

Public Policy Patent Landscaping,  
WIPO, April 7-8, 2008

# The potential use of patent landscapes for the FAO multilateral system

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- Need of patent landscapes for:
  - Tracking patents using PGRFAs as such and making sure that compulsory contributions are effectively made to the MLS - cf. FAO International Treaty (IT) Art. 13.2(d)(ii)
  - Evaluating the FTO in new breeding programmes
  - And for distributing the results of such programmes

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- FAO request to WIPO at its 9<sup>th</sup> Regular Session in 2002:

“Some Members of the Commission [CGRFA] ... requested the Director-General of the FAO to bring the [“Enola Bean”] matter ... to the World Intellectual Property Organization (WIPO) ... with a request that WIPO cooperate with FAO in preparing a study on how intellectual property rights may affect the availability and use of material from the International Network and the International Treaty.” (Doc. CGRFA-9/02/REP, para. 31, original emphasis)

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- FAO CGRFA/MIC-2/04/Inf.5 (2<sup>nd</sup> Meeting of the CGRFA acting as an Interim Committee for the IT): report on a sample search based on pre-existing algorithms on a few key words in patent claims on selected crops (banana, beans, cassava, groundnut and millet).
- Distinct from a regular 'full text' search on the crop name, which just shows trends.

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- But still would have to be narrowed to subject matter including PGRFAs *as such*, rather than used in broader industrial applications (cf. MIC-2/04/Inf.5 para. 33)
- Sample search on Asian medicinal plants, and 'full text' searches on rice, soybean and *Vernonia galamensis* (on which ABS agreement between Ethiopia and a UK company) at Queen Mary IPRI, London: retrieval of pyrolysis of rice hulls for use in semi-conductors, use of vernonia to make epoxies...
- Full text searches still useful to show the commercial value of PGRs (relevant when negotiating/appraising ABS agreements)

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- Thus: Rice genome patenting landscape (FAO IT/GB-1/06/Inf.17 reporting on a preliminary landscape of rice promoters patents using CAMBIA tools)
  - “the application of a patented invention that constitutes PGRFA from one crop covered by the International Network and Treaty might cross across to application in other crops, which might be either inside or outside the Network and Treaty.” (para. 8)
  - Recalls that uses of PGRFAs can consist of use for genetic modification, in conventional breeding, in agriculture or as food/feed (para. 7)

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- This initial landscape dealt with “gene promoters relevant to rice”
  - Results: 70% patents identified were on tissue specific promoters.
  - About 20% of patents were related to constitutive promoters that induce the expression of the concerned gene in the whole plant.
  - Promoters induced by abiotic stresses (physical, chemical) and biotic stresses (pathogens).
- Addressing only one of the uses identified before, i.e. genetic modification; probably of interest to IRRI, less for tracking contributions to the IT.

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- CAMBIA's "rice genome patenting landscape":
  - Broader scope: genes, not only promoters
  - Composition of matter (sequences), method (using a gene sequence) or product (plant or vector incorporating a gene seq.) claims
  - Concludes from a search of the USPTO databases that the majority of the rice genome is in the public domain.
- However interesting for breeding programmes involving genetic modification, it still does not address the other issues (use in conventional breeding, agriculture, food): there is a need to broaden the search, and to include plant variety certificates.



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- In any case, patent (or IP) landscaping is a daunting, time-consuming task, involving a lot of treatment of data by hand, and depending on the public availability of the raw information (IP titles): problem in many jurisdictions.

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- IRRI's activities in genetic enhancement of rice:
  - Project regarding the genetic enhancement for yield, grain quality and stress resistance (Annual Report 2006-7, p. 28) – according to Int'l Service for the Acquisition of Agri-biotech Applications, IRRI launched such programmes by 1990.
  - IRRI's participation in the Golden Rice project:  
IRRI is planning to introduce the genes for beta-carotene synthesis into elite *indica* rice; thus, the Rockefeller Foundation commissioned ISAAA to conduct a preliminary FTO review of the GoldenRice project for IRRI (*ISAA Briefs* no 20, 2000, p. 3).

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- ISAAA 2000 findings: about 70 patents applying. However, in the countries with the most acute need of vitamine A, less than a dozen patents likely to apply.
  - Some of them have been waived vis-à-vis the Golden Rice Humanitarian Board (AstraZeneca – now Syngenta – Monsanto: cf. press release dated 04/08/00 *Monsanto Offers Patent Rights to Golden Rice - Bayer*).
  - Syngenta retains exclusive commercial rights to Golden Rice, but allows national sales by farmers in developing countries earning less than US\$ 10,000 per year from Golden Rice, the sowing of harvested seeds and the use of improvements to licensed technology.

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- Criticism by Rural Advancement Foundation International (RAFI Communique no 66, Sept-Oct. 2000):
  - Negotiation of this license should have been sought before ETH-Zurich and the University of Freiburg signed a contract of collaboration with Syngenta;
  - According to RAFI, ISAAA's report was alarmist – this shows that patent landscapes have to be interpreted carefully.

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- Other potentially useful landscapes:
  - for other major crops, such as wheat, maize;
  - looking at specific traits (resistance to drought, salinity, acidity) or applications (flowering time control)...
- Limits of patent databases: only the USPTO, with “PAIR”, offers comprehensive information on patent ownership; in some instances, INPADOC, PAJ and WIPO IPDL provide details on the legal status (patent lapsed, challenged) or “notices of change”.

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- Need for review of plants variety certificates as well:
  - UPOV: farmers' and breeders' exemptions
  - But: in the US, the research exemption does not grant access to protected material; it simply means that if a breeder gets access through products on the market to seeds and uses such seeds for research or to breed a new variety, he/she will be exempt from infringement charges

District Court for the Western District of Wisconsin *Advanta USA, Inc. v. Pioneer Hi-Bred International, Inc.* 27 October 2004, pp. 17-18.

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- Art. 16.1 (ii) UPOV 1991: breeder can oppose acts of re-export of his protected plant material into a country that does not offer protection for the genus or species of the plant concerned, unless the exported material is for final consumption.
- The breeder should then contribute to the MLS (if the plant material was derived from material pertaining to the MLS): pb = tracking, informing the MLS (by custom authorities of the country where re-export opposed, by the candidate importer?)

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Thank you for your attention...