

**“COMPETITION LAW IN TECHNOLOGY
TRANSFER UNDER THE TRIPS AGREEMENT
IMPLICATION FOR DEVELOPING COUNTRIES”**

SUBMITTED TO PARTIAL
FULLFILMENT OF THE
REQUIRMENT FOR THE DEGREE OF
(LL.M)

Batch: 2019-2020

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DECLARATION

I, hereby declare that the dissertation entitled “**COMPETITION LAW IN TECHNOLOGY TRANSFER UNDER THE TRIPS AGREEMENT IMPLICATION FOR DEVELOPING COUNTRIES**” is the outcome of my own work conducted under the supervision of **Miss. Trishla Singh**, at **Babu Banarasi Das University Lucknow**, Lucknow (Uttar Pradesh). I declare that the content of this dissertation is an original work prepared after careful research and due acknowledgement has been made in the text to all other material used and that the same has not been submitted in any university or college or any other programme for any other purpose.

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CERTIFICATE

This is to certify that the research work entitled “**COMPETITION LAW IN TECHNOLOGY TRANSFER UNDER THE TRIPS AGREEMENT IMPLICATION FOR DEVELOPING COUNTRIES**” is the work done by a student of Babu Banarasi Das University Lucknow, under my guidance and supervision for the partial fulfillment of the requirement for the Degree of **(LLM) in** Babu Banarasi Das University Lucknow, Uttar Pradesh. According to the best of my knowledge, he/she has fulfilled all the necessary requirements prescribed under the University Guideline with regard to the submission of this dissertation.

I wish him/her success in life.

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ACKNOWLEDGEMENT

I, acknowledge the heartfelt thanks to the Institute of legal Studies, Babu Banarasi Das University Lucknow, for providing me the opportunity to complete my dissertation for the Partial Fulfillment of the Degree in (LLM).

I am thankful to my Supervisor **Ms. Trishla Singh (Assistant Professor)**, for not only helping me to choose the dissertation topic but also for her valuable suggestions and co-operation till the completion of my dissertation. She provided me every possible opportunity and guidance and being a support in completing my work.

I also thank to all the respondents without whom this study would have never been completed. I am thankful to everyone from core of my heart.

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LIST OF ABBRIVETION

UNCTAD -	United Nations Conference on Trade and Development
WHO -	World Health Organization
WIPO -	World intellectual Property Organization
WTO -	World Trade Organization
ESTs -	Environmentally Sound Technologies
FDi -	Foreign Direct investment
FTAs -	Free Trade Agreements
GATs -	General Agreement on Trade in Services
iCTs -	information and Communication Technologies
iP -	intellectual Property
iPL -	intellectual Property Law
iPRs -	intellectual Property Rights
iTT -	international Technology Transfer
DCs -	Developed Countries
PC-	The Paris Convention
R&D -	Research and Developments
TNCs -	Transnational Corporations
TRiPS -	Agreement on Trade-Related Aspects of intellectual Property Rights UN - United Nations

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PREFACE

The TRIPS Agreement allows WTO Members to enact and apply appropriate domestic competition law to address IPR-related anti-competitive practices. However, these flexibilities in the TRIPS Agreement do not provide any specific guidance for WTO Members. The application of domestic competition law to IPR abuses in technology transfer varies a great deal between developed and developing countries, and even among the developed countries themselves. The application requires the establishment of a sophisticated legal infrastructure. This is not a simple matter for developing countries.

Intellectual property law allows for the creation of a market which welcomes innovation, the commercialization of such innovation, and technology transfer. Competition law then regulates this market. A strong intellectual property regime needs to be accompanied by strong competition rules. Developing countries generally under-enforce their competition legislation in this area, even though they are net importers of technology. They have to comply with high standards of intellectual property protection under the TRIPS Agreement, or even the TRIPS-plus standards. But they appear not to make use of the competition flexibilities in the TRIPS Agreement to promote access to technology and control anti-competitive conduct in inward technology transfer.

This dissertation is an attempt to analyse the impacts on technology transfer-related competition law in developing countries in general, and Vietnam in particular, together with the experience of the US and the EU, provide useful insights. In principle, domestic competition law should be used to promote access to technology. Developing countries can reasonably apply and adapt relevant decisions and judgments from developed country jurisdictions to their own circumstances. While IPRs are globalized, technology transfer-related competition law should be globalized suitably for the needs of local contexts. In this respect, developing countries should evaluate the obstacles, both internal and external, in order to select appropriate strategies.

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CHAPTER – 1

INTRODUCTION

In today's conditions of the dynamic development of global processes in the research and development (R&D) sphere and of economic globalization, there is an increasing significance of international technology transfer (iTT) by which the exchange and diffusion of technologies, innovation and knowledge are occurring around the world. The attention of the contemporary world community given to iTT is caused by those circumstances that technologies, be they information and communication technologies (iCT) or environmentally sound technologies (EST), are a deciding factor of economic and social development, and, of course, of different problems in need of solutions at the regional and global levels. iTT, being a necessary tool for speeding up the pace of economic, technological and social development, is one of the instruments for arriving at the Millennium Development Goals and, especially, the goals of sustainable development, as those have been assigned in the Agenda XXI and other international documents pertaining to so-called international law on sustainable development.

As a rule, national technology transfer (NTT), occurring within countries, and iTT, occurring between countries, in this era of economic and technological globalization are in intersection, while both maintain a certain specificity. The providing of access to technology, especially for developing and least developed countries (LDCs), is a very important item on the agenda of global policy in the area of aid to development. The catalog of more sensitive technologies for developing countries includes technologies for sustainable forest management and use of forests, iCT, technology for water treatment and

waste management, clear and renewable energy technology, biotechnology, marine technology and health technology, among others.

Additionally, it is true to say that the transfer of technology to developing countries is one of the most actively discussed issues of international economic relations in the area of development aid in the last fifty years. Developing countries hold in this matter a very active position. Since 1970, they have expressed - at various international forums - their intentions to improve access to foreign technologies with the aim of enhancing their technological capabilities. Technology transfer at the international macro-level was and is a focus of negotiations between developed and developing countries in the contexts of technical cooperation, trade liberalization and protection of the environment. This has resulted in elaborating the macro-level political bargaining model of iTT.

Obviously, technology transfer due to the abovementioned significance of technologies for the economy and development has become one of the sectors of modern global economics, science and technology policy - including its development component. interestingly, iTT, being the separate subject matter of the global agenda on world economic policy at large and world development aid policy in particular, as testified by P. Roffe very reasonably,¹ is one of the major concerns of global policy on intellectual property rights (iPRs) and their protection. it is fully clear that iTT as a critical factor of a sustainable rate of economic growth and development is very sensitive to protection of iPRs, that is to say, protection of the exclusive rights, and especially to increasing their protection. It may quite rightly be said that the contemporary concept of technology transfer includes within its broad view iPRs, especially exclusive patent rights and trade secrets, and, to a certain degree, copyright addressing iCT and software in a kind of integrated perspective of

technology transfer. Besides the approach to the transfer of technology as a transfer of technical information and technical knowledge that are the results of intellectual activity, a great significance has been placed on specifying the issues on what iPRs mean as to technology transfer. Hence, there is reason to say that the complex global policy in the areas of iTT and intellectual property (iP) intersects with the global policy on development aid.

DEFINITIONS

The TRIPS Agreement allows WTO Members to enact and apply appropriate domestic competition law to address IPR-related anti-competitive practices. However, these flexibilities in the TRIPS Agreement do not provide any specific guidance for WTO Members. The application of domestic competition law to IPR abuses in technology transfer varies a great deal between developed and developing countries, and even among the developed countries themselves. The application requires the establishment of a sophisticated legal infrastructure. This is not a simple matter for developing countries. Intellectual property law allows for the creation of a market which welcomes innovation, the commercialization of such innovation, and technology transfer. Competition law then regulates this market. A strong intellectual property regime needs to be accompanied by strong competition rules. Developing countries generally under-enforce their competition legislation in this area, even though they are net importers of technology. They have to comply with high standards of intellectual property protection under the TRIPS Agreement, or even the TRIPS-plus standards. But they appear not to make use of the competition flexibilities in the TRIPS Agreement to promote access to technology and control anti-competitive conduct in inward technology transfer. Analyses of technology transfer-related competition law in developing countries in general, and Vietnam in particular, together with the experience of the US and the EU, provide useful insights. In

principle, domestic competition law should be used to promote access to technology. Developing countries can reasonably apply and adapt relevant decisions and judgments from developed country jurisdictions to their own circumstances. While IPRs are globalized, technology transfer-related competition law should be glocalized suitably for the needs of local contexts. In this respect, developing countries should evaluate the obstacles, both internal and external, in order to select appropriate strategies. It must, however, be remembered that competition law is antitrust. It is neither anti-IPR nor anti-trade. Developing countries with limited competition law resources should set realistic priorities for the control of technology transfer-related anti-competitive practices. The focus should be on the areas of refusal to license, excessive pricing of technology-embodied products, tying, and use restrictions. At the international level, issues relating to technology transfer-related competition law, and competition law in general, should be on the agenda of a post-Doha negotiation round in the WTO.

OBJECTIVES

The Agreement on Trade-Related Aspects of Intellectual Property Rights, which established the minimum standards for the protection and enforcement of intellectual property rights for WTO members, remains one of the more controversial international intellectual property agreements that have entered into force. Although that Agreement embraces a highly problematic super-size-fits-all approach, it includes a number of safeguards and flexibilities to facilitate economic development and to protect the public interest. Articles 7 and 8, in particular, lay out explicit and important objectives and principles that can play important roles in the interpretation and implementation of the Agreement. Presented at the 2009 Santa Fe Conference, this article begins by tracing the origins and development of Articles 7 and 8 of the TRIPs Agreement. It then examines the

normative content of these provisions while highlighting the interpretations made by WTO panels and the Appellate Body as well as the implications of the two Doha declarations. The article concludes by exploring five different ways in which Articles 7 and 8 can be used to facilitate a more flexible interpretation and implementation of the TRIPs Agreement: (1) as a guiding light for interpretation and implementation; (2) as a shield against aggressive demands for increased intellectual property protection; (3) as a sword to challenge provisions that overprotect intellectual property rights or tolerate their abuse; (4) as a bridge to connect the TRIPS regime with other intellectual property or related international regimes; and (5) as a seed for the development of future international intellectual property norms.

Delimitations

The authors decided to delimitate their study to two major manufacturing countries: Brazil and India. The cases of these were and are extensively discussed in accordance to their solutions to domestic supply of medicines. Moreover, authors interviewed nationals of four developing countries: Ethiopia, Botswana, South Africa and Ghana. The information obtained through these interviews is used to highlight the situation of access to medicines in those countries. Furthermore, the information is of major importance and significance to the statistics about accessibility of essential drugs in poor and developing countries in general.

CHAPTER - 2

METHDOLOGY

Type of Research

As we needed to get a broad range of information about our subject, we decided to use qualitative approach. As this kind of study is intended to discover and analyze the behavior or perceptions which drive the target audience in terms of specific topics and issues³. The research depends on opinions and beliefs (about ‘Who’, ‘How’, ‘What’, ‘When’, etc.) of the small sample groups of the target market than the statistical data (it does not answer the question ‘How many’ or ‘How much’), and the results of such research are descriptive rather than predictive. It enables understanding, explanation and interpretation of empirical data and allows researchers to form hypotheses and productive ideas. It originates from social and behavioral sciences: sociology, psychology and anthropology, and is used nowadays also in marketing and management fields of study. Those are the exact questions that our research is meant to answer. In order to conduct our qualitative research we needed to gather the qualitative data.

Qualitative data usually consists of in-depth interviews, direct observations, written documents. Interviews can include one-on-one interviews as well as group interviews. The answers are usually written down or recorded in order to use it later. Written documents usually include books, web site, articles, magazines and etc. The answers for the interviews gave us our primary data while written documents were used as a secondary data in our research.

Primary data

We decided that we will need primary data in our research. The research supplies the paper with information about the access to pharmaceuticals in developing countries through the eyes of their citizens. In order to obtain that we have conducted a series of interviews. Interviews consisted of both open-end and close-end questions. Most of the interviews were

conducted on individual basis. For the rest of the people who agreed to participate in our project but, for different reasons, could not meet us in person, we have created special questionnaire that was later sent by email. One of the in-depth interviews was a group one. That helped us to get way more information than we could get from all three respondents separately because they were able to argue and complete each other's thoughts. The questions were aimed at gathering the quantitative data, which allowed us to achieve the main attributes of a group interview in this particular situation:

Secondary Data

As stated above, we have used one article as our starting point in a search of our secondary data. The subsequent sources were mainly found in the reference section of that article and the new articles were checked for the appropriate literature again. We searched for the most recent information and, sometimes, preferred more recent article to interesting one if the content was more or less the same. The reason for that was the rapid change in the situation in the modern world. The main database for our search was Articles University of Delhi and the main search engine was Google. References were also used as a direction to official sources in order to make our research more reliable.

Criticism

Even though qualitative method does not require the amount of respondents to be large, we still think that our approach can be criticized because of the small number of interviewees. Moreover, most of our respondents are currently living in Sweden and, thus, might possibly have different perspectives on situations comparing to people who reside in African countries. The data collected from the interviews may include personal opinions and observations not typical for the whole of the population. We are aware of the facts that contacting national health authorities might have provided us with a more reliable data, but the limitations of time for completing the thesis restricted us from doing so. Moreover, as we approached a report ‘HIV-AIDS in Ghana; Background, Projections, Interventions and Policy’⁸, we found numerous data not matching the one gathered from World Trade Organization’s reports. Due to this lack of correspondence we chose WTO’s data over the national one. Nevertheless, the data collected and the survey conducted allowed us to reach our intended goals and base our careful research, analysis and conclusion on it.

CHAPTER – 3

INTERNATIONAL INITIATIVE

The problems associated with the transfer of technology to developing countries and particularly to development countries had been discussed during the past five decades. Results of these discussions are numerous bilateral and multilateral initiatives at the international levels. These initiatives have become the basis for the elaboration of legal norms laid down in national legislation and international instruments, such as various sources of soft and hard international laws.

Concurrently, in a given international documents, the right of developing countries to access technologies has been recognized. I should stress that this right may be voiced as a consequence of extreme interest of developing and especially to development countries in obtaining these technologies, particularly related to innovative technologies. Due to international technology transfer, developing countries globally could gain access to technologies that may be new to them.

More so, the right to access new technologies should be understood as one of the elements of right to development. Hence, the transfer of technology to developing countries is of a great concern. Discussions on setting up the New International Economic Order while is an integral part of the New International Technology Order include the new order of international technology transfer. The relevant content and extent of intellectual property rights, as well as regime of IPRs protection are as part of the latter.

The contemporary conception of international technology transfer goes beyond a purely economic approach. The conception of knowledge and technology as public goods lays down the foundation of modern concept of international technology transfer. Hence,

the idea that knowledge, information and technologies are both public and individual goods is the focus of the Draft of the Treaty on access to knowledge. In seeking to promote the transfer of technology and knowledge to developing countries, the core objective of this project is to take into account the need for a balanced development of IPRs and protection of them.

I want to underscore that, technologies are global public goods of intellectual nature. They enable us form appropriate conditions which are necessary for the realization of human right and protection of life from one generation to the next generations. Hence, the core challenge for policy in international cooperation is to set up and maintain an effective access to technological information and knowledge. Another challenge is to devise the special mechanisms for deploying them effectively within an economy and other sectors of society. It is true for all range of countries, since the right to development in conjunction with the right to access to technology is universal.

The central theme of my paper is that the IPRs is necessary for the transfer and diffusion of technologies but do not factor their restriction. It implies that, there is a potential need to use the Intellectual Property international system to act as a horizon for national and international regulation for the technology transfer. This will thereby provide the path for implementing the provisions of international instruments on technology transfer with additional IPRs protection. However, patent security is a subordinate aspect of technology transfer and diffusion of technologies.

It is germane to understand that technologies are global goods, and the implicit aim of an international system of IPRs protection is to facilitate technology transfer to development countries other than to restrict them. This paradigm articulated in conventional instruments

concluding provisions on technology transfer covers international instruments in the sphere of IPRs protection. In effect, this demonstrates not only the TRIPS Agreement but also other instruments of the WTO.

Transferred technologies, including technology transfer for development goals, may also be proprietary, for example, biotechnologies. This moment is taken in consideration by international instruments. Consequently, international instruments referring to technology transfer imply protected and non-protected technologies. Non-registered technologies, namely technological knowledge as the public goods, are used freely. They are free of charge. This is a feature of access to them. Proprietary technologies, in essence, also are accessible, albeit their accessibility demands authorization. One of key instruments regulating the transfer of proprietary technologies is the TRIPS Agreement setting up the congruent minimal standards of IPRs protection around the world.

International technology transfer, being a critical factor of sustainable rate of economic growth and development in whole, is very sensitive to implications of IPRs protection. At one time, it should be stressed that role of protection and enforcement of IPRs in international technology transfer is the issue of special global policy in the area that influences all countries, including development countries.

UNCTAD (United Nations Conference on Trade and Development)

UNCTAD was created in 1964 as an expression of the belief that a cooperative effort of the international community was required to integrate developing countries successfully into the world economy. Since then, UNCTAD has made a substantial contribution to the efforts of developing countries to participate more fully and to adapt

to changes in the world economy. UNCTAD has also provided an invaluable forum for advancing the interrelationship between trade and development, from both a national and an international perspective, across the three pillars of its mandate. The Millennium Declaration, the Monterrey Consensus, the Programme of Action for the LDCs, the Almaty Programme of Action, the Barbados Programme of Action, the Johannesburg Declaration on Sustainable Development and the Plan of Implementation agreed at the World Summit on Sustainable Development, and the Declaration of Principles and the Plan of Action of the World Summit on the Information Society, as well as initiatives for UN reform, strengthen multilateralism and establish a roadmap for actions at the national and international levels in the process of mobilizing resources for development and of providing an international environment supportive of development. We are committed to joining all our efforts in the achievement of the goals established in those texts in the agreed timeframes. The United Nation system should actively pursue agreed development goals between now and 2015, as identified in the Millennium Declaration, and UNCTAD has an important role to play in efforts towards the accomplishment of these common objectives.

In spite of all the efforts at the national and international level to promote growth, development remains the central issue in the global agenda. The contrasts between developed and developing countries that marked the world in the early 1960s are still present today. In fact, the gap between them has increased in many respects. While globalization has posed important challenges and opened up new opportunities for many countries, its consequences have been highly unequal between countries and within countries. Some have reaped the benefits from trade, investment and

technology flows and seem to be winning the struggle for development and for poverty eradication.

The decisions we have adopted at this UNCTAD XI, in addition to the Bangkok Plan of Action, form a solid basis to build upon and are essential instruments in our continued commitment to support UNCTAD in fulfilling its mandate as the focal point within the United Nations for the integrated treatment of trade and development, on the road to its twelfth session in 2008.

DEVELOPMENT STRATEGIES IN A GLOBALIZING WORLD ECONOMY

Policy analysis

Globalization remains a potentially powerful and dynamic force for growth and development, but the central challenge of globalization today is still to raise all boats and become a source of improved living standards for all people in the world. In an increasingly interdependent world economy, slow and unstable growth, weak commodity prices and instability in the international financial system have made the task of reaping the potential benefits from globalization more difficult for developing countries.

The experience of the past two decades with development policies that have centred around greater openness to international market forces and competition and a reduced role for the state has shown that there is no automatic convergence of open economies, and that there can be no “one-size-fits-all” approach to development. There is now broad agreement on the need to shape development strategies in the light of the successful and less successful experiences of the past. Development

strategies should be tailored to countries' specific developments needs and circumstances. In developing countries that have been more successful in integrating into the world economy than others, rapid and sustained growth has been facilitated by a shift in economic structure from the primary sector to manufacturing and services, associated with a progressive rise in productivity. The engine of this process of structural change has been rapid, efficient and sustained capital accumulation in the context of a coherent development strategy.

Capital inflows to developing countries are generally welcome as a source of development finance, and some developing countries have benefited substantially from foreign private investment. However, volatility in international financial markets and particularly short-term private capital flows has had destabilizing effects on many developing countries, in particular emerging-market economies, which often do not have the necessary institutional capacity and regulatory framework to mitigate its impact. Such volatility has frequently contributed to problems in managing interest rates and exchange rates, and to financial crises. There have also been episodes of adverse indirect effects on other developing countries through contagion.

Official development assistance (ODA) continues to play an essential role as a complement to other sources of financing for development. It can be critical for improving the environment for private sector activity. For many countries in Africa, least developed countries, small island developing States and landlocked developing countries, ODA is still the largest source of external financing and is critical to the achievement of international development goals, including those

contained in the Millennium Declaration, and other development targets. During the 1990s, reduced flows of ODA, among other factors, adversely affected productive investment, as well as social and human development, particularly in many African and least developed countries. Although ODA has picked up in recent years, the fact that these flows are, on average, still far below targeted levels continues to be a major cause of concern.

Moreover, during the 1990s there was a build-up of unsustainable external debt in many developing countries, and these debt problems continue to be a serious obstacle to the pursuit of economic and social development. Notwithstanding progress in the implementation of the enhanced Heavily Indebted Poor Countries (HIPC) Initiative and the provision of substantial debt relief by bilateral official creditors, achieving long-term debt sustainability and at the same time a reduction in poverty remains a major problem for many low-income countries. Many recipient countries have identified difficulties that they face in complying with the conditionality attached to ODA flows and debt relief, and the complex process of preparing and implementing Poverty Reduction Strategy Papers (PRSPs). PRSPs constitute an important instrument in the context of a coherent approach towards the objective of poverty reduction, as well as an important instrument to access concessional financing. The issue of long-term debt sustainability in middle-income countries remains a concern. The new Evian approach of the Paris Club to treating debt in non-HIPC countries is noted.

Policy response and UNCTAD's contribution

In order to enable developing countries to reap greater benefits from globalization and to achieve the international development goals, including those contained in the Millennium Declaration, there is a need to enhance the coherence and consistency of the international monetary, financial and trading systems and global economic governance. It is important that development should be at the centre of the international economic agenda. Enhanced coherence between national development strategies, on the one hand, and international obligations and commitments, on the other, would contribute to the creation of an enabling economic environment for development. There is a need to broaden and strengthen the participation of developing countries and countries with economies in transition in international economic decision-making and norm-setting.

Measures to address problems arising from the volatility of international capital markets and short-term capital flows to developing countries should be considered at the international level, with a view to preventing financial crises and managing them appropriately should they occur. Such measures may include allowing developing countries the flexibility to choose exchange-rate regimes that are suited to their development strategies and their overall macroeconomic framework. Given each country's varying degree of national capacity, managing national external debt profiles, paying careful attention to currency and liquidity risk, strengthening prudential regulations and supervision of all financial institutions, including highly leveraged institutions, liberalizing capital flows in an orderly and well sequenced process consistent with development objectives, and implementation, on a progressive and voluntary basis, of internationally agreed codes and standards are also important. Domestic efforts to mitigate the consequences of external trade and

financial shocks should be supported by effective international financial arrangements tailored to the needs of developing countries in a globalizing world economy. It is important to put in place a set of clear principles for the management and resolution of financial crises that provide for fair burden-sharing between public and private sectors and between debtors, creditors and investors.

Increased and concerted efforts should be made by the international community and debtor countries to reach a lasting solution to the external debt problems of developing countries. Speedy, effective and full implementation of the enhanced HIPC Initiative, which should be fully financed through additional resources, is critical. Furthermore, all official and commercial creditors are urged to participate in the HIPC Initiative. Heavily indebted poor countries should take or continue to take policy measures required to ensure the full implementation of the Initiative. Careful consideration should be given in the relevant fore to options to deal with the HIPC sunset clause, which is scheduled to take effect at the end of 2004. In this regard, concerns have been expressed about issues such as the amount of debt that can be treated and the conditions for debt relief. In this context, it is important to have continued flexibility with regard to eligibility criteria and to keep the computational procedures and assumptions underlying debt sustainability analysis under review. Future reviews of debt sustainability should bear in mind the impact of debt relief on progress towards the achievement of the development goals contained in the Millennium Declaration. Innovative mechanisms should be explored to comprehensively address debt problems of developing countries, including middle-income countries, and countries with economies in transition, with a view to supporting their economic growth and development. Debt relief measures should,

where appropriate, be pursued vigorously and expeditiously in the context of economic reforms, including within the Paris and London Clubs and other relevant forums.

Such measures should be supported by sound monetary, economic and fiscal policies in support of domestic investment, structural reforms and institution building. Developing country efforts to achieve and maintain debt sustainability should be supported by international assistance in the area of debt management and, where appropriate, by consideration of the provision of concessional finance and modification, including reduction, of aid conditionality's. With a view to supporting the economic growth and development of low-income countries, resources should be provided on appropriate terms, including in respect of the degree of concessionality and the level of grant financing.

Consistent with the Monterrey Consensus, developed countries should assist developing countries in attaining international development goals, including those contained in the Millennium Declaration, by providing adequate technical and financial assistance and by making concrete efforts towards the targets for ODA of 0.7 per cent of GNP to developing countries and 0.15 per cent to 0.2 per cent of GNP to least developed countries. This should be linked to efforts to improve the quality and effectiveness of aid, including through better coordination, closer integration with national development strategies, greater predictability and stability, and genuine national ownership. Donors should be encouraged to take steps to ensure that resources provided for debt relief do not detract from ODA resources intended to be available for developing countries. Developing countries are

encouraged to build on progress achieved in ensuring that ODA is used effectively to help achieve development goals and targets. In addition, voluntary financial mechanisms supportive of efforts to achieve sustained growth, development and poverty eradication should be explored.

Good governance within each country and at the international level is essential for sustained growth and development. Sound economic policies, solid democratic institutions responsive to the needs of people and improved infrastructure are the basis for sustained economic growth, poverty eradication and employment creation. Freedom, peace and security, domestic stability, respect for human rights, including the right to development, the rule of law, gender equality, market-oriented policies, and an overall commitment to just and democratic societies are also essential and mutually reinforcing. Transparency in the financial, monetary and trading systems, and full and effective participation of developing countries in global decision-making, is essential to good governance and to development and poverty eradication. These basic factors need to be complemented by policies at all levels to promote investment, building of local capabilities, and successful integration of developing countries into the world economy. A crucial task is to enhance the efficacy, coherence and consistency of macroeconomic policies.

States are strongly urged to take steps with a view to the avoidance of, and refrain from, any unilateral measure not in accordance with international law and the Charter of the United Nations that impedes the full achievement of economic and social development by the population of the affected countries, and that hinders the well-being of their population.

The experiences of the developing countries that have been able to launch and sustain a process of economic growth offer some general lessons on the ingredients of consistent and effective national development strategies. Adequate attention has to be paid not only to the objective of keeping inflation under control, but also to the need to create monetary and financial conditions that are conducive to sufficiently high rates of domestic investment to sustain high growth, full employment, poverty eradication, and sustainable fiscal and external balances to ensure that the benefits of growth reach all people. Policies designed to provide a conducive environment for private firms to reinvest profits, raise productivity, build capacity and generate employment must be actively pursued. Trade and financial linkages with the world economy cannot substitute for domestic forces of growth, but they can be an important

Complement to national efforts to promote growth and development. In order to maximize the benefits of globalization, the process of integration into the world economy should be tailored to the level of economic development of each country and the capacity of its institutions and enterprises. This process can be enhanced by well-designed measures in support of diversification of productive capacity and economic activities in areas that are the most dynamic in the world economy.

The different policy measures need to be applied in a pragmatic way that evolves through learning on the basis of concrete experience of what works and what does not in each country. There is a need for diversity in the formulation of national development strategies to meet the challenges of sustained economic growth and development, taking into account country-specific national development potentials

and socio-economic circumstances, as well as different initial conditions in terms of size, resource endowment, economic structure and location. Indeed, policy options and responses must change in an evolutionary way as an economy develops, while paying attention to the need to avoid distortive and protectionist measures that could undermine economic growth and development.

Regional arrangements among developing countries and South-South cooperation play an important role in supporting national development efforts. Regional integration in the areas of trade and finance, and an improvement in regional infrastructure, can help create regional growth dynamics and larger economic spaces. Economic cooperation arrangements among developing countries, as well as other development-oriented arrangements at the regional level, such as the New Partnership for Africa's Development and the Tokyo International Conference on African Development (TICAD) process, should be supported by the international community.

UNCTAD's contribution

UNCTAD should continue its important role and specificity in delivering policy analysis and identifying policy options at the global and national level. The analytical capacity of UNCTAD to undertake research on macroeconomic policies, finance, debt and poverty, and their interdependence, should serve to assist developing countries and countries with economies in transition to face the challenges of globalization. In its work on globalization and development strategies, UNCTAD should focus on interdependence and coherence:

- Identifying specific needs and measures arising from the interdependence

between trade, finance, investment, technology and macroeconomic policies from the point of view of its effect on development;

- Contributing to a better understanding of coherence between international economic rules, practices and processes, on the one hand, and national policies and development strategies, on the other;
- Supporting developing countries in their efforts to formulate development strategies adapted to the challenges of globalization.

The work should help identify policies at the international and national level that are favourable to development. UNCTAD's expertise should be used to explore how globalization can support development, and how appropriate development strategies should be formulated and implemented in support of a strategic integration of developing economies into the global economy. The work should also support greater understanding of the

mutuality of interest between developed and developing economies in sustained and sustainable development.

At the international level, UNCTAD's work should contribute to increasing coherence in global economic policy-making, particularly in terms of the interdependence and consistency of international trade, investment and financial policies and arrangements, with a view to helping developing countries to integrate successfully into the global economy and to reap greater benefits from globalization.

It should continue to address problems of developing countries arising from international financial instability; the role of private and official flows in financing development; the question of debt sustainability; the impact of trade and macroeconomic policies in the advanced industrial countries on development prospects of the developing countries; and the impact of regional integration on development.

At the national level, areas to which UNCTAD should give special attention include: the impact of growth-oriented macroeconomic and financial policies on trade and development; the creation of an enabling environment for the development of the private sector; policies to enhance the productive capacity of developing countries and improve their ability to compete in the global economy; income distribution and poverty alleviation; strengthening development-relevant domestic institutions; and continuing assistance in debt management. In this context, lessons should be drawn from both successful experiences and failures.

Recognizing the need for diversity in national policies, UNCTAD should identify, from the point of view of trade and development and in light of the successful and less successful development experiences of the past, the basic elements of sound macroeconomic policies that are conducive to an expansion of productive capacity and productivity, faster and sustained growth, employment creation and poverty alleviation. UNCTAD should also analyse the impact of international policies and processes on the scope for implementing national development strategies.

Based on its analytical work, UNCTAD should continue to provide technical

assistance and support developing countries in building national capacities in the areas of debt management through the Debt Management and Financial Analysis System (DMFAS) Programme, and for their participation in multilateral negotiating processes and international decision-making. Maximum synergy should be sought between analytical work and technical assistance.

UNCTAD's work on development strategies in a globalizing world economy should pay increasing attention to the problems of countries facing special circumstances, notably the trade and development problems of the African continent, in close cooperation with, and in support of, regional cooperation initiatives such as the New Partnership for Africa's Development (NEPAD).

UNCTAD should enhance its work on the special problems of LDCs, small island developing States, and landlocked developing countries and the related special problems and challenges faced by transit developing countries as well as structurally weak, vulnerable, and small economies.

In view of the increasing marginalization of LDCs in the global economy, UNCTAD should continue to play a leading role in the substantive and technical implementation of the Programme of Action for the LDCs for the Decade 2001–2010. It should also continue to examine the causes of decline in the share of LDCs in world trade and the linkages between trade, growth and poverty reduction with a view to identifying long-term solutions to these problems. This analysis should be carried out on an annual basis through the *LDC Report*. Full implementation of activities in favour of LDCs requires a substantial increase in financial and technical assistance. In this regard, increased allocation of resources, including through regular replenishment

of the existing Trust Fund for LDCs, is vital.

The assistance that the UNCTAD secretariat provides to the Palestinian people in the areas of capacity building, trade policy, trade facilitation, financial management, development strategies, and enterprise development and investment is welcome and should be strengthened with adequate resources.

ASSURING DEVELOPMENT GAINS FROM THE INTERNATIONAL TRADING SYSTEM AND TRADE NEGOTIATIONS

Policy analysis

Trade is not an end in itself, but a means to growth and development. Trade and development policies are an important instrument inasmuch as they are integrated in national development plans and poverty reduction strategies aiming at goals such as growth, economic transformation and production, diversification, export value-added, employment expansion, poverty eradication, gender equity, and sustainable development. Coherence and consistency among trade and other economic policies being pursued at the national, bilateral, regional and multilateral levels by all countries are important for maximizing the contribution of such policies to development.

Over 50 developing countries depend on the exports of three or fewer commodities for more than half of their export earnings. The decline and instability of world commodity prices and resulting terms-of-trade losses have reduced economic growth in many developing countries, particularly in economies that are not diversified, such as the LDCs and the African countries, and contributed to increased poverty and indebtedness. Moreover, the added value retained by many developing countries' producers of commodities is decreasing in some sectors, and their participation in domestic and international value chains is a major challenge. This situation may be further complicated by concentrated market structures at the international and national level. Furthermore, countries often face difficulties in meeting the standards and requirements in developed countries' markets.

On the other hand, the dynamic sectors in world trade represent new and emerging

trading prospects for developing countries, and enhancing their participation in such sectors is important in realizing development gains from international trade and trade negotiations. New opportunities are also provided by high-value-added, special and niche product and services sectors in which developing countries have potential comparative advantages. Creative industries can help foster positive externalities while preserving and promoting cultural heritages and diversity. Enhancing developing countries' participation in and benefit from new and dynamic growth opportunities in world trade is important in realizing development gains from international trade and trade negotiations, and represents a positive sum game for developed and developing countries.

Most developing countries have made important efforts at trade liberalization under very difficult circumstances, underscoring their interest in using trade as an engine of development and poverty reduction. They deserve due recognition for their efforts in this respect. Some have succeeded in participating in global export growth in a sustainable way. Others, however, have not. The share of the African countries and LDCs in world trade has continued to fall, and their terms of trade have deteriorated, making it difficult for them to build competitive productive and supply capacity. In the face of this, all WTO members have committed themselves to the objectives of duty-free, quota-free market access for products originating in LDCs. Equally important are the special needs of small economies, small island developing States and landlocked developing countries, within a new global framework for transit transport cooperation for landlocked and transit developing countries in accordance with the Almaty Ministerial Declaration and the Almaty Programme of Action, particularly those relating to their inherent

disadvantages and vulnerabilities. The challenge remains to increase the participation of a wider number of developing countries in global export growth. In this context it is necessary to take into account the specific development, financial and trade needs of developing countries, considering that there is no one-size-fits-all trade and development strategy.

All countries have a shared interest in the success of the Doha Work Programme, which aims both at further increasing trading opportunities and reducing barriers to trade amongst nations and at making the trading system more development-friendly. This would contribute to the objective of upholding and safeguarding an open, equitable, rule-based, predictable and non-discriminatory multilateral trading system. A major contribution of the Doha Ministerial Declaration was to place the needs and interests of developing countries at the heart of the Doha Work Programme. This important objective needs to be pursued with a view to bringing about concrete development-oriented outcomes from the multilateral trade negotiations.

As identified in the Doha Work Programme and in its implementation, the Monterrey Consensus and General Assembly resolution 58/197 on international trade and development, issues of particular concern to developing countries and countries with economies in transition in international trade include:

- Trade barriers, trade-distorting subsidies and other trade-distorting measures, particularly in sectors of special export interest to developing countries, including agriculture;
- The abuse of antidumping measures Technical barriers and sanitary and phytosanitary measures;

- Trade liberalization in labour-intensive manufactures;
- Trade liberalization in agricultural products;
- Trade in services;
- Tariff peaks, high tariffs and tariff escalation, as well as non-tariff barriers;
- The movement of natural persons;
- The lack of recognition of intellectual property rights for the protection of traditional knowledge and folklore;
- The transfer of knowledge and technology;
- The implementation and interpretation of the Agreement on Trade-Related Aspects of Intellectual Property Rights in a manner supportive of public health;
- The need for special and differential treatment provisions for developing countries in trade agreements to be made more precise, effective and operational;
- WTO accession;
- Trade preferences;
- Issues for LDCs and small economies;
- Expeditious and appropriate resolution of outstanding implementation-related issues and concerns.

Trade is a key aspect of regional integration efforts, and regional trade agreements can be a major facilitator of both South-South and North-South trade. South-South trade has high potential for growth, is expanding rapidly and is being

liberalized. This should continue and be encouraged. The Global System of Trade Preferences among Developing Countries (GSTP) is among the instruments available to developing countries to generate additional trading opportunities, particularly for LDCs.

Most favored nation (MFN) liberalization on goods and services of export interest to developing countries has important benefits for the global trading system as a whole, and will contribute to enhanced North-South and South-South trade.

Trade and environment could be mutually supportive, and this objective should be pursued in a manner consistent with an open, equitable, rules-based, predictable and non-discriminatory multilateral trading system.

Competition policies best suited to their development needs are important for developing countries in safeguarding against anti-competitive behavior in their domestic markets, as well as in responding effectively to a range of anti-competitive practices in international markets, which often considerably reduce the positive effects of trade liberalization for consumers and enterprises, especially SMEs.

Civil Society Forum Declaration to UNCTAD

The Civil Society Forum, meeting on the occasion of UNCTAD XI, represents social movements, pro-development groups, women's groups, trade unions, peasants' and agricultural organizations, environmental organizations, faith-based organizations, and fair trade organizations, among others, which express a variety of perspectives on trade, investment and competition and their impact on development. Nonetheless, the participants in this forum are united in the defense of a series of principles, positions and actions that they wish to present to the

member States of the Conference.

The official document of this Conference declares that “globalization is a potentially significant and powerful force for growth and development”. This type of globalization, however, does not reflect the process that we observe in reality. Moreover, this view is inconsistent with the analysis presented later in the document itself, which outlines the negative impact and the concentration of wealth that have resulted from the implementation of the neo-liberal agenda and globalization.

From our perspective as civil society, we view with concern the fact that the official document incorporates rhetoric describing inclusive and equitable globalization, but does not mention the relation between wars fought to appropriate resources for the benefit of transnational corporations. Nor does it recognize the fact that these wars deepen poverty and extend hunger and environmental degradation for millions of human beings.

At the same time, the document emphasizes the existence of “losers” among and within countries but does not mention unsustainable patterns of production and consumption. Nor does it mention the existence of the “winners”, who are, in fact, the stockholders of transnational corporations and speculative finance capital, located primarily in the developed countries.

The official document emphasizes the role of foreign direct investment in national development, but the reality shows that the majority of foreign capital is not a complement to national savings in the medium term, but rather is one of the more obvious forms of resource transfer. The model of export-led growth promoted by transnational corporations does not lead to development but rather to

impoverishment.

We are also concerned about the lack of reference to the impasse at Cancún that showed a new configuration of international political power and about the inclusion of issues that have already been rejected at the Fifth Ministerial Conference. We do not want to see UNCTAD abandon its independence and its role as a space for critical reflection, nor do we wish to see the institution used to operationalize WTO agreements. UNCTAD should confront and support the challenges of developing countries and countries in transition.

On the basis of these critical concerns, among others, about the official document, we wish to express to UNCTAD the following recommendations:

- That financial blackmail, economic blockades, military intervention and illegal occupation by rich Governments on behalf of transnational corporations and investors be rejected;
- That external debt be definitively cancelled, that poor countries be freed immediately from this burden, and that transnational corporations be charged with their responsibilities for the more recent indebtedness now occurring;
- That nation States regain and/or retain their sovereign right to define domestic policies that do not affect other countries and that these policies be adequate to address national realities in dialogue and consensus with civil society;
- That international trade and the institutions and instruments linked to it comply with the principles enshrined in the Universal Declaration of Human

Rights and with the instruments and conventions that emanate from relevant UN processes and the Millennium Development Goals;

- That UNCTAD participate actively in the creation and management of multilateral mechanisms designed to sustain and regulate markets for commodities, and in particular for agricultural products;
- That UNCTAD recognize and promote the right of every country or group of countries to food sovereignty and the right of countries to protect their economies and agriculture, including through tariffs and quantitative restrictions, the primary means of protection for poor countries. We believe that countries must unite to guarantee this right. It is in this important context that we support the dialogue and cooperation among the G-20 and the G-90;
- That transnational corporations be prohibited from taking legal action in reprisal for development policies or actions, and that they are made accountable and liable for their activities. This includes the legal right of citizens and communities to protect themselves against investors who violate their rights;
- That Governments assume an effective commitment to overcome gender, racial and ethnic inequality, to protect cultural diversity, and to prohibit discrimination based on sexual orientation in their development policies and policies designed to combat poverty;
- That social and economic rights and labour and trade union rights be guaranteed;

- That sovereignty over natural resources, commodities and biodiversity be guaranteed, that the transfer of technology be facilitated, and that the issuing of patents for living organisms and the commercialization of genetically modified organisms and medications be prohibited, in order that a truly sovereign, sustainable and equitable development be promoted;
- That fair trade practices be encouraged.

We believe that solidarity and unity among developing countries are crucial and we reject any attempts to undermine them. We are convinced that free trade does not distribute resources in an equitable fashion. A vibrant and participatory democracy based on the principle of economic cooperation in an environment of solidarity and peace will allow for a more just and equitable distribution of the wealth of nations and of peoples.

We are convinced that this better world is possible

CHAPTER –4

Intellectual Property Rights and International Technology Transfer

The protection of IPRs relevant to transferred technologies is one of most controversial aspects of policy in the sphere of international technology transfer and encouragement of the latter. There have been a rising in the global markets of IPRs in the world economy. As a result, the international system of IPRs protection and technology markets has become closely connected.

Being such commodities, technologies may be transferred through commercial transactions, i.e. they may be bought, leased or sold, and thus, have utilization and diffusion facilitated through investment, licensing or other transfer arrangements. The commercialization of technologies and their transfer makes the realization of such goals of technology transfer a very vulnerable facilitation tool for capacity building and development.

Intellectual property right is both an integral part of technology transfer law and a major aspect of technological advancement. Examples include creation, adaptation, diffusion and usage of available and emerging technologies. Considering the issue of Intellectual property impact on international technology transfer is an integral part of proceeding debates on the impact of IPRs on development in general including economic development and growth. As a result, the empirical findings on different aftermaths of IPRs impact on economic growth in developed, developing and development countries are the basis for understanding the tendency of impact for strengthening IPRs protection on perspectives of international technology transfer, especially to countries with lower middle income.

Indeed, technology transfer acts as an extremely broad concept, not only referring to international property aspects. highlight technology transfer as a dynamic area of study by examining such traditional topics like IP management, risk management, market identification, role of universities, as well as public and private labs However, protection and observance of IPRs is an utmost controversy. This is because of licensing agreements issues which are one of the main channels through which the transfer of technology can be carried out.

Review Analysis and Respective Implications

1. The role of the TRIPS Agreement for the development of an international technology transfer

Despite the fact that the TRIPS Agreement was inspired by pharmaceutical it provides the scope and extent of IPRs disciplines that is unprecedented at the international level. The adoption of the TRIPS has become as starting point for globalization of IPRs as a new level of development of an international system of IPRs protection. This protocol had made international standards to become the basis for an essential evolution for national systems in directing their convergence around the world. It is well-known that the TRIPS as the first comprehensive agreement contains set of minimum standards covering IPR protection in main IPRs areas. These standards as a requirement should be provided by each Member of the WTO. Moreover, the TRIPS require the member countries to develop appropriate mechanisms to enforce protected IPRs.

The adoption of the TRIPS which was conditioned by the globalization of markets has been accompanied by dynamic growth of investment, trade of technology and high

tech products (doubled between 1980 and 1994). Differences in IPRs protection having been conferred by national laws globally have restricted cross-boundary technology exchange. Thus, this had rendered weak the patent protection in many developing countries. Firms from developing countries with weak regime of IP protection have striven to obtain the access to foreign high tech products in order to copy it and also gain the benefits associated thereof. This demand has led firms which have heavily invested in Research and Development to put pressure on their national governments to strengthen their international intellectual property regime. TRIPS as central part of global legal system in the area of IPRs, has had important implications for global economic growth. This global trend in economic growth had also significantly affected international technology transfer. Some analytics underscore emerging significant changes and specificity of international technology transfer after the adoption of the TRIPS in 1994. Indeed, the TRIPS encompasses majority of countries, therefore its implications for global economy and international technology transfer are certain.

It should be remembered that until the TRIPS in 1970-1980, the policy of society for development it is focused on questions of imperfections in the transfer technology mechanisms and possible conditions for increasing their effectiveness. Some issues raised with this policy included how to reduce costs connected with transfer transactions and how to also remove negative obstacles of market character, for example, defects in international market.

It seems that the adoption of the TRIPS led to an increase in market. To be precise, trade approach to international technology transfer and departures from above mentioned coordinated paradigm of international technology transfer, taking into account the

interests of developing countries. Before the adoption of the TRIPS, IPRs created artificial barriers instead of promoting the innovation. This practice made dissemination of the knowledge costly. Thus, the close connection between patents, trade and technology transfer was recognized in Articles 7, 8 and 66.2 of the TRIPS Agreement. For that reason, discussion on IPRs protection was displaced to focus on global policy on technology transfer. This shift rests on the basis that, IPRs protection is the vehicle for economic development through trade.

When the Government declared illegal, this shift does not mean a negation approach to technology transfer as tool for the realization of the right to access to technologies in the context of the right to development. It may be expounded by the fact that, the trade and trade aspects of IPRs as well as a new way posing technology transfer, continue to have the profound human rights foundation. Moreover, the TRIPS seek to invoke the setting of basic principles for the balance between protection and enforcement of IPRs. On the one hand, it also seeks the promotion of technology development as well as the transfer and dissemination of technologies. Under the preamble of this Agreement, there is a stipulation of terms due to the coordination between goals of national systems of IPRs protection and goals of development and technology progress.

In accordance with Article 7 of the TRIPS, protection and enforcement of IPRs should contribute to the promotion of technological innovation, transfer and dissemination of technology, mutual advantage of producers and users of technological knowledge. Also, it provides the balance between rights and obligations in a manner conducive to social and economic welfare. In the opinion of He, this balance as an objective is formulated ambiguously and, hence, cannot be actively considered by the WTO panels. I can agree with this suggestion in view of the complex content of the balance as a needed objective. It

appears that the balance is an idea rather than a principle though, in reality, it is a principle rather than an idea. This is because, it materializes in a multitude of provisions in flexible mechanisms so-called flexibilities.

The provisions in the preamble and Article 7 reflect a new paradigm of economic development. This paradigm postulates that economic development should be estimated in terms of human development. should entail economic development by incorporating social welfare considerations and sustainable development. Also, the goals of welfare and development achieved through technology transfer, diffusion and application of technologies particularly meaningful for developing countries have been embodied in flexible mechanisms of the TRIPS. These include compulsory licensing, parallel import, transitional period and so on. In respect to the international technology transfer depending on patent system, much can be noted in Article 29.1 - regarding the disclosure requirement, Article 30 and 31 - concerning exceptions and limitations to the exclusive rights, and Article 40 - with respect to control over anti-competitive practices in contractual licenses.

It is well-known that for developing countries, there is a desirable path to adopt technologies without paying monopoly rents through, for example, compulsory licensing. The TRIPS assigns legal principles in accordance with which the sovereignty and the independence of developing states to adopt decisions on exploiting the flexibilities enumerated in Agreement are respected. Flexibilities give developing countries the latitude to acquire technologies without paying the rights holders their full reward for using protected result of intellectual activity. Appropriate measures provided for, include the fact that, they are consistent with the provision of the Agreement, and may be needed to prevent

the abuse of IPRs rights by rights holders or to resort to practices that unreasonably restrain trade, or adversely affect the international transfer of technology.

Article 66.2 of the TRIPS and problems of its implementation

The empirical generalizations of technology transfer to developing countries show that technologies protected by patents are not reaching them. As a result, the TRIPS Agreement, in itself, is hardly capable to improve situation with technology acquisition for poor countries. However, the TRIPS have great potential reflected in its preamble.

This conclusion was recognized by negotiators and became the basis for introducing Article 66.2, which obligates the developed countries to encourage the technology transfer to developing countries. As Article 66.2 stipulates, –Developed country Members shall provide incentives to enterprises and institutions in their territories for the purpose of promoting and encouraging technology transfer to least-developed country Members in order to enable them to create a sound and viable technological base. It should mean that transferred technologies are protected by patents and other intellectual property rights. Concomitantly, developed countries are required not to be distressed concerning issues about the protection of IPRs to transfer technologies, but also to intend that these technologies would promote technical development of developing countries.

Clearly, developing countries are in want of more effective implementation of requirements of Article 66.2. The TRIPS Council in 1996 agreed that developed country members would provide annually information on the technical cooperation activities in order to facilitate the Article 66.2 implementation. The WTO has shown up certain concern on the implementation of Article

66.2 in the Doha Decision on Implementation-Related Issues and Concerns that has been adopted by the WTO Ministerial Conference in November 2001. Reaffirming that the provisions of Article

of the TRIPS Agreement are mandatory, ministers agreed that the TRIPS Council shall put in place mechanism for ensuring the monitoring and full implementation of the obligations in question. In accordance with Para 11.2 of this Decision, developed country members shall submit prior to the end of 2002, detailed report on the functioning in practice of an activity to stimulate their enterprises for the transfer of technology in pursuance of their commitments under Article

These submissions shall be subject to review in the TRIPS Council and information shall be updated annually.

The TRIPS Council in 2003 also decided on the procedures for submission and reviewed the reports of developed country members, and agreed on the list of issues to be reported. Following the Decision of 19 February, developed countries have to submit reports on their technology transfer incentives for implementation of the TRIPS Agreement on an annual basis. Decision has detailed the information that developed countries have to supply by the

end of the year on how their incentives are functioning in practice. This decision was reviewed in full when the TRIPS Council met in September and November 2003.

At the same times, various decisions of the TRIPS Council have raised the question of technology transfer and reiterated the commitment to implement Article 66.2. The WTO Declaration on the TRIPS Agreement and public health also reaffirmed the commitment of developed country members to provide incentives to their enterprises and institutions to encourage and promote technology transfer to development

countries members pursuant to This will provide a permanent updating sequence in the monitoring mechanism of implementation and equal performance of decisions passed by the WTO with regards to increasing effectiveness of technology transfer to development countries.

The implementation of the provision in Article 66.2 is in a critical focus of experts and international organizations, for example the WHO. Does not provide assessment of nature and magnitude of the incentives that should be applied to enterprises and institutions in developed countries in process of fostering technology transfer to developing countries. Some experts have questioned the effectiveness of Article 66.2 because its provisions are restricted by technology transfer to development countries and are not applied to developing countries. It has stressed that the submissions concerning by developed countries to the Council of TRIPS were irregular and did not provide sufficiently detailed data to determine whether led to any additional incentive beyond business as usual. In addition, as noted of Report of European Communities, there are two factors that limited the efforts of developed countries to encourage and promote transfer of technology to development countries. These factors are (a) they do not own the vast majority of such technologies and (b) they cannot force the private sector to transfer its technologies.

During the meeting of the Council for TRIPS on February 17, 2011, some WTO Members made various proposals on how to streamline the notification process under TRIPS. Issues raised by WTO Members were related to underline the content and format of the Article reporting mechanism, as well as to substantive aspects of the implementation of its provision. As a substantive aspect, Members raised questions about the scope and

definition of transfer of technology in general terms in relation to itself, and in other specific contexts. Furthermore, attention was paid to the specificity of reported programmers provided for developed countries in particular, the nature of incentives for technology transfer, and the choice of appropriate technology in line with priority needs identified by the developed countries themselves. Moreover, WTO Members have held in focus, the sustainably in ensuring continued access to technology in a view of the distinction between incentives for technology transfer to be reported upon under and the technical assistance activities to be reported upon under Article 67.

Despite of lacks of implementation, it is indispensable to state that the TRIPS have, in general, great potential for realization of purported benefits, specifically from technology transfer. As above-mentioned, definition of technology is enshrined in the convention concluding provisions on technological cooperation. In the framework of the implementation of the TRIPS Agreement, the lack of definition was viewed by some commentators as allowing reporting Member to stretch the definition of technology transfer to meet the obligations under that provision without making the necessary policy changes.

CHAPTER –5

Impact of the TRIPS on international technology transfer to Development Countries.

After the adoption of the TRIPS, issues on impact of stronger IPRs on technology transfer, especially to developing countries and development countries are largely in focus of attention by international organizations and experts. This interest arises from the continuing technology gap between the North and South that is growing since the TRIPS was been adopted. He stated that, the fear about the enhanced protection given to IPRs will not effectively promote the development process but will rather limit instead, the access to technology which has been voiced by many developing countries.

The new circumstances of functioning concerning international technology transfer which is connected with the coming of TRIPS into force resulted in new content of discussion on the impact of IPRs on international technology transfer. It should be remembered that, developed countries

having initiated negotiation of the TRIPS have referred to arguments that stronger IPRs would entail some positive effects, for example, the increasing of FDI and technology flows in developing countries and the stimulating the domestic innovation. IPRs are the real vehicles of technology transfer that can foster the exchange of technology

In a different way, stronger IPRs protection is expected to expand formal channels of transfer and diffusion of technology. At the same time, it is necessary to avoid overstating, insofar as pointed findings is applied only to recipient countries with good imitative potential. In other cases, an aftermath of such strengthening is zero. Most broadly, more strong IPRs protection is capable of increasing the formal channels of technology transfer vie international trade, inflows of FDI and licensing but into countries imitating technologies and having certain technologic potential. Consequently, there seems to be a certain evidence for positive impact of IPRs on formal technology transfer, at least, at the bilateral level. Thus, results of stronger IPRs protection is ambiguous in theory and

practice and depends on concrete conditions of different countries.

having analysed an experience of India, NIEs, Pakistan, Sri Lanka and other countries has preferred to given conditions like the technological capabilities and IPRs infrastructure. He has induced that poorer economies are unlikely to enjoy a compliance with obligations under the TRIPS.

The TRIPS provisions on developing countries will be according to level of their economic and technology development. Middle-income countries, for example, Brazil and Malaysia are likely to benefit from spur to local innovation under stronger IPRs. Other countries, for example, India and China that are endowed with appropriate intellectual property infrastructure, can gain in the long term some benefits from stronger IPRs. I, summarizes further that development countries with their minimal level of innovative development will face higher costs without the offsetting benefits.

Insofar as the modern world economy is the economy of IP, international technology markets are very sensitive to broadening of scope of IPRs protection, in particular to extension of patent duration. The significant broadening of scope and duration covered, for example, in the TRIPS Agreement may lead to difficulties in international transfer of technology. There are concerns about the impact of stronger IPRs protection on international technology transfer. As a result, the potential of increasing of IPRs protection is not always clear for developing countries.

The reforming of patent systems in developing countries in the direction of establishing stronger patent laws after the TRIPS adoption have positive impact on technology import to these countries. In addition, there was a reduction of possibilities to imitate the patented technologies. That has meant a strengthen position of foreign firms but have not resulted in solving the problem of capacity building for example,

stressed that empirical evidence show that enforceable patents can increase inward flows of international technology transfer in middle- income and large developing countries but probably have little impact in development countries. That it encourages FDI and technology transfer to developing countries with middle level of development, though, very little evidence exists to the effect that stronger patent protection can encourage indigenous innovation in developing countries. Accordingly, international technology transfer should lead not only to technologies influx but also to stimulate domestic innovation. Referring to previous quantitative researches, he reasoned that IPRs do not often contribute to economic growth and development of countries with threshold of GDP. Countries with low level of development have no possibility to, appropriate potential to imitate, absorb, assimilate foreign inventions in order to meet consumption needs and fulfill economic goals. Finally, the reinforcing of IPRs protection in accordance with global standards restricts free use of knowledge and technological public goods, as well as increases the cost of technology acquisition.

A positive impact of strengthening of IPRs protection on technology transfer and, accordingly, on economic growth and innovation depend on economic and technology level of concrete country. The demonstration of positive impacts in respect of non-innovative developing countries, including developing countries, is likely to be the foremost problem of global policy in area the of IPRs protection and of international technology transfer.

With regards to the poorest countries, stronger IPRs do not lead to all appearances of substantial benefits for innovation growth and technology diffusion. Moreover, high level of administrative cost for developing patent systems and potential abuse of market power in small closed markets along with enforcement of the TRIPS will result in losing out from

acceding to the TRIPS. In addition, regime of stronger IPRs may create difficulties for technology imitation as significant lever designed to develop the innovative potential of various industries in developing countries with some slight technological potential. In the bargain, the TRIPS restrict free use of technologies and knowledge but these restrictions are not absolute.

It should not be supposed that developing countries are absolute antagonists of any protection of rights to results of intellectual activity. Developing countries like Bangladesh could benefit from increasing demand of IPRs protection especially for patented agricultural and pharmaceutical goods. With the aid of expert departures from that through appropriate rights, these countries can use their comparative advantage of reverse-engineering, thereby adding value through adaptation of existing technological goods accessed due to formal and non-formal channels. According to Islam, the TRIPS Agreement however obliges its Members, irrespective of their level of development, to strengthen IPRs protection, including comprehensive control over technology diffusion. Indeed, as I suppose, the TRIPS increase position of rights holders. In consequence, it must not be forgotten that this consolidation is balanced by provided flexibilities, being a repercussion of compromise between developed and developing countries. In consideration of these flexible mechanisms, the TRIPS should not be regarded as international instrument serving only the interest of one group of countries.

Unconditionally, the logic of development within the international system of IPRs protection is that protection is strengthening, but the latter includes development of regimes of limits and exceptions as a part of flexibilities. That is why the strengthening of IPRs protection may fully be consistent not only with interests of developing countries

having succeeded in technology and industrial development and transforming now to technologic donors, but also with interests of developing countries. At the same time, regarding developing countries, indeed, there are many forthcoming problems. A similar conclusion has been made. having investigated the effect of IPRs protection under the TRIPS standards on economic growth in 79 countries. These experts in their article have shown that such effect depends upon the level of development, although positive, significant effect took place not only in high-income countries but also in low-income countries. In the first case, economic growth was based on encouraging innovation by stronger IPRs protection. Additionally, change in relation of developing countries to IPRs protection led to enhancing the technology flows. Nevertheless, proposed that, middle-income countries may have offsetting losses and reduced scope for imitation of technologies that a long period of time might have laid down in the background of their economic growth.

In spite of the TRIPS, definition of sufficiency expressly refers to stimulation of technology transfer which is rather concerned with the scope, use and enforcement of IPRs. Therefore, mechanisms for implementing the balance between the IPRs protection and the technology development stimulation through transfer of technology have not been provided. This had led at the level of international organizations to discussions about mechanisms of impact of IPRs upon technology transfer disciplines.

In contrast to developing countries, potential of the TRIPS for technologically and economically advanced developing countries, certainly, will be realized in positive manner. Stronger IPRs protection seems to be a key factor in order to foster the firms engaged in imitation of technology to shift their resources towards generation domestic innovation and their commercialization, as well as the development of high-tech business

as a strategy for these countries. India, for example, sets itself a task to transit to high tech export structure. This is a task of state and business.

among other things, that –India is posed to generate new business start- ups in the high tech area that can help it become a major competition in the world economy|.

Countries having succeeded in innovative activities in recent years, for example China, may obtain the benefits from stronger IPRs. In contrast to poorest countries, advanced developing countries have possibilities to obtain the benefits from formal channels of technology transfer and

Integration to activities of developed countries. This had led to a track of age where the policy of IPRs protection was at the national level where various flexibilities have facilitated technology diffusion. The TRIPS Agreement has also shifted the bargaining on flexibilities from the national to the international levels, having uniformed these mechanisms within the international system of IPRs based on minimum standards of protection. Reality created by the TRIPS Agreement obviously drives at question that does benefit most from these changes. It is clear that developed countries, their innovators and right holders, or rather, have benefitted most from these changes. However, developing countries, in whole, continue to depend on either spill over's or formal technology transfer from signed countries and their centers.

Increasing the strength of IPRs protection in pursuant to the TRIPS reduces the possibility of technology transfer via free of charge transmission from North to South. Thus, it restricts the means of obtaining technologies by channels of formal transfer that is associated with substantial costs. It means that there is a correlation between potential increasing of price and reduction of access to available technologies, on the one hand, and high tech production, on the other hand. An important element worth stressing is that, both

advanced developing countries need informal channels of transfer of technologies that provide development or create their innovative sector. This channel should not be diminished in its importance. According to me, developing countries policies in the field of technology transfer should be focused on mobilizing the informal modes of technology acquisition and should address the situation of firms at more advanced stage of technological development. In addition, the given policies should include mechanisms to expand acquisition and to ensure the exploitation of equipment and machinery, and should elevate bargaining capacity of the more advanced firms to obtain technologies through licensing agreements.

The Competition law and IP law are two major areas of law governing the market and promoting economic efficiency, consumer welfare competition innovation and technology transfer. Although they share the same objectives, the anti-competitive exercise of IPRs through unilateral or collusive conduct may adversely affect competition and innovation, and in fact hinder technology transfer. The negative effect of such exercise, especially now IP protection is globalized while competition law is still a domestic issue. Applying competition law to control IPR abuses in general and international technology transfer related anti-competitive practices in particular, needs to be considered at both domestic and international levels.

Issues concerning IPR-related competition law in general and competition rules regarding technology transfer under the TRIPS agreement in particular, have been studied from a variety of perspective for a long time. However, they have been, and will continue to be, controversial issues because of their complexity and the way the issues change over time. They are also one of the most difficult issues in legal studies.

Although the completion issue, one of the four called Singapore issues, was no longer on the negotiating agenda of the WTO in the DOHA round, The Doha Round is the latest round of trade negotiations among the WTO membership. Its aim is to achieve major reform of the international trading system through the introduction of lower trade barriers and revised trade rules. The work programme covers about 20 areas of trade. The Round is also known semi-officially as the Doha Development Agenda as a fundamental objective is to improve the trading prospects of developing countries.

The Round was officially launched at the WTO's Fourth Ministerial Conference in Doha, Qatar, in November 2001. The Doha Ministerial Declaration provided the mandate for the negotiations, including on agriculture, services and an intellectual property topic, which began earlier.

In Doha, ministers also approved a decision on how to address the problems developing countries face in implementing the current WTO agreements.

As a rule, national technology transfer, occurring within countries, and international technology transfer, occurring between countries, in this era of economic and technological globalization are in intersection, while both maintain certain specificity. The providing of access to

Technology, especially for developing and least developed countries, is a very important item on the agenda of global policy in the area of aid to development. The catalog of more sensitive technologies for developing countries includes technologies for sustainable forest management and use of forests, technology for water treatment and waste management, clear and renewable energy technology, biotechnology, marine technology and health technology, among others.

Additionally, it is true to say that the transfer of technology to developing countries is one of the most actively discussed issues of international economic relations in the area of development aid in the last fifty years. Developing countries hold in this matter a very active position. Since 1970, they have expressed - at various international forums - their intentions to improve access to foreign technologies with the aim of enhancing their technological capabilities. Technology transfer at the international macro-level was and is a focus of negotiations between developed and developing countries in the contexts of technical cooperation, trade liberalization and protection of the environment. This has resulted in elaborating the macro-level political bargaining model of international technology transfer.

CHAPTER – 6

The Conventions

On March 20, 1883, in Paris the International Convention for the Protection of Industrial Property was signed by eleven countries¹³: Belgium, Brazil, France, Guatemala, Italy, the Netherlands, Portugal, El Salvador, Serbia, Spain and Switzerland. The treaty was revised and improved several times, in Belgium (Brussels, December 14, 1900), United States (Washington, June 2, 1911), the Netherlands (The Hague, November 6, 1925), United Kingdom (London, June 2, 1934), Portugal (Lisbon, October 31, 1958) and Sweden (Stockholm, July 14, 1967) and was finally amended on September 28, 1979¹⁴. The Convention is now adherent to by 172 countries¹⁵ from all around the world. It is an important and one of the first treats on intellectual property regulations. The treaty established the ‘Convention priority right’, also called ‘Paris Convention priority right’ or ‘Union priority right’, which stated that applicants from one member country is able to use the first filing date of patent application documents in one contracting state as applicable filing date in any other member country. This works only when another application in other country or countries is filled within 6 (for industrial designs and trademarks) and 12 months (for patents and utility models) from the first filing date.

The European Patent Convention

In 1963 a number of European countries signed in Strasbourg a Convention recommending common standards for patentable novelty, inventiveness and inventions. The result was forming the European Patent Convention (EPC) of 1973, which lead to the establishment of the European Patent Organization. The organization consists of European Patent Office (EPO) granting European Patents, and the

Administrative Council supervising The EPO¹⁷. The most important issue resulting from the establishment of EPO is that its existence provides a law for the grant of patents in any of the member states through a single application assigned by EPO in Munich. The European patent is like a 'bundle of national patents'¹⁸ of the countries chosen by the applicants. The result of EPO is that in some countries, like the Netherlands, the existence of the national Patent Offices was threatened. The Dutch Patent Office used to have one of the most expensive and strict regulations about patents' examination¹⁹. The Dutch innovators preferred to apply for their patents in EPO rather than in the national one. As a result of the decline of applications number, the reductions in the number of employee lead to the situations when there was not enough examiners in all technical fields, and from one of the world's strictest examination systems the Dutch changed to almost no substantive examination.

WTO and TRIPS

The General Agreement for Tariffs and Trade (GATT) gathered in 1948 to discuss and find solutions to trade issues. The latest round, known as the Uruguay Round, began in 1986 and was concluded eight years later, in April 1994. It resulted in the establishment of World Trade Organization. The organization, operational since 1 January 1995, was designed to supervise and liberalize international trade. One of the core parts of the Final Act of the Uruguay Round, which all the members of WTO must accept, was the agreement on Trade Related Aspects of Intellectual Property Rights. It concerns the various intellectual property issues, like trademarks, industrial designs, geographical indication, integrated circuits, copyrights, trade secrets protection and of course patents. It also covers the core principles, enforcement and dispute resolution.

Summarizing the most important implications of the article, TRIPS demands:

1. Patents to be available under essentially the same criteria of patentability as in the EPC for all fields of technology, including product patents for pharmaceuticals (Article 27),
2. Patent rights to be without discrimination as to whether the products are locally made or imported (Article 27),
3. Provisions defining what constitutes infringement: this includes importation of a patented product (Article 28.1(a)) and using, selling or importing the direct product of a patented process (Article 28.1(b)),
4. Compulsory licenses to be allowed only under strict conditions (Article 31),
5. There must be an opportunity for judicial review of any decision to revoke a patent (Article 32),
6. Patent term to be at least 20 years from filing date (Article 33). According to the transitional provisions this should also apply to patents which are already granted.
7. Reversal of onus of proof for process patents (Article 34).

In 2001, between November 9 and 13, the Fourth Ministerial Conference of the World Trade Organization was held in Doha, Qatar. The main topic discussed at the conference was the issuance of compulsory licensing by WTO Member states in order to ensure better access to medicines under patents in developing countries. According to the Declaration, the least developed countries are not forced to grant patents on pharmaceuticals until 1 January 2016.

We find it useful to define the terms ‘developing countries’ and ‘the least developed countries’. World Trade Organization groups developing countries (the majority of the

WTO Member states) as the developing and least developed ones. The list of countries classified in both groups is presented.

Developing countries are those, which by and large 'lack a high degree of industrialization, infrastructure, and other capital investment, sophisticated technology, widespread literacy, and advanced living standards among their populations as a whole'. They are usually in a process of change aimed at growth in terms of economy (engrossing more efficient use of natural and human resources) and increase of production, per capita income and consumption. The process of change leads to transformation in the economic, political and social structures of these countries²⁴. Moreover, World Bank defines the countries in terms of 2000 gross national income per capita the following way:

- Low-income - US\$755 or less,
- Lower-middle income - from US\$756 to US\$2,995,
- Upper-middle income - US\$2,996 to US\$9,265.

The second is the so called human resource weakness criterion, involving indicators of nutrition, health, education and adult literacy. The final is the economic vulnerability criterion, supported by indicators of instability of agricultural production and exports of goods and services, the economic importance of non-traditional activities, merchandise export concentration, and the handicap of economic smallness.

Benefits and Threats of Patents

In this section we are going to discuss different arguments on both pros and cons of intellectual property protection.

In the case of asset being easy to duplicate, intellectual property rights are considered to bring benefits. The reverse engineering of drugs is quite a simple procedure. So patents are especially valuable for pharmaceutical industry. The lack of intellectual property rights can lead to excessive use of new knowledge, which in turn can lead to minimization of the economic value of an innovation and decrease in motivation for other parties to improve the knowledge. Therefore intellectual property rights eliminate the incentives for free-riders.

An individual who created something new can feel secure about collecting and appropriate amount of money for his invention when holding a patent. And, thus, is motivated for further research. This also holds for pharmaceutical companies who are encouraged who invest in research and development when holding patents.

However, patents can also limit the availability of drugs for people from third world. The reason is that cross-learning is hardly possible for other firms when one is holding a patent. All the companies have to start from the scratch and that slows down the progress and technology. "Patents produce a loss or 'dead-weight burden' in so far as the benefits of the new knowledge to society would have been greater in the absence of a patent regime, and thus reduce the capacity for other firms to exploit the knowledge on a competitive basis. " The direct investments can decrease because of the export of finished goods instead of transferring technology and production is highly concentrated in developed countries. TRIPS agreement gives the possibility for companies to maximize their profits by price discrimination.

Nevertheless patents are considered to be vitally important for pharmaceutical industry; there still exist some significant arguments against them. "Entrenched patent

monopolist has weaker incentives than a 'would-be' entry firm to initiate and research and development program that would produce substitutes, even superior quality ones, than for goods, which were already profit-generating. This, in turn, results in sub-optimal outcomes for social welfare.

CHAPTER – 7

Macro-Economic Benefits and Costs

What will be the benefits and costs of TRIPS Agreement compliance for developing countries at the macro-economic level? Will there be a net deficit or surplus? Over what period of time? Will the size of the country, the openness of trade and the level of development make a difference? What other factors will condition the impact?

While exact answers are not likely, trends and orders of magnitude may be suggested. A great deal will depend on the political willingness of countries to make their intellectual property systems work well to benefit their nations. In different degrees, most developing countries will face the powerful tension between private gains derived from non-robust systems and the potential gains to the overall economy from robust protection. One of the leading observers, recently declared, "TRIPS is the most ambitious international agreement on intellectual property rights. The main challenge for developing countries is to transform it from a rent transfer mechanism into an effective instrument for technological development." The question is whether or not developing countries will enable local firms and individuals to innovate and build up the national technology base.

Extremely poor, weakly endowed countries differ from what are now called "semi-industrialized" countries in that they are less likely to have the ability to "pirate" the intellectual property of others for private gains, and therefore have less to lose in moving to robust protection

At the same time, they have a greater distance to go to achieve an effective base for

technological development

A fairly open trading system will be important to gaining the benefits of robust intellectual property protection. Without openness, strong intellectual property protection could produce tendencies toward less competition, whether because of investment restrictions, market size problems or other similar conditions in a closed economy. Trade makes partial substitutes more readily available, with a corresponding influence on rent seeking. In other words, robust intellectual property protection can be expected to produce maximum benefits in markets where private capital and open trade are encouraged

Before attempting an assessment of benefits and costs resulting from the TRIPS Agreement, it is critical to observe that various levels of intellectual property protection are possible and that the TRIPS Agreement is far from the highest level. For purposes of analysis in this paper, three levels of protection are used: non-robust protection; a level which facilitates trade, as per TRIPS and a robust level capable of investment stimulation

The TRIPS Agreement presents a statement of the intellectual property standard to which all World Trade Organization member countries have made a commitment. TRIPS were the product of a trade negotiation within the context of the GATT Uruguay Round. The intellectual property negotiators sought only to reduce trade friction. They did not consider investment stimulation, since that was not part of their mandate. Moreover, the TRIPS Agreement resulted from compromise among countries with strongly opposing views regarding the value of intellectual property for development. The TRIPS Agreement is in some ways an illogical package of disparate concepts

As a result, the TRIPS Agreement does not extend the strongest possible invitation to private investors, particularly national investors. Stated in other terms, when fully

implemented the

TRIPS Agreement may be of sufficient strength to assist international trade flows, but it will fall somewhat short of the historic role of intellectual property in stimulating local private activity ranging from research and development of innovative technology to the creation and expression of artistic, literary and scientific works

Thus, in making any assessment of the implications of the TRIPS Agreement, it is probable that an ability to strongly encourage private investment in high level technology pursuits will not emerge as a major characteristic of the TRIPS Agreement. While the TRIPS Agreement establishes a common base for the world, the ability to strongly stimulate these higher levels of technology will tend to be found at higher levels of protection.

Dynamic Benefits - Comparative Effects

Conceptually, a trade-enhancing intellectual property system, like that of the TRIPS Agreement, will have the comparative effects. The observations are crude and tentative. As noted above, a variety of conditions, such as the openness of trade policy, size of market, and general level of development, including the level of public education, will have a bearing on outcomes. The table is nonetheless offered to assist analysis and encourage research

Technology Acquisition

Under a non-robust system of intellectual property little proprietary technology is likely to be acquired for three reasons.

First, most kinds of technology will not be willingly provided by their originators either through sale or license if their release into a non-protective environment places them at risk

of loss to competitors. This is particularly true of any supplier's latest and best technology. Suppliers' concerns can be overcome if the recipient has some means to protect the technology from loss without recourse to intellectual property protection. For example, it may be possible to subdivide the technology in such a way that only a few trusted employees or family members have access to the complete package of technology. For a non-robust environment, however, the tendency will be for suppliers to limit their willing transfers to older or less competitive technology

There will be a companion effect where willing transfers of technology are made to a non-robust country. The cost of the technology acquisition will tend to be higher to the extent the supplier anticipates risk of loss and builds a cushion into the price in response

Second, some technology can be acquired without the willing participation of the supplier or the originating source of the technology, but there are limits to the kinds of technology which can be acquired and limits on the uses to which it can be put. Most process technology falls into this category. To be sure, several obvious examples suggest that some products are easy to acquire things like pharmaceuticals and

Yet while such products may be acquired by copying, the technology from which those products are derived is not usually acquired in the process. Moreover, the skills needed to copy are often not the same skills needed to practice the technology underlying the products

Third, even technology which is otherwise freely available from foreign sources may not be appropriated and developed for local market by local firms or individuals. This is because, if these firms or individuals are without the means to protect the results of their appropriation from local copying, they are unlikely to have much incentive to build up the

necessary human skills and will be unwilling to invest their time and money in such a venture

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The TRIPS Agreement will provide sufficient protection to encourage the willing transfer of some technology, whereas a robust, investment-oriented intellectual property system is likely to facilitate a greater volume of willing transfers and greater adaptation and application of that technology to local conditions

The cost of increased technology acquisition will probably be the major cost implication of the TRIPS Agreement. This cost has two distinct components. One is the increased cost of technology previously obtained, if at all, by unauthorized copying or imitation under conditions of non-robust protection. The other component which probably involves larger costs, encompasses payments for technology which could not be copied or imitated where that technology was not previously available to the country from willing suppliers under conditions of non-robust protection

This component of payments for technology can be viewed positively or negatively. It can be a gain for the country in as much as the introduction of new technology is thought to boost economic growth in general. The acquisition of new technology often stimulates local technicians to advance their work and develop new technology

In a sense, a country gets what it pays for. Private parties who negotiate for access to technology will seek value equivalent to their.

Human Skills Development

It is not uncommon for students to enter universities intent on careers in science only to abandon that intent by their second year as they learn how limited their career opportunities will be. Where large local companies cannot effectively protect their own technological development from loss to competitors, they have little incentive to invest in employee skills improvement. The tendency to subdivide sensitive technology to better safeguard it means recently employed science graduates are consigned to secondary tasks rather than given exposure to the company's research program. Graduates thus can aspire to future careers government laboratories or in university teaching or go abroad to find work.

There is a threshold in protection which must be reached before local companies will become willing to invest much in training and internal research and development of products and processes. It is not clear yet whether the TRIPS level of protection reaches that threshold. In the patent area, the ample leeway for compulsory licenses which reduces the effect of a patent, among other factors, may place TRIPS short of the threshold. Still, some firms are likely to be stimulated to greater investment by even the TRIPS level of protection.

After a nation's intellectual property system has crossed that threshold of protection, the willingness of companies to invest in employee development at

higher skills levels becomes almost an imperative. Some anecdotal information from several developing countries points in this direction.

Industrial Base

To the extent that the level of intellectual property protection influences the industrial base of a country, the characteristics of the industrial base appear to change in important ways as a country shifts from a non-robust system to higher levels of protection.

The extent of that influence may be greater than is generally recognized. Mansfield, in ground-breaking empirical work for the International Finance Corporation of the World Bank Group, studied the influence of intellectual property on private investment, joint ventures and technology licensing in 16 countries: Japan, Spain and fourteen leading developing countries. His findings were drawn from questionnaire responses received from ninety-four American, thirty-two Japanese and twenty German corporations selected from six manufacturing industries: machinery, metals, processed foods, electrical

Equipment, transportation equipment and chemicals (including pharmaceuticals). The survey was supplemented by interviews with some of the companies' representatives

Private Risk Capital

Venture capitalism lists robust intellectual property protection as its first requirement. The power of private risk capital to seek and promote promising new technology is widely recognized. Whether venture capital firms specialize in a particular field of technology or operate broadly, their presence in an economy radiates a positive influence among individuals who aspire to make inventions and bring them to the public.

The expectation that risk capital might be available to help launch a micro-company has kept many a technical genius working nights and weekends

The risk of bringing a new technology to commercial feasibility is great enough without adding the risk that, once success can be foreseen, others will "pirate" the result. Venture capital picks carefully among candidate start-up firms. If the risk of pirating is more than nominal for a particular start-up company, the venture capital firm will reject its solicitation for investment funds

In countries with non-robust protection, little private venture capital will be available.

For countries with protection at a parity with the TRIPS Agreement, some risk capital may materialize, although it will not be strongly encouraged. A country which adopts a robust system will be able to encourage optimum risk capital activity

University Technology

Whether their science programs are weak or strong, the universities in most developing countries provide a focus for bright minds and are a potential source of new technology, particularly technology which fits local conditions. Yet university research in these countries tends to be at high theoretical levels, with applied science not attempted and often disdained. One of the impediments to launching university-sourced. Technology into the local economy will be non-robust intellectual property protection

There are, of course, examples of university research results being published and then freely utilized by private companies. Still, willingness to indulge in the further research and development work needed to prepare raw university inventions for the market is normally hindered by the lack of protection.

Today, university policy usually requires that inventions made by researchers in campus laboratories be disclosed to university administrators who judge the commercial potential of the invention and, if appropriate, apply for patent protection. This policy does not preclude publishing news of the invention. It usually only means that the patent application must be filed before the publication is made.

Some universities today go further. They will seek or even help to organize companies which are willing to purchase or license the invention from the university. It is common for universities to pass a portion of any income received from this activity to the inventor and to the inventor's department to fund further research. This income can be an important supplement to the normal sources of university financing, particularly in a developing country.

An important lesson learned in United States universities is that, when research results are made available to anyone on a non-exclusive basis, there is little demand for those results. Only after federal legislation changed in 1980 to allow access to university research results on an exclusive basis did private companies take a strong interest in gaining access to university research results.

Transfer of university technology reached a level where, by one calculation, some \$ 3 to \$ 5 billion of American GDP in 1992 originated from university licensed products, processes and services. A point repeatedly made by the technology transfer office at the Massachusetts Institute of Technology is that seeks vigorously to transfer university technology, not for the income which this may bring to the university, but to assure that the university's research gains usefulness by contributing to the national economy. Without technology transfers, university research results contribute to the wealth of the

library but not the economy.

In countries with non-robust intellectual property systems, the potential for university technology transfers is restricted. Under a TRIPS regime, the potential is increased, but the continuing weakness of the value of patents under this level of protection will still restrict private interest in university research results. The experience of Europe, Canada, Japan and the United States shows that under more robust intellectual property regimes, transfers of university technology to public use can reach a high potential.

Summary: Macro-Economic Impacts

The aggregate of the foregoing considerations would seem to be noticeable but probably cannot be quantified for any given country with any worthwhile degree of accuracy, even after the fact.

Except for payments for acquired foreign technology, most of the costs resulting when protection is increased to the level of the TRIPS Agreement will be relatively minor in relation to the overall size of most economies although some smaller economies may experience a greater negative impact.

Even significant payments for acquired foreign technology may have a direct offset. even indicates that the Japanese spent willingly to acquire proprietary foreign technology after World War II. The resulting benefits in terms of stimulation for their technicians and scientists and the ability to then advance their own technology were remarkable. Perhaps the lesson is that it is worth buying foreign technology in order to enhance growth and development.

Most of the benefits to be derived from higher levels of protection will not be felt immediately and their magnitude will depend importantly on the level and quality of the

protection ultimately adopted. The TRIPS level of protection will produce fewer benefits than a more robust, investment- oriented level of protection.

Still, the TRIPS level should be sufficiently simulative to make some difference, particularly for international trade flows and associated activity. For local companies which must function largely within the local setting for the origination of their technology as well as its development, production and commercialization, a higher level of protection would be more encouraging.

On balance, it appears that the impact of the TRIPS Agreement on most developing countries is likely to be slightly negative in the short run (one to two years) and increasingly favorable as local firms and individuals begin to realize the potential benefits for their activities. Public education will play a role in the speed with which the benefits are realized. Naturally, conditions such as inflation, taxation, tariffs and other macro-economic policies will dominate private decision- making and the performance of the judicial system, discussed below, will have a major influence.

CHAPTER-8

Public Administration

As countries improve their intellectual property systems in response to the TRIPS Agreement, a greater burden is being placed on public administration in many developing countries. This will be particularly true for the patent, design and trademark functions, and perhaps also for the protection of new plant varieties and integrated circuit layouts.

If each country were to rely only on its own resources, the increased administrative burden might be difficult to sustain effectively, particularly by developing countries.

However, the use of new technology, the application of new approaches to traditional mandates, and the utilization of international cooperation and assistance are available to help deal with the increased responsibilities. Moreover, most aspects of the increasing burden will be offset by corresponding fees collected from those who use the various intellectual property systems. The sources and types of assistance available from international sources are discussed later.

Current Status

The increasing burden of public administration stems not only from the TRIPS Agreement. Three more general trends are influential. First, there is the global expansion of scientific and technological knowledge and the expansion of international trade and investment. Second, as national economies open, more people at the grass roots of society try to do new things which in turn leads to new businesses, new inventions and new goods and services. Third, as international treaties (in addition to the TRIPS Agreement) strive to better serve trade, they often now include commitments to improve intellectual property protection as well.

These trends, in turn, are producing a rapidly expanding database of scientific and technical information, increased activity and new patterns of activity. It is quite natural therefore that more applications for industrial property rights of all kinds are being presented in most countries than before. In the field of patents, the number of patent applications being filed throughout the world had been increasing in some developing countries before the TRIPS Agreement was created. The upward trend will no doubt continue and may increase at an even higher rate.

TRIPS Requirements

To assess the financial and other implications of the TRIPS Agreement for public administration in developing countries, it is important to note both what is, and what is not, required by the Agreement under Article 1 of the TRIPS Agreement, Member States commit themselves to provide protection for intellectual property. The relevant intellectual property consists of the categories treated in Sections 1 through 7 of Part II. The list is fairly comprehensive and will impose new administrative burdens for many developing countries. While most developing countries already provide some type of public administration for patents and trademarks, and to a lesser degree for copyright, many do not yet provide public administration for semi-conductor layout design ("chips"), new plant varieties, geographical indications, "neighboring rights" in relation to copyright, or industrial designs. For some countries, the same is also true for service marks. Each of these areas is discussed below.

Even for countries with existing public administration for trademarks and patents, the extension of subject matter coverage in both fields will almost surely introduce new burdens for public administration. These fields are discussed in detail below.

On the other hand, for some countries the commitment to observe TRIPS Agreement requirements will reduce copyright administration since formalities may no longer be required for the creation of copyright.

Article 2 of the TRIPS Agreement states that Members shall comply with Articles 1 through 12 and Article 19 of the Paris Convention (1967) with respect to Parts II, III and IV of the TRIPS Agreement. Part IV explicitly addresses public administration. For countries which are already members of the Paris Convention, no new administrative responsibilities will be added. For other WTO member.

Article 4: a right of priority for filing applications must be granted if filed within twelve months for patents and utility models and six months for trademarks and industrial designs. Procedural rules for implementing this right are specified.

Article 5A: importation by the patentee into the country where the patent has been granted of articles manufactured in any WTO member country shall not entail forfeiture of the patent.

Article 5D: no indications or mention of the patent, of the utility model, of the registration of the trademark, or of the deposit of the industrial design, shall be required upon the goods as a condition of recognition of the right to protection.

Article 5bis: a grace period of six months is required for the payment of maintenance fees, although a surcharge for late payment may be imposed.

Article 6bis: well-known trademarks are to be protected against registration and use by others.

Article 6quater: trademarks included as part of a transferred business or goodwill to which the mark belongs are deemed validly assigned.

Article 7bis: collective marks are to be protected under defined circumstances.

Article 9: goods unlawfully bearing a trademark or trade name are to be seized on importation or within the country, although wide exceptions are permitted.

Virtually all of these provisions are likely to alter or intensify existing procedures rather than require the institution of new ones. Their financial impact on public administration will be marginal.

National treatment is required by Article 3. This means that the protection of intellectual property accorded to nationals of other Members shall be no less favorable than the treatment accorded to nationals of a Member. A footnote states that "protection" means not only the matters addressed directly in the TRIPS Agreement, but also matters affecting the availability, acquisition, scope, maintenance and enforcement of intellectual property rights. The national treatment requirement of Article 3 is subject to exceptions previously provided by several international conventions.

Article 3(2) provides, however, that Members may avail themselves of these exceptions in relation to administrative procedures only if they are "necessary to secure compliance with laws and regulations which are not inconsistent" with the TRIPS Agreement provisions and "where such practices are not applied in a manner which would constitute a disguised restriction on trade."

Throughout Part II of the TRIPS Agreement, the substantive requirement may imply adjustments in practices and procedures and, thus some incremental costs. For example,

countries with trademark terms of less than seven years may need to adjust their forms and procedures to accommodate that minimum period of protection, although the longer interval should reduce registry operating costs over the long term.

Part III of the TRIPS Agreement deals with the enforcement of intellectual property rights and is addressed below.

Part IV of the Agreement deals with public administration as it addresses the acquisition and maintenance of intellectual property rights. Article 62 is its sole article. It provides that Member States may require compliance with procedures and formalities, but they must be reasonable. For intellectual property rights which are subject to grant or registration for their acquisition, the Member State is to assure that the required procedures are conducted within reasonable periods of time so as to avoid unwarranted curtailment of the periods of protection.

Article 62 also stipulates that service marks are to be accorded the treatment provided for trademarks and patents under Article 4 of the Paris Convention. For countries which have not previously offered protection for service marks, this will entail an expansion of public administration.

Article 62 also incorporates the general principles set out in Article 41(2) and (3). Paragraph (2) states that procedures concerning the enforcement of intellectual property rights shall be fair and equitable, not unnecessarily complicated or costly or entail unreasonable time- limits or unwarranted delays. Paragraph (3) requires reasoned and written decisions on the merits of a case which are made available to the parties without undue delay. Moreover, only evidence as to which parties were "offered the opportunity to be heard" may be relied on as the basis for a decision on the merits. These general

principles are to be applied not

only to procedures concerning acquisition and maintenance of rights, but also to administrative revocations and to disputes between parties, such as oppositions, revocations and cancellations.

Thus, Article 62 provides that procedures are to be timely and reasonable, fair and equitable. While many of these requirements are "soft" in that they do not submit to precise measurement, their meaning will probably eventually take on more specific parameters as experience is gained under the World Trade Organization dispute settlement procedures. More immediately, the general principles of Article 41 will signify greater burdens of notification and examination for some countries regarding evidence-based decision making. For some countries, avoiding unwarranted delays, as required by TRIPS, will entail administrative enhancements which imply application of greater resources, personnel training and other adjustments.

Copyright and Related Rights

Public administration of copyright and related rights is unusually minimal. Since copyright subsists when a work is created or expressed, without the need of formalities, the responsibilities of public officials are limited.

Some countries provide a public place for the deposit of works in which copyright subsists. Such deposits can serve as evidence of original authorship, but authors are free to determine for themselves whether it is worthwhile to make the deposit, and there are alternative techniques for securing evidence. The TRIPS Agreement does not oblige countries to create such centers.

As an adjunct to copyright and related rights, particularly to performance rights,

various kinds of agencies and performers societies are created in many countries to aid in the collection of royalties. In some instances these organizations have been established as public agencies, but, again, this is not required by the TRIPS Agreement.

Trademarks

Trademark acquisition and maintenance imposes a considerable burden on public administration. For countries which already facilitate the creation and use of trademarks that is, for most countries and the TRIPS Agreement will only mandate adjustments and extensions of existing administrative practices rather than the introduction of new administrative functions.

The costs of such adjustments and extensions may be more than nominal, however. For example, since logos, designs and even combinations of colors are to be registrable as trademarks under the TRIPS Agreement, trademark registries may find it expedient to utilize computers with graphical and color- search capabilities. The requirement that service marks are to be protected may further extend the work of some trademark registries, with an increase in applications in the range of ten percent to twenty percent. Fee income should support these expenses.

Prompt publication of trademarks after registration (Article 15.5) may impose a requirement at variance with practice in some countries. The costs of prompt publication may, in some instances, rise slightly in comparison with delayed publication. Some registries hold new registrations for publication until there is a substantial number of them. Sometimes a country's official gazette is overwhelmed with the responsibility of publishing extensive new legislation or other urgent materials which crowds out the

trademark registrations. The TRIPS Agreement's requirement of prompt publication does not contemplate crowding or volume as valid considerations. Fees collected for the purpose of publication should be adjusted to offset any increased expense incurred in assuring prompt publication.

Geographical Indications

Articles 22 to 24 of the TRIPS agreement require Members to provide the legal means to prevent the use of indications of geographical origin which are not true. This requirement, by itself, creates no need for public administration. However, it will impose on trademark registries the new burden of determining the true origin of trademarked goods. The public cost of doing so can probably be restricted for the most part by placing on the private parties involved the burden of producing credible evidence.

A footnote to Article 23(1) could lead to a new kind of public administration function. In discussing additional protection for geographical indications for wines and spirits, the footnote says that countries may, as an alternative to judicial enforcement, provide for enforcement by administrative action. Resort to public administration in this case is optional but might be useful to lessen the burden on judicial systems. Since the provision to which the footnote relates does not involve trademarks, it would not be a responsibility of the trademark registry. Presumably this administrative function would be placed upon whatever public agency deals with the regulation of public advertising. The cost of this function is speculative and would largely depend on what similar regulatory function might already exist. There would probably be no directly offsetting public income.

Industrial Designs

The industrial design category of intellectual property has been adopted in several ways by different countries. In some countries, it is dealt with as a branch of copyright, in others, as an offshoot of patent protection. In still other, it exists as a separate, free-standing category. Some countries grant no such protection in this area.

Public administration of industrial designs is not expressly required by the TRIPS Agreement. This leaves countries free to determine how to create and administer protection for industrial designs.

Industrial designs are included within the coverage of the Paris Convention. The Hague Agreement provides for international deposit of industrial designs. About 25 countries are members of this agreement.

The only specific requirement in the TRIPS Agreement which bears on public administration of industrial designs is that the term of protection shall be at least ten years. The Paris Convention establishes a right of priority for applications filed within six months of the original application.

For countries which have not in the past offered protection for industrial designs, there appears to be considerable leeway as to how public administration might be conducted. If left to protection under copyright there will be a minimal administrative burden. If a registry is created, then both start-up and operational expenses will be incurred, with fees paid by applicants offsetting these costs.

Through membership in the Hague Agreement, it would be possible for a country to keep administrative costs to a minimum by permitting that designs be submitted for international deposit with the International Bureau of WIPO in Geneva. On payment of

fees, the applicant may then obtain protection in other countries which are members of the Hague Agreement. WIPO publishes pictures of the design to provide international notification.

Patents

Of the various categories of intellectual property protection, patent acquisition and maintenance imposes the heaviest burden on public administration. For countries which already facilitate the creation and use of patents that is, for most countries the TRIPS Agreement will primarily mandate adjustments and extensions of existing administrative practices rather than the introduction of new administrative functions.

The costs of such adjustments and extensions, however, may be more than nominal. Since under Article 27 patents are to be available in all fields of technology with only a few exceptions, those countries which have had broader exclusions from patentability in the past will now receive applications in fields of technology not previously examined. In due course, this could increase substantially the burden of public administration for patents. The dimensions of this increase, and possible offsetting measures are discussed below.

Two other provisions in Article 29 may impinge on patent office practice. One states that Members must require applications to disclose the invention in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art. This is a widely followed requirement, but for countries which have not used it in the past, some adjustment in patent office practice could be implied.

The other provision of Article 29 states that Member States may require that the application indicate the "best mode" for carrying out the invention, at least as known at the time of the application. Drafting this part of an application is costly in terms of lawyer's fees. It modestly increases the burden of technical examination for substance. It is chiefly a requirement of the United States, echoed to a lesser extent by European practice. The best mode requirement is chiefly a trap for unwary applicants.

If a statement of "best mode" were to be required by developing countries, the burden imposed would rest primarily on applicants, but each patent office would probably need to at least expand its examination of the formalities of applications. Thus, in order to minimize administrative burden, it is probably desirable that developing countries forego requiring an indication of best mode.

Article 29 states that Members may require applicants to provide information concerning corresponding applications and grants in other countries. Such requirements are sometimes viewed as useful to patent offices in developing countries. This is one of the inefficient and indirect ways such an office relies on the major examining offices for conduct of technical examinations. The burden on applicants can be considerable if the requirement is used aggressively by a developing country patent office. The discussion below under cost reductions suggests a more direct, lower cost approach with less administrative burden.

The granting of compulsory licenses imposes an occasional burden on public administration. Whether Article 31 adds to that burden depends on the previously existing rules for compulsory licensing in each country. For example, requires that, if a country grants compulsory licenses, their award must involve judgments regarding "reasonable commercial terms" and "a reasonable time period."

States that the patent holder is to be paid "an adequate remuneration in the circumstances of each case, taking into account the economic value" of the grant of the compelled license. For countries which have not had statutory authority for such remuneration in the past, some public administrator, probably in the patent office, will now be required to make decisions involving complex judgments regarding value which often puzzle even the most sophisticated experts in the field of intellectual property valuations.

Again, subparagraph (k) may call on patent office officials to determine whether conditions which led to the grant of a compelled license are likely to recur, and subparagraph (l) involves determining whether an invention involves "an important technical advance of considerable economic significance."

If not already part of the conditions for award of compulsory licenses, each Member State patent office would need to prepare for making the foregoing judgments in response to the TRIPS Agreement. The cost of doing so depends on the existing capabilities of registry personnel and the data and information available to them, but it could be considerable.

The skills and judgments required to exercise discretion in these various situations are quite different from the skills and judgments required to administer the granting of patents. To the extent that such burdens are placed on the patent office, more highly qualified officials would be required. Such burdens can be reduced by imposing offsetting fees on those who would apply for the benefits of such discretion and by reducing or eliminating these kinds of discretion. The patent office should not be required to take the initiative in exercising discretion.

Since the award of compulsory licenses is often a contentious matter, another cost a

country must consider is the cost of administrative appeals and of judicial system use when further appeals are lodged. There is also the cost of discouraged investors.

Integrated Circuit Designs

The TRIPS Agreement states that Members agree to provide protection to the layout-designs (topographies) of integrated circuits. Protection for this category of intellectual property is to be based on enumerated articles of the Washington Treaty as supplemented by Articles 36 to 38 of the TRIPS Agreement.

Article 4 of the Washington Treaty states that each country is free to satisfy the obligation to provide protection for integrated circuit designs through a special law or as part of its law on copyright, patents, utility models, industrial designs, unfair competition or any other law or combination of those laws.

Article 38 makes clear that countries may, but need not, require registration as a condition for protection. This implies that a registry is not mandatory. This would be helpful in reducing administrative costs. Article 7(2) of the Washington Treaty also speaks of registration, but in a way which implies a registry is not mandatory.

In view of the costs involved in mounting public administration for this form of protection, countries which create a registry could avoid substantial administrative costs by relying on larger countries for determinations of originality, if nothing else. Nothing in the TRIPS Agreement or in the Washington Treaty prohibits this. Some form of international cooperation similar to the Patent Cooperation Treaty might usefully be developed to eventually facilitate this form of protection for such countries.

Article 37 states that Members may authorize non-voluntary licensing of integrated circuit designs. Although this provision is considerably restricted by Article 31(c), some public administrator will be required to make decisions.

The level of administrative costs associated with integrated circuit design protection appears to be within the control of each country, particularly if protection can be satisfactorily provided without resort to creation of a registry.

Cost Estimates

For many developing countries, the implications of the TRIPS Agreement for public administration will be limited to extensions of existing functions. Thus, cost increases will be incremental and modest. Yet for other countries functions which have not previously been provided will need to be instituted, with corresponding one-time start-up costs and then continuing operating costs. It is difficult to generalize regarding administrative cost implications for developing countries. Whatever the cost implications, user fees should offset at least new operating costs and over time may pay for start-up costs. Bridge financing from external sources for start-up costs might be warranted.

Intellectual property offices in most countries earn various fees which are meant to correspond to the costs of public administration. However, these fees are typically paid or transferred to the national treasury with only a portion returning through budget allotments. In many countries, accounting records are not sufficiently refined to determine whether the intellectual property offices function at a deficit or surplus and whether budget allotments fully correspond to the costs of public administration.

In fact, many offices suffer a lack of adequate resources to perform their functions well. There are instances where an entire ministry survives on the revenue produced by a

patent and trademark office, yet the office itself is under-funded. In a few countries, the patent and trademark office charges no fees. In some countries, the intellectual property functions are conducted in multi-purpose offices housing other functions, such as the company's registry, land records and so forth. In these situations, fees from one function may subsidize others, often by accident for lack of adequate allocation accounting.

It is not uncommon for an intellectual property office which depends on budget allocations to be denied adequate resources year after year so that over time it slowly loses its more capable people, fails to maintain or acquire more modern equipment, and goes into decline. Eventually, the backlog of unprocessed applications reaches crisis levels. Then it is typical to conduct a "crash program" at considerable expense to eliminate the backlog. This expense can more than equal the resources saved by restricting budget allocations during the period of decline. After the crash program is finished, it is also typical for the office to slip once more into decline for lack of sustained adequate resources.

A remedy for the problem of recurrent decline which has served some countries well is the establishment of the intellectual property office as a semi-autonomous institute with authority to retain and apply the fees received to capital and operating expenses and with authority to hire, train and dismiss personnel. The more successful such institutes have had unpaid, non-political boards of directors. In effect, such institutes operate as virtually privatized companies, living within their resources and sustaining effective administration over time.

Having offered these general comments, specific comments are in order regarding administration for trademarks and patents. Comparable comments for the other forms of protection have been offered above.

CHAPTER-9

Judicial System Responsibilities

What TRIPS Requires

An intellectual property right without a legal remedy amounts to little more than an expensive illusion. The TRIPS Agreement attempts to eliminate such illusions. Articles 41 to 61 particularize at length basic measures designed to assure that legal remedies will be available to sustain and defend intellectual property rights.

These articles provide that right holders are to have available the means to effective actions against any act of infringement. There are to be expeditious remedies to prevent and deter infringements. Procedures are to be fair and equitable, not unnecessarily complicated or entail unreasonable time- limits or unwarranted delays. Decisions on the merits are to be preferably in writing and reasoned, made available to the parties without undue delay, and based only on evidence the parties had an opportunity to rebut. Final administrative decisions are to be subject to judicial review.

Civil and administrative procedures and remedies are delineated in one article. They include the assurance that confidential information will be protected during and after proceedings. In another article, authority to discover evidence solely in the hands of another party is to be provided, and refusal to provide evidence may not stand in the way of a decision. The conditions under which precautionary measures, such as injunctions, are to be made available are stipulated in a third article. Other articles recite the approach to damages, to other remedies, to compelling information regarding other infringer's and indemnification of defendants.

Article 50 deals with provisional measures in detail. This includes measures to be

taken even in the absence of the infringing party. Articles 51 to 60 require member countries to provide authority for a party to lodge a request with customs officials to block the importation of infringing goods. These border measures are balanced with precautions against false charging and delays.

Finally, Article 61 specifies various criminal procedures which countries are to make available to prevent infringements.

These articles set out a blueprint for effective defense of intellectual property rights

The Real World

For many countries, Articles 41 to 61 imply considerable adjustment to judicial systems, civil and criminal procedures and border enforcement measures. The costs of these adjustments, in terms of resources, legislative time and official attention could be considerable. For many countries these adjustments will be a strain. Indeed, many judicial systems are simply not up to the indicated tasks in that they do not function well for any area of the law, much less for intellectual property.

Article 41(5) seems to have recognized this reality. It states that the TRIPS Agreement:

does not create any obligation to put in place a judicial system for the enforcement of intellectual property rights distinct from that for the enforcement of law in general, nor does it affect the capacity of Members to enforce their law in general. [Nor does it create] any obligation with respect to the distribution of resources as between enforcement of intellectual property rights and the enforcement of law in general.

This language is likely to become pivotal as the TRIPS Agreement is implemented over the next decade. Yet many of the adjustments can be made without incurring undue costs, and others will involve one-time conversion or start-up costs as to which technical assistance may be available.

If a judicial system is characterized by deficiencies such as widespread corruption, lack of judicial independence, and poorly qualified appointments to the bench, then the language of Articles 41 to 61 will be of limited avail, even had Article 41(5) not been included in the TRIPS Agreement. The rulers of certain countries take offense if these characteristics are alleged. Thus the poor functioning of judicial systems in many countries is a delicate topic.

This topic is delicate in areas beyond intellectual property. Various multilateral lending institutions, such as the World Bank and the Inter-American Development Bank, have initiated programs designed to aid judicial reform in general in selected countries, and large segments of the populations in many countries are sensible of the need for reform.

Reform of judicial systems may be stoutly resisted by various elites, however, as a matter of self-interest rather than any ideology. Reform efforts based on moral or ethical considerations, however well founded, do not appear to have been particularly successful.

A new approach to judicial reform is now emerging which may serve to buttress reform efforts. It is founded on economic considerations. Stated briefly, the thought behind this new research suggests that countries with weak judicial systems suffer significant constraints on national economic growth. Economic study has recently provided strong

indications that "institutions matter" to the economic performance of a country. Among institutions that matter, judicial systems seem prominent. Research now underway aims to quantify the role of judicial systems in relation to general economic performance. It is hoped that this "pocket book" approach to judicial reform will soon furnish compelling reason to effect thorough and deep reform of many judicial systems.

Partial Remedies

It seems likely that effective remedies for intellectual property will become reliable and widely available in countries with currently weak judicial systems only after reforms upgrade that judicial system in general. Nonetheless, remedies can be instituted sooner which offer partial support for effective intellectual property remedies. Prominent among these are the creation of specialized courts, enhanced training for judges and provision of judicial tools for action. Opportunities for arbitration also deserve consideration.

Specialized Courts

Notwithstanding the provisions of Article 41(5), some countries may decide to create specialized intellectual property courts. It is typical for judges in courts of general jurisdiction to lack specific or even general knowledge of intellectual property.

Specialized courts tend to concentrate knowledge among a few judges and upgrade the quality of decision-making. Training can also be concentrated on those few judges.

Some countries have found that without creating specialized courts, the same concentration of knowledge occurs when intellectual property cases tend to be heard in particular courts. The courts in Rio de Janeiro have experienced this de facto specialization largely because the national industrial property institute and many of the major industrial property law firms are located there.

Whether specialized courts serve best at the level of first instance or first appeal has been debated. Panama has recently initiated new specialized courts at both the level of first instance and the level of first appeal. They are modeled on the well-regarded maritime courts. The United States created a specialized appellate court for patent cases in 1982 and it is reported to have increased the value of American patents through more uniform decisions. Germany and the United Kingdom have experience with specialized patent courts which, for the most part, are considered effective, although reforms have been urged and some implemented. Mexico is also beginning to consider specialized courts of first instance with some support from the World Bank being considered. Brazil's new law provides authority for the creation of specialized courts.

Training for Judges

A second and fairly obvious remedy for weak judicial performance is to provide training for judges. The concept is simple enough, but designing cost-effective training is complicated. Without the focus of specialized courts, presumably a great many judges will deserve training. How much training is enough? A few hours would be barely enough to identify the various forms of protection. A few days of training would be superficial but helpful. A week of training for all judges could impair an entire judicial system's backlog of pending cases.

The kind of training needed will depend on the formation of the judicial system in each country and on the nature of litigation procedures. If judges already have some knowledge of science, training can emphasize legal concepts. If not, it may be necessary to impart basic scientific knowledge. Where court procedures permit litigants to "teach"

judges during the course of trials, training can be confined to general propositions. Otherwise, deeper training will be useful.

From a long-term perspective, training should begin during law school, and in some countries courses in intellectual property are being offered, not only to law students, but to engineering students as well. Training for those who will teach these courses is an urgent need in many developing countries and this too may be an appropriate object for technical assistance.

Tools for Judges

A trained judge without the tools to act is another expensive illusion. Legislative authority to order seizure of infringing goods, to order an immediate stop to infringements, to seek and impound evidence, to reverse the burden of proof, and to impose sentences severe enough to deter infringements, among other things, gives judges the tools needed to provide effective remedies.

Without going into great detail, the TRIPS articles regarding enforcement identify many of the needed tools. Notwithstanding the limits placed on enforcement obligations by Article 41(5), it appears that these tools are to be made available to judges. For many developing countries, this will mean making adjustments to civil and criminal procedure codes by the year 2000. Training in the use of these tools may then be advisable.

The cost of providing these tools will be accounted for chiefly in terms of legislative time. Ongoing costs will involve expanded activities by police and prosecutors.

None of these three partial remedies is tamper-proof. Corruption and political influence can undermine them, as can poorly qualified judges. Yet presumably countries

desiring to benefit from their intellectual property system will be encouraged to take at least these steps.

Arbitration

While there are distinct limits to the use of arbitration in intellectual property disputes, their role can be useful. The World Intellectual Property Organization recently established an international arbitration center specialized in the resolution of intellectual property disputes among private parties. Its procedures can be an alternative to court litigation. Other non-specialized centers for general arbitration also provide this service.

CHAPTER-10

Technical Assistance

What is needed?

The extent and nature of technical assistance that would be desirable for developing countries will depend on the state of each country's current intellectual property system. Some will need more assistance than others. Much will also depend on whether the suggested cost reduction measures, such as adoption of a reference system for patents, are adopted. There may be some resistance, particularly among small countries, to aid Offered directly by larger countries. Small countries often fear domination by donors and prefer aid from multilateral institutions.

Common to the greatest number of developing countries will be a need for assistance in creating protection for integrated circuit designs. Model texts, or at least sample laws, are needed. Integrated circuit design protection could benefit from international cooperation arrangements comparable to the Patent Cooperation Treaty's arrangements for patents. Something comparable to the reference system for patents can be adopted by individual countries even in the absence of an international treaty.

In developing countries which elect not to patent transgenic plants, there will be a need for assistance in creating protection for plant varieties. New plant varieties tend to be specific to countries or regions because of local soil and climate conditions. Still, the potential for cooperation in examination is considerable and model arrangements are available from the UPOV secretariat in Geneva. Opportunities for cooperative global arrangements comparable to the Patent Cooperation Treaty exist. The secretariat is well

prepared to assist countries introduce this type of protection and can offer model texts or sample laws. The 1991 Act of the UPOV deserves careful consideration in this regard as does the WIPO arbitration center.

As noted, the key to modern trademark administration is high performance software with phonetic and graphic capabilities coupled with training for those who use it. The good services of WIPO can provide access to and help with introduction of such software. Much the same can be said of industrial design protection.

For most countries, the extension of patent administration will constitute the area of greatest need. Suggestions for reducing related costs were noted above. Installing and upgrading computerized administration, training of personnel and access to on-line information constitute subjects for technical assistance from various sources. Attention to cost accounting for patent and trademark administration can provide valuable information for effectively managing these functions.

Small countries, as well as some larger ones, will find it useful to have their older patents more readily accessible for searching when judging applications for utility models and patents involving lower levels of technology. To this end it would be useful if older patents going back fifty years or more were encoded into CD-ROM formats for key word searching.

As noted previously, bridge financing for fee postpone meant and for start-up costs for new functions will be desirable in many instances.

Sources of Aid

The main source of technical assistance will be the World Intellectual Property Organization. Assistance is available for its member countries and for non-member countries which are members of the World Trade Organization. The latter group became eligible for such assistance under an agreement between WIPO and WTO which took effect early in 1996. Substantial assistance is available from WIPO in both the design of administrative systems and in the training of people to implement them. The WIPO also provides an impressive library source of statutory material.

International financial institutions, led by the World Bank, may play a role. The World Bank has no internal division or department dedicated to intellectual property and only a few staff have familiarity with the subject. Still, some types of technical assistance are clearly within the ambit of Bank programs, particularly those focused on strengthening public administration and fostering an improved environment for private economic activities. Regional development institutions such as the Inter-American Development Bank can play a complimentary role. Various United Nations agencies, such as the United Nations Development Program, have provided funds for various aspects of reform ranging from training to administrative strengthening.

A few governments have also provided funds to developing countries for a range of reform efforts. The Japanese have quietly provided trust funds through various institutions including the World Bank. The United States has provided funds for system strengthening through the United States Agency for International Development program and other channels. The United States Patent and Trademark Office and the European Patent Office also provide technical assistance.

A major obstacle to upgrading intellectual property systems is the lack of trained

people qualified to conduct an effective public administration. In addition to training programs provided by WIPO, some specialized law schools have programs in intellectual property.

Private associations have also begun to provide useful assistance. By way of example, the Semiconductor Industry Association located in San Jose, California, has with the assistance of the United States Patent and Trademark Office prepared a model act for the protection of integrated circuit lay-out designs. It has been specifically designed for developing countries in that it reflects the TRIPS Agreement and keeps the burden of public administration to a minimum.

A detailed and comprehensive list of the various sources of technical assistance for developing countries would itself be a highly useful aid to many countries as they begin to seek help in complying with the TRIPS Agreement. An obvious place to start in seeking technical assistance is WIPO, but other sources might be investigated as well.

Not all assistance that might be desirable will be made available, of course. With well over one hundred countries revising and upgrading their intellectual property systems in the next few years, the available sources of technical assistance will be severely strained.

CHAPTER-11

Closing Observations

The two greatest difficulties facing developing countries as they comply with their TRIPS commitments are the challenge to provide sustainable high-quality public administration and to offer effective judicial enforcement for intellectual property.

In the majority of cases, public offices which grant and maintain industrial property rights are not well prepared to cope with responsibilities which will expand abruptly at the turn of the century as a consequence of the TRIPS Agreement. To diminish the jolt, advance preparations are indicated.

Among those preparations are decisions regarding how patent administration will be financed and how patent examination will be conducted. Adequate financing of patent administration could be assisted by converting the patent office into a semi-autonomous institute with authority to retain the fees it receives and apply them to capital and operating expenses. A number of countries have made this shift recently.

Such offices then become quasi-profit centers. There is an obvious tension between charging high fees to enhance revenue and maintaining break-even fees to assure interest in investing in the country.

The increasing burden of patent examination can be largely relieved through adoption of the suggested "reference system." At the same time, the quality of patents granted by the country will be increased.

The inability of some developing countries' judicial systems to provide effective remedies for infringement of intellectual property rights extinguishes the credibility of that country's intellectual property system. This is felt most acutely by local citizens who might consider investing time and money in creative and inventive activities.

Judicial reform is essentially a matter of political will. Once it is more widely understood that a national economy suffers substantially for lack of an effective judiciary, deep and comprehensive reform can be achieved. In the meantime, the partial remedies of specialized courts, training for judges and authority for decisive precautionary actions will help.

Once adequately financed public administration and politically supported high-performance judicial remedies are in place, it can be expected that developing countries will experience the solid economic benefits which flow from robust protection for intellectual property.

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