

Agrobiodiversity – the knowledge issues

Background

Appreciating diversity – variety in the living world, and the even more varied approaches to harnessing it without destroying it, so as to ensure the possibility of its continued use by one and all -- is not only preferable, but is also the way of life for those who directly rely on biodiversity for their and livelihoods. Farming communities, tribal households, indigenous peoples, fisher folk, traditional healers and rural dwellers have a long-standing interaction with, and understanding of, the living world. In this way the vast body of knowledge of the living world that composes all of our intellectual heritage was built. This knowledge is more often than not collaboratively developed and collectively held. Today in a world where the individual is given pre-eminence over the collective, and economic value holds more importance than intrinsic value, knowledge too is turned into private property.

In the past few years control of knowledge has become an organising concept of the “knowledge economy”. More than ever before those who control knowledge wield power. This control is being exercised through a system of intellectual property rights (IPR). IPR laws give legal entitlements to a person – corporate or individual -- over an expressed form of an idea. Intellectual Property implies that the laws of property are applied to intangible subject matter. We need to understand the implications for both agrobiodiversity and for small farmers and local communities of IPR such as patents on life forms and protection of plant varieties (PVP). Plant variety protection as a concept has very little to do with either the conservation of plants or the protection of small farmers’ knowledge. The private sector may own the tools of agricultural biotechnology, but it is the small farmers who possess the genetic materials and the knowledge about them that this sector needs; the “life science” industry depends on small farmers for both its raw material and its know-how. Industry then develops “new knowledge” and “new technologies”, which are distributed back to farmers through sale or other means. IPR laws protect these “new products” – hybrid crops, genetically engineered (GE) seeds and so on -- as the private property of the “inventor”-seller.

There is an inherent contradiction between traditional knowledge systems and IPR-related protection of traditional knowledge. IPR systems are based on a totally different world view, that destroys the reverence with which such knowledge is traditionally regarded and, more important still, precludes sharing. It is sometimes said that, rather than being protected **by** IPRs, people’s knowledge needs to be protected **from** IPRs. It is not easy to find a way forward. Few people believe that the solution is to lift all controls over knowledge: concepts such as the “public domain” – a situation wherein no laws restrict the use of a creative work by the public at large -- are not thought to be conducive to protecting group knowledge dynamics. But neither is the defensive patenting of community knowledge – which is essentially an IPR-based approach -- a way of protecting this knowledge from being brought under proprietary regimes. Some helpful initiatives, which effectively confront the restrictions on knowledge and the rights over information, are under way. In the digital world, these include peer-to-peer file sharing and the use of “open-source” software. Indeed, the concept of “open source” is being examined by other sectors to explore how, philosophically and practically, it can facilitate the freedom to use, create & redistribute information, be it of seeds or medicines.

International Pressures

Governments may argue that legal protection for IPR flows from a state’s commitment to protect human rights, as reflected in Article 27 of the Universal Declaration of Human Rights, which guarantees to everyone “the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author”. However, it has been pointed

out by the UN Commission on Human Rights itself that the manner in which the World Trade Organisation (WTO)'s Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) put the issue of IPRs on the world (trade) map has serious consequences for the human rights of local peoples, indigenous communities and small farmers. TRIPS mandates that patents be made available in all fields of technology by all member States of the WTO (Indonesia being a founding member since January 1995). The only exemption to patentability is IPR-like "sui generis" rights, which deal with "improved" varieties of plants and respond to the interests of the private seed breeders belonging to UPOV (International Union for New Varieties of Plant), whose 64 members mostly come from developed countries. Since farmers re-use the seed from their harvests, they are considered direct competitors of the private breeders who develop commercial, legally protected varieties.

However, according to its treaty obligations under the Convention on Biological Diversity (CBD), the government has also to respect the knowledge, innovations and practices of its indigenous peoples. There is a clear clash of interests between this obligation and IPRs, which are being pushed in many different ways. The World Intellectual Property Organisation (WIPO) is encouraging Indonesia to adopt an IPR approach to the protection of traditional knowledge. At the same time, pressure to change national laws and policies and to bring new areas under IPR protection is also being exerted through bilateral trade negotiations, as well as through multilateral agreements and international institutions. One example is the Japan–Indonesia Economic Partnership Agreement (EPA), which is pressing for the expansion of farm exports and the strengthening of IPR protection. Another is the Free Trade Agreement (FTA), signed in 2007 with Japan, in which Indonesia has agreed to join UPOV. A decade earlier the 1997 Trade and Investment Framework Agreement (TIFA) between the US and Indonesia had addressed US concern on inadequate IPR enforcement by Indonesia.

While some of the pressure comes from outsiders, the national government itself sees these developments as desirable. For instance, the Indonesian Ministry of Trade and Industry set up an FTA team to explore possibilities, including the negotiation of a US–Indonesia FTA. When in 2004 the United States placed Indonesia on its "Priority Watch List" due to continued weak IPR enforcement, the Indonesian government took action against IPR violations, and Indonesia was upgraded to a "Watch List" that permits less severe trade sanctions. At the same time, regional cooperation on IPRs is expected through the Association of South-East Asian Nations (ASEAN) Framework Agreement on Intellectual Property Cooperation (1995) as well as the Intellectual Property Rights Expert Group (IPEG) of Asia–Pacific Economic Co-operation (APEC).

Constitutional Reference

While there is no specific mention of the need to protect people's knowledge in the Indonesian Constitution of 1945, several Articles in Chapter XA on Human Rights can be interpreted in this way, as they call for respect for "cultural identities and rights of traditional communities".

Specific Law/Order

A law on Plant Variety Protection (No. 29 of 2000) based on UPOV 1991 (Article 7 of which states that "local varieties owned by the community shall be under the control of the State") has been enacted as part of the government's intention eventually to become a UPOV member. Changes in the Patent Law (No.6 of 1989) were also made in 1997 and 2001 to also make it WTO-compliant. None of these laws guarantees freedom of information for farmers. Indonesia provides product patent protection for foods and beverages. To make the law compatible with TRIPS, the exclusion from patentability for plants and animals has been deleted. Legal protection for Geographical Indications (GI) and Source of Origin of agricultural goods as required by the WTO has been introduced through changes in Indonesia's Marks Law of 2001. Since 2005 the government has been seeking inputs from the Institut

Nacional des Appellations d'Origine (INAO) and Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD), both from France, in the preparation of a government regulation for establishing more specific provisions for the implementation of GI. IPR proponents are pushing for GI recognition for several agricultural products, including West Javan fragrant rice, Balian and Toraja Coffee, and Sulawesi's cocoa. When avian influenza threatened bird and human life in Indonesia, the government appeared to recognise how restrictive an IPR regime could be in making cheap and timely vaccines available. Yet there is no attempt to undo the domestic IPR regulations. There has never been a court case for protecting the intellectual heritage of Indonesia's peasants. Lawyers know little about IPRs in general and even less on how laws will affect small farmers.

Farmer Responses

"We don't understand IPRs. We keep our sharing free of charge and grow our seeds ... the problem is that we don't have any land any more," said most farmers interviewed in North Sumatera, Central Jawa and Banten provinces. "We seek to use the seeds that our grand-grand fathers brought from Jawa," said a group of young farmers from North Sumatera, Jawa and Central Jawa. Meanwhile most elderly farmers just like to keep and utilise what seeds they have. As in the past, they share and maintain seeds by travelling from village to village in a seed quest. An example of what they do is the exchange and adaptation amongst farmers of one of the famous rice varieties in Jawa, *Rojolele*. There are two varieties of *Rojolele*: landrace and improved variety. The farmer-developed local variety provides both material for the improved variety and knowledge about how it should be farmed. So farmers in Indonesia are still sharing and exchanging seeds in their own informal way and using their own community "network". But these are not factored into the government's formal legalistic approach to the protection of knowledge.

Whether they were contacted at the village level or through organised groups, the small farming communities were against the introduction of IPRs and expressed their opposition in several ways. On the issue of policy-making, farmers said that the main reason for the disconnectedness between laws and policies and the realities on the ground was lack of representation in decision-making. The farmers voiced concern that most government bodies, such as the National Seed Council, had no genuine farmer representation. Most organic farmers said that their shift to this kind of farming arose from their refusal to use IPR-protected seeds from the agricultural companies. Even the farmers' resistance to GE crops entering the country must be seen as resistance to IPR-protected technology.

One of the most effective and powerful means, developed by the farmers themselves, to retain control over both knowledge and planting material has been through reviving the use and exchange of seeds. During a national congress in March 2003, FSPI, the Indonesian *La Via Campesina*, launched an initiative for getting its members to exchange seeds. This can be perceived as a second wave of the seed-exchange activities which started in the mid-1980s within the organic farming movement. In some areas, the practice has never ceased: a survey carried out by BioTani Indonesia in 2003–4 among three types of small farmers in West Jawa showed that they had been saving seeds for decades. Monitoring of farmers in Central Jawa, Yogyakarta, and East Jawa showed that they, too, were routinely doing this. (In North Sumatera, the farmers have no more seed stock and are therefore highly dependent on shops/retailers.)

When asked, in a 2006 survey, some farmers' groups linked to the SPTN HPS, a non-governmental organisation (NGO) in Central Jawa, claimed that they never thought about getting IPR protection over crop varieties in their farms. They said that they would not seek any protection of this kind, as it did not seem to be compatible with their existing freedom to exchange and propagate planting material for community use. Several NGOs in Indonesia have also reacted strongly against the imposition of IPRs

on farmers' knowledge and to the government's pro-IPR legislative changes. There have also been -- and continue to be -- many campaigns against biopiracy. Indonesia has had painful experiences with biopiracy, including Japanese cosmetic company Shiseido's attempt to steal Indonesia's native herbs.

Customary Practices

According to farmers from North Sumatera, Banten and Central Jawa, *pranata mangsa*, as the Jawanese biodynamic agricultural system is known, entails the comprehensive sharing of knowledge across farming generations. The *pranata mangsa* calendar, which has its origin in agriculture and works as a farmer's almanac, is similar to *Sistem Bintang* (a calendar system) in Dayak Kalimantan, although there are variations in the calculation processes for finding suitable time for planting and so on. The customary practice of seed exchange is followed just as the elders practised it, and the traditional seed-knowledge culture is still alive, at least to some degree. People's knowledge based on biodiversity is also evident in the ancient Indonesian herbal knowledge *jamu*, which is still used today for healing and beauty purposes. The concept of harmony -- balance between people and their environment and balance between the different elements in the body -- is central to this practice.

There are many examples of traditional knowledge of the unique and special qualities of the biological resources of this part of the world. One of the treasures of the tropical forest of South-East Asia is *Eurycoma fongifolia*, popularly known as "Pasak Bumi" in Indonesia and "Tongkat Ali" in Malaysia. Its roots contain biologically active compounds which are being tested as an anti-malarial drug. These roots are widely used traditionally as an aphrodisiac and to bring down high blood pressure. Its Ginseng-like qualities make it a much sought-after plant in biomedical research for pharmaceutical products. There is growing interest in this herb, as evidenced by the increasing number of government research projects into it. What is worrying is the involvement of industry in its commercialisation, with the filing of patents by Japanese companies and Malaysian research institutes such as FRIM. It seems that the local communities' bio-resources and traditional medical knowledge will be stolen.

Indonesian history is replete with instances of community-based relationships that involve the sharing of resources and knowledge. More than ever before there is a need to reaffirm *Hak ulayat*, or the rights of people over their traditional resources. The consistent strong commitment within communities to *hukum adat* (local custom and tradition) may help to boost their bargaining power when dealing with "development" agents. For instance, a community resisted the introduction of mungbean -- which they deemed antithetical to their traditional world view -- by incorporating millenarian elements reminiscent of "cargo cults". Ritual leaders exploit their contacts with sky deities to allow the Imyan to control their own fate rather than being taken over by "outsiders".

THE WAY FORWARD is to continue with the traditions of knowledge-sharing. This entails developing creative ways of challenging laws and policies that prevent it. There is an urgent need to move forward from civil disobedience against IPR laws towards developing a framework outside and without IPRs. We need to talk about knowledge protection within a socio-cultural context and not divorced from it. Knowledge of biological resources is crucially linked to continued access to those resources. The fight for free knowledge is, therefore, a fight against the privatisation of biological resources.

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