

Unit 22

Globalisation, Privatisation and Indigenous knowledge

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Learning Objectives

This unit will help you critically evaluate the various aspects of globalisation, Intellectual Property Rights (IPRs) and indigenous knowledge by introducing you to:

- globalisation and its relation to free trade;
- the role of WTO as a regulating body of world trade;
- the rules and agreements related to patents;
- the patent regimes and the implications for indigenous and traditional knowledge;
- the need for protection of traditional knowledge and community rights.

22.1 Introduction

Another important aspect of globalisation the indigenous knowledge system and the impact of global measures to protect the interests of patents on the indigenous knowledge will be discussed in this unit. WTO and the developed countries argue that the compulsory imposition of TRIPs is with the aim of checking piracy and to give protection to innovative inventions. But many a times this can go against the interests of indigenous/laypersons' common knowledge especially of the developing countries. Let us see how it can happen.

In May 1995 US patent office granted a patent to the University of Mississippi Medical Centre for "turmeric", for its wound healing capability. The implication of this is that if you are found using turmeric for wound healing without permission or payment you are liable for persecution. It is an absurd situation for millions of Indians who have been using turmeric for centuries to even to imagine that one has to pay royalty for use of turmeric or to imagine that it is a new invention.

The patent was challenged by a watchful Indian scientist, Dr. R. A. Mashelkar, who took up many issues related to Intellectual Property Rights (IPR), and brought awareness on little realised dangers in the IPR regimes and World Trade Organisation (WTO) practices. After nearly four months of contesting the patent, it was established that the use of turmeric was well known in India.

The patent was annulled but this was not the only traditional or indigenous knowledge and practice, which was nearly appropriated for commercial use and for profit. Mexican beans, South Asian basmati, Bolivian quinoa, Amazonian ayahuasca, West Africa's sweet genes, among many others, all have been subject to intellectual property claims that are predatory on the knowledge and genetic resources of indigenous peoples and farming communities.

Big multinational companies and pharmaceutical companies are constantly on the lookout to tap knowledge and products for commercial and profit making purposes. Patents, which are meant to protect the creative and innovative efforts, are being increasingly used to have exclusive rights on, what many times has been, a common knowledge of a community or a tradition. Brazil which has the world's richest bio-diversity has attracted many companies, and it is believed that more than half of the plant species in the rain forest of Brazil have been patented.

As you can see, to be not able to use *neem* or turmeric, because it has been patented by a private company for commercial purposes, is truly illogical for those of us who are familiar with the use of *neem* or turmeric in our everyday life. The discovery of the healing properties of these two plant species cannot be attributed to any one single person, such that the person can apply for a patent. It is a knowledge that has been passed down from generation to generation and nobody has exclusive rights over this knowledge. So, what has changed? Why has common property and knowledge become exclusive? In what way are traditional communities and indigenous populations affected by patent laws, which allow exclusive rights over knowledge or products? What has globalisation or WTO anything to do with it?

Let us see whether some of these questions can be answered in this unit. To understand some of these questions and many more, we need to see the issue of patents and indigenous knowledge within the backdrop of globalisation and the economic dimensions and implications of globalisation. So we will start the unit by trying to recapitulate some of the basic features of globalisation in terms of its free trade and liberalisation. We will subsequently look at the World bodies such as WTO, which regulate some of the functioning of free trade, through regimes such as TRIPS etc. Following this we will examine the patents regime and the implications it has for people who do not believe in private ownership or exclusive rights such as the indigenous people. We will also try and understand the alternatives available and strategies as well as the response of the poorer Third World countries and by the indigenous communities to the various aspects of patent laws and philosophy.

22.2 Globalisation, Liberalisation and Free Trade

There are several aspects to the process of globalisation process, which we have discussed in detail in unit 20. The unit which is on socio-economic and cultural dimensions of globalisation has also pointed out that while scholars may define globalisation in different ways they all do agree that the present process and phenomena points out to an increasing intensity of flows between goods, people, finances among many other things. The intensity of interaction is such that events in one place are affected by process taking place many miles away and vice-versa.

Globalisation brought about internationalisation of economic activities, especially with US and UK taking to greater interest in market coordination during 1980s. There was greater emphasis on private enterprise during Ronald Reagan and Margaret Thatcher's regime in US and UK respectively. During this period there was more export-oriented economies, due to the recommended path by the international funding bodies such as International Monetary Fund (IMF) and World Bank. Since then there has been a substantial growth in world trade, consequently international bodies such as World Bank, IMF and WTO have become very powerful who constantly recommended lesser government and state involvement and more free flow of goods and finances.

With increasing pressure from world monetary and trade organisations many states succumbed to the pressure to liberalise their economies. With the collapse of Soviet Russia an alternative model for free enterprise was found to be unviable and so more and more nations became integrated into a global network of free trade. Many governments took to shrinking public expenditure on capital and social sector such as on health, education, housing, public distribution system rural infrastructure development, etc. In that sense there has been globalisation of national policies and policy-making mechanisms of national governments.

India too took steps to liberalise its economy following a crisis in 1990's. The two central components of the neoliberal policies adopted by Indian government have been the liberalisation of India's private sector and a reform of the public sector (see unit 20 for more details). Thus, India took to liberalisation, which essentially meant that many of the activities, which the state performed were reduced whether it is centralised price control, monopoly over infrastructure and public services, to name some. The IMF and World Bank started insisting on the deregulation of national economies and liberalisation in trade and investment sectors as conditions for the grant of financial assistance or loans to countries world over. They advocated free trade, which in modern usage means trade or commerce carried on without such restrictions as import duties, export bounties, domestic production subsidies, trade quotas, or import licences. Not only did India adopt Structural Adjustment Programmes (SAP) on the behest of the IMF World Bank but also privatisation. Privatisation essentially involved the state selling out its assets to private ownership (refer unit 20 for more details on this).

Another aspect of globalisation has been the involvement of Foreign Direct Investment (FDI), which is money invested by foreign party that is rewarded with part ownership of production. This is done through different forms of collaborations. In 1990 there has been phenomenal growth in collaborations between companies across countries and FDIs grew substantially all over the world.

There is a general view that FDI flows help the economy in several ways one of them being transfer of technology. As you have already learnt with the increase in the rate of the transfer of technologies at the national and the international level the question of patent protection became significant. Though there were effective rules and regulations at individual countries, there was not an international policy accepted by all the countries. With the increased interaction and technology transfer during the heightened pace of globalisation made it important to have an international policy agreed by most of the nations around the globe on the issue of patent protection. This is what WTO tried to impose through the implementation of Trade Related Intellectual Property Rights (TRIPS). TRIPS came into effect in 1995. It imposes minimum standards in seven areas of intellectual property i.e. patents, copyright, trademarks, geographical indication, industrial design, and undisclosed information (trade secrets) and covers diverse areas as computer programming and circuit design, pharmaceuticals and transgenic crops. TRIPS was devised based on standards of the North and conflicts with the national interests and needs of the Third World countries. For instance most Third World countries previously exempted medicines, agriculture and other products from national patent laws but with TRIPS almost all knowledge-based production is subject to tight intellectual property protection. Third World nations have to adjust their laws to conform to TRIPS by 2000 while the least developed countries by 2016. The latter will be confronted with severe financial and administrative constraints (*UNCTAD* 1996: 2-3).

Although the positive effects of TRIPS on the South have been touted by the North, in terms of technology transfer, foreign direct investment (FDI) and research and development (R&D) innovation, there is scant evidence of this taking place. In fact the strengthening and expansion of Intellectual Property

Rights (IPRs) will affect the access to and use of technologies and the Third World's prospect for industrial and technological development; stronger IPRs means higher costs in terms of royalties and other payments and reduce resources available for local R&D; scientific and technological protectionism is a growing problem as the increasing economic relevance of scientific research limits the free dissemination of research results and constrains the traditional openness of university laboratories where most basic research is conducted in the North – this will reduce the Third World's prospects of improving their social and economic conditions (Correa 2000: 33).

At this stage you must be wondering what are IPRs and TRIPS. To understand the various aspects of these regimes let us look at world bodies such as WTO, to start with and how some of the regulating mechanisms of trade have evolved over the years.

Reflection and Action 22.1

Locate a company, which qualifies as instance of Foreign Direct Investment. Try and assess what the benefits of this company have been for the Indian nation and its people. Write a small paper on it and share it with your fellow students and your coordinator.

22.3 World Trade Organisation (WTO)

As we already mentioned, the volume of trade increased substantially towards the end of 20th century and it was felt that there ought to be regulating body, which looks in to trade agreements between countries. After World War II there was an attempt to set up an International Trade Organisation (ITO), which never materialised but in 1947 there was body, which came in to existence called the GATT-General Agreement on Tariffs and Trade. It did not take long for the General Agreement to give birth to an unofficial, *de facto* international organisation, also known informally as GATT. Over the years GATT evolved through several rounds of negotiations. The last and largest GATT round was the Uruguay Round, which lasted from 1986 to 1994 and led to the WTO's creation (you already learned about the genesis and functioning of WTO in Unit 20 and you will learn more about this in Unit 23 also). Whereas GATT had mainly dealt with trade in goods, the WTO and its agreements now cover trade in services, and in traded inventions, creations and designs (intellectual property).

The organisation describes itself as thus:

There are a number of ways of looking at the WTO. It's an organisation for liberalising trade. It's a forum for governments to negotiate trade agreements. It's a place for them to settle trade disputes. It operates a system of trade rules. At its heart are the WTO agreements, negotiated and signed by the bulk of the world's trading nations. These documents provide the legal ground-rules for international commerce. They are essentially contracts, binding governments to keep their trade policies within agreed limits. Although negotiated and signed by governments, the goal is to help producers of goods and services, exporters, and importers conduct their business.... (source: www.wto.org)

Some of the basic principles that WTO involves are trade without discrimination, free trade through lowering trade barriers, general agreement on trade and services, trade related intellectual property rights etc. Since this unit deals mainly with the implications of patent regimes on indigenous and traditional knowledge let us look into the features of TRIPs which is a major area of WTO regime (you will learn about the other principles of WTO in detail in unit 23).

Let us examine, in the following section, each of the areas, which come under the TRIPs agreement to further understand what these entail.

22.4 Trade Related Intellectual Property Rights (TRIPs)

Ideas and knowledge are now considered as an important part of trade relations. Patents, copyrights are awarded to people and organisation to protect their creative and innovative inputs into product or process.

“Creators can be given the right to prevent others from using their inventions, designs or other creations and to use that right to negotiate payment in return for others using them. These are ‘intellectual property rights’. They take a number of forms. For example books, paintings and films come under copyright; inventions can be patented; brand-names and product logos can be registered as trademarks; and so on. Governments and parliaments have given creators these rights as an incentive to produce ideas that will benefit society as a whole. The extent of protection and enforcement of these rights varied widely around the world; and as intellectual property became more important in trade, these differences became a source of tension in international economic relations” (Source: www.wto.org).

As we already mentioned IPRs are meant to protect the creative and innovate efforts of organisations, companies or people and they cover a range of products and process.

The following areas are covered under the TRIPs agreement:

- Copy right and related rights
 - Trademarks, including service marks
 - Geographical indications
 - Industrial Designs
 - Patents
 - Lay-out Designs of integrated circuits
- a) **Copyright and Related Rights:** Under this category, the rights of authors and artist of literary works such as, books and other writings, musical compositions, paintings, sculpture, computer programs and films, are protected by copyright, for a minimum period of 50 years after the death of the author. Also protected through copyright and related rights are the rights of performers (e.g. actors, singers and musicians), producers of phonograms (sound recordings) and broadcasting organisations. The TRIPs agreement ensures that computer programs will be protected as literary works under the Berne Convention and outlines how databases should be protected. It also expands international copyright rules to cover rental rights. Authors of computer programs and producers of sound recordings must have the right to prohibit the commercial rental of their works to the public. A similar exclusive right applies to films where commercial rental has led to widespread copying, affecting copyright-owners’ potential earnings from their films.
 - b) **Trade marks:** The agreement defines what types of signs must be eligible for protection as trademarks, and what the minimum rights conferred on their owners must be. It says that service marks must be protected in the same way as trademarks used for goods. Marks that have become well known in a particular country enjoy additional protection.
 - c) **Geographical Indications:** A place name is sometimes used to identify a product. This “geographical indication” does not only say where the product was made. More importantly, it identifies the product’s special characteristics, which are the result of the product’s origins. Well-known examples include “Champagne”, “Scotch”, “Tequila”, and “Roquefort” cheese. Wine and spirits makers are particularly concerned about the use of place-names to identify products, and the TRIPs Agreement contains special provisions for these products. But the issue is also important for

other types of goods. Using the place name when the product was made elsewhere or when it does not have the usual characteristics can mislead consumers, and it can lead to unfair competition. The TRIPs Agreement says countries have to prevent this misuse of place names.

- d) **Industrial Design:** Under the TRIPs Agreement, industrial designs must be protected for at least 10 years. Owners of protected designs must be able to prevent the manufacture, sale or importation of articles bearing or embodying a design, which is a copy of the protected design.
- e) **Patents:** The agreement says patent protection for inventions must be available for at least 20 years. Patent protection is available for both products and processes. Governments can refuse to issue a patent for an invention if its commercial exploitation is prohibited for reasons of public order or morality. They can also exclude diagnostic, therapeutic and surgical methods, plants and animals (other than micro-organisms), and biological processes for the production of plants or animals (other than microbiological processes). Plant varieties, however, must be protectable by patents or by a special system (such as the breeder's rights provided in the conventions of UPOV – the International Union for the Protection of New Varieties of Plants. If a patent is issued for a production process, then the rights must extend to the product directly obtained from the process. Under certain conditions alleged infringers may be ordered by a court to prove that they have not used the patented process. In the recent Doha meeting (of WTO) it agreed that the TRIPs Agreement does not and should not prevent members from taking measures to protect public health. They underscored countries' ability to use the flexibilities that are built into the TRIPs Agreement. And they agreed to extend exemptions on pharmaceutical patent protection for least-developed countries until 2016. On one remaining question, they assigned further work to the TRIPs Council – to sort out how to provide extra flexibility, so that countries unable to produce pharmaceuticals domestically can import patented drugs made under compulsory licensing. A waiver providing this flexibility was agreed on 30 August 2003.
- f) **Integrated Circuit Design:** This particular item and area was adopted in 1989 but it is yet to come in to force. The protection for this is available for 10 years.
- g) **Undisclosed Information Including Trade Secrets:** Trade secrets and other types of "undisclosed information" which have commercial value must be protected against breach of confidence and other acts contrary to honest commercial practices. But reasonable steps must have been taken to keep the information secret. Test data submitted to governments in order to obtain marketing approval for new pharmaceutical or agricultural chemicals must also be protected against unfair commercial use (Source: www.wto.org).

On the face of it seems perfectly valid that there should be uniform laws that can be applied equally for all trading partners but the TRIPs agreement has come from severe criticism from developing and least developed countries. They feel that the gradual erosion of the developed countries' supremacy in manufacturing and technology, due to the rise of the Asian countries as competitors has prompted industries and companies from the North to become pressure groups, which have been behind the agreements. "The industrial lobbies convinced developed-country governments on the need to link trade with IPRs, in order to prevent imitation and to increase returns on research and development. Monopoly rights granted by IPRs were regarded as crucial to prevent the developing countries from further undergoing the 'catching-up' process towards industrialisation based on imitating and copying technologies, as the developed countries themselves had done. In other words, IPR protection was a tool to guarantee the comparative advantage that had so far ensured

the developed countries' technological supremacy" (Cecilia Oh, Third World Network, 2000).

Reflection and Action 22.2

It takes a lot of investment of both money and creative energies to make software, a music album, a film etc. Don't you think therefore that piracy of such items should be punished severely? What are your views on this?

22.5 Domination of the Developed North in WTO

As we already mentioned the WTO agreements are largely devised on the standards thought out and set by the developed nations of the North. Many in the South believe that it was devised in such a way that the interest of the big industries and companies, who do not want to lose their monopoly over technology or products.

When one considers the working of WTO itself, it has been found that the negotiations are invariably between the richer groups of countries the decisions that they are reach are then imposed on the poorer nations without their participation. The Protest against Seattle WTO meeting was precisely the complaint that Third World had against the North. Let us read this report from the Guardian newspaper (see Box 23.2), which captures the frustrations of the poorer countries and the manipulative tactics of the developed world.

Box 22.1: WTO Seattle Talks

So what happened in the real Battle for Seattle? Firstly, the poor countries were sidelined from the start in the desperation of the Americans to get a deal. The working groups which had convened to reach consensus between interested countries in different areas were regarded as a sham. The chairs were reporting consensus when none existed.

Secondly, the 'green room discussions', the next level of debate, this time mostly between the rich countries, were excluding the poor. At least one African delegate was physically barred from attending.

The third issue concerned the style and manner of the US chief negotiator Charlene Barshefsky who was judged personally offensive, patronising and insulting. She was booed in one plenary meeting.

And in addition to this the poor countries were appalled by the speed at which the negotiations were being rushed through, and by the lack of debate. Not only had many of the world's poorest countries neither the capacity nor the means to implement even the previous round of talks which finished five years ago, let alone take aboard a whole new round of negotiations, but many had barely the means to have a permanent representative in Geneva where the rolling talks are held.

The Third World was also concerned that genuine concerns about the effects of another round of liberalisation on trade on the environment, jobs, cultural and social issues were being seen to be constantly suborned to pure economic interests. Time after time, agreements that had taken years to make in other international forums were dismissed or discarded. The WTO does not recognise the 'precautionary principle', and overrules all other international agreements. This, together with the perceived agenda setting of the talks by big business, is what mostly concerned the environmentalists and labour groups protesting at Seattle.

'The democratic system is not working,' said Martin Khor of Third World Network. 'It's bust. It needs more than WTO reform.'

While the media concentrated on Seattle's riots, the tear gas and the looting, the demands on the streets of Seattle were not for an end to world trade but for a fairer and more democratic system. 'They are worried about a few windows being smashed', said one Filipino leader. 'They should come and see the violence being done to our communities in the name of liberalisation of trade.'

Source: Guardian, December 9, 1999

As we already mentioned there are many aspects of trade that tilt against the poorer south, we did mention for instance how some of the trade relations are essentially suited to the monopolistic tendencies of the big corporations. One particular area which has come under severe criticism from the South is introduction of TRIPs agreement in the Uruguay round, which gives a handle to WTO and the big companies which lobby, to twist the arms of poorer nations in the name of patents. TRIPs ignores the profound differences in economic and technological capabilities between the North and the South, and is an instrument of 'technological protectionism' aimed at consolidating an international division of labour where the North generates the innovations and the South will be the market for the resulting products and services. It is a move by US corporate interests to establish global rules to counter their declining competitive market edge in world markets (Correa 2000:5).

22.6 Implications of TRIPs for the Third World Countries

TRIPs will affect the poorer countries that do not have the knowledge by increasing the gap; and by shifting bargaining power towards the producers of knowledge most of whom are in the industrialised North. Not only that, national governments which used to exempt certain areas and items such as medicine, agriculture etc. from patent laws now have to comply with WTO regimes. This will be most strongly felt in the area of patents and its effects on the prices of medicines. Equally endangered would be knowledge which has never been patented and which was in public domain of traditional and indigenous communities. This knowledge is being either cleverly siphoned off or stolen – also known as "bio piracy".

The North's dominance of intellectual property can be seen from the following data: 97 percent of all patents worldwide is concentrated in a handful of countries; in 1993, ten countries accounted for 84 percent of global R&D; 95 percent of patents granted in the US over the past two decades were conferred on applications from ten countries which captured more than 90 percent of cross-border royalties and licensing fees; 70 percent of global royalty and licensing fee payments were between parent and affiliate in TNCs; and more than 80 percent of the patents that have been granted in the Third World countries belong to residents of industrial nations (UNDP 1999: 68).

The fact that knowledge can be patented has serious implications for access to health, agricultural practices, and related fields such as bioengineering. Let us see how it affects access to health for instance.

TRIPs and Health: A pharmaceutical company can get a patent for both the process and product for 20 years under the TRIPs agreement. Product patents provide for absolute protection of the product, whereas process patents provide protection in respect of the technology and method of manufacture. A process patent system promotes a more competitive environment and a check on prices, as compared to the monopoly system created through product patents. With the TRIPs requirement for both product and process patents, it will therefore be possible to apply for patent rights over a product for 20 years, and thereafter, further periods of protection could be applied for the processes by which the product is produced. Earlier the Third World countries produce some medicines themselves, for example India, China, Brazil and Egypt allow patents on pharmaceutical processes but not the final products. That means they can produce the drug legally using a different process from the original used. This supported the development of national domestic industries to produce generic drugs, which were cheaper than the branded originals. But now they have to comply with TRIPs agreement as members of WTO and have their patent laws amended and in place.

However, under TRIPs "countries can still gain access to drugs and protect public health under 'compulsory drugs licensing'. Article 31 of TRIPs states

that member states 'may use the subject of a patent without the authorisation of a right-holder including use by the government' in the public interest. It also says that 'the right-holders shall be paid adequate remuneration taking into account the economic value of the authorisation'. Thus governments can grant a license to make copies of patented drugs without the approval of the patent owner and pay a royalty to the latter. 'Compulsory licensing' is part of the patent law of many countries. This option has been used by countries to restrict the monopoly rights of companies (the patent holders) in the interest of the public good" (Evelyn Hong, 2000, Source: <http://www.phmovement.org>).

The US has applied for compulsory license domestically in hundreds of cases. But many developing and underdeveloped nations hesitate to opt for compulsory licensing because of trade sanctions against them. It happened with Thailand, when it tried to produce generic drugs for its increasing AIDS patients under compulsory licensing scheme. It was forced to drop the plan when US threatened to increase tariff on wood products and jewelry from Thailand. Similar threats were deployed on South Africa and was stopped with the accusation that South Africa was violating patent laws by opting to produce a generic drug for its 4 million AIDS patients. The pharmaceutical companies, backed by TNCs and US governments filed a petition. Thanks to intense pressure by AIDS activist and others that US retreated from its position and reached negotiations.

Free from competition, the company will be able to keep the price of the drug high during the protection period. By virtue of TRIPS protection, no generic equivalent can come into the market until expiry of the 20 years, denying patients cheaper alternatives.

Patents on Life Forms Biological Material: Article 27.3 (b) of TRIPs allows patenting of life forms in the sense that micro-organism and micro-biological processes have to be patented and accord protection to plant varieties by patents or some legal means. These enable the biotechnology lobby and Northern governments to exert private monopolistic rights over terrestrial biological resources.

These measures will legitimise the private appropriation of community-based resources and knowledge and undermine indigenous and local communities. It gives the North legal right to plunder the biological heritage of the Third World. For instance, it will further the patentability of traditional medicines and crops which in the Third World have been in the public domain for millennia. The Third World is the source of some 90 percent of the world's store of biological resources. Bio-prospectors have for many years stolen the plant knowledge of local people for profitable uses. For example the rosy periwinkle found in Madagascar contains anti-cancer properties, Eli Lilly developed a drug from it making \$100 million in annual sales but nothing for Madagascar (UNDP 1999).

The value of the trade in medicinal plants is currently estimated at US\$43 billion a year; whilst the value of crops varieties improved and developed by traditional farmers to the seed industry amounts to US\$15 billion. Other natural products so derived like sweeteners, perfumes, bio-pesticides, fabrics and cosmetics indicate the immense contribution and value of biological resources from the Third World (Gray 1993 and Brush 1999). In terms of the contribution to pharmacology, some three quarters of the plants that provide active ingredients for prescription drugs drew the attention of researchers because of their use in traditional medicine; of the 120 active compounds currently isolated from the higher plants and widely used in modern medicine, 75 percent show a positive correlation between their modern therapeutic use and the traditional use of the plant from which they were derived (Farnsworth *et al* 1985). Landmark discoveries were made of an important class of antihypertensive agents - ACE inhibitors from plant extracts collected from Malaysia, Ghana and Costa Rica (Howson, Fineburg and Bloom 1998, Source: <http://www.phmovement.org/pubs/issuepapers>).

Reflection and Action 22.3

Assess the impact of TRIPs regime on the pharmaceutical sector in India.

22.7 Indigenous Knowledge and Biopiracy

As can be seen from our previous section, the contribution of traditional or indigenous knowledge practices to modern pharmaceutical industry and big corporations is immense. Most of these life forms and knowledge as we already mentioned are located in the Third World countries.

Box 22.2: Biopiracy

Bio piracy refers to use of biological resources by corporations. Particular activities usually covered by the term are:

- unauthorised use of biological resources such as plants, animals, micro-organisms and genes
- unauthorised use of traditional communities' knowledge on biological resources
- unequal share of benefits between a patent holder and the indigenous community whose resource or knowledge has been used
- patenting biological resource with no respect to patentable criteria (novelty, nonobviousness, usefulness)

More than 90 per cent of the earth's biological diversity is located in Africa, Asia and South America; indigenous communities which have developed and nurtured such diversity are not acknowledged – much less compensated - for the material and local knowledge that is taken from them. This inequity is exacerbated by the growing use of patents, which grant exclusive protection to Northern corporations and researchers for material or knowledge, which originated in the South.

And what is more, a majority of the populations of the South rely on indigenous knowledge for their survival. A report, which was prepared by the Rural Advancement Foundation International (RAFI) estimates that "80 per cent of the world's people continue to rely upon indigenous knowledge for their medical needs and possibly two-thirds of the world's people could not survive without the foods provided through indigenous knowledge of plants, animals, microbes and farming systems" (<http://twm.co.nz/Biopiracy.html>)

As Vandana Shiva points out "biopiracy and patenting of indigenous knowledge is a double theft because first it allows theft of creativity and innovation, and secondly, the exclusive rights established by patents on stolen knowledge steal economic options of everyday survival on the basis of our indigenous biodiversity and indigenous knowledge. Over time, the patents can be used to create monopolies and make everyday products highly priced" (source: <http://www.globalissues.org>). The justification given by big corporations for patent has been that they lose a lot of money which they spend in research development to Thrid World piracy. The estimates provided for royalties lost in agricultural chemicals are US\$202 million and US\$2,545 million for pharmaceuticals. However, as the Rural Advancement Foundation International (RAFI), in Canada has shown, if the contribution of Third World peasants and tribals is taken into account, the roles are dramatically reversed: the US owes US\$302 million in royalties for agriculture and \$5,097 million for pharmaceuticals to Third World countries. Besides the money involed the unequal trade, patenting of lifeforms and knowledge is big threat to the very food security of poorer rural communities and the indigenous people.

Many biotech companies claim that genetically engineered foods will help alleviate hunger and increase food security, their acts of patenting the knowledge and food that has been developed over centuries itself may be a threat to food securtiy.

Genetic diversity in agriculture has been the main stay of many indigenous communities and rural communities of the South, In fact the reason why there has been so much of bio-diversity in the South has been partly attributed to the sustainable agricultural practices of small farmers and communities. These communities have over the centuries acquired knowledge about plants, seeds and breeds which are best adapted to agro-climates, pests and so on. And this has contributed to the general availability of food even through climatic aberrations and changes. Farmers in Semi-arid regions of India at one time knew the particular variety of crops to be grown which are drought resistant. The same regions now see an increasing disaster of failed crop production and suicides by farmers. Read the Box 23.4 to understand some of the nuances, as articulated by Vandana Shiva, who is leading activist fighting for bio-diversity and rights of small communities.

Box 22.3: Food Security

"Last year I was in Warangal, Andhra Pradesh where farmers have also been committing suicide. Farmers who traditionally grew pulses and millets and paddy have been lured by seed companies to buy hybrid cotton seeds referred to by the seed merchants as "white gold", which were supposed to make them millionaires. Instead they became paupers.

Their native seeds have been displaced with new hybrids which cannot be saved and need to be purchased every year at high cost. Hybrids are also very vulnerable to pest attacks. Spending on pesticides in Warangal has shot up 2000 percent from \$2.5 million in the 1980s to \$50 million in 1997. Now farmers are consuming the same pesticides as a way of killing themselves so that they can escape permanently from unpayable debt.

The corporations are now trying to introduce genetically engineered seeds, which will further increase costs and ecological risks. That is why farmers like Malla Reddy of the Andhra Pradesh Farmers' Union had uprooted Monsanto's genetically engineered Bollgard cotton in Warangal.

The rich diversity and sustainable systems of food production are being destroyed in the name of increasing food production. However, with the destruction of diversity, rich sources of nutrition disappear. When measured in terms of nutrition per acre, and from the perspective biodiversity, the so called "high yields" of industrial agriculture or industrial fisheries do not imply more production of food and nutrition. Yield usually refers to production per unit area of a single crop. Output refers to the total production of diverse crops and products. Planting only one crop in the entire field as a monoculture will certainly increase its individual yield. Planting multiple crops in a mixture will have low yields of individual crops, but will have high total output of food. Yields have been defined in such a way as to make the food production on small farms by small farmers disappear.

The Mayan peasants in the Chiapas are characterised as unproductive because they produce only 2 tons of corn per acre. However, the overall food output is 20 tons per acre when the diversity of their beans and squashes, their vegetables and their fruit trees are taken into account.

In Java, small farmers cultivate 607 species in their home gardens. In sub-Saharan Africa, women cultivate 120 different plants. A single home garden in Thailand has 230 species, and African home gardens have more than 60 species of trees. Rural families in the Congo eat leaves from more than 50 species of their farm trees. A study in eastern Nigeria found that home gardens occupying only 2 per cent of a household's farmland accounted for half of the farm's total output. In Indonesia 20 percent of household income and 40 per cent of domestic food supplies come from the home gardens managed by women. Research done by FAO has shown that small bio-diverse farms can produce thousands of times more food than large, industrial monocultures. And diversity in addition to giving more food is the best strategy for preventing drought and desertification.

Source: http://news.bbc.co.uk/hi/english/static/events/reith_2000/lecture5.stm)

22.8 Protection of Indigenous and Traditional Knowledge

It is very clear from the preceding discussion that the implications IPRs for Third World countries, and the subsistence farming communities and indigenous population with these countries, is very severe. Not only is their knowledge stolen but their very survival is threatened without any compensation for their knowledge or survival.

Various protests, against the Seattle Talks in particular and in general to variety of agreements, have pointed out to the Northern and big corporation bias in these agreements. Besides, the IPR regimes are structured to suit the logic developed by the North, which is based on Individual rights and this alien to the community ownership of indigenous and traditional communities. Some of the characteristics of indigenous knowledge are:

- Collective rights and interest
- Closely integrated with their ecology and environment, sometimes taking on a sacred quality
- Many times this knowledge is respectful of the diversity in nature
- Not always well documented; but orally transmitted.

These aspects of indigenous knowledge and their way of life have been their vulnerable point for exploitation. For instance the Convention on Biological Diversity (CBD), argued that one factor in the loss of biodiversity is the “lack of clear property rights governing ownership and access to biodiversity”. And therefore it recommends that there should be clearer specifications and laws regarding sustainable management of the resources in the control of the indigenous community. The existing IPR regimes do not recognise the collective rights that indigenous people hold in knowledge and practices. There is also a fixed period for protection under patent laws, usually up to 20 years, which again does not provide for indigenous knowledge that is often the result of millennia of innovation and transmission.

Various organisations have looked to different international conventions and summits to look for guidance of the rights of indigenous communities to work out modalities for the protection of their rights and knowledge. Let us briefly summarise some of these articulations.

International efforts to protect of indigenous rights and knowledge: The *Draft Declaration on the Rights of Indigenous Peoples* provides, at Article 24, for Indigenous peoples’ rights to “their traditional medicines and health practices, including the right to the protection of vital medicinal plants, animals and minerals”. Article 29 provides that Indigenous peoples are “entitled to the recognition of the full ownership, control and protection of their cultural and intellectual property”. These peoples, the Article says:

...have the right to special measures to control, develop and protect their sciences, technologies and cultural manifestations, including human and other genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs and visual and performing arts.

International Labour Organisation Convention 169 ('ILO 169') also contains various provisions (e.g. Articles 4, 5, 8, 13 and 23) relevant to the protection of Indigenous peoples’ cultures, environments, and religious and political systems.

One international development that provides specific opportunities for introducing measures to protect Indigenous knowledge is the *Convention on Biological Diversity (CBD)*, mentioned above. Article 8(j) of this Convention encourages countries “subject to national legislation” to:

...respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilisation of such knowledge, innovations and practices (Source: <http://www.aph.gov.au>)

These are as far as the international directives and conventions which provide broad outlines but when it draws closer to implementing a lot of nuances come in the way which makes the protection of knowledge a communities very difficult.

Perspectives on protection of traditional knowledge: For instance the CBD urges national laws or policies to be made which protect bio-diversity and indigenous community rights. If we take the example of India, for instance, can we say that our national policies and laws have been protective of our small communities or indigenous communities such as the *Adivasis*. The Indian herbal industry has been accused of using traditional community knowledge and not shared the benefits of the profits it made.

There are several perspectives to the issue of the protection of traditional knowledge and benefit sharing. Ujjwal Kumar from Gene campaign, an NGO working towards this issue writes in an article that the perspectives can put as: i) commercial interest minus of communities, ii) commercial interest inclusive of communities and iii) community interest that do not conform with commercial interest.

As for the first perspective, it seems a lot of what the domestic herbal industry or pharmaceutical industry doing is reaping the traditional knowledge for commercial interest without providing for the communities.

The second one on the other hand seems a good via - media, for the IPR regimes, it seems is increasingly difficult to debunk so there should be protection of not only the knowledge but also commercialisation where benefits are shared by the relevant community(s). The efforts made by National Innovation Foundation and to some extent People’s Biodiversity Registers, can be sited as examples in this category.

The proponents of the third viewpoint feel that communities and traditions are inseparable and they should not be diluted by laws and commercial interests, as it would upset the very foundation and philosophy of indigenous communities’ relationship with environment. Their basic objective is to regain control of decreasing access to biological resources by indigenous communities and not concentrate on the by-products of what remains of their knowledge or practice.

All these perspectives have their respective advantages and disadvantages if one were to examine them carefully. In the meanwhile the poorer countries of the world especially a combined front of Brazil, India, Venezuela, Malaysia, among others, have been resisting global pressures and agreements at various level and have created fairly formidable resistance to Northern domination.

However, issues relating to protecting, recognising and rewarding of traditional knowledge associated with biological resources are very complex. The modalities for protecting traditional knowledge are still emerging and evolving. The nature of entitlements and share in benefits is also a grey area. Even at the international level, clarity has as yet not emerged and countries are grappling to understand the issue.

22.9 Conclusion

In this unit we have tried to understand the process of globalisation and its main features and how in many ways it paves the way for increasing privatisation and liberalisation. We examined the features of international trade regulating body, the WTO, especially with relation to Trade Related Intellectual Property Rights. There was also a discussion and found that the concerns expressed by poorer countries about the domination of the North are reasonable valid. They domination of the North is expressed in many ways; we tried to examine some of these aspects. One particular aspect, which is of importance to our unit, is the agreement on TRIPs, which has several consequences for IPRs. Couched as they are in legal language, some of the agreements and laws have proved to be very slippery but with increasing involvement and alertness on the part of Third World countries a lot biopiracy has come under watch. As to how these regimes will evolve will depend on the continuing debates on various issues that concern indigenous people's rights and the protection of their knowledge and biodiversity.

22.10 Further Reading

Stiglitz, E. Joseph 2003. *Globalisation and its Discontents*. Norton and Company: New York

Correa, Carlos M. 2000. *Intellectual Property Rights, the WTO and Developing Countries: The TRIPs Agreement and Policy Options*. Third World Network: Penang