II. Technology Exchange Clearinghouse

The second model identified is the so-called technology exchange clearinghouse, representing a more advanced stage with respect to the paradigm of a simple information clearinghouse and basically inspired by the widespread Internet business-to-business (B2B) basic scheme. B2B stands for transaction activities between two business entities, as generally opposed to B2C, i.e. business-to-consumer, involving a transaction between a business, on the one hand, and a consumer, on the other hand.[592] Although the term B2B could also be used for conventional commerce, it normally refers to the exchange of goods or services between companies over the Internet, mostly in connection with e-commerce and advertising, when targeting businesses rather than end-consumers. B2B platforms may encompass not only commodity exchanges and wholesale supplies on the Internet, but virtual auctions, as well.

In fact, a technology exchange clearinghouse represents a sort of further development of the previous model, as described above.[593] Indeed, such entity not only administers the collection and exchange of current information on available technologies in a given domain, so as to facilitate access and retrieval of relevant IP data, but also actively encourages the partnering between technology holders and prospective licensees by providing the input and professional counsel in order to initiate negotiations to reach a licensing agreement, coupled by optional more comprehensive mediating and managing services - thus reproducing a business-to-business (B2B) scheme, as outlined above.[594]

1. BirchBob

An example of global technology exchange model is BirchBob,[595] an Internet platform established in 2003 that seeks to bring together offers and demands for innovative technologies, complemented by specific services devoted to tracking and facilitating contacts between patent holders and interested third party investors. The aim ultimately pursued is to assist corporations in identifying the innovations and

592 For an outline on the B2B business method in as cooperative business model, see i.a.: De Maio H., "B2B and Beyond: New Business Models Built on Trust", John Wiley and Sons, 2001.

593 For a clear outlook on the model at hand, see i.a.: Skorohod O., "Biotechnology Transfers and Models Facilitate Access to Biotechnological Inventions", In: Friedman Y. "Best Practices in Biotechnology Business Development", Logos Press, 2008, p. 127 *et seq.*

594 For a broader analytical assessment on the model adopted, see i.a.: De George R., "The Ethics of Information Technology and Business", Foundations of Business Ethics, 3, Wiley-Blackwell, 2003.

595 The name "BirchBob" shall be a tribute to Birch Bayh and Bob Dole, authors of the Bayh-Dole Act (USA, 1980), as reported in: http://www.birchbob.com/corporate.htm. For the official home page, see: http://www.birchbob.com/index.asp

technology partners to create strategic "R&D Alliances", thereby fostering business developments.

Specifically, BirchBob shall assist in purchasing, selling or licensing IP innovations in the marketplace, respectively, as well as eventually structuring collaborative R&D projects by establishing "ad hoc" business partnerships. This institutional goal shall be facilitated through a network for active technology producers, available in 52 countries, including corporate entities. Indeed, BirchBob's current database relies on more than 40.000 technologies from about 2,000 organizations worldwide.[596] Additionally, complementary services include prior art searches, valuation and benchmarking of IP rights, incubation of R&D and spin-off projects, as well as their structuring and management.

Eventually, such entity considers itself as a sort of "innovation gateway" using its global network to screen and foster new business or scientific opportunities, eventually providing professional expertise as well as operational support. [597] However, tangible evidence is missing as to which strategic R&D alliances, in concrete, were fostered as direct a result of BirchBob's proclaimed endeavours. In fact, an attempt to gather some practical feedback in this respect was frustrated by the claimed need of protecting private, confidential information, which is not entirely convincing when considering the positive implications of such partnerships in terms of publicity and purported effectiveness of BirchBob's engaged networking efforts.[598]

2. Pharmalicensing

Now, as far as specific healthcare technology platforms are concerned, both Pharmalicensing[599] and TechEx[600] shall be mentioned, as divisions of the UTEK Corporation, a leading, market-driven technology transfer firm specifically providing online support for partnering and licensing of biopharmaceutical solutions, ulti-

596 As reported in: Skorohod O., "Biotechnology Transfers and Models Facilitate Access to Biotechnological Inventions", In: Friedman Y. "Best Practices in Biotechnology Business Development", Logos Press, 2008, p. 129.

597 For an outline of BirchBob's R&D approach, see: http://www.birchbob.com/BBWEBMANAGE/page.asp?id={73BC571C-F6C0-4EC9-8E11-D770F92EDE2C}

598 This evaluation follows a personal attempt to gather tangible, practical evidence by specifically addressing the representatives of the organization in order to provide for reliable references supporting the institutional goals proclaimed, i.e. to assist corporations in identifying the innovations and technology partners to create strategic R&D alliances, thereby fostering business developments. Regrettably, the feedback received has been evasive and non-satisfactory in this respect, claiming the need of protecting private, confidential information.

599 For the official site, see: http://pharmalicensing.com

600 For the official site, see: http://www.techex.com

mately aimed at enabling public companies to acquire innovative technologies from universities and research laboratories[601].

The former is since January 2008 a unit of UTEK Europe Ltd., a business development company based in York, in the UK, implementing an open innovation business model to foster strategic partnerships. Mainly Pharmalicensing relies on a patent database where the profiled out-licensing and in-licensing needs shall reflect the current market demands, giving a real-time transparent representation of the partnering opportunities being offered.[602]

The advertised opportunities are provided directly by the participating companies themselves, who shall be able to "profile" their out-licensing capabilities in a corresponding directory using a standardized intelligible form.

On the other hand, seekers of technology and IP products may use the website free of charge to identify their needs by searching the available offers, as well as to "profile" their in-licensing needs, thereby allowing potential technology owners to eventually identify new options for their licensing strategy.[603]

In this way, interested parties shall be able to make direct contact, using the online platform to exchange further information, evaluate each other, negotiate and conclude deals off-line.

The model has in fact proven quite successful,[604] as shown by the great numbers of publications and users of such facilities embracing a great variety of professionals from the IP field, including - aside from major pharmaceutical and biotech corporations - business development and licensing strategists, CEOs, intellectual asset managers, brokers, IP consultants and patent lawyers, extending the range of possible business transactions.[605]

601 Prandelli E. et al., "Collaborating with Customers to Innovate: Conceiving and Marketing Products in the Networking Age", Edward Elgar Publishing, 2008, p. 102.

602 For a portrait of the organization and a detailed description of its approach and functioning, focusing on the benefits of early stage strategic partnerships and licensing outsourcing, see: Pharmalicensing, "Early Stage and Discovery Deals: Strategy, Structure and Payment Terms", Pharmalicensing, 2 ed., 2006; Ranson P., "Legal Aspects of Outsourcing Contracts in the Pharmaceutical Industry: A practical guide", Pharmalicensing, 2006.

603 For an outline of the business model adopted, see i.a.: Austin M., "Business Development for the Biotechnology and Pharmaceutical Industry", "Profiling and Searching for Opportunities", Gower Publishing, 2008, p. 65 *et seq*.

604 For a case-study report of successful business practices fostered by Pharmalicensing, see: http://pharmalicensing.com/files/pdf/Pharmalicensing_Case_Studies.pdf

605 The business developments and the technology alliances promoted by the Pharmalicensing have been broadly outlined and analytically reported in: Pharmalicensing, "The Licensing Agreement in Pharmaceutical Business Development", Pharmalicensing, 3 ed., 2007.

3. TechEx

Like Pharmalicensing, TechEx, standing for "Technology Exchange", operates on the basis of a network of assembled IP resources, offering an online technology exchange platform where members can identify and introduce innovative solutions that are available for partnering.[606] However, it is characterized and distinguished by its major expertise in the biomedical industry.

Founded at Yale University, TechEx has been acquired by UTEK Corporation in May 2002. Its peculiar business model is aimed at facilitating the identification and acquisition of external technologies by clients in exchange for their equity in order to obtain a strategic marketplace advantage, while allowing the research institutions concerned to enjoy 100% of the incoming royalties.[607]

In this respect, TechEx is a source for emerging technologies in the biomedical field built on a proprietary communication platform called ScienceMatch, which is embedded in the online exchange platform that is used by technology holders as an extension of their licensing and business development efforts. The technologies at hand are compared to the interests of biotechnology development organizations to ensure a fast communication of biomedical breakthroughs.

Currently, the organization features thousands inventions from over 600 corporations and about 350 research institutions.[608] In this respect, TechEx has been portrayed as an accomplished example of "virtual knowledge broker",[609] although traceable, tangible results in terms of biotechnologies, bearing a certain market value and developed pursuant to TechEx's involvement in this domain, are not specifically identified.[610]

4. PIPRA

Finally, in the area of clearinghouse models promoting biotechnology exchange, a special attention is dedicated to PIPRA, standing for Public Intellectual Property Resource for Agriculture.[611] PIPRA is in fact grouping universities, foundations and non-profit research institutions and its major purpose is to make agricultural tech-

606 For the official website, see: http://www.utekcorp.com

607 For an accurate outline of its functioning, see i.a.: Kulakowski E. et al., "Research Administration and Management", Jones & Bartlett Publishers, 2006, p. 741-742.

608 Prandelli E. et al., *supra,* fn. 601, p. 103.

609 *Id.,* "Virtual Knowledge Brokers", p. 93 *et seq.*

610 This evaluation follows a personal attempt to gather tangible, practical evidence by specifically addressing the representatives of the organization in order to provide for reliable references supporting the institutional goals proclaimed, i.e. facilitating the identification and acquisition of biotechnologies by clients. Regrettably, the feedback received has been evasive and non-satisfactory in this respect.

611 For the official website, see: http://www.pipra.org

nologies more easily available,[612] in particular for development and distribution of subsistence crops for humanitarian purposes in the developing world, on the one hand, and specialty crops in the developed world, on the other hand.[613]

Subsequently, the organizational model adopted has been stretched to other neighbouring areas, encompassing also energy, water and healthcare new technology applications,[614] as well as providing, aside its core business, an extensive series of complementary services related to IP assessment and education, in order remain competitive by meeting the evolving needs of its growing institutional network.[615]

PIPRA's original mandate is enabling access to patented technologies in order to overcome burdensome barriers to new crop developments,[616] where patenting of agricultural biotechnologies has expanded at a faster pace over the last decades. Indeed, publicly supported research continues to play a primary role in this sector. This is particularly true in developing countries, where public sector research institutions are nearly the exclusive innovative force. However, said institutions have not yet developed the basic skills and infrastructure to effectively manage their in-house IP resources, thus confronting them with the problem that their research programs are hampered at the application stage, being unable to actually transfer their developed technologies for private sector's implementations.

In this respect, PIPRA's primary objective is to promote access to agricultural technologies developed by public or private non-profit research institutions for both humanitarian and neglected commercial purposes, seeking to solve large-scale intellectual property issues through a collaborative approach among its member institutions, basically based on a common agreement to share their technologies and research tools with each other and, eventually, make them available for third interested parties on equitable and non-discriminatory conditions.[617] In other words, PIPRA is an organization committed to the strategic management and administration of pa-

612 For an introduction of PIPRA and its underlying philosophy, see i.a.: Boettiger S., Schubert K., "Agricultural Biotechnology and Developing Countries: The Public Intellectual Property Resource for Agriculture (PIPRA)", Biodiversity and the Law: Earthscan, 2007; Benkler Y., "The Wealth of Networks: How Social Production Transforms Markets and Freedom, Yale University Press, 2006, p. 338 *et seq*.

613 For an outline on PIPRA's business model, see i.a.: Blakeney M., "Public Intellectual Property Resource for Agriculture", "Intellectual Property Rights and Food Security", CABI, 2009, p. 231 *et seq*.

614 Although concrete of successful applications in this respect is still missing, on account of the relatively recent expansion of PIPRA in these new areas.

615 A current overview and description of PIPRA's range of activities can be found at: http://www.pipra.org/en/about.en.html.
On the new broader approach adopted, see also: Boettiger, S. and B. Wright, "Opportunities and Challenges for Open Source in Biotechnology", Innovations 1(4), MIT Press, 2007.

616 On the problem of access to agricultural biotechnology and the contribution of PIPRA, see i.a.: McManis C., "Biodiversity and the Law: Intellectual Property, Biotechnology and Traditional Knowledge", Earthscan, 2007, p. 13 *et seq*.

617 More in general see in this respect, i.a.: Atkinson R. et al., "Intellectual Property Rights: Public Sector Collaboration for Agricultural IP Management", Science, 2003, p. 174 *et seq*.

tents owned by its member institutions whose inspiring guideline consists in encouraging the broadest possible applications of existing and emerging agricultural technologies, mostly promoting the use of genetically modified crops.[618]

Nevertheless, PIPRA does not subscribe to a single philosophy or approach in addressing IP issues.[619] Instead, PIPRA chooses to employ a wide range of available IP management strategies, including open sources or, eventually, reasonable and non-discriminatory licensing conditions. PIPRA pragmatically adopts a rather flexible "modus operandi" for each individual case and selects the best available tools to tactically achieve the goals of the specific project dealt with, recognizing that technologies may have to be sourced from a broad range of public and private technology developers having their own strategic objectives and priorities to be met.

At the outset, discussion about PIPRA started when the McKnight[620] and Rockefeller Foundations,[621] both of them philanthropic institutions, identified in some critical IP issues a potential, but severe impediment to the delivery of research results and information to their intended recipients, namely poor farmers in developing countries. In the course of this debate, it became apparent how the same problematic issues were having a restrictive impact on the flow of agricultural biotechnology when it comes to smaller specialty crops, which have historically been an important domain of study for public researchers.

A deeper analysis of the situation came to the conclusion that indeed almost 25% of US biotechnology innovations in the field of agriculture had been created thanks to the successful efforts of public and non-profit institutions. In fact, whereas on the one hand their common "public values" spoke in favour of a positive perspective on a "collaborative solution" to tackle the increasingly evident problem outlined here, on the other hand the targeted portfolio of inventions was highly fragmented across said institutions.[622]

The ensuing discussions favourably pointed to the benefits of "collaborative efforts" to identify and consequently regroup these jeopardized IP rights in order to develop a common framework of new biotechnologies incorporating the relevant innovations originating from said public sector institutions. These deliberations eventually led to the creation of PIPRA, which was charged with the concrete realization of these high-level objectives. In fact, the view is taken that the success of

618 Along the same line and supporting PIPRA's collaborative approach, see i.a.: Tansey G. et al., "The Future Control of Food: A Guide to International Negotiations and Rules on Intellectual Property, Biodiversity and Food Security", Earthscan, 2008, p. 193 *et seq.*

619 PIPRA Executive Committee, "PIPRA, the Public Intellectual Property Resource for Agriculture - A Public Sector Collaboration for Agricultural IP Management: Enabling Access to Intellectual Property for the Development of Improved Crops", Intellectual Property Management in Health and Innovation - A Handbook of Best Practices, Sample Chapters, October 2006, p. 113 *et seq.*, also available at: www.ipHandbook.org

620 For the official website, see: www.mcknight.org

621 For the official website, see: www.rockfound.org

622 Along this line, see: Atkinson R. et al., "Intellectual Property Rights: Public Sector Collaboration for Agricultural IP Management", Science, 2003, p. 174 *et seq.*

such initiative largely depends on the peculiarity of the agricultural sector, which is widely characterized by the support through public funding,[623] that helps to overcome what I would call the "valuation impasse", i.e. the deadlock situation typical of private investors having committed important economical resources of their own to the technologies eventually developed and, therefore, being rather reluctant to enter into the assessment phase that is preceding a collaborative agreement. From this perspective, agriculture seems indeed to be a sort of "privileged niche" for the hereby-tested experimental feasibility and prosperity of technology pooling and, more generally, cooperative models within the wider biotechnology domain.[624]

Besides, we should not neglect the consideration, mostly taken for granted, that food, as the product of agriculture, is fundamental to serve primary humanitarian purposes, therefore calling in first place for collaborative solutions, which are, for this very reason, generally underpinned by substantial public assistance, eventually materializing in the collective frameworks under consideration here. Taking a slightly different, but complementary approach, some authors have expressed the view that "PIPRA's framework was successfully adopted by so many universities in part because the financial stakes in agriculture are relatively low and Land Grant Universities have a long history of publicly minded technology transfer in this sector".[625]

The question now is whether incentives exist for non-profit research institutions to sustain such collaborative framework in a technology sector other than agriculture, with higher stakes involved, such as most notably the biomedical sciences. Actually, in order to tailor an effective, profitable solution for the specificity of each situation, the development of collaborative IP management strategies targeting the needs of publicly funded research institutions is strongly recommended. Indeed, the view is taken that the path towards scientific innovation is going through large-scale, multi-institutional projects requiring the employment of collaborative schemes to profitably manage their IP outputs, while overcoming individual barriers to the access to key-technologies. Concretely, a starting point as a condition for some of the major publicly funded research projects may be to require the prior effective development of multi-institutional strategies of IP management, going beyond the eventual acknowledgement of joint inventorship. Finally, IP-specialized agencies should generally start to pay greater attention to the necessary coordination to enable the broadest access of research outputs, thus fostering the establishment of technology clearinghouses in sectors threatened by the emergence of "anti-commons", to ul-

623 Graff G., *et al.*, "The Public–Private Structure of Intellectual Property Ownership in Agricultural Biotechnology", Nature Biotechnology, 2003, vol. 21, p. 989 *et seq.*

624 Graff G., *et al.*, "Towards an Intellectual Property Clearinghouse for Agricultural Biotechnology", "Agricultural Biodiversity and Biotechnology in Economic Development", May 2006, vol. 27, p. 387 *et seq.*

625 Bennett A., *et al.*, "Bayh-Dole: if we knew then what we know now - Anticommons effects", Nature Biotechnology, March 2006, vol. 24, n. 3, p. 322.

timately ensure that the public may continue to fully benefit from the innovations generated by publicly funded research.

Now, as far as PIPRA's activities are concerned, the main task assumed is addressing IP policy concerns all the way through the creative chain up to the development and eventual commercialisation of the final IP asset, focusing on the priorities of public research activities in both developed and developing countries. Therefore, we are not dealing with an ordinary IP administrative entity here, as is the case with a typical clearinghouse, because PIPRA is also actively engaged in the patent policy debate concerning, to a broader extent, the equitable allocation of technology assets worldwide. Thus, the main benefit provided is the reduction of IP hurdles that exist along the path from research, through development to final distribution, consequently minimizing diversion of valuable resources from the core R&D activities that are to be carried on.[626]

From a practical standpoint, first of all PIPRA assists scientists by primarily providing easy access, through an up-to-date comprehensive database, to information concerning the ownership and current availability of key technologies, i.e. their licensing status, commonly employed in the area of agriculture. The collection of relevant scientific data is coupled by in depth professional assistance and counselling on IP related issues, such as preliminary valuation of intangible assets and analysis of the legal boundaries of patent claims.

Moreover, PIPRA is committed to the widespread commercialisation of the public research results contributed by its member organizations, thus actively marketing their IP portfolio and, consequently, assisting in the negotiations of licenses between the represented patent holders and potential third parties licensees. In fact, in response to the previously mentioned emergence of "anti-commons" problems generated by scattered and fragmented IP rights in the hands of separate owners, the association is adopting an explicit policy of so called "publicly minded licensing", employed to strategically address IP impediments to the research and development of subsistence crops for the poorest countries. Indeed, rightly recognizing the important incentives and legal guarantees provided by the patent system in promoting technology transfer and commercialisation, PIPRA has provided its member institutions with the effective framework and operative tools to collaboratively manage their IP assets, reconciling both individual and public interests.

However, the provided "assistance" is, as this term suggests, merely a complementary and optional service provided by the administering body, relying on a specific case-by-case request of the patent holder. In other words, PIPRA - reflecting the model role of a technology exchange clearinghouse, as previously outlined and illustrated by examples of the organizations above - does not take the place of patent holders in the negotiation process towards third parties, but merely acts on their side in an auxiliary role, with the declared intent of supporting licensing transactions leading to globally beneficial technology transfers. Under this profile, a substantial

626 PIPRA Executive Committee, *supra*, fn. 619, p. 114.

point of general differentiation shall be highlighted between a clearinghouse, on the one hand, and a patent pool whose administrator, on the other hand, is typically empowered with contractual activities, having as their object the pooled technologies as a whole, on behalf and for the benefit of the patent holders constituting the consortium.

On the basis of the PIPRA database, opportunities for "complementary technologies" to be bundled together are identified in order to enable the stipulation of combined licenses, i.e. "one stop licensing", embracing all essential patents involved.[627] Whereas under this aspect strong resemblances with patent pools are evoked, as well, the two situations cannot be any further assimilated. In fact, here the technologies are not "necessarily bundled", unlike in the case for a patent pool in which the IP contributions from the pool members to a "unitary package" represent a binding, constitutive condition of the consortium itself.[628]

Besides promoting commercialisation, on the one hand, PIPRA is also committed to humanitarian applications of agricultural biotechnologies, on the side of developing countries.[629] In fact, it is well recognized that purchasing IP rights increase the cost of product development, which in its turn makes it harder for private firms to sustain investments addressing the needs of smaller or unprofitable markets. In practice, when innovations developed with public funding are exclusively licensed to private companies, the latter will be frequently unable to make the product, which incorporates the technologies at issue, available for low-income markets. In order to face this problem, organizations, such as PIPRA, have adopted a range of licensing strategies, which reserve rights for humanitarian uses of patented technologies to support product developments and distributions also within less competitive markets.[630]

Indeed, while addressing primary goals of public health and global economic well-being, PIPRA has used its membership base to develop and promote a licensing language aimed at the reservation of rights for humanitarian commercial development benefiting poor and underserved societies. Accordingly, a peculiar "humanitarian use reservation of rights" approach has been introduced. To be specific, such clause is to be inserted in agreements concluded by PIPRA member institutions,

627 As reported, i.a., in: Kloppenburg J., "First the Seed: The Political Economy of Plant Biotechnology, 1492-2000
Science and Technology in Society", University of Wisconsin Press, 2005, p. 332.

628 On the point, see i.a.: Reichman J. et al., "International Public Goods and Transfer of Technology Under a Globalized Intellectual Property Regime", Cambridge University Press, 2005, p. 300-301.

629 Ronald P. et al., "Tomorrow's Table: Organic Farming, Genetics, and the Future of Food", Oxford University Press US, 2008, p. 147.

630 On the point: Hope J. et al., "Cooperative Strategies for Facilitating the Use of Patented Inventions in Biotechnology", In: Rimmer M., "Patent Law and Biological Inventions", Federation Press, 2006, Law in Context, vol. 24, p. 98-99. Along the same line, i.a.: Benkler Y., "The Wealth of Networks: How Social Production Transforms Markets and Freedom, Yale University Press, 2006, p. 338 *et seq*.

namely universities and non-profit entities, in order to particularly preserve "an irrevocable, non-exclusive right in the Invention/Germplasm for humanitarian purposes".

Quoting the specific licensing language employed, "such humanitarian purposes shall expressly exclude the right for the not-for-profit organization and/or the developing country, or any individual or organization therein, to export or sell the germplasm, seed, propagation materials or crops from the developing country into a market outside of the developing country where a commercial licensee has introduced or will introduce a product embodying the Invention/Germplasm. For avoidance of doubt, "not-for-profit organization and/or the developing country, or any individual or organization therein, may export the Germplasm, seed, propagation materials or crops from the developing country of origin to other developing countries and all other countries mutually agreed to by licensor and licensee". Ultimately, it is specified that: "Humanitarian Purposes means (a) the use of Invention/Germplasm for research and development purposes by any not-for-profit organization anywhere in the World that has the express purpose of developing plant materials and varieties for use in a Developing Country, and (b) the use of Invention/Germplasm for Commercial Purposes, including the use and production of Germplasm, seed, propagation materials and crops for human or animal consumption, in a Developing Country".[631] Therefore, PIPRA's licensing language uses a distinct "territorial division of rights" which separates commercial markets in developed countries from those in developing countries, where humanitarian use finds its way.[632]

Finally, one should also mention the education and training activities in which PIPRA is involved, developing training materials and taking active part in workshops concerning both developed and developing countries IP matters. At present, the organization is engaged in facilitating the design and testing of a plant transformation vector with maximal freedom-to-operate, with as many components as possible either from the public domain or owned by PIPRA members with pre-arranged licensing terms, allowing the vector to be distributed on a royalty-free basis in order to realize humanitarian purposes.

Now, as far as the impacts of PIPRA's activities are concerned, we should mention that currently about 50 universities and non-profit institutions have joined the organization, showing a particularly strong presence in the US and a noticeable, increasing trend in membership.[633] Overall, the data representing the agricultural portfolio of PIPRA's member institutions comprise over 7.000 patents and patent appli-

631 For the exact language, see: http://www.pipra.org/docs/HumResLanguagePIPRA.doc

632 Actually, there exist also other options to achieve similar goals which have been carefully documented by the Science and Intellectual Property in the Public Interest (SIPPI) program, as outlined in: Brewster A., *et al.*, "Facilitating Humanitarian Access to Pharmaceutical and Agricultural Innovation", Innovation Strategy Today, 2005, vol. 1, p. 203 *et seq*.

633 A full list of PIPRA current members and their Memorandum of Understanding can be found at: http://www.pipra.org/en/about.en.html#members

cations from more than 40 countries, searchable in the organization's database by a variety of fields, including their licensing status.

Ending with some closing general remarks about PIPRA, we ought to highlight its role model function as an high-profile organization, that is active in the domain of agricultural biotechnology, which has the major aim to implement a practical framework to create "commons" of previously fragmented public sector IP portfolios, ultimately in order to address goals of greater commercialisation, as well as reservation of rights to ensure that the humanitarian cause can be achieved. These high-profile objectives echoed throughout the international technology transfer community, so that PIPRA is now widely perceived as a model IP collective mechanism that may eventually be emulated in other technology sectors in general, and for life sciences in particular.[634]

Nevertheless, to a more scrutinizing, result-oriented assessment, going beneath the "popularity" gained on account of the humanitarian goal proclaimed by such organization, which has certainly assumed noteworthy dimensions, practical and traceable evidence as to new technologies that have been actually brought to developing countries, showing a positive impact on their economies, could not be gathered.[635] In fact, although in this respect the direct inquiry addressed to the representatives of the organization has been evaded, mostly on account of the merely "enabling" role function of PIPRA into facilitating networking initiatives aimed at making public sector's technologies more accessible for the benefit of developing countries, it shall be undisputed that the establishment of successful practices in this area, as well as instances of positively applied technologies, resulting from PIPRA's networking endeavours, would certainly confirm the effectiveness and usefulness of such initiative in the first place, which unfortunately this contribution cannot fully corroborate.

III. Royalty Collection Clearinghouse

The third model to be taken into consideration is the royalty collection clearinghouse,[636] the most advanced one in terms of services provided, namely comprising

634 Along the same line and for a wider policy perspective on PIPRA's initiative and alike, see i.a.: Wright B., "Agricultural Innovation after the Diffusion of IP Protection", "Institutional Initiatives to Encourage Biotechnology Innovations", In: Kesan J., "Agricultural Biotechnology and Intellectual Property: Seeds of Change", CABI Publishing Series, 2007, p. 12 *et seq*.

635 This evaluation follows a personal attempt to gather tangible, practical evidence by specifically addressing the representatives of the organization in order to provide for reliable references supporting the institutional goals proclaimed, i.e. helping public sector technologies to have an impact on developing countries' economy. Regrettably, the feedback received has been evasive and therefore non-satisfactory in this respect.

636 Van Overwalle G., *et al.*, "A Clearinghouse for Diagnostic Testing: the Solution to Ensure Access to and the Use of Patented Genetic Inventions?", Bulletin of the World Trade Organization, 2006, vol. 84, issue 5, p. 352 *et seq*.