A wake-up call on proprietary seeds

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How India can shift its agriculture from a high-yield ideal to a high-value one.

When the news broke that PepsiCo was suing small farmers in India for growing a potato variety that is used in its Lay's chips, popular sympathies immediately went, of course, to the farmers. National and international pressure swiftly mounted, and in short order a humbled PepsiCo backtracked, announcing its withdrawal of the lawsuit. There was global schadenfreude at Goliath's PR disaster and, in India, pride at being on the side of the righteous Davids.

What should not be a source of pride, however, is the fact that so many small farmers are, like the ones targeted by PepsiCo, reliant, directly or indirectly, on proprietary seeds. Typically these seeds are grown in high input (fertilizer-pesticide-irrigation) environments that, over time, erode local biodiversity. Between the expense of buying these seeds and inputs, and the loss of the skills and social relationships needed to do otherwise (through the saving and exchange of seeds of indigenous varieties), small-scale farming looks set to continue on its downward spiral of lower income, status and dignity.

It's time for a paradigm shift

No one can blame farmers for thinking that proprietary seeds are better. Since the days of the Green Revolution, agricultural extension officers — the field representatives of agricultural modernity — have taught farmers to buy ever-higher-yielding seeds. Taking this science-and-industry-know-best stance on seed quality a little further, efforts have been ongoing, albeit unsuccessfully due to pressures from farmers and NGOs, to pass a new seed law in India permitting the sale of certified seeds only.

In the current Indian law regulating intellectual property rights in seeds, the Plant Variety Protection law, this same official preference for the proprietary takes a different form. The law permits farmers not only to save and resow (multiply) seeds, but also to sell them to other farmers, no matter what the original source of the seeds is. This broad permission (called farmers' privilege) is considered indispensable for so-called seed sovereignty, which has become synonymous with permitting farmers to save, sow, multiply and use proprietary seeds, as well as proprietary vegetative propagation materials such as what are used for the cultivation of potatoes. Despite the shift away from seed replacement to the right to save seeds, the emphasis remains on proprietary seeds that have narrow, uniform and non-variable genetic builds. Where farmers could be using genetically distinctive seeds adapted to local conditions and farming traditions, they are instead adapting local conditions and traditions in order to use genetically standardised seeds, to ruinous effect.

It is time for a paradigm shift. To get a sense of what can be done, it may be useful to take a peep into recent regulatory efforts in Europe. The EU Regulation on Organic Production and Labelling of Organic Products,

adopted in 2018, for the first time permits and encourages, inter alia, the use and marketing for organic agriculture, of "plant reproductive material of organic heterogenous material" without having to comply with most of the arduous registration and certification requirements under various EU laws. Heterogenous materials, unlike current proprietary seeds, need not be uniform or stable. Indeed, the regulation clearly acknowledges based on "Research in the Union on plant reproductive material that does not fulfil the variety definition... that there could be benefits of using such diverse material… to reduce the spread of diseases, to improve resilience and to increase biodiversity." Accordingly, the regulation removes the legal bar on marketing of "heterogenous materials" and encourages its sale for organic agriculture, thus clearing the way to much more expansive use of indigenous varieties.

Once the delegated acts under the EU regulation are formulated, they will support the creation of markets, especially markets and marketplaces facilitating trade of heterogenous seeds, including by small farmers who are currently the most active in maintaining and improving such seeds in situ. Indeed, multimillion-Euro research and innovation projects being invited and funded by the EU already aim to make this diversity a more integral part of farming in Europe. And here they are talking only of the diversity within Europe.

Minimise harm, maximise gain

How can a biodiversity-rich nation like India shift its agriculture from a high-yield ideal to a high-value one, where the 'values' include striving to minimise environmental harm while maximising nutritional gains and farmer welfare?

First, small farmers must be educated and encouraged with proper incentive structures, to engage with agriculture that conserves and improves traditional/desi (heterogenous) seeds in situ, rather than with "improved", proprietary varieties. Currently, in the garb of protecting this diversity against biopiracy, India is preventing its effective use, management and monetisation for the benefit of its farmers.

Second, an immutable record-keeping system, perhaps blockchain or DLT, is needed to break the link between the profitable and the proprietary. Such a system would allow India and its rural communities to keep proper track of where and how their seeds/propagation materials and the genetic resources contained therein are being transferred and traded. It would also ensure, through smart-contract facilitated micropayments, that monetary returns come in from users and buyers of these seeds, from around the globe. These monetary returns would effectively incentivise continuous cultivation and improvement of indigenous seeds on the one hand, and ensure sustainable growth of agriculture and of rural communities on the other.

Third, and as a key pre-requisite to the execution of the first two plans, India's invaluable traditional ecological knowledge systems need to be revived and made a part of mainstream agricultural research, education and extension services. Know-how contained in ancient Indian treatises like the Vrikshayurveda and the Krishi Parashar falls within the scope of what international conventions such as the Convention on Biological Diversity refer to as 'indigenous and traditional technologies'. The revival of these technologies is central to promoting sustainable 'high value' agriculture, not least because of the growing global demand for organic and Ayurvedic products. The withdrawal of the lawsuit by PepsiCo may be a welcome relief to several farmers who can neither afford to defend themselves in court, nor to abandon the cultivation of proprietary varieties. It must, however, be a wake-up call to the government and policymakers who need to do much more to secure sustainable rural societies, protect soil health and promote seed sovereignty for the economic development of Indian farmers and of the entire nation.

Controversy between Pepsico and the farmers

What is the matter

- Recently, a multinational company had filed a lawsuit against some Gujarat farmers. The suit was related to the production of a special kind of potato.
- On this, the company was claiming infringement of intellectual property rights under the Variety of Conservation and Farm Rights Act 2001.
- The company had demanded a loss of Rs 20 lakh to 1 crore rupees.
- However, after protests grew, PepsiCo has announced the withdrawal of the lawsuit.
- PepsiCo alleges that these farmer were illegally growing and selling a variety of potato (FL-2027), which PepsiCo has registered.
- The PepsiCo India Company registered the FL 2027 variety in the year 2012 under the Protection of Plant Variety and Farmers Right Act, 2001.

What did the farmers say?

- Section 39 (1) (iv) of the Protection of Plant Variety and Farmers Right Act, 2001, clearly mentions that after the implementation of the Protection of Plant Variety Act, the farmers' can continue to do whatever they were doing if they hone bought the seeds before.
- As if a farmer bought it, he sowed it, then saved the seed from the crop and exchanged it, then can continue it.
- If someone even registers a certain kind, then the farmers of this country can also sell the special type of seeds, provided they do not sell these seeds by labeling the package.

Intellectual Property Rights

- Intellectual property rights are personal rights which are valid within the boundaries of a country and are given to individuals or legal companies for the protection of their creativity or innovation in the field of industrial, scientific, literature and art.
- Intellectual property rights ensure employment, innovation, security in any type or size of economy.
- On this basis, these rights can be classified into the following forms: -
  1) Copyright
  2). Patent
  3). Trademark
  4). Industrial design
  5). Geographical indicator
- World Intellectual Property Organization (WIPO)
- WIPO is a global forum for intellectual property services, policy, information and collaboration. This organization is a self-financed agency of the United Nations with 191 member countries.
- Its aim is to lead to the development of a balanced and effective international intellectual property (IP) system which enables innovation and creativity for the benefit of all.
- It was established in the year 1967.
- Its headquarters is in Geneva, Switzerland.
- Currently its Director General is Francis Guri.
- International Intellectual Property Index 2019
- Recently accepting the reform of India's innovation ecology, the US Chamber of Commerce has released the International Intellectual Property Index for the year 2019.
- India has been ranked 36th out of 50 countries.
- India was ranked 44th in the International Intellectual Property Index 2018.

Important point

- The index released this year is the seventh edition of the International Intellectual Property Index and is titled 'Inspiring Tomorrow'.
- This index covers 50 countries, it is notable that in the year 2018, five new countries (economies) - Costa Rica, Ireland, Jordan, Morocco and the Netherlands were included in this index. Earlier this index had 45 countries.
- India is ranked 36th in the index with 16.22 points. In the situation of India, this improvement reflects the efforts of Indian policy makers to develop a continuous innovative ecosystem for the domestic entrepreneurs and foreign investors alike.

Expected Questions (Prelims Exams)

1. Consider the following statements-

1. The rights granted to individuals in the context of their intellectual creation are called intellectual property rights.
2. Headquarters of the Indian Patent Office is located at New Delhi.
3. Geographical Indicators are not included in intellectual property rights.
4. International intellectual property index-2019 has seen a decline in Indian rankings compared to last year.

Which of the above is/are the statement true?

(a) only 1

(b) 1 and 2

(c) 2, 3 and 4

(d) 1, 2, 3 and 4

Expected Questions (Mains Exams)

Q. What are the reasons behind the use of seeds of proprietary varieties rather than the use of traditional Indian seeds by Indian farmers? (250 Words)

Q. In recent years, disputes related to the patent of seeds between international companies and Indian farmers have surfaced. Is the rules related to intellectual property rights of India are not able to tackle the above challenge? Critically Analyse. (250 Words)

Note: Answer of Prelims Expected Question given on 8 May. is 1 (b)