PROPERTY
IN LATIN AMERICA

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Report on the Workshop “Identifying the Needs For Managing Intellectual Property In Latin America”

1. Introduction and Rationale

Biotechnology has become an important tool for agricultural research. Intellectual Property Rights (IPR) for biotechnological outputs has undergone changes in the last decades. It is important that the national agricultural research systems are situated in this new environment, which will influence greatly and shape many of the policies and decisions to be taken. The impact, positive or negative, in a developing country agricultural system provoked by changes on the intellectual property protection systems, is a subject which cannot be ignored.

For these reasons, in the current five-year plan (1998-2002) of ISNAR's Biotechnology Service (IBS), intellectual property is considered a relevant topic to study the options and implications for the agricultural research systems in relation to national political decisions on IPR and biotechnology. The aim is to offer assistance to the political decision-makers and to research center directors, who must determine the implications of the worldwide context for their own agricultural research systems.

Latin America was chosen as a model for developing a study on the use of biotechnological inputs used in research in selected national agricultural research systems. The countries selected were Mexico, Costa Rica, Colombia, Brazil, and Chile. The study is called “The Use of Proprietary Biotechnology Research Inputs at Selected Latin American NAROs.” The main findings of this study are:

- Extensive use of proprietary biotechnology inputs was found among the national agricultural research organizations (NAROs) surveyed.
- Lack of knowledge in administrative and academic divisions of the NAROs regarding IPR in biotechnology agriculture.
- High expectations for the production and intellectual property protection of final products from the research done in the NAROs.
- 53% of the proprietary technologies and materials and materials are acquired by informal means.
- In the categories of selection markers and transformation systems, around 25% of the applications of the protected technologies are used under international informal collaboration.

Following the study, ISNAR has initiated a comprehensive project on intellectual property rights to be conducted in Asia and Latin America. This project has two main parts, which are interrelated: (i) Assessment of the use of proprietary technologies in selected South East Asian NAROs, and (ii) Service to Latin American NAROs regarding to proprietary technology. The project will provide a research study, reports and case studies on services, and a new set of information that will be valuable for NAROs of other countries and regions.

The main objective of the service to Latin American NAROS component is to consult with selected NAROs regarding R&D activities with implications for managing proprietary technology. To fulfill this objective, the next step is to discuss the results of the study and analyze NAROs' needs on intellectual property with selected Latin Americans scientists.

2. Objectives

The main objective of the workshop was to identify NARO's needs for managing intellectual property rights.

The specific objectives were to:

1. Review in details the study's findings and recommendations.
2. Assess implications of IPR related developments.
3. Assess needs of each institution's situation.
4. Identify future case studies in the management of IPR and review of case-study approach.

3. Methodology

With the support of the Training Unit, a module was prepared based on the results of the study "The Use of Proprietary Biotechnology Research Inputs at Selected Latin American NAROs." The module was designed to assess the needs of the management of IPR, and followed the workshop program. This was the first time that a module on IPR needs assessment was tested on the field.

The method applied in the workshop was participatory, which include a series of dynamic group exercises. In order to conduct the exercises, the concepts of knowledge, attitude, technical and management needs were introduced.

4. Participants

The participants were five senior scientists from Brazil, Costa Rica, Mexico, Chile and Colombia who have participated in the implementation of the survey for the study and have managerial, technical and IPR management responsibilities in their research institutions (list of participants in Annex 1).

5. Program of Workshop

The program of the workshop covered the following sessions (i) Presentation and discussion of the Results of the Study: "The Use of Proprietary Biotechnology Research Inputs at Selected Latin American NAROs", (ii) Analysis of the Legal framework in Latin America, (iii) Analysis of Problems identified in the study, (iv) Identification of Practitioner Needs for solving the Problems identified in the study, (v) Priorization of Practitioner Needs, (vi) Identification and Priorization of Organizational Restrictions, (vii) Presentation and Discussion of Prioritized Needs, (viii) Action Plan and Follow-up, (ix) Discussion and Identification of Potential Case studies for managing IPR (criteria and approach were presented and discussed), (x) Evaluation of the event (program in Annex 2).

6. Results of workshop

The results of the workshop are going to be presented following the workshop program.

6.1 First Part: Identifying Needs

Presentation of Study (session 1). The results of the study “The Use of Proprietary Biotechnology Research Inputs at Selected Latin American NAROs” were presented and discussed (a summary of the study is in Box 1). The participants were impressed with the findings and agreed with the recommendations of the study. There was a very active discussion and they provided comments to the study in order to finalize it.

Box 1. Summary of the Study “The Use of Proprietary Biotechnology Research Inputs at Selected Latin American NAROs”

During the past decade, the world’s economy has undergone changes, with movement towards a more global economy, liberalized markets and free trade agreements between countries and between trade blocks. With the internationalization of the economy and the advent of free market agreements, the subject of intellectual property rights became a topic of obligatory discussion and negotiation in free market agreements worldwide. Under this environment, research organizations need to (i) analyze the possibilities to access new technologies or products and under what conditions, and (ii) the possibility of the protection or adaptation of technologies and products developed by the research organization itself.

The main purpose of this study is to make a diagnosis of the use of some biotechnological inputs in the agricultural research systems of some selected Latin American countries: Mexico, Costa Rica, Colombia, Brazil, and Chile. A survey was conducted on 13 NAROs on the application of proprietary research inputs and prospects for generating proprietary products from these inputs. In total 34 different technologies and materials as well as 388 specific applications of proprietary research were reported.

The main findings of this study are:

- Extensive use of proprietary biotechnology inputs was found among the NAROs surveyed.
- Lack of knowledge in administrative and academic divisions of the NAROs regarding IPR in biotechnology agriculture.
- High expectations for the production and intellectual property protection of final products from the research done in the NAROs.
- 53% of the proprietary technologies and materials are acquired by informal means.
- In the categories of selection markers and transformation systems, around 25% of the applications of the protected technologies and materials are used under international informal collaboration.

Those findings lead to the following recommendations.

1. A combination of legal, scientific and technical guidance should be provided to help them address intellectual property rights concerns in a systematic way and in accordance with worldwide circumstances. Such guidance should be provided through collaboration with regional and international expertise.
2. Specific regulations and policies are needed for the centers in order to:
 - deal with intellectual property issues regarding third party biotechnological outputs
 - deal with intellectual property issues in regards to products and technologies developed by the NAROs
 - provide guidelines and motivation to their researchers
 - avoid potential legal conflicts
3. When defining policies and scenarios for the NAROs it is helpful to distinguish between recommendations for the more academic oriented institutions and the ones needed for the more applied institutions.

Analysis of Legal Framework (session 2). After presenting and discussing the results of the study, the participants conducted an exercise to analyze the legal implications on research activities by discussing the advantages and disadvantages of the legal framework related to intellectual property in each of the five countries. A review and analysis of the legislation related to IPR of each selected Latin American country was conducted in the study, and the result was Table 1. This table provides a legal interpretation of the possibility of protecting and the type of protection granted for biotechnology products in each selected country. Each participant has selected three biotechnology outputs from Table 1 (e.g., discovery, plants, and so on) and analyze them with respect to the legal framework of his or her country.

Table 1. Protection of biotechnological outputs in several Latin American laws

	Discovery	Biological Process	Transgenic Plants ^b	Plant Varieties ^c	Animal Breeds	Micro-organisms	Genes
Mexico	No	No	Yes	Yes	No	Yes ^c	(?) ^a
Costa Rica	No	No	No	No	No	(?) ^a	(?) ^a
Colombia	No	No	Yes	Yes	No	(?) ^a	(?) ^a
Brazil	No	(?) ^a	No	Yes	No ^d	Yes ^c	(?) ^a
Chile	No	(?) ^a	(?) ^a	Yes	No	(?) ^a	(?) ^a

No: There is no protection

Yes: There is protection

a: (?) National regulations are not clear but it is not patented

b: Genetic modification

c: By UPOV: Union Internationale pour la Protection des Obtentions Végétales — International Union for the Protection of New Varieties of Plants

d: Referring to animals and not animal breeds

Then in a discussion the results of the exercise were as follows (the complete results of this session are in Annex 3),

- When the outputs were not protected by the legal regulations (such as discoveries, animal breeds, in some countries: transgenic plants, plant varieties and biological procedures), the scientists indicated that the main advantage was the freedom of using and accessing the knowledge. But at the same time the main disadvantage was the lack of incentives to promote innovation.
- In the case where the outputs were protected by the legal regulations (such as transgenic plants, plant varieties and microorganisms in some countries), the participants expressed that the main advantages were the promotion to biotechnology research and the protection to investments. The main disadvantages were the existence of more competition (open market) and limitation to access leader races.
- There were many outputs that were not clearly protected by laws, such as genes and in some countries biological procedures and transgenic plants. The scientists mentioned that an advantage of this situation was that they could have access to material for their research applications such in the case of micro-organisms. However, they also indicated that there are more serious disadvantages such as the lack of protecting the final output and confusions about the implementation of the law.

This session helped the scientists to understand the implications of the legal framework in their research activities. For this reason, it was concluded that it is critical to educate research leaders and policymakers to set up a legal framework that promotes the innovation in the countries.

Identifying Problems (session 3). The objective of this session was to identify if the problems identified in the referred study are of knowledge or attitude. The problems identified are listed in Table 2. The concepts of knowledge (i.e. acquisition of skills and

Table 2. List of Problems Identified in the Study “The Use of Proprietary Biotechnology Research Inputs at Selected Latin American NAROs”

Problems	Knowledge	Attitude
1. The researchers are not familiar with the implications that proprietary technologies have for their research activities	✓	
2. Significant lack of knowledge of the fact that used technologies are protected in developed countries	✓	✓
3. Significant lack of knowledge of the means of protection of proprietary technologies (e.g. patents, plant variety rights).	✓	
4. Extensive use of material transfer agreements (ATM) without knowledge of implications and restrictions.	✓	✓
5. The researchers do not realize potential difficulties involved with the dissemination of the final product of their research that implicates proprietary technologies.	✓	✓
6. A high expectation of generation of products and their protection exists despite the lack of knowledge of the subject (i.e. intellectual property).		✓
7. The research and transformation of plants (i.e. intellectual property) do not necessarily respond to systematic criteria defined by institutional policies.	✓	✓
8. None of the selected institutions possess an adequate institutional or legal framework to undertake matters related to intellectual property.	✓	✓
9. No assistance exists on the part of the institution to the researchers to undertake matters related to intellectual property.		✓
10. The general perception is that researchers do not have an in-depth knowledge of the subject (i.e., intellectual property), that they have erroneous and confused beliefs, and moreover a lot of them see the issue as an obstacle to their research work		✓
11. There is a certain inclination of the researcher to perceive intellectual property as an obstacle		✓
12. The researcher has a contradictory perception of intellectual property as an obstacle and at the same time (s)he wants to protect his/her innovation		✓

13. The lack of policy and regulations in this matter (i.e., intellectual property) is evident, as well in proprietary technologies and products that come from outside, as of the ones that leave the research centers.	✓	✓
14. The lack of coordination in the use of proprietary technologies was obvious, in a first instance between institutions of the same country and even between researchers of the same institution.		✓
15. There is no perception of future problems that institutions will face with their research projects.	✓	✓
16. High incidence of collaborative arrangements without neither formal contractual arrangements nor regulations in matters of intellectual property.	✓	✓

abilities) and attitude (i.e, related to change of culture) were introduced to the participants to develop the exercise. After discussing the types of problems, the group agreed on the following results stated in Table 2.

Some of the problems are easily identified as knowledge or attitude but about half of them are both. For this reason, in this session it was concluded that it is important to acquire knowledge on intellectual property (for example, through training) but also it is critical to understand that intellectual property issues generate a change of culture in the scientific community. Thus, IPR issues require changes in both dimensions: acquisition of knowledge and a cultural change.

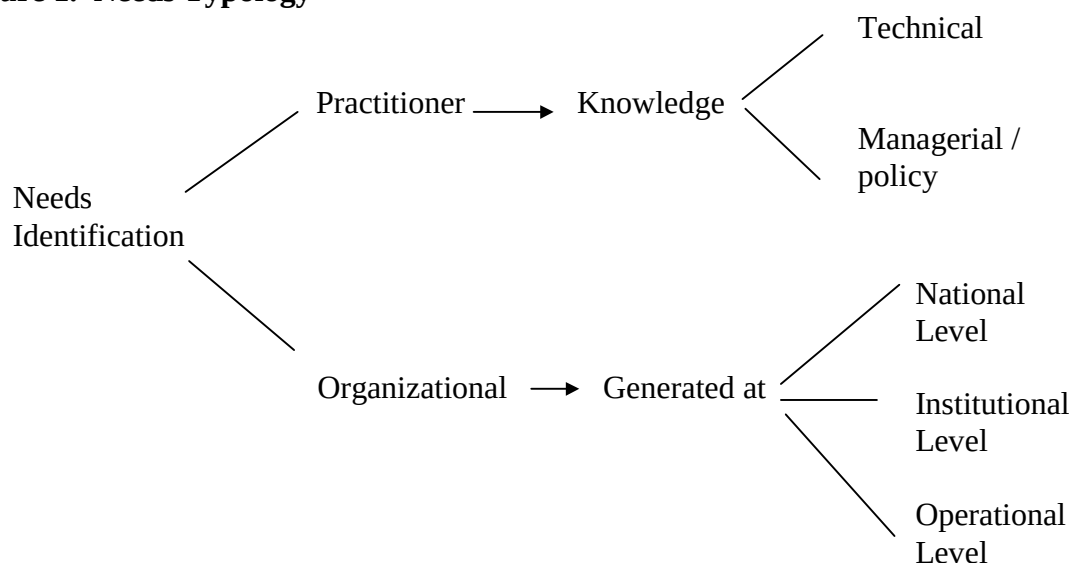
This session was the basis for the rest of the sessions (4, 5 and 6) of the first part of the workshop.

Identifying and Prioritizing Practitioner Needs (sessions 4 and 5). Practitioner is defined as the individual (mainly scientists and IPR manager) who is a user of IPR. The objectives of these two sessions were to (i) discuss and list practitioner needs (i.e., what kind of knowledge is needed to solve the identified problems in Table 2); (ii) identify the characteristics of the practitioner needs (i.e., technical or managerial/policy); and (iii) prioritize the practitioner technical and managerial/policy needs. It is important to highlight that the identified and prioritized need can be also translated to recommended actions.

Before the results of sessions 4 and 5 are presented, it is noteworthy to mention that one of the objectives of the workshop was to identify practitioner and organizational needs (as shown in Figure 1). “Practitioner needs” refer to what kind of knowledge scientists need in order to provide a solution of the problems identified in the referred study. The practitioner needs are classified in technical (i.e., acquisition of skills and abilities) and managerial/policy (i.e., related to decision-making on planing, formulation of regulations, among others). This is what the participants worked on in sessions 4 and 5. The identification of organizational needs were conducted in session 6, and will be discussed later.

In this part of the workshop, the participants were asked individually to select five problems from Table 2 and provide two needs or recommended actions (i.e., what kind of knowledge is

Figure 1. Needs Typology



needed to solve the problems) for each one. Then, the participants had to indicate, individually, the type of the need (i.e., technical or managerial/policy). After each participant had selected the problems, identified the needs and discussed among the participants the needs, the group generated two lists of needs: one for the technical and for managerial/policy needs (the two lists are in Annex 4).

From these two lists, the participants prioritized the seven more important technical needs and the five more important managerial/policy needs. Tables 3 and 4, respectively, presented the group results of the priority exercise on individual needs.

Table 3. Priorities of Technical Needs

Needs	Score	Ranking
Access to detailed information on proprietary technologies used by NARO's programs (e.g. a directory including owner, scope of protection of the patent, expiration dates, countries, sources, dates, and databases).	21	1
Training on licensing for IP Units.	18	2
Access to a friendly-user manual with information on countries IP regulations.	13	3
Legal support for contracts management and for the implications of the license and use of proprietary technologies.	11	4
Training for researchers on the basics of IP (concepts, legal aspects, licensing, and technology transfer).	9	5
Technical support for the economic evaluation of products of biotechnology (e.g. return for investment, technology fees, royalties).	8	6
Access to model contracts and their practical applications.	5	7

Table 4. Priorities of Managerial/Policy Needs

Needs	Score	Ranking
Promote/support the creation of institutional IP Units.	22	1
Promote/motivate the development of an institutional IP policy/strategy.	20	2
Promote the introduction of IPR parameters during the research planning.	14	3
Promote the institutional negotiation of proprietary assets licensing.	9	4
Introduce new criteria for the management of information related to proprietary technologies in research institutes (e.g. confidentiality, timing of publication, relationship with students)	5	5

It is worthy to note that the participants prioritized the need to access to information on proprietary technologies for their research activities; to understand the basics on intellectual property; to have legal and economical assistance for evaluating the implications and alternatives in intellectual property; to introduce intellectual property policy or strategy; and to consider intellectual property in the research planning phase.

Identifying and Prioritizing Organizational Constraints (session 6). After analyzing and prioritizing the practitioner needs, the objectives of this session were to identify the organizational restrictions at national, institutional and operational (implementation) level, to provide some recommendations, and to prioritize the identified constraints (see Figure 1).

In this session, the participants were asked individually to identify two restrictions and their recommendations to solve them at national, institutional and operational level. After each participant had identified the constraints and discussed among the participants them, the group generated three lists of restrictions: one at national level, another at institutional level and at operational level (the three lists are in Annex 5).

Then the participants prioritized the three more important organizational restrictions at each of the three levels. Tables 5, 6 and 7, respectively, presented the group results of the priority exercise on organizational constraints.

Table 5. Priorities of Organizational Restrictions at National Level

Restrictions	Score	Ranking
Lack of specific definitions under the existing legal framework (e.g. discovery versus invention when related to natural occurring organisms and natural processes, scope of modifications in genes) and knowledge on the interpretation of those definitions in other countries.	10	1
Lack of awareness and information of IP by policymakers and researchers.	4	2
Lack of governmental support to National IP Offices (lack of infrastructure and personal).	3	3

Table 6. Priorities of Organizational Restrictions at Institutional Level

Restrictions	Score	Ranking
Lack or limited development of IP Unit (e.g. to handle tech transfer, licensing, institutional negotiations, training, protection of assets-cultivars, processes and products of research).	8	1
Lack of clear policies related to internal and external use of proprietary assets (e.g. licensing in and out).	5	2
Lack of economic studies to support the licensing in or the protections of technologies and products.	4	3

Table 7. Priorities of Organizational Restrictions at Operational Level

Restrictions	Score	Ranking
Lack of training on operative aspects of IP (patenting, plant protection, prosecution, and liability).	7	1
Lack of financial support to implement IP strategy/policies/regulations.	6	2
Access to general and specific information on proprietary assets (e.g. owner, scope of protection of the patent, countries, sources, dates, and databases).	4	3

6.2 Part II: Identifying Potential Cases in Managing Intellectual Property. As indicated above, one of the main activities of the service to Latin American NAROS component of the comprehensive project is to identify and conduct two in-depth case studies on two selected NAROs to document in detail implications for accessing proprietary technology and managing intellectual property. The objectives of the second part of the workshop were to (i) introduce and justify cases on managing IP, (ii) discuss the criteria for selecting cases and topics for the cases, and (iii) discuss potential cases and collaboration for developing them.

The main objective of the cases is to show from practical point of view strategies and paths to manage intellectual property, in other words show best practices in the management of IPR in agricultural biotechnology research. It was introduced and discussed among the participants the selecting criteria for the cases:

- Transgenic or No transgenic plant
- Specific (practical) or General (regulatory change)
- Finalized (already patented) or in Progress (patenting)

The participants agreed with the selecting criteria but they suggested that cases should be more oriented to transgenic products, practical and successful cases.

It was also presented and discussed among the group the potential topics for the cases:

- Implications on the dissemination of final product generated with proprietary technologies.
- Protection of the innovation (e.g, patents, plant breeder rights)
- Development and licensing plant varieties.
- Implications in the change of the regulatory framework.

After discussing the selecting criteria and potential topics for the cases, the participants identified and suggested some potential cases:

Transgenic Rice. Researchers at the University of Costa Rica are using proprietary technologies and negotiating licenses for the development of a transgenic rice resistance to white leaf virus. This case has the potential to study the implications on the dissemination of the final product generated by proprietary technologies.

Transgenic Plantain. The Colombian Corporation of Agricultural Research (CORPOICA) has developed a transgenic plantain that is a staple good. CORPOICA has used proprietary technologies and also has elaborated its own technologies for the generation of the transgenic plantain. At this time, the product is under biosafety test. In addition, the technology developed in this research project could be useful for banana (an export commodity). This case could cover the implications of using proprietary technology, the benefits for using biotechnology for marginal farmers, and the research spillovers to an export commodity.

Transgenic Pine. Although a representative of the research team that is working on the transgenic pine was not present at the workshop, the possibility of using that case was mentioned due to the probable success on managing licenses for proprietary technologies. The transgenic pine is being developed as part of a consortium of European institutions with La Universidad Católica of Chile.

UPOV 91. A more general case was suggested to study what technical criteria is necessary to help developing countries to decide to adopt UPOV 91. It was also discussed that this kind of case will be more on the scientific side than on the management of IP.

Use of proprietary technologies. Studies on the use of the biolistic gun and the coat protein gene technology in Latin America were suggested to show the different uses of these technologies and identify dissemination implications for the products developed by them. These cases would involve the five countries that participated in the referred study.

The participants agreed to identify more potential cases after discussing with their colleagues at their research institutions.

It is important to mention that the group was very supportive for the development of the cases, and expressed the importance of the cases for the research institutes.

7. Conclusions

At the end of the workshop, the participants were asked to complete an *Action Plan* based on the workshop content, and participants return to their job and begin to implement their various action items. Follow up identifies the transfer of new knowledge, attitudes and skills generated in the workshop on participants, their organizations, and possibly, on their national systems.

The main actions that the participants mentioned to be conducted in the short term (within the next two months of the workshop) are:

- Prepare a report of the results to the workshop (i.e., the results of the priority setting of the needs) to their heads of their institutions.
- Prepare a brief report to make researchers aware of their own institutions of the relevance of the topic (i.e., intellectual property) and ISNAR activities and potential collaboration.

The main actions indicated from the participants to be carried out in the long term (after the next two months of the workshop) are:

- Prepare a strategic action plan (with the legal unit) to incorporate intellectual property criteria in the planning of the institution.
- Organize an intellectual property workshop either at national or regional level.
- Conduct an intellectual property inventory in the research centers.
- Set up an intellectual property advisory group for high-level management.
- Analyze the progress of the establishment of an intellectual property unit at the research institution.
- Keep in touch with ISNAR to check on the development of planned activities and priorities (from theory to practice).

The participants also completed an *Evaluation* form at the end of the workshop. The participants indicated that the objectives of the event were fulfilled. They also mentioned that it was very useful to prioritize the identified needs in order to have concrete and tangible results. They appreciated the open and productive discussion along the event. It was suggested to extend the workshop at least 3 or 4 hours for more chance of discussion and to provide some internet links related to the topic before the event.

Annex 1: List of Participants

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Dr. Cesar Falconi
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Annex 2: Program “Identifying the Needs for Managing Intellectual Property”

Day One

08:30 a.m. – 09:00 a.m.	Welcome
09:00 a.m. – 09:30 a.m.	Introduction - Introduction to the Workshop: Objectives, schedule - General Information of Day One - Interactive Exercise
PART I: Identification of Needs	
09:30 a.m. – 10:00 a.m.	Session 1. The Results of the Study: The Use of Proprietary Biotechnology Research Inputs at Selected Latin American NAROs. (presentation, exercise y plenary discussion)
10:00 a.m.– 10:15 a.m.	Pause
10:15 a.m. – 11:00 p.m.	Session 2. Protection to Biotechnological Inputs: Analysis of Legal Framework of five Latin American Countries (exercise and plenary discussion)
11:00 a.m. – 12:00 p.m.	Session 3. Analysis of Problems Identified in the Study: Identification of Knowledge and Attitudes
12:00 a.m. – 01:00 p.m. Lunch	
01:00 p.m.– 02:30 p.m.	Session 4. Identification of Practitioner (Scientist) Needs to solve Problems Identified in the Study (exercise and brainstorming)
02:30 p.m.– 03:00 p.m.	Session 5. Priorization of Practitioner (Scientists) Needs (exercise)
03:00 p.m.– 03:15 p.m.	Pause
03:15 p.m. – 05:15 p.m.	Session 6. Identification of Organizational Constraints at National, Institutional and Operational Level (exercise and brainstorming)

Day Two

08:30 a.m. – 09:30 a.m. **Session 7. Presentation of Prioritized Needs**
(plenary discussion)
Action Plan: Follow-up of Results (PAPA)

PART II: Cases of Managing Intellectual Property

09:30 a.m. – 10:30 a.m. **Session 1. Presentation of Criteria for Elaborating Cases of Managing Intellectual Property**
(plenary discussion)

10:30 a.m. – 10:45 a.m. Pause

10:45 a.m. – 12:00 a.m. **Session 2. Identification of Cases**
(plenary discussion)

12:00 a.m. **End Workshop**

Annex 3: Results of the Analysis of the Legal Framework in the Five Countries

Discovery

Advantage		Disadvantage	
1. Free use of knowledge	No	1. Lack of incentives for application	No
2. Free distribution	No		

Genes

Advantage		Disadvantage	
1. Free use of knowledge	Yes	1. Competence	Yes
2. Free access	?	2. Protection	?

Biological Process

Advantage		Disadvantage	
1. Incentive for national innovation	Yes	1. More competition (open market) 2. Unclear concept (define)	Yes Yes
2. Ethical questions	No	3. Slows down innovation	No

Micro-organisms

Advantage		Disadvantage	
1. Free access of material (e.g., strains) for research applications	?	1. Impossibility to protect final product 2. Unclear concept	? ?

Transgenic Plants

Advantage		Disadvantage	
1. Protection of investment 2. Support of biotechnological research	Yes Yes	1. Lack of control of manipulation by thirds	Yes
3. Lower prices of genes not patented within short time	No	2. No support for research 3. Constrains for getting resources	No No

Animal breeds

Advantage		Disadvantage	
1. Stimulates research and access	No	1. Does not incentive traditional breeding	No

Plant Varieties

Advantage		Disadvantage	
1. Incentive for development	Yes	1. Limitation of access to main crops	Yes
2. Stimulates link between biotechnology research and its application.	Yes		
3. Free interchange of genetic material, including farmers	No	2. Disincentive for the breeder	No

Note:

Yes: It is protected in legal framework

No: It is not protected in legal framework

? : It is not clear whether it is or not protected in legal framework

Annex 4: Practitioner (Scientist) Needs Identified for Managing IP

Technical Needs:

1. Access to model contracts and their practical applications.
2. Legal support for contracts management.
3. Information on new technologies and their IP implications.
4. Access to organizational models for IP Units/Offices (operational structure).
5. Access to a friendly-user manual with information on countries IP regulations.
6. Access to detailed information on proprietary technologies used by NARO's programs (e.g. a directory including owner, scope of protection of the patent, expiration dates, countries, sources, dates, and databases).
7. Access to a manual with information on how to best obtain results on patent databases.
8. Training on licensing for IP Units.
9. Develop of in-house technologies (national laboratories) - more freedom to operate.
10. Execute audits on proprietary technologies in use by NARO's to define the implication on final products.
11. Access to a model MTAs that cover possible commercial uses of research products.
12. Legal support on the implications of the license and use of proprietary technologies.
13. Training for NARO's lawyers and support personal on basic aspects of biotechnology as linked to IPR applications.
14. Develop technical criteria necessary for implementing regulations or policies (e.g. UPOV standards for different species, GLP protocols and OECD standards for laboratory quality control, data recording for patenting requirements).
15. Training for researchers on the basics of IP (concepts, legal aspects, licensing, technology transfer).
16. Technical support for the economic evaluation of products of biotechnology (e.g. return for investment, technology fees, royalties).

Managerial/ Policy Needs

1. Motivate/support the formulation of a central policy of IP related contracts.
2. Motivate/support participation in national and international IP fora.
3. Promote the introduction of IPR parameters during the research planning.
4. Promote/support the harmonization between the design of IP policy and the needs of biotechnology research programs.
5. Promote/support the creation of institutional IP Units.
6. Promote the institutional negotiation of proprietary assets licensing.
7. Promote / motivate the development of an institutional IP policy/strategy.
8. Promote priority setting/review of biotechnology programs taking into consideration IP implications and its implementation.
9. Motivate the creation of specialized discussion groups for the exchange of ideas, problems, experiences in the IP field (e.g., national, regional and international networks).
10. Introduce new criteria for the management of information related to proprietary technologies in research institutes (e.g. confidentiality, timing of publication, relationship with students).

Annex 5: Organizational Constraints Identified for Managing IP

At National Level

1. Need to elaborate a country's position for international fora (e.g. plants breeders rights: none versus UPOV 78 versus 91; Patents – applied to microorganisms, genes, biotech processes – leading to 2002 TRIPS review).
2. Lack of governmental support to National IP Offices (lack of infrastructure and personal).
3. Lack of IP strategy in national and international fora.
4. Lack of specific definitions under the existing legal framework (e.g. discovery versus invention when related to natural occurring organisms and natural processes, scope of modifications in genes) and knowledge of the interpretation of those definitions in other countries.
5. Lack of awareness and information of IP legal framework by researchers.
6. Lack of IP legislation, in some countries.
7. Lack of awareness and information of IP by policymakers.

At Institutional level

1. Lack or limited development of IP Unit (e.g. to handle tech transfer, licensing, institutional negotiations, training, protection of assets-cultivars, processes and products of research).
2. Lack of clear policies related to internal and external use of proprietary assets (e.g. licensing in and out).
3. Lack of expertise to run an IP Unit (e.g., to conduct negotiations).
4. Lack of economic studies to support the licensing in or the protections of technologies and products.
5. Lack of institutional support to implement the IP policy, if there is one.
6. Need to use IP as an integral component of research programs (considering biodiversity, biosafety, technological policy, sectorial policy).
7. Difficulty to develop uniform criteria (technical) for managing IP, many uncoordinated individual initiatives.

At Operational Level

1. Need for an institutional or even national pool of biotech assets (tools) and technologies (in order to have some negotiating power).
2. Limitations caused by the use of proprietary assets to develop export products (e.g. grain commodities, fruits, flowers).
3. Lack of training on operative aspects of IP (patenting, plant protection, prosecution, and liability).
4. Access to general and specific information on proprietary assets (e.g. owner, scope of protection of the patent, countries, sources, dates, and databases).
5. Lack of financial support to implement IP strategy/policies/regulations.
6. Need for a public defender (international pool of lawyers to work with NARO's assets).
7. Need for simple and clear IP operational manuals.