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Biodiversity, Genetic Resources and International Control Mechanisms

Most of the world's genetic resources have been conserved and developed by local communities in the South. However, Northern-controlled agriculture research centres now hold the largest collections of these resources.

A 1983 International Undertaking on Plant Genetic Resources under the FAO can potentially restore better North-South balance, but has not been backed up by financial support from governments.

Any Biodiversity Convention that is fair to the South must at least be an improvement on the FAO Undertaking.

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Briefing paper on Genetic Resources and the FAO Undertaking on Plant Genetic Resources.

Daniel Querol, 7.1991

Over the last 20 years industrialised countries hear voices claiming rights over certain plants. As strange as it may sound these voices do not come from developing countries, out of which almost all plants of economic importance for the "First World" have come at no cost. It was a claim from the breeders, scientists who demanded the payment for their author's rights over the plants they had bred. The idea of plant breeders' rights have always been going around in the breeders circles but never had significant repercussions. It is only in the last few years, when practically no independent breeders subsisted and when the production of commercial varieties was in the hands of great national and transnational corporations, that laws on plant patenting have been approved and enlarged in the industrialised countries. This is due to the interest of transnational corporations to "protect their investments" as they say, to make sure people can never get again what they initially gave for free.

Breeding programmes use three types of genetic resources: wild materials, traditional varieties, frequently and wrongly called "primitive" (wrongly, because "primitive" is whatever has its origin in a previous absence, not in thousands of years work as our native traditional varieties), and finally, modern "bred" varieties, including breeders' lines.

As every one of these types is part of breeding programmes, there should be free and unrestricted exchange of all three types of genetic resources or no exchange at all.

The reality is that free exchange is frequently a myth. Various countries have restricted the free exchange: the United States embargoed, for political reasons, the genetic resources which Nicaragua needed, including seeds which had been collected in Nicaragua itself. Something similar also happened to Afghanistan, Albania, Cuba, Iran and Libya.

Melaku Worede, director of the Plant Genetic Resources Centre in Ethiopia, country of origin of a series of crops of world economic importance, mentions that the country, tired of giving away its resources for the enrichment of the industrialised countries, has closed its borders to the resources indiscriminate exit.

If one takes as an example Cacahuazintle maize, a traditional

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Mexican variety, of large size and excellent yields, and considered a genetic resource for free exchange, why shouldn't one regard modern bred maize or the lines for the production of hybrids of a transnational seeds corporation as a genetic resource of free exchange?

Whom do the plants belong to?

Without getting into all legal aspects of property and their social implications, as a matter of definition, everything which is to be found within a certain space is considered to belong to the humans who occupy it (due to our anthropocentric view). History, culture, earth, water, minerals, the sources of energy and the plants and animals are of the person, the people, the nation or humanity, depending on the physical limits which one establishes.

The humanistic vision of the European philosophers of the 18th century defined knowledge and notions such as beauty and justice as universal, and therefore, the patrimony of humanity.

Private property, which implies in its definition the value that an object has for someone, was enlarged and consolidated by the industrial society by including ideas into the private property domain, so that new solutions could be patented. Thus, not only were objects subject to property, but even ideas. The patenting of ideas, which was regulated in the Paris Convention of 1883, was then philosophically based on the notion of "human rights" of the person who invented, forgetting the rights of society which forms and maintains the inventor and which gives him the basis of information and knowledge for him to develop his ideas.

Starting with the previous proposition, it is evident that plants have owners. In the case of plants which have been bred for thousands of years by the human population of a certain region, it is the offspring (in the widest sense) of the old inhabitants, who have the right to demand a payment for the object: the plants transformed through man's work. In the case of wild species, nations, through their states, have the right to value their raw materials or even their ornamental plants.

The movement of genetic resources has always been from colonies and "under-developed" countries towards their imperial centres. The value of plants has been known for thousands of years; they are the foundation of all development, and they have been one of the objectives of many of the large conquest wars until the 19th century. However, through a conceptual jump which is difficult to accept, these plants have been defined as the "patrimony of humanity". Based on that, Europe and presently all industrialised countries, were supplied with a resource which they needed and still need, without cost or compensation, for the 'well-being of humanity'.

Whom do the varieties belong to?

Plants are grouped according to parameters used by the person who classifies. The parameters used by Linnaeus in order to classify plants were based on characteristics of flowers and fruits. These are still being used for the definition of botanical species. After the classification by species, these are subdivided into varieties according to morphological characteristics and to human interests.

The definition of a "variety" has been a major difficulty due to the variability which exists in nature. This in principle excludes the possibility to delimit a group of plants, unless all of the components are described. This would mean to define each one of the genes present in the population and the frequency of each one.

There is an artificial differentiation between traditional varieties, bred by peasants during thousands of years of work (which in the Northern countries are called "primitive") and modern varieties (called in the Northern countries "cultivars") which have been bred by western-styled scientists maybe for 5 to 15 years.

Traditional as well as modern varieties are the result of work by man on plants. The answer as to who owns the varieties is only partly clear; breeding work has been done by one or many people, be it selecting good seeds for next year's planting, or introducing a new gene for disease resistance by a means of biotechnology or modern breeding methods. The second part of the question is still unanswered, which is who owns the matter which has been worked on.

Whom do the genes belong to?

If one were to go all the way to the genetic level, one must raise the same question. The genes and their combinations are to be located in defined geographical spaces. The frequency of the different genes these plants contain is determined by natural selection and the work by man on those plants. In the case of wild plants, the genes are part of the patrimony of the geographic space in which they are to be found; they belong to the nation. In the case of plants selected by men and women, the presence of certain genes can be due to the selection which increase their frequency, which merits at least recognition, but not as individual property, as there was no appropriation of the matter worked on since the beginning. Those genes are still the patrimony of the nation. To think that the genes belong to those who identify them would be the equivalent of saying that radium belongs to the Curie family because they isolated it. It also means that a country which does not have the capital or the technology to use its uranium ore automatically loses sovereignty over those resources.

As a conclusion it seems that both logic and ethics tell us that

genetic resources, in whatever shape, are the patrimony of the nations where they originated. Authority over those resources will increase as nations use those resources themselves. It is therefore necessary to insure national authority over these resources.

International Situation

From 1965 until 1973 in the United Nations Food and Agricultural Organisation (FAO), a group of Experts in the Prospection and the Introduction of Plants coordinated the activities within FAO on the subject of collection and introduction of genetic resources. The work was executed by independent groups and consultants who were hired by FAO. In 1973, a series of organisations which depended on FAO studied the problems and in 1974 the Ford and Rockefeller Foundations decided to create the International Board of Plant Genetic Resources (IBPGR) which took over the functions of the board of experts of FAO.

At an international level, there are wide, deep-rooted selfish interests related to the marketing of seeds and genetic resources. Transnational oil corporations have bought up many seeds companies and the economic potential of these is vast if one takes into account the fact that already in 1978 the seeds industry had a retail value of US\$10 billion. Mooney (1980) makes an analysis of the implications of this concentration of power on seeds in the hands of a few corporations.

In the following discussion, we will analyse the creation of IBPGR and its role. Later the FAO Commission on Plant Genetic Resources will be analysed.

The International Board of Plant Genetic Resources (IBPGR)

The IBPGR was created by the Ford and Rockefeller Foundations and by some industrialised countries, all of which had created the Consultative Group for International Agriculture Research (CGIAR) a few years ago. The CGIAR had the self-assigned function to guide and serve as avant-garde to agricultural research in Third World countries. This was done through the establishment of international agricultural research centres, but without the control of the United Nations or of the international community, or even of the countries where the centres were to be located.

The network of international centres is distributed in places which are very close to the centre of origin of the crop they work with. These centres have always been very controversial with regard to their legal and political status, even though it cannot be denied that they have had some significant achievements in the Third World, including an increase in yields for the rich farmers in the Third World resulting from an increase in the import of fertilisers and pesticides. To analyse the work on genetic resources of each one of these centres would go beyond the objectives of this book, even though it should be understood that these centres have the biggest genetic resources collections of

almost all crops of economic international importance, and store almost a quarter of all the accessions which are in the world.

The IBPGR, since its inception, has had its central offices in the FAO building in Rome, where it has used the infrastructure, the administrative apparatus and even the envelopes with FAO letterhead, but without having to report its administrative work and activities to the national representatives in FAO. Instead, it is accountable to a group of industrialised countries as represented by CGIAR.

Probably in order to be more efficient in its genetic resources collection objectives, the IBPGR presented itself as an organisation directly linked to FAO. In reality, the main IBPGR efforts have been to collect genetic resources in the Third World.

In the annual report in 1986, it is mentioned that "the main mandate of IBPGR is to ensure that genetic resources of cultivated plants be collected and preserved in germplasm banks and that they be therefore accessible for use by plant breeders and other scientists. The main emphasis of IBPGR is to collect germplasm which has immediate use or is threatened with being eroded. The largest part of what has been collected by IBPGR has been traditional varieties which very often could have contributed in an immediate manner to the breeding of modern varieties. Since the creation of IBPGR 12 years ago, great advancements have been achieved in the collection, conservation and utilisation of genetic resources" (IBPGR, 1987).

Of the over 130,000 samples collected through IBPGR funding until 1986, there is a large amount of replicates (probably one-third) which are not in the Third World country where they were originally collected. They are instead being kept in the industrialised countries, where most of the samples are to be found.

Due to its goals of helping interested institutions in their work with genetic resources, IBPGR has supported mainly conservation in industrialised countries and the creation of working standards. Still, there have been problems as IBPGR can be seen as an organisation ensuring, above all, the industrialised countries' access to the resources of the Third World (Mooney, 1983), which would lead to questions regarding its activities as a whole. At one point it was thought that a restructuring would happen within IBPGR to ensure its real support for the needs of the countries where genetic resources originated, but as this did not happen, the FAO Commission on Plant Genetic Resources had to be created.

The Plant Genetic Resources Commission of FAO

During the 22nd session of the FAO Conference in 1983, an International Undertaking on Plant Genetic Resources was agreed which made the following central propositions:

..... 5. Adherent governmental institutions which control plant genetic resources will follow the policy of allowing the exit of samples of those resources and will authorise their export, for the breeding of plants or for conservation of those resources. The samples will be handed out freely, based on exchange, or under those conditions which are jointly agreed on.

7.1 a) (The present international dispositions which institutions receiving fundings from IBPGR now follow will be adapted in order to ensure that) an international coordinated network of national, regional and international centres be developed, including an international network of base collections in genebanks under the auspices or the jurisdiction of FAO, which have assumed the responsibility of maintaining, for the benefit of the international community and applying the principle of unrestricted exchange, base collection or active collections of plant genetic resources of certain plants species..."(FAO, 1985).

The countries which did not agree with this undertaking were: the Federal Republic of Germany, Canada, the United States of America, France, Japan, New Zealand, United Kingdom and Switzerland. The reason was that it included all types of plants as genetic resources, including breeders' lines and modern varieties, whereby those countries in which the main seeds corporations are established would have been forced to negotiate on an equal level with the countries which were centres of origin. Theoretically, the countries which signed the undertaking would not give genetic resources to the countries which did not sign it, as the second group of countries would not be accepting the idea of reciprocal responsibilities.

As the negotiating process was going to be a long one, a Plant Genetic Resources Commission was created. The IBPGR reacted to the existence of this Commission, in which all the countries of the world are represented, thereby creating a Third World majority, by saying: "IBPGR cannot operate at the same time under the authority of the CGIAR which created it and of which IBPGR is a integrated member and under the monitoring of the Commission, if this implies whatsoever kind of control. The IBPGR considers that the FAO undertaking includes aspects which go beyond the generally accepted concept of genetic resources as it includes breeders' lines (among those genetic resources to be freely exchanged)" (FAO, 1985). With these statements, IBPGR very clearly revealed itself as being quite concerned with ensuring that the investment of CGIAR be really used for the benefit of the investors.

In October of 1987, the Director-general of FAO confirmed the creation of an International Fund of Plant Genetic Resources, which through FAO must serve to do what IBPGR have not done in the areas of conservation and utilisation of genetic resources. This fund would obtain its financial resources from the money handed in by the main users of genetic resources: industrialised countries, and more specifically the seeds corporations. It is understood that this is a small compensation by the seeds

industry, for utilising freely the resource without which they could not exist. A contribution of 1% of the sales price of modern-bred seeds in the world would allow the fund to work with approximately US\$200 - \$500 million a year.

Also, industrialized countries accepted the interpretation of the undertaking which said that the "free" exchange of genetic resources did not necessarily imply "free of charge".

Until now, however, industrialised countries have refused to contribute significant amounts of money to the fund and continue to receive freely genetic resources from the Third World. Once again we see the absurdity of the poor subsidising the rich.

It is for all the above mentioned reasons and for those mentioned in other included briefing papers, that it would probably best serve the third world's interests to look at the strengths and weaknesses of the FAO Undertaking on Plant Genetic Resources and try to enforce the agreed interpretation of the Undertaking, instead of starting again a negotiating process which would almost certainly lead to a weaker position.