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WIPO Seminar: IP Is Spearhead Of Agricultural Innovation, Solution To Food Shortage

By Catherine Saez on 28/06/2011 @ 2:24 pm

The World Intellectual Property Organization recently stepped into the agriculture field with its first seminar on the use of intellectual property to increase productivity. In the seminar, proponents of IP rights defended the value of protection and the necessity of relying on technology to answer the needs of an inflated world population.

Suggesting an alarming scenario, WIPO Director General Francis Gurry, followed by several speakers, announced that food production will need to be increased by 70 percent to feed a nine billion human population by 2050. The task will be complicated, he said, by the effects of climate change. Technology will provide solutions, he said, with intellectual property offering a balanced framework to incentivise agricultural technology and innovation.

The purpose of the "Seminar on How the Private and the Public Sectors Use Intellectual Property to Enhance Agricultural Productivity," which took place on 14 June, was to explore what contribution IP is expected to make in this area, Gurry said.

Climate-Ready Crops as Solution

The Secretary of the FAO International Treaty on Plant Genetic Resources for Food and Agriculture, Shakeel Bhatti, said that climate-ready crops will be key in adapting agriculture to climate change. He added that some forecasts indicate that real food prices would sharply rise in the next two decades, in particular staple grains. Scarcity of land, a global population reaching nine billion people, and the fact that agriculture accounts for up to 30 percent of greenhouse gas emissions drives the point home that "we need to create a climate-resilient agriculture," he said.

The international treaty will have a predominant role in the adaptation to climate change, in particular because of the free access to a large bank of plant genetic material and its non-monetary mechanism of technology transfer for adaptation technology, he said.

Highly Concentrated Seed Sector, Northern Tech Transfer

There are key policy issues related to intellectual property rights in the debate on food security, technology transfer and development, said Christophe Bellmann, programmes director at the International Centre for Trade and Sustainable Development.

Different forms of agriculture have different technology needs, he said. For example, a small-holder economy will need better seeds, food processing capabilities, storage procedure, and access to credit, while a market economy would need to enhance production, transportation and packaging facilities, and value-added processing.

In terms of technology transfer, it can come from the public sector, such as from the national research institutions or the Consultative Group on International Agricultural Research (CGIAR), but it appears that public research remains under-developed in some countries, mostly in Africa, he said. It can also come from the private sector, but this transfer rarely reaches the poorest, Bellman said, and 95 percent of this kind of transfer is happening in the North. Moreover, the seed industry has become highly centralised and concentrated, leading to competition issues.

Private sector research tends to be irrelevant to subsistence farmers, he said, since they often are unable to purchase research products.

IP Rights: High Royalties, Dependence of Farmers in Africa

The Kenya Horticulture Industry Association Chief Executive Officer Stephen Mbithi said the horticulture sector is fast-growing in Kenya and South Africa. The sector includes fruits, vegetables and flowers. Land sizes are shrinking in Africa, he said, and farming is still the main source of livelihood in many developing countries, since jobs from industrialisation or services are limited. Food, medical care and school fees are the three key costs facing rural people, he said.

Food security is not food self-sufficiency, he said, and farmers have to increase the value of their land, so food production also has to be market-oriented. There is also a need for seed uniformity to answer the demand of the market, he said and this is only achievable through superior seeds. This is where IP rights issues arise because of the cost of royalties, along with the problem of an extreme dependence of farmers on imported seeds, he said.

The cost of royalties is evaluated at between 2 and 5 percent of production cost, Mbithi said, with US$10 to US$20 US million annually from flower production alone. This would be enough to support a "vibrant breeding research" in Kenya. For the moment, breeders have the upper hand, he said, with no or minimal risk-sharing, and there are breeder-grower tensions in several countries such as Kenya and Ethiopia. He cautioned that both professions have a lot to lose if they do not find better business partnerships.

IP Rights Crucial, Industry Says

Growing more with less is the challenge for the industry, said Michael Kock, head of intellectual property at Syngenta International. There is an increasing need for innovation and the success factor is a strong intellectual property environment, he said.

Seeds are a high-tech product that is easy to copy and needs IP protection, he said. IP is a tool that is "as such neither good nor bad," but needs optimisation. Some problematic effects of IP can be anticompetitive use, barrier to innovation if there are no research exemptions, and increased costs, he said, but beneficial effects include encouraging innovation, research and development investment, knowledge sharing, and enabling "open innovation."

Having no IP encourages secrets, facilitates copying and free-riding, and takes away a mechanism to prevent misappropriation, he said. A solution could be based on a system providing incentives and obligations, he said, where free access neither means access without rules, nor access for free. An industry licensing platform could be part of that solution, he said.

Such a platform would provide fair, reasonable, and non-discriminatory terms (FRAND) to access non-regulated gene sequences, but parties who access technology have to make their own technologies accessible. Answering to a question from the audience, he said no real project was running at present, and added "we would love to bring a pilot project into practice."

The international seed trade has been steadily growing, encouraged by cheap and fast transportation, the development of hybrid varieties, and the higher speed of breeding and commercial processes, said Marcel Bruins, secretary general of the International Seed Federation (ISF).

ISF is in favour of strong and effective intellectual property protection, Bruins said, as it ensures acceptable returns on research investment, and encourage further research efforts. He said the Union for the Protection of New Varieties of Plants (UPOV) or patents are both legitimate systems of protection. ISF also believes that a commercially available variety should remain freely available for further breeding.

Farm-saved seeds are a problem, according to Bruins, as they do not bring any return on investment and he asked if farm-saved seeds were not in contradiction with innovation.

According to Peter Button, vice-secretary of UPOV, the private sector is key in delivering new varieties of plants to farmers, it is also a link between public research and the needs of farmers. Plant variety protection promotes the private sector involvement in research and development and is a tool for technology transfer. Plant variety protection also provides a legal framework for financial investment, he said.

The seminar was part of a series of a series of public events aimed at presenting "IP-driven success stories of agricultural development with a particular focus on food security," according to the WIPO website [1]. WIPO, "as the leading institution for intellectual property protection has a major responsibility to raise awareness on how IP can stimulate innovation, investment and knowledge transfer for food security," it said.

The seminar was chaired by Rolf Jördens, senior advisor on global issues sector for WIPO, and former secretary general of UPOV.

Some Questions Overlooked

No mention was made during the seminar of the report [2] [pdf] presented by the United Nations Special Rapporteur on the Right to Food, Olivier de Schutter, at the 16th session of the UN Human Rights Council in March. In his report, de Schutter said increasing food production is not sufficient, and that improving the livelihood of the "poorest, particularly small-scale farmers in developing countries," also was important.

The rapporteur also said, "most efforts in the past have focused on improving seeds and ensuring that farmers are provided with a set of inputs that can increase yields, replicating the model of industrial processes." Instead, he advocates agroecology, which he said seeks "ways to enhance agricultural systems by mimicking natural processes," creating biological interactions and synergies among the components of the agroecosystem.

Also, de Schutter called into question the figure of a needed agricultural production of 70 percent, which he said is from "widely cited estimates" and that this estimate "needs to be put in an appropriate perspective, since it takes the current demand curves as a given."

FAO Initiative to Grow More Food

Separately, the FAO announced [3] the launch of a new initiative to produce more food in an environmentally sustainable way, on 13 June. Based on the "lessons learned from the Green Revolution of the 1960s," the initiative named "Save and Grow," advocates a crop production intensification by using agricultural techniques such as precision irrigation, "precision placement" of fertilisers, integrated pest management, and new seed varieties resilient to climate change with an ecosystem approach, with measured external inputs, according to the FAO.

"There is no option but to further intensify crop production," the FAO said, to meet the demand of the projected world population, necessitating a rise in food production up to 100 percent in developing countries.

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[1] the WIPO website: **http://www.wipo.int/meetings/en/2011/wipo_ip_lsbiot_ge_11/index.html**
[2] the report: **http://www.srfood.org/images/stories/pdf/officialreports/20110308_a-hrc-16-49_agroecology_en.pdf**
[3] FAO announced: **http://www.fao.org/news/story/en/item/80096/icode/**
[4] UN Rapporteur On Food Offers Long-Term Answer To Food Crisis: Agroecology: **http://www.ip-watch.org/weblog/2011/03/09/un-rapporteur-on-food-offers-long-term-answer-to-food-crisis/**
[5] UN Climate Talks Find Make-Do Solution; IP Rights Dismissed: **http://www.ip-watch.org/weblog/2010/12/14/climate-change-talks-find-make-do-solution-till-next-year-ip-rights-dismissed/**
[6] Intellectual Property Creates Space For Competition In Innovation, WIPO Head Says:

http://www.ip-watch.org/weblog/2011/03/29/intellectual-property-creates-space-for-competition-in-innovation-wipo-head-says/