

Regional Dialogue on Intellectual Property Rights (IPRs), Innovation and Sustainable Development

MEETING REPORT

Hong Kong, SAR 8th to 10th November, 2004

In November 2004, the International Centre for Trade and Sustainable Development (ICTSD), the University of Hong Kong, the United Nations Conference on Trade and Development (UNCTAD) and the International Development Research Centre (IDRC) organised a Regional Dialogue on Intellectual Property Rights (IPRs), Innovation and Sustainable Development". This dialogue brought together Geneva-based trade negotiators, noted regional academics/experts, civil society organizations, business groups, and capital-based policy-makers

The objectives of the regional dialogue were to:

- Provide a platform for a strategic discussion between relevant stakeholders on relevant trends and thematic issues in the area of intellectual property and their implications for sustainable development;
- Develop elements of a "regional agenda" for development-oriented IP policies and informal mechanisms to advance it in the coming years, among others, through joint research and networking;
- Analyze current trends in IP standards in the East Asian region;
- Explore linkages between sustainable development policies and intellectual property in specific issues-areas including health, plant varieties and biotechnology, geographical indications and research and development.

During the dialogue the following five main issues were discussed:

- Recent trends in the field of IPRs:
- The health scenario beyond 2005;
- Biotechnology and the protection of plant varieties;
- Geographical indications and traditional names; and
- Promoting research and development for the public interest.

This report highlights the main aspects of the deliberations and the most important actions - identified by the participants - that should be pursued to address the relevant issues raised during the dialogue. It also covers areas in which further research should be undertaken. The Annexes list comprehensively all the recommendations made during the dialogue in terms of future action and research gaps. They include actions at the international, regional and domestic level.

General Trends in the field of IPRs¹

The dialogue began with a discussion on the evolution of global protection on intellectual property rights (IPRs), including the knowledge gaps that exist regarding various emerging issues. Concerns were expressed as regards the scope, the pace and the implications of recent trends towards deepening IP harmonisation and regional and bilateral TRIPS-Plus commitments. It was suggested that bilateral trade and investment agreements are increasingly used in a strategic fashion by powerful countries to incorporate TRIPS-Plus commitments that have been politically difficult to achieve at the multilateral level, whether at the World Trade Organization (WTO) or the World Intellectual Property Organization (WIPO). Powerful economic partners have been dissatisfied with these multilateral forums and have resorted to bilateral agreements as a form of forum shopping to better achieve their own interests in disregard of a more balanced approach to IP protection. On the other side, this coincides with a natural need by developing countries to gain market access and competitiveness in niche sectors. The issue at stake here is the loss of key 'policy space' in strategic areas such as IPRs in exchange for short-term trade gains.

It was noted that many countries had thought of TRIPS as the end of a process of codifying IPR obligations in trade rules, when in fact there has been a continuing and incremental evolution of IPR regimes. This raised the important question of whether bilateral agreements with TRIPS-Plus provisions may upset the balance of rights and obligations in the TRIPS Agreement. WTO MFN provisions require countries to extend commitments made with one nation to all other WTO Members, which could give rise to expanding and deeper international obligations. This means that countries may have found it easier to deepen multilateral IP commitments through undertaking bilateral negotiations, as the TRIPS MFN obligation may act to string individual agreements into a network of mutually enforcing web of obligations. A multitude of initiatives has created a network of TRIPS-plus web obligations that have gone beyond the framework envisioned by TRIPS.

In Asia, lessons from a number of recent bilateral agreements and negotiations were highlighted. They included the Free Trade Agreements (FTAs) between the USA-Singapore and the USA-Vietnam, as well as the current negotiations between the USA and Thailand. In this context, developing countries in the Asia region continue to face serious challenges and pressures from their trading partners to adopt more stringent protection of IPRs. The implications of these bilateral agreements or FTAs, which may result in unintended negative consequences, are not often assessed or thoroughly understood by decision makers.

During the discussion, participants analysed the implications of the current bilateral IP models for various sectors, including health, agriculture, and the digital environment. In terms of health, the flexibilities in the TRIPS Agreement, confirmed in the Doha Declaration, for addressing public health issues had been being undermined by a number of provisions in the FTAs. On agriculture, the UPOV 1991 Agreement, often imposed through FTAs, will make it difficult for developing countries to enhance farmer rights and farmer's exceptions. Another key concern is the way copyright protection has been applied in the digital environment, especially as regards the potential limitation of copyright exceptions.

Health, IPRs – 2005 and Beyond²

Highlights of the discussion

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¹ During this module a presentation by Jakkrit Kuanpoth guided the deliberations.

² During this module a presentation of Karin Timmermans guided the deliberations. Her paper is available in the website

Today, the world faces a global health crisis. Even though the number of people with access to medicine had increased from 2.1 billion in 1977 to over 4 billion in 2002, roughly 2 million continue to have no access to needed medicine. If improving access to medicines had been one of the cornerstones of previous successes in tackling global health problems, this policy has been threatened by recent trends in the global IP regime. The strengthening of IPRs may erode past progress in improving health worldwide in particular by increasing prices of medicines and by making generic drugs harder to obtain.

.As TRIPS fully takes force for developing countries (apart from LDCs) in 2005, many questions and challenges arise. What are the implications of 2005 when TRIPS obligations enter into force in most developing countries? Will local patent offices be able to handle the flood of new applications (including the some 5000 applications pending in India's mailbox) as well as the increasingly complex claim examination or the increasingly complex patent thicket? From where can non-drug producing developing countries source their affordable drugs? Participants felt that the most likely scenario would be lack of supply of generic versions of drugs as a result of the TRIPS mailbox system and new drugs after 2005.

How regional players will respond to these challenges is not clear. At the minimum and as part of the first steps, there is a need for enhanced monitoring, identification and exploitation of gaps in the current patent landscape, more strict application of patentability criteria (such as novelty and inventiveness), and the incorporation and use of safeguards and mechanisms in the regulatory tool box such as compulsory licenses, parallel imports and competition policy.

Of the 1233 drugs generated between 1995 and 1997 only 13 are useful in the treatment of tropical diseases. This number will be further reduced if those that were reworking of old formula were discounted. This means that the current use of patents as an incentive to R&D has not delivered innovative or new medical solutions for diseases and illnesses that afflict poor countries. In addition, the current IP model is also failing to deliver new and relevant drugs at affordable prices. Therefore, there is a need to consider transitional models such as private-public partnerships as well as increased domestic production in developing countries to bridge this gap. Though without OECD countries' support, these models were likely not to be viable.

During the discussion several issues were raised including regional experience (such as Malaysia) in issuing compulsory licensing; alternative/complementary models of IPR regimes such as the R&D treaty proposed by J. Love; the use of price control; competition policy; insurance schemes and regulatory mechanisms in general. Further regional cooperation through procurement pooling and reducing intra-regional trade barriers were also viable options.

When looking at the post 2005 challenge in the health sector, developing countries need to look at production gaps, how to foster manufacturing capacity in the LDCs (including the need for FDI, including from India and China), ways and means to promote local innovation and how to mobilise the generic industries towards a public policy, rather than a commercial agenda.

Main recommendations

Actions

- Consider and develop new models to promote innovation in the health sector (through, for example, open source);
- Enhance awareness on the implications of IP chapters in current bilateral agreements;
- Support interaction among national stakeholders through national dialogues;
- Explore mechanisms to deal with the extension of protection for undisclosed information beyond obligations under Article 39.3, TRIPS;
- Need to look at the legal significance of side letters accompanying the FTAs;

 Create awareness and build capacity at country level on options to implement the Doha Declaration and the 30 of August Decision and TRIPS flexibilities in general.

Research Gaps

- The status of China and India in the post-2005 TRIPS scenario;
- EU and US IP regimes on undisclosed information, including protection of data exclusivity;
- Alternative models to promote R&D and innovation (e.g. open source model and the R&D treaty proposal)
- The impact of TRIPS Plus standards on development (e.g. the adoption of new WIPO treaties in order to ensure that they do not hamper R&D, access to research materials, transfer of technology)
- A handbook for negotiators on FTAs initiatives.

Agro-biotechnology, Sui Generis Systems and IPRs – Protection of Plant Varieties³

Highlights of the discussion

IP protection of biotechnology and plant varieties raises a set of issues that are critical to the sustainability and economic growth of developing countries, which are also closely linked with farmers' rights. There is evidence that IPRs have helped consolidate the global seed and agricultural input industries, which has implications for, inter alia, public policy agendas, the potential economic and environmental impact of GMO plants, the protection of traditional knowledge, food security, seed prices, R&D and technology transfer.

WTO Members have several options derived from Article 27.3b) of the TRIPS Agreement to protect plant varieties including patents, specific Plant Variety Protection (PVP) including the kind advocated by the Union of Plant Varieties (UPOV), home grown *sui generis* schemes as well as agro-biodiversity laws. It was noted that most of PVP laws focused on protecting high yield crops and not on agro-biodiversity conservation.

The legal obligations contained in various international agreements including the TRIPS Agreement, the Union of Plant Varieties (UPOV), the Convention on Biological Diversity (CBD), the new Food and Agriculture Organisation (FAO) treaty on Plant Genetic Resources (ITPGRFA) have created a complex web of obligations not only for the access and use of genetic resources but also the products and technologies derived from such resources. The lack of legal certainty and coherence at the international level was hindering effective implementation at the national level. The lack of recognition and engagement in the CBD and the ITPGRFA by important members of the international community was seen as a barrier to find constructive solutions to the problem of illegal access and use of genetic resources.

Participants discussed two main approaches regarding plant variety protection. The first focused on incentives - in the form of patents or registration system such as UPOV - for commercial breeders and the biotechnology industry to invest in R&D in high yield plants varieties. The second approach also takes into account the interests of different stakeholders in agrobiodiversity including commercial breeders. It calls for a more holistic approach that promotes plant-based innovation (whether through traditional breeding or transgenic technologies) while incorporating public interest considerations including exceptions, farmer's rights, biodiversity conservation measures, contractual obligations, protection of traditional knowledge, land and property laws, competition law, technology transfer. Such an approach, while possible at a

³ During this module a presentation of Surinder Kaur Verma guided the deliberations. Her paper is available in the website.

national level, would likely be unviable at an international level without the will of the international community. In this context, challenges related to the protection of traditional knowledge and its adequate protection was raised. Participants agreed on the need to find a *sui generis* form of protection/preservation to address the concerns of traditional and local communities.

Despite the complex web of IP, biodiversity, and agro biodiversity commitments at the international level, governments should assess what rooms of maneuvering exist for them and capitalise on potential opportunities. Along this line, participants analysed India's efforts in designing a coherent framework by issuing a new series of legislation including a revised patent law, a *sui generis* plant variety law, and a biodiversity law. Another example of country efforts to use the flexibilities of article 27.3b) was Thailand, which issued in 2000 a law that accommodates PVP plus biodiversity protection.

Main recommendations

Actions

- Promote the incorporation of CBD principles on sovereignty, ABS, disclosure or the country of origin in the results of the 27.3b and 71.1 review of the TRIPS Agreement
- Preserve policy space for *sui-generis* options for plant variety protection and the exclusion of life forms under article 27.3.b of TRIPS
- Establish a positive agenda on the protection of traditional knowledge (TK) and genetic resources that could include:
 - Ratification of key multilateral agreements related to genetic resources (CBD, ITPGR);
 - o Inclusion of disclosure of origin in IPR filing procedures;
 - o Design of defensive and positive protection of TK;
 - o Mechanism for exchange of information on biopiracy;
 - Establishment of an enforcement mechanism.

Research gaps

- The actual economic and scientific value of commercialisation of TK.
- The components and elements for a *sui generis* system for plant varieties as well as TK protection.
- Case studies on policy space in the area of PVPs and TK in selected countries in the region.
- The relevance and potential of legal mechanisms at national level vs regional level for shared-ecosystems/ shared-genetic resources.
- An inventory on existing access legislation at the national level and their effectiveness.

Geographical Indications and Traditional Names⁴

Highlights of the discussion

The discussion in this session focused on the legal, social and economic implications of geographic indications (GIs). Participants thought that GIs might offer interesting challenges, in part because the basis of protection is related to geographic concerns, historical rights to methods of production, and local know-how. The main issues addressed during the discussion include:

⁴ During this module a presentation of Dwijen Rangnekar guided the deliberations. The paper is available in the website.

- The legal protection offered by GIs and certification trademarks;
- Implementation of the TRIPS hierarchy (Articles 22 and 23);
- Other related issues including bilateral arrangements such as the ones between the EU and, inter alia, South Africa, Australia and Canada covering wines, protection of certification marks and marketing strategies.

In considering legal protection, three categories of laws were identified: those focusing on business practices (unfair competition), trademarks regulations, special measures (e.g. *sui generis* systems such as EEC 2081/92) respectively. The first two categories offered some common measures of protection. For example, business practices laws offer some indirect protection to GIs by protecting product integrity and consumer interests (through food labelling and competition regimes) or by the regulation and protection of various indications. China, for example, has implemented business practice regimes through its Unfair Competition law (enacted in 1993). Its trademark law offers certification and collective marks protection of the reputation and under some circumstances as quality and consumer protection.

As regards the hierarchy of protection established in Articles 22 and 23 of the TRIPS Agreement, countries have taken different routes with respect to its implementation. For example, Brazil has decided against implementing a hierarchical system and has chosen equal protection for all products, while India implements a flexible scheme (two levels protection: agriculture and non agriculture products). Others simply replicate the hierarchy in TRIPS.

Some GIs are becoming increasingly important economic assets for Asian countries as various speakers cited successful examples such as Darjeeling and Ceylon tea. Participants, when assessing the potential benefits of GI protection, also expressed several concerns, which include:

- Not all products are suitable for protection as GIs;
- The lack of consensus over the form of protection (GI vs. certification trademarks);
- The costs of setting and enforcing national and international GI regimes;
- The linkages between traditional knowledge and GI protection;
- The need to clarify the use of exceptions under Article 24, TRIPS Agreement.

These concerns were identified as potential areas for research and exchange of experiences.

Main Recommendations

Actions

- Explore options for mutual recognition of GIs:
- Promote national dialogues on the establishment of national/regional systems for the registration and protection of GIs and traditional names;
- Include all relevant stakeholders in the design of national/ regional systems;
- Identify existing and potential GIs that could be protected/promoted for commercial and public agenda (such as biodiversity conservation and the preservation of livelihoods).

Research gaps

- The costs and benefits of introducing an extension of GIs protection.
- The impact and experience of extending protection of GIs in bilateral agreements.
- The potential costs and benefits of using different options for protecting GIs, including "Appelation d'origine", certification trademarks, or collective trademarks.
- The links between market access and GIs protection in EU/US bilaterals.

- The implications of the protection of GIs in the European Union (EU) on developing countries.
- The effective use of exceptions as illustrated by article 24, TRIPS.
- The effectiveness of using GIs to protect TK/biodiversity and the links with a TK *sui generis* protection.
- Comparison among developing countries/leading export products experience in protecting/using GIs (e.g. China, India, Sri Lanka, Viet Nam, etc.)

IPRs, Promoting R&D for the Public Interest⁵

Highlights of the discussion

The primary issue addressed by the participants in this session was the impact of IPRs in addressing research priorities for public needs and what could be the alternative models for R&D. Many participants felt that the current patent system was not successful in drawing investment to R&D that meets the public needs in smaller markets. Participants, when considering the impact of patents over R&D, expressed various critical views including:

- Patents tend to offer incentives for initial investments but not necessarily for follow up on developments related to the application of technology;
- If there were a large number of owners maintaining the same kinds of technology, it might be hard to achieve progress without collaboration among the owners, especially in the case of biotechnology;
- Patents are expensive and cost prohibitive for 'smaller' inventions;
- Most importantly, existing innovation systems encourage the private appropriation of critical enabling technologies through IPRs, thus potentially denying access to key technologies.

Participants suggested an alternative incentive model to promote innovation for the biotechnology and pharmaceutical sectors along the line of the "open source" model for software use and development. Under such an open source model, information about innovations could be put forth for use, trade or common development under a protected commons for the collective good of the users. In this case, the incentive structure would be based on shared rather than individual benefit.

An open source model may also bring a range of benefits, including reduced costs (especially for developing technologies with lower market value), non-monetary incentives to contribute to the commons and public interest needs and greater access to a wide range of technologies, and increased incentives to develop technologies for niche or smaller markets. Using web-based tools, such as the Internet-based technology management systems, might also promote collaboration and joint research among scientists and innovators, whether they are professionals or community boards. Participant also discussed methords to advance and consolidate this model, including IP-based tools such as patent auctions.

Questions were raised as to whether or not the open source model could be successfully applied to other industries, particularly biotechnology, especially when the research is capital-intensive and requires complex and high tech facilities. This stands in contrast to the software sector, where individual and low cost creative activities can easily take place. Participants also asked whether IP rights actually promote foreign direct investment that advances R&D appropriate for the local community (since many TNCs were increasingly shifting their development resources offshore). Participants also agreed that an IPR system needs to be balanced in disseminating

⁵ During this module a presentation by Marie-Connett-Porceddu guided the deliberations. The paper is available in the website.

new technology *while* protecting the rights of the developer - and that the current system is unfair to developing nations. In order to assess the feasibility of alternative means to promote innovation, there is a need for more case studies on the use of open source models (in, for example, public interest agricultural centre research activities).

Main recommendations

Actions

- Maintain flexibilities within trade agreements to enhance pro-innovation activities and approaches;
- Include and enforce technology transfer obligations in investment agreements;
- Promote pro-innovation approaches in national IP policy frameworks;
- Foster PPP in R&D for public interest.

Research gaps

- The impact of TRIPS Plus on technology transfer on R&D capacity.
- The existing options under current IPR system to facilitate innovation in developing countries such as patent pooling and research exemption.
- Case studies on the role of FDI (including licensing) in generating technology transfer and the strengthening of local R&D capacity
- The role of public private partnerships, public interest research centers, SMEs as well as public private linkages in national innovation systems.
- How to move from R&D activities to product development in absence of strong market incentives in developing countries.

Annex I Recommendations of the session on "Health, IPRs – 2005 and Beyond"

	Action: challenges/policy action	Research agenda
International	Consideration of new models to promote innovation in the health sector (e.g. open source)	Better understanding of EU and US IP regimes on undisclosed information, including protection of data exclusivity
	Promote R&D cooperation	Need to identify options available to developing countries post- 2005
	Regional cooperation in the use of flexibilities under TRIPS including the 30 August Decision	Analyse the China and India situation in the post-2005 scenario
	Deal with the extension of protection for undisclosed information beyond obligations under Article 39.3, TRIPS	Need to look at alternative models to promote R&D and innovation (e.g. open source model and R& D treaty proposed by Tim Hubbard and James Love)
	Need to look at the legal significance of side letters accompanying the FTAs	Need to analyse the impact of TRIPS Plus standards on development (e.g. the adoption of WIPO new treaties and does it hamper R&D, access to research materials, transfer of technology)
		Need to look at alternative sources of manufacturing (e.g. sourcing from LDCs if they have manufacturing capacity) With respect to FTAs, need to look into the possibility of creating a handbook for negotiators in developing countries
Regional	With respect to FTAs, need to enhance negotiating capacities with a view to:	Facilitate access to medicines through the consideration of:
	Providing assistance to negotiators at all levels e.g. what kind of proposals developing countries can put forward during the negotiations; Promoting greater interaction and dialogue among negotiators, stakeholders	Regional procurement of medicines Whether the section on RTAs and LDCs in the 30 August decision (para 6) can be used to facilitate access to medicines for the South Asian Association for Regional Cooperation
	Identifying negotiation priorities	(SAARC) half of which are LDCs What kind of changes can be accommodated in TRIPS which can benefit regional arrangements such as ASEAN
	Identifying and exposing actors which are behind the FTAs agenda	
	Enhancing the understanding of the United States IP regime, approaches and domestic concerns	
Domestic	Creating awareness and capacity building:	Need to analyse the impact of TRIPS Plus standards on development e.g. the adoption of WIPO treaties in order to ensure that they do not hamper R&D, access to research materials, transfer of tech, etc.
	What are the policy options available under TRIPS and the August 30 decision	What kind of competition policy should be put in place which promotes access to affordable medicines. Is it sufficient to reiterate obligations found in TRIPS into the national laws?
	How to use and implement flexibilities available under TRIPS and the August decision Need to build capacity on the legal issues involved in the patent granting process Need to share experiences between countries on dealing with health problems (e.g. on the challenges on issuing CL, false patent claims)	

Need to nurture manufacturing
capacity in developing countries and
sourcing of active ingredients for
production

Need to engage with generic
associations and industries and
identify how the generic industry can
play a broader and more proactive
role at the national level.

Promote IP policy network(s) and
dialogues at national level

Annex II Recommendations of the session on "Agro-biotechnology, Sui Generis Systems and IPRs"

	Action: challenges/policy action	Research agenda
International	Doha Development Round With respect to paragraph 19 of the Doha Ministerial Declaration, promote CBD principles on sovereignty, ABS, disclosure Promote preservation of options on <i>sui generis</i> systems and exclusion of life forms under article 27.3.b, TRIPS	Economic and scientific value of commercialisation of TK Socio-economic possibilities of using GIs for the protection of TK, endemic plant varieties Possible components and contents of a <i>sui generis</i> system of protection
	With respect to GIs maintain flexibility to extend coverage of protection	Better understanding of actual diffusion of agro-biotech innovation to developing countries and their respective impacts, including: situational analysis to shed light on existing proprietary biotech useful to developing countries; adaptability to socio-environmental conditions; usefulness/effectiveness in addressing pressing policy agendas vs commercial use
	Regional trade agreements and FTAs: Establishment of positive agenda on protection of TK and genetic resources: Ratification of key multilateral agreements (CBD, ITPGR) Inclusion of disclosure of origin Exclusion of life forms protection and provision for a sui generis option CBD principles Resist pressures for ratification of UPOV 91 Mechanims for exchange of information on biopiracy With respect to WIPO and its IGC: Promote inclusion of customary law	

	Maintain negotiations on disclosure of origin in WTO Promote extension of IGC recommendations to other WIPO relevant initiatives (e.g. SPLT) With respect to CBD: Promote a proactive stance by CBD COP on inclusion of CBD principles in WTO/TRIPS Harmonization of biodiversity laws	
Regional	Promote use of competition policy to address food security concerns (e.g IP driven market dominace and abuse) at national and regional level	
	Development of regional approaches to <i>sui generis</i> systems of protection and promotion of R&D cooperation	
Domestic	Promotion of coherence between domestic and international stances	Relevance and potential of legal mechanisms at national level vs regional level for shared-ecosystems/ shared-genetic resources
	Competition policy (see regional above)	Level of implementation of CBD principles
		Inquiry on existing access legislation and their effectiveness

Annex III Recommendations of the session on "Geographical Indications and Traditional Names"

	Action: challenges/policy action	Research agenda
International/Regi onal	Explore options for mutual recognition of GIs	Cost benefit assessment of introduction/extension of GIs
		Analyze the impact and experience of extending protection of GIs in bilateral agreements
		Explore the potential benefits and cost of using different options for protecting GIs, including "Appelation d'origine", certification trademarks, or collective trademarks
		Explore links between market access and GIs protection in EU/US bilaterals
		Implications of the protection of EU GIs on developing countries
		Explore the effective use of exceptions as illustrated by article 24, TRIPS
	Inclusion of all relevant stakeholders in the design of national/regional systems	How effective can GIs be for the protection of TK/biodiversity. Identify links with a TK <i>sui generis</i> protection
		Analyze developing countries/leading export products experience in protecting/using GIs (e.g. China, India, Sri Lanka, Viet Nam, etc.)

	Action: challenges/policy action	Research agenda
	Need to maintain flexibilities within trade agreements the view of enhancing pro innovation activities and approaches	Fostering PPP in R&D for public interest (a positive agenda for international policy frameworks):
	Include and enforce technology transfer obligations in investment agreements	Technology transfer and public interest;
		Challenges and opportunities arising from R&D globalisation; Analysis and evaluation of existing international policy frameworks
		Open Source / Creative Commons Systems:
		SME access and engagement
		NARS, CG etc engagement IP regimes:
		Impact on R&D capacity and priorities – and product development
		IP management to support R&D
		what is the impact of TRIPS Plus on tech transfer and R&D capacity?
		Exploring flexibilities for national implementation
		Exploring the potential of existing options – such as patent pooling and research exemption
		With respect to foreign direct investment regimes:
		Does FDI (vs licensing) lead to technology transfer and the strengthening of local R&D capacity? Consideration of case studies
		Meeting SPS standards: understanding gaps (technology, research or knowledge)
		Consider and explore meaning and relevance of obligations on technology transfer to developing countries (Articles 7 and 66. TRIPS and in IIAs in general);
Regional		What is the potential of regional alliances – such as NEPAD in promoting sustainable innovation national systems?;
Domestic	Initiate/promote pro innovation approaches in national policy frameworks	R&D Capacity: consider policy opportunities, technology gaps – HR, human capacity issues
		With respect to innovation systems:
		The role of PPPs and CSR
		Funding public interest R&D New role of public research institution (NARS, CG)
		Role of public vs private research – and their interlinkages
		How do we move from R&D to product development in absence of strong market incentives?
		How to structure IP regimes according to national policy priorities Recruitment and HR research capacity
		Exploring new licensing structures
		National policy frameworks - new and existing;
		Role of SMEs in national innovation system of developing countries.