Commission on Intellectual Property Rights

CONFERENCE

"HOW INTELLECTUAL PROPERTY RIGHTS COULD WORK BETTER FOR DEVELOPING COUNTRIES AND POOR PEOPLE"

TRANSCRIPT
Session 2: Agriculture and Genetic Resources

21st – 22nd FEBRUARY 2002

THE ROYAL SOCIETY
6 Carlton House Terrace, London SW1Y 5AG

SESSION 2: Agriculture and Genetic Resources

Sandy Thomas: Chair, Commissioner to the IPR Commission

We have three distinguished speakers this morning. Each of our speakers will be given about ten minutes to help us set out the main framework for the discussion that will be taking in the second part of our session. The way we are going to do this is to invite the speakers to make their contributions and then we will take questions and invite comments and points after all three have contributed. Our first speaker is Kerry ten Kate who many of you will be familiar with. She is policy adviser to the Royal Botanic Gardens, Kew and she advises the UK and other governments and the UN and Kew staff and has conducted research widely on biodiversity policy and strategy and she was head of Kew's CBD Unit and responsible for the implementation of the CBD and codes of conducts for collections. She is also a member of the UK Delegation in negotiations to the CBD and the FAO Commission on Genetic Resources for Food and Agriculture. She trained as a barrister but for the last ten years she has worked in environmental policy and has served for two years on the Secretariat of the UN Conference on Environment and Development. She has also co-founded and directed Environmental Strategies, a consultancy in Sustainable Development.

Kerry ten Kate: Kew Gardens

Thank you Sandy for the kind introduction. Good morning. I would like to talk about the linkages between IPRs and access to genetic resources. When the Secretary of State said she was thinking this morning what she might say, I did wonder whether it might be simpler just to write a limerick to encapsulate the whole thing, since ten minutes is not very long. I have taken advice from the Secretariat and they would like me to touch on two issues. The first is the International Treaty on Plant Genetic Resources for Food and Agriculture and the second is a related but distinct issue of access legislation.

Well maybe the first question is why, within the International Treaty on Plant Genetic Resources for Food and Agriculture, might one want a separate regime looking at access to this subset of Genetic Resources. I hope that this overhead, which is the pedigree of an industrial revolution rice variety R72, might make the point for me. There are twenty-two or three ultimate land rices and they come from twelve or thirteen different countries, some countries contributed more than one land rice to this pedigree and some land rices contributed at different stages in the pedigree. And just imagine that you were given the task of figuring out whose genes contributed which benefits of this new variety and how much that was worth and you had to disentangle the whole thing, it would be a nightmare. So, for that reason and specifically for the reasons of interdependence of countries on access to each others genetic resources and for food security, it was decided to create this multilateral system. Terribly briefly what is does, I should say this is the result of seven years of protracted and detailed negotiation so doing it just in five minutes is a challenge but, anyway, creates a multilateral system and the scope of that system is to find in part by a list of crops, 35 crops and 29 forages, in addition, additional materials that are held in the international agricultural research centres around the world may well be

contributed, subject to agreements between those centres and the governing body of this treaty. It establishes some conditions for facilitated access to those materials and benefits of various kinds that we shared. If I have a second I am going to talk to you about what's up next and the tasks for the governing body. There are eight conditions for facilitated access. For example, access is only for the purposes of food and agriculture and that means conservation and sustainable use, research, breeding, training for food and agriculture, not for chemical and pharmaceutical and various other industrial purposes that aren't in the area of food and feed. You are to have expedited access under this system, either at no cost or just a minimal transaction cost basis. Lots of other clauses on those conditions for access but perhaps since this is a gathering interested in IPRs this one might be of interest to you, one of the hardest fought clauses in the treaty. It says that recipients of material from the system may not claim any intellectual property or other right that limits facilitated access to the material or its genetic parts or components in the form of seed and, in brief, the developing countries were anxious that it wouldn't be possible to patent materials within the system or their genetic parts or components and the developed countries felt that it was important to be able to innovate and obtain new products and take out IPRs on those. So the compromise reached is to mention genetic parts and components, but also to make it clear that it is in the form of seed from the system that the restriction applies to. The facilitated access is basically going to be governed by the use of material transfer agreements and that is going to be much of the crux of it. As for benefit sharing, many of the provisions on benefit sharing will ensure that benefits are shared through the system as a whole for all the different parties to the treaty. They include exchange of information. I have put in some of the IP titbits, like non-confidential information and access to and transfer of technology that respects property rights. There are also capacity building provisions, so there will be training courses established on conservation and sustainable use and facilities for conservation and sustainable use of agriculture, plant and genetic resources will be strengthened and research will be conducted and there is a clause that says "preferably in developing countries." Another of the fairly controversial clauses on benefit sharing concerns the commercialisation of the genetic resources in the system. Basically, if an IP is taken out on one of the resources from the system or its derivatives, that in some way restricts access to that product, then there will be royalties paid into a fund. That has yet to be established, it's a job amongst many tasks for the governing body when the treaty comes into force and one of the main tasks that the governing body will need to tackle very early on in its first meeting, in fact, is the establishment of the Material Transfer Agreement under which material is acquired by recipients. Actually, the first bullet should read the level, form and manner of payment i.e. what sort of royalties, whether we need distinctions between different types of crops or different types of recipients. This is all to be established in line with commercial practice and that will need to be worked out fairly urgently. We have some clues as to what the terms of that Material Transfer Agreement may be, because the treaty says that at least some things have to be in there. For example, that the material will only be used for food and agriculture in the way I described the IP clause that we just ran through. The fact that the materials under the system need to remain available and then the commercial benefit sharing and then there is a sort of wrap up clause that envisages that various other things may need to be put into this Material Transfer Agreement. One of the interesting issues that will need to be thought of in parallel if you like to this Material Transfer Agreement is how partnerships under the system will be

regulated because, of course, things like technology transfer can't really be customised to one size fits all, as we heard this morning. So there are provisions about commercial joint ventures and partnerships and it could be that some kind of supplementary agreements will be needed.

The second subject, rather a different one, is Access Legislation. This really stems from the Convention on Biological Diversity with its 183 parties and governments under that treaty have sovereignty over their resources and they are entitled to regulate access…. **Tape change** 100 countries are now in the process of doing that and what they tend to do through these laws is to regulate access both by their nationals and by foreigners, that varies sometimes, but generally both to genetic resources as described in the Convention on Biological Diversity and some countries have gone beyond that and in their scope they include also bio chemicals and Traditional Knowledge and these laws require prior informed consent to those materials and then they require the sharing of benefits arising from the use of the materials. The benefits are often laid out in some detail, but typically they would be monetary benefits, like royalties or milestone payments or up-front fees and non-monetary benefits which are much more process oriented, capacity building, technology transfer and interestingly, over the last few years, there has been an increasing emphasis on collaborative research. Countries, particularly developing countries, are asking for the opportunity to be engaged in the value adding research on the genetic resources, particularly in their countries. It is also worth pointing out that the access laws often contain IPR provisions. To give an example, there is a biodiversity bill in India and it says that no person may take out any IPR on any biological materials or associated Traditional Knowledge, without first getting the consent of the National Biodiversity Authority that is being established. There are various provisions that are established to allow for the confidentiality during the patent application period. Others don't mention IPRs specifically in the legislation, but they trap the issue upstream so there will be something in the prior informed consent provisions that would require you to disclose what you are going to do with the genetic resources, including whether you have ambitions to take out IP protection on those resources over time. Obviously, with 100 countries, it is clear that those in whose jurisdiction most the world's biological diversity falls are introducing this legislation that will definitely effect scientific research. In the vanguard with the Philippines and the five countries of the Andean Pact and you will see various others have already introduced measures, including the United States of America interestingly following the commercialisation for pharmaceutical purposes of a micro organism that came from Yellowstone National Park and was lodged in the American type culture collections. The US is now regulating access in its national parks. Then there is a huge group of countries working on things right now. I think we may hear a little more about that in the coming presentations. For example, the African Union and ASEAN and then there are other that, to the best of my knowledge, are starting to think about it. The whole social compact behind the Convention on Biological Diversity is that benefit sharing is there for equity to promote sustainable development in the countries of origin and also, of course, as an economic incentive for conservation. It is an open question to what extent measures in all the country parties actually create those incentives and bring about conservation results. In conclusion two or three points. We heard this morning about the social contract involved in IPRs and how traditional IPs were designed and what they are for and I sometimes think, when I hear the many varied ambitions that

people have for equity and the sharing of benefits, that it is a little unkind to try to heap those onto IPRs as they are constructed because that isn't what they were necessarily designed to achieve and they can help though definitely one tool in the toolkit. Really, what I would like to say is that it is worth thinking about other policy measures and specifically the regulation of access to genetic resources. To remind everyone that if you are looking for innovative and imaginative ideas on IP some of these can be found in access tools. So taking a look at some of these 100 draft laws on regulating access to genetic resources, a range of guidelines that are being developed, one in particular which I will mention in a minute, and, of course, the contracts that are negotiated between a really bewildering variety of parties, the government of the country that provides genetic resources, the recipient which could be a scientific organisation or a company or a range of intermediaries and, of course, communities and NGOs, all of them are involved in these contracts and a number of quite innovative IP clauses can be found lurking in there. The next steps when I mentioned that for the International Treaty the next things to really come up with the Material Transfer Agreement that is going to cover the transactions involving genetic resources around the world for food and agriculture of the things listed. And then the other thing to mention briefly is the bond guidelines. This is an initiative under the Convention on Biological Diversity. There is a draft set of guidelines which we hope will be finalised at the Conference of the Parties Meeting in April in The Hague and they establish guidelines for how to regulate access and enter into partnerships on access and benefit sharing. So those are just some things to look out for. I hope that has, at least, provided some issues for discussion and would of course be happy to take any questions. Thank you.

Sandy Thomas

Thank you very much indeed Kerry. That is extremely useful and will form a very helpful part of the framework for our discussion later this morning. Our next speaker is Kent Nnadozie. He is a lawyer who is engaged in environmental law practice and policy and he has been focusing on climate change, biodiversity and IP rights. He is the Executive Secretary of the Environment Law Foundation of Nigeria and he is also co-ordinator of the Network of African Environmental Lawyers. He has also been a regular member of the Nigerian Delegation to the CBD and the Global Biodiversity Forum and he has been involved in a number of other multilateral agreements. He is currently involved in establishing an Intellectual Property Commission in Nigeria and assisting other African states to establish legal frameworks for biodiversity. These are all issues, I think, that we very much wish to hear more about.

Kent Nnadozie: Environmental Law Foundation of Nigeria

Thank you Madam Chairman. After that very inspiring speech this morning by Justice Laddie I am almost tempted to say that I concur and sit down. Ten minutes, like Kerry said, is very short to really do justice to these issues and I will try as much as I can to at least highlight some of the critical issues especially from the point of view of developing countries in Africa. There are certain established trends that are agreed upon by most experts and observers in this area. These trends on

conveyance of genetic resources issues in practically all sectors are occurring in this society and these trends are both driven by IPR issues and are also key to the debates and the contradictions that characterise it. This included dwindling funding of resources and for public sector research and developing countries rely heavily in this sector. From the African perspective in this environment we face very serious challenges and very peculiar circumstances, which include scarcity of capacity in very key areas, lack of clarity in mandates, especially across departments and ministries. Also there is lack of mechanisms for handling complex issues. With genetic resources different ministries and departments ranging from environment to agriculture to industry and trade handle certain aspects of it. So this presented a very, very complex and confounding situation for us and these issues are not really being integrated and very little communication and co-ordination among this department. Incidentally, the global trend also has this total disconnection from what's really obtained at the local level. Policy makers in the capital cities come out and take decisions without taking into consideration what the realities are on the ground and what local communities are, and whether this kind of forum would sit and decide what communities rights are, what companies are and what they shouldn't tell without directly involving the committees themselves and getting their perspectives on them. Also key to the problems that we face in developing countries is poor participation in the whole intellectual processes. Well, not poor participation by some of the countries but no real ineffective participation that make it possible for us to have our interests and concerns really fed into and taken into consideration in the agreements and this has generated a disruptive process where agreements are reached and come back later on and say this is not what we thought we agreed to. And instead of focusing on implementation of agreements are wasting energy on resources or in negotiations. Coming back to IP, there is this growing trend of losing sight of what IPs really are. That IPs are an economic tool that's devised by society actually to support the processes of society not really to enslave it. We should look at it in that context that as a tool what can we do with it in order to foster development and improve the life of people. Not necessarily to protect the interests of certain groups of people. In this context, I believe that IPs are good but there are bad IPs and IPs properly harnessed and used and targeted could enhance economic development and improve on the life of people. But it is not really as simple as that. For us, the whole complexity of issues and processes that are going on globally present a very confounding and confusing situation. Every fairly simple graphic representation of this, you know, this is really simple but it is more complex than this. It is really a mesh, the inter-linkages between all these growing processes. On the one hand I tried to borrow from the originality of Martin Khor. There are two general broad paradigms. One present in the area of private property approaches and then the other presenting more collective national approaches and presented by these situations and arguments. And in the private area you have the WTO, the UPOV and WIPO and in a more collective area the CBD the recently agreed upon ITPGR and then some of the other processes that are going on at a continental level in Africa. All these issues as they arrive generate a lot of pressures because of the obligations that arise from these other agreements. Based both on the rule of genetic resources to produce value and the rights that are arising from them and these obvious and sometimes subtle contradictions are expected to be resolved at a national level and because of the inter linkages and the confusing nature of all these processes in developing countries, I find it very difficult to resolve these issues or otherwise fulfil their obligations as they arise in the respective agreements. Looking

at authentic research from the IP telescope it looks very dark for us in developing countries, unfortunately. The complexity and the multiplicity of both the stakeholders and the processes are quite confounding. There are practical conceptual gaps in current IP models that are being encouraged or are being sold to developing countries to regulate IP aspects of IPRs. There are certain aspects of this society's activities that are not taken into consideration in contemporary IP regimes. Issues of particular community rights, commerce rights. Those actually involved, there is really no conceptual framework to capture some of those things. Some of the significant processes that are going on globally now, the signification of IPRs, the gradual elevation of IPRs to the standards of fundamental rights those are invaluable. This leads to a transition from theories to theology of IPRs is almost a creed for a certain class of lawyers and in this process I believe that it is negatively impacting on scientific research in this respect because of this philosophy of following capital money they use certain tendencies to satisfy the funding sources for selfish and subjective purposes rather than the objective search which is what science is all about. In all this, I believe science is suffering and society is losing. And again, IPRs are nothing but a tool and proper application of that tool would enhance development and improve the life of people in the developing world. What we have to ask ourselves in the process, is whether this tool is appropriate in all circumstances and in all situations and to all sectors. The issue of the health sector is quite clear and was key during the prior meeting. It has been found that not so much that IPs are vital for that sector there are still views very strong IPs are not good for the society in that sector. For us the crux of particular situations like the lack of resources, I believe to be able to make progress, say in Africa, a more general approach should be adopted to address these issues. Because they are cost effective and because of shared resources, shared problems, shared history, it makes it easier to commit and to especially address the implementation of international agreements. I recognise also that genetic resources do not respect political boundaries or geographical borders; they go right across most of these countries. To be able to address them properly, this regional approach should help us in this regard, and I believe that is the trend because the original organisations and alliances are getting stronger but in the sub regions of Africa and in Africa as a whole. I think that IP generally in this context should be used to address all these issues effectively, taking into consideration the interests of the region. This process has three ways of doing this. To show that the genetic resources issues are fully integrated into programmes, especially economic programmes that are being initiated in the region. For instance, the new partnership for African Development which the G8 has bought and is trying to support through the African Conference on Environment. Also in the other direction, to make sure that the African level interests and concerns are integrated into the international processes and that will make it easier at the end of the day whatever is agreed upon will be properly and fully integrated. Thirdly, to be able to gratify and implement jointly some of these intellectual agreements. To be able to do this we should encourage that these issues are discussed at the highest possible level within the region. And to be able to give concrete programmes that are implementable, that the politicians can sell to the people and that can effectively and positively impact on the life of our people. In all of that I have a few quick recommendations. Everyone has mentioned capacity building, especially legal capacity, and the issue of data collection there is a lot of information out there but its in the process to capture it. Also with capacity building, especially the way you have to look at communities actually telling the scientists and

policy makers what you think about these issues sincerely and deeply. What is important to them and what they want done, not the other way around. To positively also to strengthen the capabilities of negotiators for the benefit of all parties because I believe that developed countries would prefer to negotiate with the informed and competent negotiators rather than passive participants such that at the end of the day energy and resources are wasted in debating whether that was what was agreed upon or to renegotiate already concluded agreements. Then I believe the price setup is key because they have the money. They have to be effectively involved in the entire process and how to contribute their own quota and then in all this the longer-term outlook should be looked at and incorporated in every policy and every initiative. Thank you.

Sandy Thomas

Thank you very much indeed Kent. I think your point about IPR being seen as a tool and when and where and how we should apply it is something that will give us a lot of food for thought. Our third speaker is someone who has actually spent his entire career breeding plants, not actually being a lawyer or a policy expert so we are going to get some very specific perspectives here. Greg Sage has spent his career as a wheat and barley breeder and most of that was spent as a Government research scientist at what was the Plant Breeding Research Institute at Cambridge which was subsequently sold to Unilever and then to Monsanto. So you must have had a taste of both the public sector and then towards the end of your career, I guess, the private sector too. So Greg's career has spanned a lot of changes in farming and agricultural research that's been brought about obviously by increased mechanisation as well as the impact of computing, genetics at a molecular level and also ultimately the privatisation of crop breeding. For the last ten years, much of his time has been spent on working for the UK Plant Breeding Industries Trade Association, the British Society of Plant Breeders, which some of you will be familiar with and he is currently Vice Chair of the Sustainable Agricultural Committee of ASSINSEL, which is the worldwide body which represents plant breeding organisations.

Greg Sage: FIS/ASSINSEL

Well, Madam Chairman, ladies and gentlemen. All countries have difficulty in framing laws that regulate new technology. If a country is going to participate in international research or trade ventures then these laws have to balance, and there is that word again, they have to balance on the one hand national conditions and customs with, on the other hand, respect for the laws and treaties already existing between other countries. Now during the past 100 years of increasing understanding of genetics, the history of the development of seed and plant variety law is full of examples of national legislatures seeking this balance and building on those legislative systems that, in fact, have been found to work well elsewhere. Knowing which parental lines to use and which breeding techniques can be cost effectively used within an ongoing breeding programme is the professional breeders expensively acquired knowledge. Farmers who use and have benefited from the use of modern varieties have got used, when they buy seed, to paying a certain amount

for the seed itself, but also a royalty which is set by and goes to the breeder for the intellectual input that makes the genetic content of the variety chosen more useful to the farmer than that of other varieties he or she might have chosen or have used before. The effect on yield in my old crop bread wheat in the UK of the change from working with land-raised varieties to modern varieties is shown in this slide. Most national plant variety rights legislation is based on different acts of the UPOV Convention. Over the last 40 years, this legislation has allowed professional breeders of modern varieties, from both public and private sectors, to reek their investment if they are successful. It's also facilitated international co-operation because of the reciprocal nature of the rights conferred. But maybe most telling of all, it has been cheap to manage, since in practise legal disputes have been very rare. Additionally, of course, as we know the farmers' exemption has allowed the use of farm safe seed in defined circumstances and the breeders' exemption has allowed the free use of protected varieties and parental material in further breeding. Now, the utility of this UPOV system is shown by the facts that 50 countries are now members, as of this date, of UPOV. But that is not all, 19 other countries have already initiated the procedure for becoming members and a further 39 have been in contact with the Secretariat with a view to developing legislation in line with the UPOV Convention. Attempts to protect the breeders' knowledge component of seeds of modern varieties via patents began even before the development of plant variety rights. They have never been extensively used until the recent advent of genomics and genetic modification. Now again, as we all know, the protection afforded by patents is more restrictive than that afforded by plant variety rights since there is no provision for farmers' or breeders' exemptions. As the cost of breeding technology has increased with genetic understanding and as national governments have found it increasingly difficult to fund breeding for their national agricultures with their own national taxpayers money, so private companies have taken on the risk of investing in long-term variety and improvement, just as they have taken on that in the long-term development of many other new technologies. If organisations, whether private or public, which aim to supply modern varieties to farmers are to survive without subsidy over the long periods necessary for variety breeding, then the size of the plant variety right royalty, or in the case where patents are involved, the size of the technology charge, has to be less than the average added value to the individual farmer of new variety use. If this is the case, both breeders and their farmer customers make profits that can be reinvested. The size of the breeders' royalty or technology charge is thus related to the extra economic performance of new varieties. And as long as neither farmers nor breeders try to appropriate all of this extra economic performance, and of course as long as technology improvement continues actually to result in extra economic performance, a market in modern varieties can develop in situations even when the margins are small or modern varieties have never been used before. A survey conducted early in 2001 by ASSINSEL has shown that the global turnover of private companies with breeding research or plant breeding activities is about US$20 billion. About 8% of this turnover or US$1.6 billion is spent on research and, of this, US$170 million is spent on the conservation, characterisation and evaluation of genetic resources. This spend is of the same order of magnitude as the estimated annual budget required to implement the FAO global plan of action for the Conservation of Sustainable Use of Plant Genetic Resources for Food and Agriculture which was adopted in Leipzig in 1996. Private companies thus already make a massive contribution to world agriculture, not only in terms of varieties but also in terms of genetic resource

management. Without Intellectual Property legislation this contribution from private companies would not happen. Countries without such legislation risk cutting themselves off or, as the Secretary said, being marginalised, they risk cutting themselves off from the possibility of developing their own indigenous privately owned seed research sectors. Following the adoption of the Convention on Biological Diversity in 1992, a second level of genetic ownership in seeds was introduced when the CBD nationalised genetic resources. As we have already heard from Kerry, this Convention makes genetic resources the sovereign concern of the nation state in which they are found and specifies that foreign breeders or manufacturers using a country's genetic resource must share benefit with the country of origin when a new variety or product derived from the genetic resource is commercialised. The CBD negotiations are still in progress but again, as we have heard from Kerry, the new International Treaty on Genetic Resources was agreed in November last year. ASSINSEL is happy that, as regards benefit sharing, this new treaty distinguishes between the different forms of Intellectual Property Protection, in particular as they refer to the research exemption and access to genetic resources. This approach was actually first proposed by ASSINSEL through the FAO Commission for Genetic Resources several years ago. However, ASSINSEL is unhappy that the treaty allows the governing body of the treaty to consider unilaterally applying to companies who have no direct representation on this body a mandatory tax on all protected varieties whatever the type of protection is. This ignores the benefit in terms of uses of parental material which is already freely available to all with plant variety rights varieties. Such an outcome, I think, would have a major stifling effect on the development of privately owned seed companies in developing countries and hence could well be detrimental to food security. Now for commercial organisations, this new treaty is also rather disappointing, since the text reflects the desire of a majority of countries, a) only to nationalise the genetic resources but not to allow strong protection of IP for organisations active in plant breeding, b) to use only vague definitions of variety and vague references to IP that the private sector will find difficult to work with and c) to regard private companies primarily as a source of new money, rather than partners in capacity building and in the provision of new modern varieties for all farmers whether they are large or small. In addition, the list of species covered by the treaty is far too short, since agreement could not be reached over the inclusion of many very important crops. It's difficult enough to persuade farmers and politicians that for modern varieties farmers and breeders should share ownership of seed for a defined period in defined territories. It is already proving even more difficult to persuade them that it will help everybody if owners of genetic resources also share ownership of seed under similar rules. Adequate long-term food security for a rapidly increasing human population will depend on both public and private enterprise. We wont get the balance right without underpinning the spreading of technological advance with continuously developing and, to my mind even more importantly, without harmonising the seed and IP law that is the driver for the private sector. Thank you very much.

Sandy Thomas

We now move to the second phase of our session this morning. We have got about 40 minutes to have a discussion period and this is very much the chance for us to be able, as a Commission and others, to be able to listen the comments, points,

questions that you may wish to put. The Commission is an independent Commission that has been set up by the UK Government and we have not reached the stage at which we have formulated our recommendations, so it is very much a good time for us to take on board other points.

Dwijen Rangnekar: University College London

I would like to take this opportunity to point out three big points. Some of these are in one of the papers that I wrote for the Commission as a study paper and the executive summary is there in that booklet. The first point is on the TRIPS agreement. Why should developing countries be expected to introduce and implement the clause 27.3b in a fixed timeframe sense? Why should there be a cut-off date? The reasoning behind that query is a very simple point. If one looks at the history of plant variety protection or patent laws, most countries which have implemented it have tended to have a long history of debate, scientific technological development, institutional capacity building. In the case of plant variety protection some of the countries, especially in Europe, had an experience from the 1920s when efforts to try to document large varieties, to find out which varieties are similar in the sense of genetics but different in terms of nomenclature for the same thing being called by different names, for the gradual elimination of that, variety testing and a number of other development took place before UPOV in 1961 came about. Now one is hot housing developing countries into this new regime, without much of that experience. To put that in context, roughly about 65% of developing countries haven't implemented their obligation to the TRIPS agreement on time. This is a reflection of probably domestic problems, probably institutional capacity or maybe something else. So that is an important query for the Commission and well as for all people involved in this debate. The second point is that when countries are considering the implementation of this agreement, a point I tried to make in that paper was that there are a number of grey areas in the agreement. A key one in terms of what was presented would be the scope of protection. What should breeders be allowed to do and what would be their right? I was quite struck by Kerry's overhead. Her query was very interesting. How would we distribute access benefit sharing for such a variety? I'd like to turn that question around and ask, "How would plant breeding continue if rights were given to the last holder of the final variety?" It is equally important to consider the continuity of plant breeding and what breeders might be allowed to do consequently once a variety is developed. So the parentage of a variety has an important consequence in terms of the continuation of plant breeding. It is not just about those who have developed genetic material as land races and requiring access benefit sharing from that. I hate to say this but what Doha told us about public health, I think very soon we will be talking about public agriculture.

Ruchi Tripathi: ActionAid (NGO)

My question is linking up with what Kerry was saying about the International Treaty but also talking about another important development that is happening in WTO in the field of agreement on agriculture, which is a development box. What we see now is the growing recognition that agriculture is different from other industrial products

and processes and food security crops are also a different category because so many people depend on their livelihoods for this. My proposal or question to the Commission would be, “Is there any way as the international treaty has provided for a special status to the food security crops and as a development box is trying to do within the agreement on agriculture to perhaps consider the same status for food security crops within the TRIPS regime and in the IP regime and trying to differentiate it a little bit more”. Also, looking at the whole area of patent and plant variety protection and speaking with people in Monsanto there is this huge problem of double protection also. For example, the technology that Monsanto produces for BT cotton, it would have patent protection, but the plant variety would have a plant variety protection. And there are serious implications of this and from our perspective we are primarily concerned about farmers’ rights and we would urge the Commission to seriously look at the recommendations and proposals of the African group of countries and I was hoping to hear from Kent that the African groups in the WTO have said that there should be no patents allowed on genetic resources for food and agriculture because of the special status nature of this. My recommendation to you would be if the Commission could look at having no patents allowed for food and agriculture and within the sui generis regime if there was greater protection for plant varieties as the Indian law provides or as the African OAU model provides. Finally, the third area, is the whole area of the bilateral agreements, which is increasingly becoming more and more common and EC and US has several of them which are always TRIPS plus, so if there was a way we could, at least, have the minimum standards maintained and the minimum standards themselves are pretty high for most developing countries. Thank you.

Joyce Hambling: ITDG (NGO)

A question that Patrick Mulvany asked me to raise was actually that the Royal Society’s report on tran genetic crops in 2000 concluded that genetic use restriction technologies which is a kind of genetic engineering that either produces sterile seed or without the application of the companies chemicals will not actually produce a crop. The concluded that genetic use restriction technologies were largely going to protect trans nationals IPRs, rather than protect the environment as it is sometimes claimed by the proponents of such technology. We may well see, unfortunately, the commercialisation of genetic use restriction technologies within the next year. This is a matter of great concern to many groups in the global South as well as the NGOs that listen to them in the North. My question to the Commission is, if we are looking at a situation, a real life situation, where a vast majority of rural people in the global South actually save seed, i.e. it is a thus far unexploited market for seed companies, how can the commercialisation of a technology which restricts a farmer’s absolute right to save seed, how can that ever be balanced with the food autonomy, and I am talking about more than food security, I am not talking about 200 or 2000 calories in somebody’s belly every day, their absolute right to their own autonomy, how can that every be counterbalanced with the commercialisation of something like genetic use restriction technologies. I don’t expect an answer right away but it would be nice to see one in the report.

Greg Sage

Can I come back on this question known as GURTs. The protected of IP works well where there is sufficient governments to have a rule of law and it get to every man in the country. The possibility of using GURTs, or the terminator technology which caused all the furore, is there and was produced by companies that felt that the right to charge for the intellectual input was, in fact, balanced by the right to steal that intellectual output if you could get away with it. It is a technology that, in its IP protection form, has not yet been shown to work. It is still just a threat. However, GURTs are much wider than this. GURTs are ways in which you can switch on useful traits or switch them off. Plants use energy for protecting themselves from diseases and so on and they use energy to reproduce. There may well be situations in the world where it is more beneficial to only switch on those traits when you need them. These are GURTs as well. One example, which I will just float, is the question of trees. The Third World….**tape change** and it would like to have very fast growing trees. You can breed fast growing trees and make them even faster if you restrict their ability to reproduce. The advantage of that is that these highly bred industrialised trees, if you like, if they have a GURT in them they are then not a threat to the native flora because they are not going to spread out into rest of the biodiversity. Now this is a possible use for GURTs, which is very, very positive and we must not, at the beginning of the debate, strike political stances and think that this is the end of the debate, which it is not.

Kent Nnadozie

What GURTs actually does in legal terms is to enable companies to take IP laws into their own hands by effectively preventing the Government and authorities from disseminating this knowledge and its product. So the companies determine who gets and to what extent you utilise their inventions.

Greg Sage

Farmers have been buying seed every year of F1 hybrids for most of the last century. They are happy to do this because they find that there standard of living and the standard of their farming is much higher by doing that than if they try to grow on crops from year to year. So there is a long experience of farmers quite happy to do this and as I said in my presentation, as long as either the farmers or the breeders don't try to expropriate all the financial benefit a market develops. And once you have a market where both breeders and farmers are reinvesting, then you have an agricultural system that is expanding. So to assume that what has already happened in developed countries is no example to follow in developing countries is a great mistake.

Joyce Hambling

With all due respect Greg, I was referring to a peer reviewed published report that came out of this very august building. As yet, GURTs have not been commercialised

and I would question the fact that what you refer to as the Third World and I would refer to as the majority world that because there are so many different circumstances in the global South that some of your comments are slightly generalised and that you would probably be hard put to bring me references. I can tell you that in the transgenic report that I was referring to, it is Section 9. They quite clearly said that after a long study with people from both the North and the South that GURTs were more likely to protect companies' IPRs than bring any other benefits. I hear what you are saying about the difference between T GURTs and V GURTs, I do know the difference. I wasn't asking about potential benefits of firewood and matchsticks, I was asking specifically in relationship to IPRs and benefiting people in the global South.

Joseph Savirimuthu: University of Liverpool

My question arises from recognising two premises. First of all the problem of incentives and that is necessary for the system of property protection that we have. The second point being that there is a correlation between the incentive system and national economic strategies in terms of foreign earnings which IP licensing and protection brings. The clarification that I probably require is the extent to which implementing TRIPS and property systems in developing countries like Nepal, Sri Lanka and Bangladesh. What is a trade off both in short term and in the long term? A World Bank estimated something like about one million dollars just to keep a TRIPS like system running in a country like Bangladesh. I think in terms of the GDP, the question arises that marginalisation is really a bad thing. I would like your thoughts on that.

Paul David: All Souls College and Stanford University

I have a question that was, perhaps, provoked. I can say it is concluding the plea for harmonisation of seed protection as the basis on which food security could be established. As I thought of my question, it really applies generally to the issue of negotiation of treaty agreements for material transfer for a whole range of other alternative mechanisms to standard IP protection. Harmonisation sounds like a wonderful thing. Sounds almost as good as protecting private property rights. We have a lot of experience in international negotiations in other areas to suggest that national representatives are very disinclined to yield rights that their constituencies already possess. Consequently, the question that is relevant is at what standard of protection does one harmonise and what are the principles for harmonisation? I would like people to comment on whether they would recognise the general proposition that the negotiations for harmonisation always drive the standards of protection up and that there is a tendency for harmonisation to proceed across national lines rather than harmonisation being undertaken within technically relevant categories to promote perhaps harmonisation of the treatment of similar plant varieties which might mean a regime of differentiated agreement structures for different kinds of agricultural crops. Thank you.

Helena Paul: No Patents on Life Coalition (NGO)

I would like to add to the discussion on GURTs and terminator, to mention the issue of genetic modification and the direction of scientific research. Obviously, the issue of profit means that to genetically modify a crop in order to be resistant to your own proprietary herbicide makes a lot of sense from the point of view of profits. When terminator was first introduced it was described as an excellent way to make extra profits in areas of agriculture. Africa, for example, and crops that are not immediately profitable to companies. So that was also an issue about profits. I would like to ask the Commission how it proposes to look at the issue of how to control the interests of these trans national companies and to prevent them from basically superseding and taking over from the interests of small farmers, communities and all the other players in this area and also to look at the issue of how patents are recognised in a large number of places. Kent mentioned this as redirecting scientific research into specific regions. Thank you.

Mike Gale: John Innes Centre

I just wanted to say that I very much agree with Greg's thesis of the value of PVR introduced around the world. It does seem to me that if farmers the world over are going to get the benefit of the best breeders breeding in their environments they need people who are motivated to do this. Another key issue, and this covers access to GURTs and FI hybrids, is that the farmer has a choice and a key choice that is available in developing countries that is no longer available here is between companies crops and crops from national programmes. The one thing that we haven't seen covered is the source of germ plasm that goes to national programmes particularly in developing countries. This is from the CG system. This is from the International Rice Research Institute, for example, in the Philippines or symic breeding wheat and maize in Mexico. As I understand it, these organisations don't belong to countries and, therefore, have not put in the UPOV regulations. Nevertheless, they are the source of a very large part of the germ plasm from national programmes in developing countries. Will the Commission be reconsidering this?

Greg Sage

On the CGIAR point that Mike mentioned, I will try to link it to the harmonisation and the profits question. An awful lot of the mythology that was discussed during the seven years when the international undertaking was turned into what is now the Treaty on Plant Genetic Resources stemmed from the fact that developing countries were told that they were gene rich, the North was gene poor and the North would pay for the genes. When you actually look at accession flows from the crop collections of the CGIAR, which are the biggest reserve of crop genetic resources in the world, most of those are South South exchanges and there are very few South North ones. Varieties do come in very different categories. There are land rices which are populations and which are very different from highly bred, particularly those bred after 100 years of continuous professional plant breeding. They are very different beasts and in my first slide I showed you just what a difference that change

makes. If we do not have profits in the public sector, then we cannot maintain the advancement for technology, which over the last century has allowed us by the skin of our teeth to stay ahead of population growth in terms of food supply. We must look for ways in which we can work together. Obviously the private sector is not going to solve the problem. It has no ambitions to take over Africa. It just wants to be allowed to participate and to use its skills where it is appropriate. I think increasingly as we see BT cotton taking off in China and on the small holdings of South Africa, we are beginning to see that both ends of the spectrum in agricultural terms have an interest in coming together and that we can find ways in which everybody benefits. We must not take stances that try to reinvent the wheel. Arguing for no patents on plants, when for 40 years we have been discussing this and producing very real beneficial results, is trying to reinvent the wheel.

Ruchi Tripathi

A point about the cost of patented and protected technology. Just looking at the condition of the farmers, because here we have been talking very much from the breeders' perspective and from a legal perspective. I am very much aware and sympathetic to the situation of the farmers in this country who are suffering as much as farmers in developing countries. I would like to point out two differences between the farmers here and the farmers in developing countries. Farmers in the UK have the technology and have the subsidy and farmers in developing countries don't have the so-called modern technology or the subsidies. So I would urge the Commission to really look at the implications of putting in place such an expensive system for the nation, but also what impact it would have on the cost of the seeds and the kind of agriculture without the support of the subsidies. If we remove the subsidies from Europe, and I have been told this by farming groups here, farmers make no money. So where are we heading?

Peter Drahos: The Australian National University

My comment is to Greg Sage. During the course of your commentary you observed that a number of developing countries had joined UPOV as a result of having made a judgement about the utility of UPOV and you showed the membership of UPOV on a slide. I guess it is fair to point out that in a large number of cases, UPOV membership has been obtained as a result of bilateral agreements that require the relevant developing country to join UPOV. I think it is also true to say that in a number of cases those bilateral negotiations have taken place against a background of the use of trade enforcement tools such as, for example, Secton 301, the trade enforcement tool that the United States uses and the system of generalised preferences which allow duty free trading privileges within the US market. I think it follows from that that, in some cases at least, developing countries will have joined UPOV because either they have traded membership of UPOV for some other benefit or alternative they have joined UPOV because of the possible use of this trade enforcement tool. Therefore, I think it is not really possible to infer from UPOV membership alone that the relevant developing country has judged the system to have utility for it. That I think would have to be independently decided.

Greg Sage

I take your point that if you actually talk to the breeders in these countries as opposed to taking a bird's eye view and drawing conclusions in terms of geo politics, the breeders in these countries are very keen and they have been lobbying their governments to join in.

Christopher May: University West of England

It seems to me we are discussing a specific part of a more general problem, which is that in the last century, lets say, there has been an IPR law. There has been a move to recognise more and more private rights and the social domain, the public domain, call it what you will, has become merely a residual that is left only after all other rights have been exercised. Now in traditional IP law that balance between public and private rights has been managed through term limits on the protection of particular IP and I am just wondering if there is one way through this problem, and it is certainly a way I would recommend for the Commission to examine, would be to look at the issue of time limits on patents and other forms of IP. If we want to try and still reward private sector investment, there are all sorts of issues around that, and we want to have a vibrant public sector, a vibrant social domain of knowledge and information about plant breeding and so forth, one way of doing that is to reduce the time which companies can enjoy a monopoly.

Timothy Swanson: University College London

I just want to note a report we did last year for DFID on GURTs in which we were trying to project what the impacts would be of Genetic Use Restriction Technologies on different countries depending upon the current levels of biotechnology and we looked at F1 hybrid records, because we have a 40 year history of use. F1 hybrids is a very first Genetic Use Restriction Technology and found a very permanent difference in the distribution of benefits with the benefits of the new technologies going very substantially towards those countries that are on the technological frontier with a much slower diffusion away from the frontier. Applying the GURTs, if they have the same effect as F1 hybrids have had would have a very severe differential impact with regards to the rich and the poor countries with regards to agricultural yields.

Devinder Sharma: FBFS, India

When CGIAR gave us the varieties of wheat and rice, which came through the public sector in India, we brought in the green revolution. These varieties did not come with any patents attached. When at the same time there was maize revolution in America and this variety that India requested was through a private company, it never came to us, this was a hybrid of maize. It was already patented, it never came to us and we have been deprived of any development in maize. Now following on that, I find that we are excited about IPRs giving a boost to productivity and food security etc,

but if you look at why the recent trend to draw patents on biotechnology, the impact it is going to have on food security is something we need to worry about. Now biotechnology patents, rice is one crop which we are also one the places of origin, but rice, we have bought a gene recently from Japan. That gene cost 3 million rupees. That gene was found to be useless so they wanted to put that gene into barley, it didn't work out. My submission is that we found 3 million rupees for just one gene for a crop that was grown always in India. Now this kind of thing is going to block research in the days to come. As one of the former CGIAR Chairmen, Serageldin, has said, when ever we harmonise the laws relating to process and productivity in agriculture it will be a scientific advantage for Third World countries. I think we need to take care of that.

John Lindsay: British Computer Society Developing Countries Specialist Group

Food seems a remarkably good place to start thinking. Do the poor have a right to food? Do the poor have a right to food security? If we think about one class of rights objects, IPRs and don't think about another class of rights objects, are we being balanced? Clearly we cant solve the whole world's problem in one Commission, that would be a little unfair, so we have got to find a point where we are saying that by picking on one particularity we are going to be capable of getting a balance. The White Paper that set up this Commission produced the concept of an international public good. That seems an interesting idea. We can then build a model that says we have public goods and we have private goods. That seems quite reasonable. Is a right a good? Yes, it seems to be. So we can have public rights and we can have private rights. Goods have externalities. So we can have a private right externality and we can have a public right externality. Some externalities are positive, some are negative. What is the market clearing mechanism on private right externalities that are negative? What is the market clearing mechanism for public right externalities that are positive? Some goods, and therefore some rights, are depletable and excludable. Other rights are non-depletable and non-excludable. So perhaps what we need to identify are those Property Rights which are IPRs, which are non-depletable and non-excludable. And develop a framework for managing those which are different from the rights which are depletable and excludable.

Michael Blakeney: Queen Mary IP Research Institute

This conference is supposed to be about what's in the IP system for developing countries. I just want to focus on Kerry's presentation. It was almost all about access to genetic resources. Access is an industrialised country's concern. Only secondarily do developing countries get involved in this. What developing countries are interested in is benefit sharing and Kerry showed us a complicated chart saying basically its difficult. I thought I would take one very simple case study that Kerry herself has written about and look at the impact of the Treaty on this case study. In the late 90s an American university patented a gene sequence coming from rice grown in Mali. As a matter of fact, that rice was obtained from IRRI, so this was a South North movement of genetic resources. So the American university obtained patent rights in relation to that rice. That obviously doesn't contravene the International Treaty, because the IT is not concerned with patents in places like the

US, it is concerned with patents that might prevent access in Mali. So my question is, what is in the Treaty that would allow the Malians some benefit sharing in relation to that particular exploitation?

Kerry ten Kate

The assumption that harmonisation always drives standard up. Just in reflection, it is not so much from the world of IP but the world of access. I think it does, but it is not a linear process and the point I would like to make is that there are opportunities to influence harmonisation so that it works for the common good and doesn't put certain people at disadvantages. In access, there was a first enthusiastic wave of legislation about six countries and some have come forward to say that they were concerned at the results that some of the laws scored something of an own goal and that they stifled domestic research as well as international partnerships and the countries are remodelling their approach to access and they are bringing those lessons to the broader community and the bond guidelines that I mentioned are the result of discussions on how best to go ahead with this and provide an opportunity to harmonise gradually over time and one of the key concepts that's coming out, at least in the access debate, is the need for flexibility, the idea that harmonisation isn't a one model fits all approach and I am not an IPR expert but I wonder whether there are analogies between the regulation of access and IP and that there is room for flexibility. The second thing is that there was a question about patents redirecting scientific research and that is a hugely interesting question really in terms of where access to genetic resources is concerned. It is very ambiguous in the answer. On the one hand it looks to me like IPRs to a degree don't affect certain commercial practice. Working with a friend and, indeed, a team of colleagues, I did some research with 300 companies and where they get their genes from for pharmaceutical and seed and horticulture and cosmetics and all these different uses. We gave them a whole range of categories and asked them what factors influence you when you go bio prospecting effectively. Whether or not they could obtain IP protection and the status of IP protection in the country where the genes came from was incredibly low down the list. And the factors that were influencing their commercial choices were the scientific expertise of their collaborators and the biodiversity itself. Certainly, they ranked IP and it comes back to this point about the toolkit, it was just one issue that was a concern for them. On the other hand, I've talked to colleagues in companies and ironically IP seems to be a challenge for just those companies who this discussion would suggest are wielding it most. If you talk to the patent offices in multinational companies, they will say that sometimes patents are making the development of elite strains time consuming. If you want to develop an elite strain and you have to negotiate your way through 33 licenses which I have heard is an average for high yielding new strains, it takes a very long time. So I think it is a mixed blessing. I just come back to the point that you need to have a packet of measures. Scientific apartheid in developing countries, this is something that the CBD in the International Treaty at least have some words in there will try and prevent happening because there is a presumption that research will be done in countries of origin and I think that that can help to redistribute benefits and also to help countries focus on their own research priorities, not be driven by external factors. I think this links to very last issue about access really being an issue only for industrialise countries. I have to say, I really don't agree with that at all. I think that access to

genetic resources is a fundamental requirement for all countries. You could make the argument that its most important for developing countries who are battling with food security and with healthcare issues that aren't covered by huge research budgets in developed countries. So I can't agree there. I think that we need to find a balance. The specific case of Mali. Well obviously the International Treaty isn't going to work retrospectively, but the mechanisms that it establishes should enable countries to benefit either generally through the multilateral system or in cases such as very specific commercialisation of a particular gene from a particular country to engender some benefits going back to the country itself.

Kent Nnadozie

On the issue of harmonisation, I was advocating the regional approach in Africa not from the point of view of countries ceding their sovereign rights to regulate IPRs within their own territories. In a sense that, because of the lack of capacity and lack of resources that is evident in the region there will be a lot of benefit in sharing the legal capacity and adopt a common approach and a common position in international and negations to strengthen their position and also to make sure that issues of concern to them are properly taken into consideration in arriving at decisions or agreements. On the issue of the effect of IP on research, I believe too much emphasis and focus, especially in the public sector, on IP could be very distracting for researchers and could have a tendency to influence their focus in research. Having IP at the end of whatever research they are doing would direct or determine what activities they engage in. In summary and conclusion, I submit that IPs are just a tool and within the contest of national interests individual countries should determine how best to use that tool.

Greg Sage

From the point of view of doing something practically in plant breeding as opposed to representing multinational companies, some of the people who have fired questions to me have assumed that I am representing the big multinational companies. I am not. The people in ASSINSEL are largely companies that are fairly regional or local. Of course, they are extremely beneficial. One of the difficulties that they have, even in developed countries, is the problem that if you want to produce a new modern variety you have got up to an average of 33 or, I believe in the terms of the vitamin A rice in Switzerland, it was over 70 different patents that you had to negotiate. Patents are potentially a terrible logjam in the process of breeding because they don't have a research exemption and there are lots of breeders in the world who would like the research exemption area in patenting to be looked at. The idea at the back where patents were divided into non depletable and non excludable ones is a possible way forward there. We are beginning to see that even the big multinationals are realising that they make their money in developed countries. That they can be very useful in developing countries by developing patent pools where they feely put in their patents so that for work in the developing country these can be exploited. These are ideas where the more severe restriction of patenting of plants as opposed to the already well worked out and cheap functioning plant variety rights system needs to be looked at again.

Charles Clift: Secretary to the Commission

During lunch a film will be shown called “Woods were lovely, dark and deep”. It is written, produced and directed by Dinesh Lakanpal.

Sandy Thomas

Thanks to everyone for the contributions you have made and to emphasise that they will be taken into account, because we are keeping a record of them and to thank this morning’s speakers for their contributions.