

Economics of IPR
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Module – 01
Lecture – 03
Application of IPR

As a part of introduction to Intellectual Property Rights this particular lecture is trying to discuss the application part of intellectual property rights.

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So, the Brief Outline of this presentation is introducing the intellectual property rights its Relationship with Business, Biotechnology, Pharmaceutical, Science and Technology, Livestock Sector, Agriculture and then Conclusion.

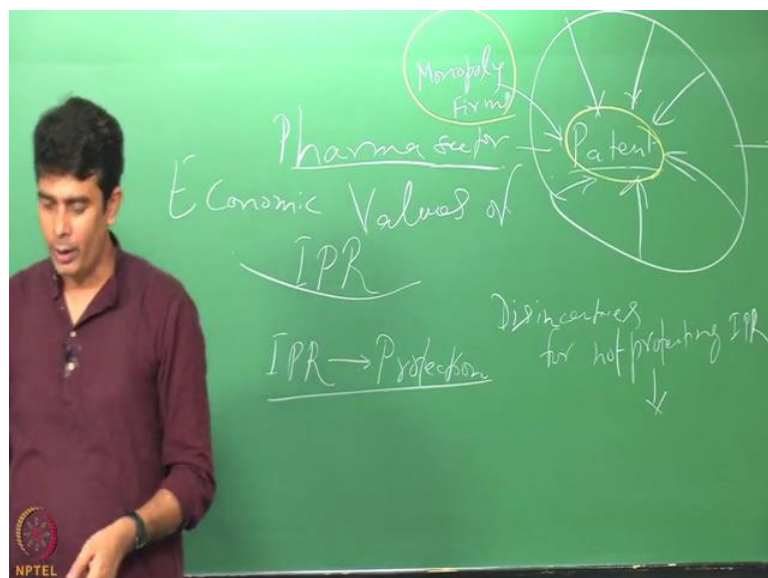
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Introduction

- IP is the creation of mind, it has **not only moral value but also the commercial and economic value**
- **A fair return on the investment** is anticipated with **strong IPR protection mechanism** and this will encourage creative activity
- **Application of IPR is crucial**; Its impact can be far reaching

So, what is basically as we have seen that Intellectual Property is the creation of mind, it has not only the moral value but also the commercial and economic value. Since, there are economical value involve in intellectual property rights. So, everybody is trying to basically trying to really own this type of intellectual property rights and they want to really get the benefit from investing in innovations and innovations and intellectual exercise.

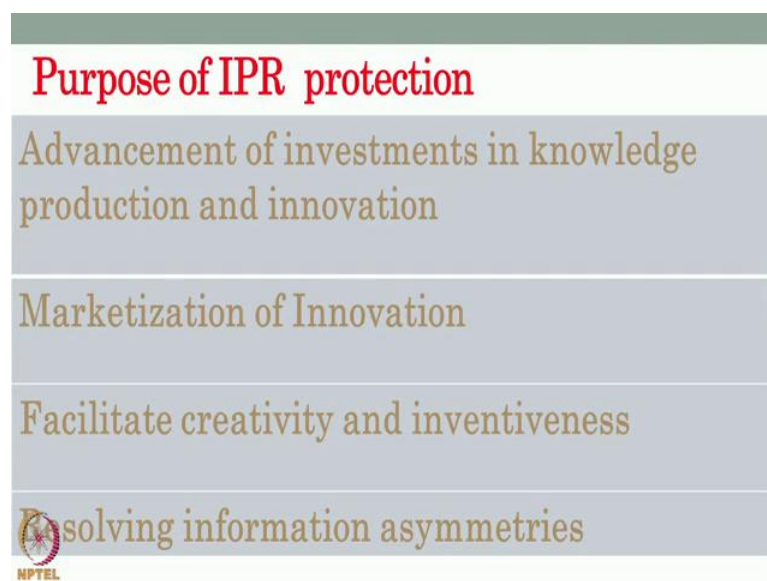
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Since, there are economic values; economic values of IPR since there are economic value of intellectual property rights. So, a fair return on the investment is anticipated with a strong IPR protection. So, all intellectual property rights whether it is patent, copyright, trade mark, trade secrets, industrial design, they all need proper protection because movement the movement intellectual property rights are not protected properly you have a chance to get this incentive. Intellectual property rights provides incentives, but the movement protection is not available or the protection is weak you have this incentive from the IPR this incentives of not protecting the intellectual property rights, so this type of this incentive.

These incentives for not protecting IPR this really leads to a condition of discouraging the creative activity. So, application of intellectual property right is crucial to understand and its impact can be for reaching from this discussion.

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We can see that how intellectual property rights are really important to understand because the protection of IPR intellectual property rights are basically the Advancement of investment in knowledge, production and innovation such protection really advances the countries' economies level of investment in knowledge production and innovation. The movement you do not have a protection that is why the TRIPS agreement is making hard to convince all the economies of the world that what are basically the way of

protection which you can provide to any of the innovators whether it is domestic innovators or outside innovators.

The MFN Most Favored Nation and national treatment 2 basic principles of WTO is part of the IPR protection because it leads to the Marketization of Innovation: the movement you have Advancement of investment in knowledge production and innovation the final output of that innovation is going to be marketed and so the purpose of IPR protection is not only to have more and more investment in knowledge production and innovation, but to also have more Marketization of such Innovations to the world because this intellectual property right is not alone, but it is well connected with the trade. So, it is TRIPS trade related intellectual property rights. So, it is not separated, but it is connected to the trade and when we say trade today it is the global trade it is the international trade it is the trade which is which is more faster in last 30 years last 3, 4 decades. So, these facilitate the creativity and in invent inventions to the world because a strong protection only leads to facilitate the more and more creations and more and more innovations.

One more protection is one more purpose of the IPR protection is resolving the information asymmetries. So, if it is not protected then the firm or the individual or the creator the innovator which has the way to take the benefit of trade secrets or to get idea of the patent material or to have the infringement of the copyrights they are really running a parallel so of non-intellectual property right products and the movements such parallel. So, is going on the major sit back is for those people who had really produced intellectual property products for the market.

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IPR and Business

- IP has become the major source of competitive advantage for all businesses nowadays
- Entrepreneurs require to recognize such important and marketable intangible properties in an appropriate way
- IPR protection determines the FUTURE of business
- Without proper, adequate and legalised IPR protection and enforcement framework, businesses will no longer sustain



The purpose of IPR protection is very much clear and, so the application is well connected with the protection. So, intellectual property has become the major source of competitive advantage for all business today we can say that Business and Intellectual Property is the part of the same coin.

So, entrepreneurs require recognizing such important and marketable intangible properties in an appropriate way. So, any entrepreneur who wish to a start a production process they must be knowing this property which is intangible in nature and it determines the future of the business more you are getting a legalized product more you are getting a IP, IP you can say IP enabled product, IP protected product you are in the process of globalizing your products at more faster a scale. So, without proper adequate and legalized IPR protection and enforcement frame work business will no longer sustain you have invested a lot in research and development, but the entire investment is not getting any incentive in the globalize market if the countries system of protecting the intellectual property rights are very weak.

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IPR and business...

- With regards to the fashion industry, global brands like Louis Vuitton, Nike, Zara, Adidas, Armani show sophisticated intellectual inventiveness and expertise recognised globally
- The textile industry is an example of involving innovation



So, with regards to the fashion industry has one example today we can see that how Adidas, Nike and other brands are showing sophisticated intellectual inventiveness and expertise recognized their global brands in the market today. Textile industry is one of the examples of involving such innovations which is on a very faster scale.

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Trade Secrets and new business models

- Software tools for fashion designing may be the part of the trade secrets .
- Some of the modern fashion business rely on the sophisticated software-based business models.
- These trade secrets are the core of the entire fashion industry today
- Food and beverages industry is solely dependent on trade secrets and unique business modelling



So, one of the IP Intellectual Property may be the trade secrets Software tools for the fashion designing it may be the part of the trade secrets or some of the modern fashion

business rely on the sophisticated software based business models. So, these trade secrets are the code of the entire fashion industry today not only the fashion industry, but also the food and the pack food industry.

Other beverage industry is completely dependent today on the trade secrets and unique business modeling. Coca-cola is one of the examples where the trade secrets are really making this particular form becoming more and more globally recognized and making this firm more and more profitable today.

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IPR and biotechnology

- Intellectual property protection for biotechnology is currently in the developmental phase
- Traditionally, living organisms were largely excluded from protection
- Now attitudes and laws are changing
- These changes have largely taken place in the developed countries
- Developing countries are now competing in the new biotechnological markets
- National laws in the developing countries are changing in order to protect and encourage investment in biotechnology

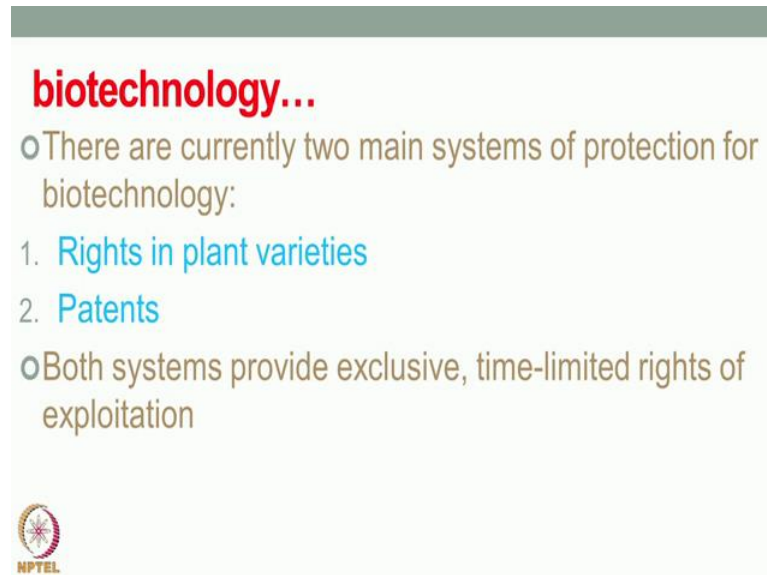
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So, apart from the industry and business the relation of the intellectual property right we cannot clearly disagree with the association intellectual property rights with the biotechnology. So, IPR intellectual property rights for biotechnology is currently in the development phase traditionally living organism where largely excluded from the protection now attitudes and laws are changing everywhere and these changes are largely taken place in the develop countries.

Not only the develop countries, but developing countries are now competing in the new biotechnological markets some of the developing countries are really working hard to compete with the biotechnology markets with develop one and national laws in developing countries are changing in order to protect and encourage investment in biotechnology.


So, we find here is that intellectual property right is well connected with the biotechnology.

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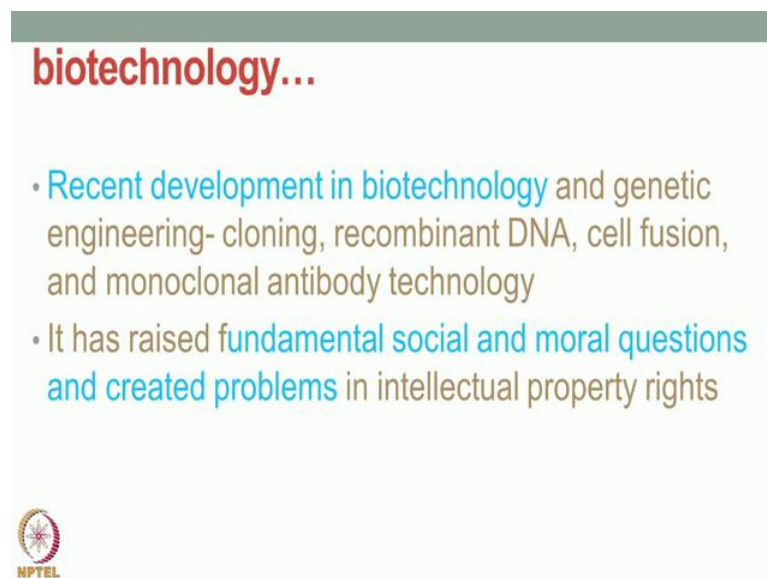
biotechnology...

- There are currently two main systems of protection for biotechnology:
 1. Rights in plant varieties
 2. Patents
- Both systems provide exclusive, time-limited rights of exploitation




And there are currently 2 main system of protection for biotechnology one is the Rights in plant varieties and the second one is the Patents both systems provides exclusive, time-limited rights of the exploitation.

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biotechnology...

- Recent development in biotechnology and genetic engineering- cloning, recombinant DNA, cell fusion, and monoclonal antibody technology
- It has raised fundamental social and moral questions and created problems in intellectual property rights



Recent development especially in biotechnology sector that includes two genetic engineering cloning, recombinant DNA cell, fusion, and monoclonal antibody

technology; it has raised fundamental social and moral questions and created problems in the entire debate of the intellectual property rights. So, this is all because of the because of the experiments related to the biotechnology and this shows that how intellectual property rights are not alone important for the business and the industry.

But it also important for the biotechnology and not when we say biotechnology it is not only the biotechnology, but it again go back to the society and it really have various questions for the people to ask that if cloning is being done and if DNA and cell fusion is being progressed that what will be the future of the human body.

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IPR nd pharmaceutical industry

- IP rights can offer crucial motivation for the advancement of new drugs and medicines in the health sector
- IP system is currently evolving for the Pharmaceutical industry

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One of the important interrelationships with the IPR and pharmaceutical industry - IP rights can offer crucial motivation for the advancement of the new drugs and medicines in the health sector and we have seen that how new drugs are really coming out and how it is able to fight with the new types of deceases such as cancer and aids and some of the other deceases. So, IP Intellectual Property system is conclave involving for the pharmaceutical industry it helps the pharmaceutical industry because the lots of incentives are really available in the pharma sector because a firm is having a pharma firm is having a patent rights and then that patents rights provide them provide them an opportunity to go around the market and they can really be the any part of the world is monopolized by a single firm.

So, this patent gives you an opportunity to connect your products not only in one part of the world, but in entire part of the world and so, for time being for certain period of time you are one of the monopoly form, you are one of the monopoly form due, one of the monopoly form due to the patents right. So, this patent and monopoly patented monopoly is inter connected and the preferred of the market is today centralized especially the market of pharmaceutical sector is centralized with the main focus on patenting the medicine.

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IPR and pharma...

- Essential and life savings drugs become too costly to be affordable by the poor people living in the developing and least developed countries of Sub-Saharan Africa, South Asia, and Latin America
- There is a threat of monopoly within the pharmaceutical industry
- Many challenges remain to be resolved

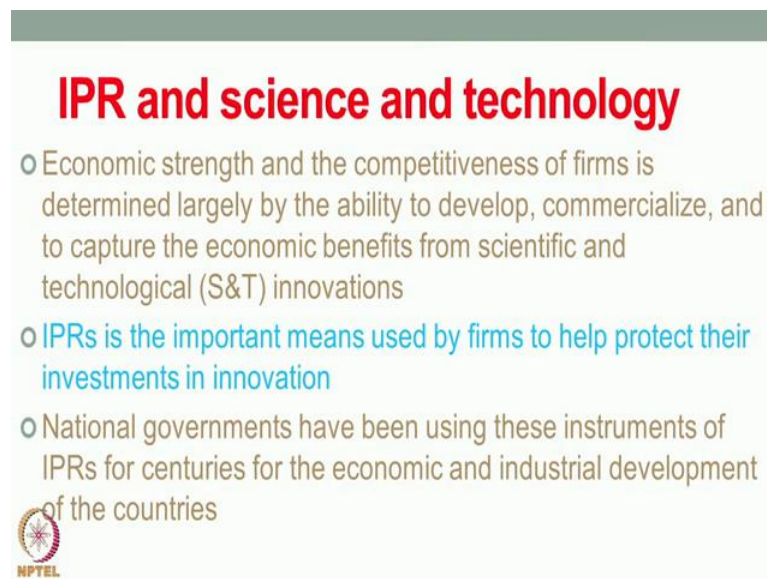


So, it is one of the important point to understand that how IPR intellectual property rights and pharmaceutical sectors are one of the interlinks sectors because it provides a monopoly power to a firm to produce the product understanding the need of the drugs not only to a specific to a country a specific, but also globally recognized drugs. So, Essential and life saving drugs become too costly because when we say monopoly form a patent makes a firm monopoly a pharma firm is becoming the monopoly firm.

So, as we knew that in general economics we know that a monopoly is a situation where a single firm is able to control the entire market. So, the market is in the hand of one firm owner is single and that ownership is not only in terms of the price, but that ownership is also in terms of determining or fixing the quantity and not only that you have a monopoly for a specific period for a set time. So, you can have a complete strategy and you are automatically having a natural monopoly because your cost is not going to add


much, but ultimately you are the single firm available in the market and you have all chances of expending the product for many years. So, in that condition we find today that costly drugs are not affordable for the poor people living in developing and less developing countries of (Refer Time: 15:07) Africa, South Asia and Latin America and many challenges remains to be resolve but we see that there is a threat of monopoly within the pharmaceutical industry.

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IPR and science and technology

- Economic strength and the competitiveness of firms is determined largely by the ability to develop, commercialize, and to capture the economic benefits from scientific and technological (S&T) innovations
- IPRs is the important means used by firms to help protect their investments in innovation
- National governments have been using these instruments of IPRs for centuries for the economic and industrial development of the countries

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This shows the IPR how IPR is competent is really controlling the pharmaceutical industry today we see that in intellectual property rights is one of the important means for the science and technology innovations and it is one of the important means used by the firms to help protect their investment in innovation. National governments have been using these instruments of intellectual property rights for centuries for the economic and industrial development of the countries.

So, for the all scientific development especially the firm is determine largely by the ability to develop commercialize and to capture the economic benefits for scientific and technological innovations. So, this is one of the major inter connection which we are finding today that IPR and science and technology.

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IPR and Livestock

- IP is crucial for livestock sector, more specifically patents, geographical indications, trade marks and trade secrets
- Patents in livestock can be granted for gene sequence related to genetic markers
- For example, Agmark company from New Zealand has asserted patent on **Booroola** gene
- This gene determines ovulation rate in sheep



We cannot really ignore the discussion on the inter linkages of intellectual property rights and livestock and the this basically intellectual property is crucial for livestock sector, more as specifically patents, geographical indication, trademarks and trade secrets. So, the patent in livestock can be granted for gene sequence related to the genetic markets.

For example, Ag-mark Company from New Zealand has asserted patent on Booroola gene and this gene determines the ovulation rate in sheep. So, this was that how intellectual property is not a static, but it dynamic from business to industry to biotechnology, biotechnology to pharmaceutical sector.

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IPR and Livestock...

- Another instance is **Monsanto**----- 12 patents on pig breeding (currently awaiting at WIPO)
- There are lively debates on patents on livestock sector
- In this connection, **The German Veterinary Council** ---- denied **patents on livestock** on the ground of welfare of animals
- Genetic material cannot be a registered trademark, but a particular type of product from a specific variety can be. For instance- Angus beef




Now in the livestock sector another instance is Monsanto which has 12 patents on pig breeding currently awaiting at WIPO. There are lively debates on patents on livestock sector. In this connection, The German Veterinary Council denied patents on livestock on the ground of welfare of animals. So, genetic material cannot be a registered trade mark, but a particular type of product from a specific variety can be registered. For instance Angus beef is one of the examples today which is registered as the trade mark.

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IPR and Livestock...

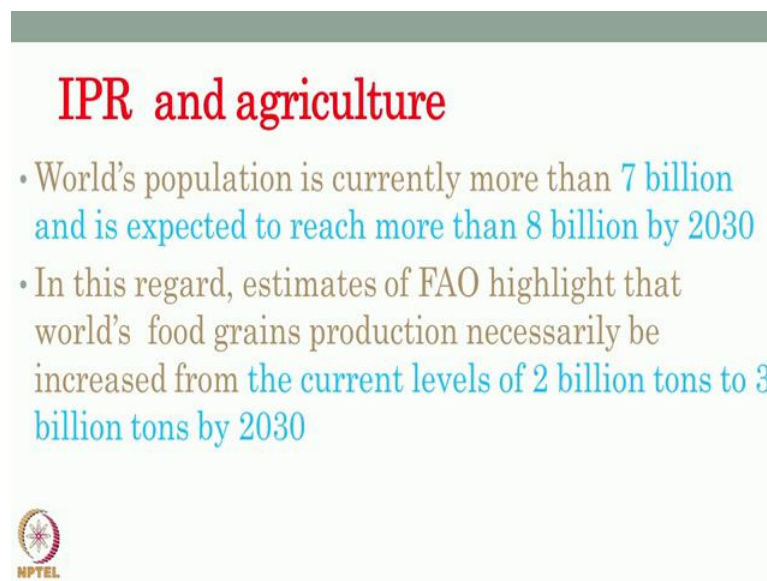
- Trade secrets do not ascertain rights over genetic property
- **However, poultry industry and pig breeding companies have succeeded in using these rights**
- Again, genetic resources are not directly protected by the means of GIs, but can attach importance to products of a specific breed from a distinct area
- **For example: Roquefort cheese can be prepared solely from the Lacaune sheep milk**
- Karoo lamb (South Africa) and Chos Malal goat meat (Argentina) are few other examples



So, Trade secrets do not a certain rights over genetic property. However, poultry industry and pig breeding companies have succeeded in using these rights. Again, genetic resources are not directly protected by the means of Geographical Indication, but can attach importance to products of a specific breed from a distinct area we find here the (Refer Time: 18:12) we are finding especially in the livestock sector and where we do not have a previous example.


But we are finding the new example where the trade marks, where the patents or where trade secrets are being authorized to the innovator. For example, Roquefort cheese can be prepared solely from the from the Lacaune sheep milk that comes under the IPR relationship with livestock sector, but it is the example of the Geographical Indication. Karoo lamb and Chos Malal goat meat Argentina are few other examples in this connection.

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IPR and agriculture

- World's population is currently more than 7 billion and is expected to reach more than 8 billion by 2030
- In this regard, estimates of FAO highlight that world's food grains production necessarily be increased from the current levels of 2 billion tons to 3 billion tons by 2030



So, we find here that when we talk about the livestock sector we cannot really ignore the agriculture because ultimately with the growing population which is currently close to 7 billion is expected to reach more than 8 billion by 2030. In this regard estimates of food and agriculture organization highlights that world food grains production should be increase from the current level of 2 billion tons to 3 billion tons by 2030.

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IPR and agriculture...

- The problem of shortage of food grains can be tackled by genetic engineering and genetically modified (GM) crops
- Some two and a half decades before genetic engineering became a part of breeding activities



So, agriculture is one of the important activities in less developed country and also in the developing country. When we compare the agriculture with the develop country we find out that agriculture is not the prime activity for mass population in develop country, but we finds here that it is activity related to the mass population developing and less developing countries.

But the problem of shortage of food grains can be take cared by the genetic engineering and genetically modified crops, GM crops is a news today and the some 2 and a half decades before genetic engineering became a part of breeding activity. It was not at all a one of the debatable and one of the topics for the intellectual property rights, but with a growth of research in genetically modified sector especially in food related sector we find today that intellectual property right and agriculture cannot be separated; agriculture is more closely attached with intellectual property rights.

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IPR and agriculture...

- Patents on plants and animals or their parts, such as genes or gene sequences, become important
- The UPOV Convention of 1961-----International Union for the Protection of New Varieties of Plant, established protection of intellectual property rights for plant breeders, at the same time permitting other breeders to use the material free of charge for their own breeding purposes




So, Patents on plants and animals or their parts, such as genes or genes sequences, become important today when we talk about the agriculture. So, The UPOV convention of 1961 International Union of Protection of New Variety of Plant that has established protection of intellectual property rights for plant breeders at the same time permitting other breeders to use the material free of charge for their own breeding purpose.

So, we find today that few country around more than 30 countries are active today to have new types of seed production and breeding the plants and plant breeders are very active in some of the country because they are taking this activity as one of the activity for their survival and their income growth because they are looking for other developing and less developing country where they can sell their newly develop plants and where they can really show their capability to sell the seeds. So, in that connection we find that where the develop countries are trying hard especially in that 30-32 countries circle we find out most of the develop countries are trying their best to sell the products to sell the plants varieties and to sell the new types of seeds to the market because they find it that agriculture is not basically the livelihood for them.

But agriculture is not less than industry for them and they are trying to really captured the world population who are really busy in agriculture production they are targeting those population to get the seeds consumed and plant new plant consumed. So, they are having a market for their production, but here also we find that intellectual property do

play an important role through the patent rights and through the trade marks they are trying to really have monopoly over their product and they are trying to capture the agriculture market in developing and less developed countries.

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concluding remarks

- IPRs intrinsically exhibit a policy trade-off between the objective of providing an incentive to technological innovation and the objective of encouraging the rapid diffusion and accumulation of new technology. For example: Software patents – innovation or a barrier to entry
- Pharmaceutical (essential and life saving drugs) is one of the biggest example of application of Patent.
- World has wide range of IPR applications .

So, intellectual property rights when we say intellectual property rights it is one of the collection of bunch of rights it is not only a single patent or single Copyright, but the bunch of rights which really connects variety job sectors today. The application of these intellectual property properties are not limited to a certain specific sectors, but you name the sector whether it is electronic sector, whether it is manufacturing sector, whether it is car manufacturing, whether it is agriculture, whether it is biotechnology pharmaceutical or the sectors like publication or film making we find that there is Intellectual Property involved in each of the sector and that is why the TRIPS agreement which is trade related intellectual property rights agreed. That has what really hard to convince the world community that you cannot survive without the TRIPS agreement because every country has certain thing, certain intellectual property products which can really help them to really become the monopoly for certain years. In that connection when the countries are looking for the future of certain products in the global market they are really convinced to become the part of TRIPS agreement. So, that they became the part of the TRIPS agreement.

TRIPS agreement was one of the most controversial agreement in the world and various countries were tried their best to argue that TRIPS is not going to help them and TRIPS has certain problem for the public health, TRIPS is really not good for the mass population in terms of agriculture, but ultimately what is the final result? The final result is the TRIPS agreement is signed by different countries because different countries has looked in a different way about the benefits of the TRIPS agreement and the agreement is in place WTO is monitoring this TRIPS agreement after 1995 and we find out that varieties of problems and issues are coming out, but the application of intellectual property rights are so strong application of intellectual property rights are so wide that it is not really a static to a particular sector like agriculture.

But it is dynamic from agriculture to Agro- based industry from Agro-based industry to manufacturing sector from car manufacturing to medicine manufacturing and from software to hardware and publication to the digital world. And we find that this is going to be a very challenging topic today intellectual property rights and world has wide range of IPR applications today and we cannot ignore the application of intellectual property rights anymore. So, as part of introductory lecture on intellectual property rights I thought to bring this particular topic application of intellectual property rights as one of the one of the topic which may give you more interesting results.

So, for more details you can find out these linkage were links, were you can read some of the good debate and article.

Thank you.