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Impact of Relevant WTO Agreements on Public Health and Accessibility to Medicines

Abstract

After many years of hard work, Taiwan finally became a member of the World Trade Organization (WTO). However, in coordination with the relevant regulations of the WTO, a series of policy and regulatory modifications will eventually be issued. Based on the experiences of other countries, since public health involves a large and complex range of affairs, the health-related issues of the various agreements of the WTO have always been a major concern of the member states and relevant organizations. Although after many negotiations, and acting upon the professional recommendations of the World Health Organization (WHO), some public health issues that are associated with the WTO agreements have been resolved, the disputes around the issues of patent rights protection remain to be resolved. To find a point of balance on both ends, one of public interests and one of private profits has always been the goal of the WTO. Developed countries, developing countries, and less developed countries have different standpoints, how to reach a resolution that is legal and agreeable to all parties concerned is also the goal of all member states of the WTO. After years of consultation and negotiation, by interpreting the relevant WTO agreements with flexibility, and through mandatory authorization, parallel importation and

negotiations, the negative impact of the Agreement of Trade-Related Aspects of Intellectual Property Right (TRIPS) has been resolved for the time being. Thus far, however, no absolute agreement has been reached among member states. Though Taiwan's development in public health has received international recognition, the WTO agreements should have little impact on Taiwan, and the use of methods such as mandatory authorization to resolve public health crises are not required. However, at a time of rapid change, countries are no longer separated by boundaries, and along with increasingly frequent international trade and transportation, the problems and challenges facing Taiwan are more than ever. We, therefore, must be in close contact with new information, and learn from the experiences of others at the same time, in order to face the unknown challenges of the future.

Key Words: World Trade Organization (WTO), Public health, TRIPS Agreement

Introduction

Along with rapid economic development, boundaries between countries have become blurred, and the world has become a global village. To promote more efficient trade, and to coordinate the endless disputes between nations, the World Trade Organization was created. It was the previous General Agreement on Tariff and Trade (GATT), which was primarily involved in coordinating obstacles and conflicts between countries on matters concerning tariffs and trade. Though the amount of trade under the GATT accounted for 90%[(1)] of world trade, problems other than tariffs existed, and the GATT was unable to meet all the demands of economic development. In order to further resolve disputes in international trade between countries, to restrain neo-protectionism and reduce trade friction, the WTO was founded on 1 January 1995 in Geneva, Switzerland. By 23 April 2004, there were a total of 147 member states in the WTO. Taiwan

officially became a member on 1 January 2002[(2)]. As a member, Taiwan certainly is bound to observe the TRIPS agreement; and should learn to know more about the new issues of TRIPS, and the major points of discussions and resolutions of the TRIPS Council. Taiwan should also review it's relevant regulations on intellectual property rights in comparison with the viewpoints of other countries to decide whether they meet the WTO regulations, and thus avoid any friction in trade.

Trade between countries has become more frequent after the establishment of the WTO and the ensuing agreements reached between countries through the Organization. Economic prosperity has resulted, and points of friction in trade have been reduced. There are many WTO agreements that may have direct or indirect impact on the development of public health in countries concerned. For instance, the control of communicable diseases, food safety and sanitation, tobacco hazards control, medical care services, biotechnology, and accessibility to medicines and vaccines, to name a few, are closely associated with many WTO agreements. Of all the above named, the accessibility to medicines and vaccines has a vital impact on public health, primarily because the prevention and control of diseases depends largely on medicines and vaccines. The TRIPS agreement, however, has certain principles and regulations on intellectual property rights such as patent rights, copyrights, trademarks, and industrial designs, including the property protection of medical and pharmaceutical products. Medical and pharmaceutical products are necessities of health maintenance; whether to offer them patent right protection though, is decided by the countries concerned; the TRIPS agreement is such that countries should offer pharmaceutical products a minimum of 20 years protection. Thus health maintenance becomes more costly if this regulation is to be observed. Many less developed countries, due to the absence of modern technology to develop medical and pharmaceutical products,

and the inability to afford expensive medicines, will continue to experience a deterioration of economic conditions as well as public health. For this and other reasons, developed countries, developing countries and less developed countries continue to argue at the WTO table to protect their own interests. However, public health has no boundaries, and communicable diseases may spread to every corner of the world along with the increase in world trade. For the public good, the member states of the WTO may have to sacrifice certain economic interests to ensure the joint development of the world. The TRIPS agreement, therefore, is interpreted with flexibility to allow developing and less developed countries to retain patent right protection during the transitional period. At the same time, in order to meet emergencies in public health, exchange of technology between countries is encouraged to allow member states to share with each other. This paper will illustrate the impact of the WTO agreements on public health, and further review the impact of the TRIPS agreement on the accessibility to medical and pharmaceutical products

WTO Agreements Relevant to Public Health

Under the WTO system, the agreements cover a large area, and therefore have varying degrees of impact on science and technology, agriculture, industry and service, and even conventional industries. As public health is closely related to all industries, the WTO agreements certainly have a strong impact on it. The WTO and the WHO have, therefore, been in close discussion on certain major issues. The WTO agreements may have both a positive and negative impact on public health. The Agreement on Agriculture, for instance, has some positive impact on tobacco hazards control, food and nutrition, and biotechnology. The TRIPS agreement mentioned earlier also has impact on tobacco hazards control, accessibility to medicines and vaccines, biotechnology, information technology and conventional medicines. In short, the WTO agreements will

promote economic development, facilitate sharing and exchange of resources, and thus improve the living standard of the people of the world. They will make accessibility to information, services, foods, medicine and goods, easier and more convenient and will certainly make positive contributions to the development of Public Health. However when the agreements and national public health policies are in conflict, it is for each individual government to decide on a point of balance between public health and the WTO agreements. Regarding communicable disease control, for instance, the WTO agreements prevent countries from hindering trade and exchange by any means, yet, when there are epidemics in a certain country, measures have to be taken to restrict trade and migration with that country. According to regulations of the International Health Regulations (IHR), to effectively prevent the worldwide spread of communicable diseases, action may be taken to prohibit high-risk countries of communicable diseases from trade and migration, with, however, a minimum of interference in international exchange. The IHR, however, is in conflict with the regulations on food safety testing and sanitary and phytosanitary measures (SPS) of animal and plant quarantine. On legal matters, the WHO and the WTO play different roles[(3)], they have been negotiating through various official and unofficial channels to amend the IHR to better meet the needs of public health and trade. Tobacco hazards control, again, is a good case in point. Smoking is the second leading cause of death internationally, and worldwide, one out of ten persons dies of tobacco-related diseases. If the present smoking rate continues, by 2025, 10 million people will have died of smoking[(4)]. Tobacco trade has, therefore, become a priority issue of public health[(5)]. To control tobacco hazards, some countries will have to take certain measures such as heavy taxation and prohibition of smoking in public places, in order to reduce the amount of tobacco sales. These restrictive measures, however, may violate the WTO agreements.

The Agreement on Agriculture promotes the support of tobacco production by the government; the General Agreement on Trade in Services (GATS), however, restricts the sales promotion of tobacco products. Other issues such as food safety, food protection and nutrition, environment, accessibility to medicines, health and medical care services and some emerging issues such as biotechnology, information technology and conventional medicines are public health issues that are associated with the WTO agreements (see Table below). Of the above, the accessibility to medicines has the most serious impact on public health. It is also closely associated with the TRIPS agreement, and will be dealt with in the following paragraphs.

Impact of TRIPS Agreement on Public Health

The TRIPS agreement is associated with tobacco hazards control, accessibility to medicines, biotechnology, information technology, and the preservation of conventional medicine. Of the above, the accessibility to medicines and vaccines has a vital impact on public health. The primary factor affecting the accessibility to medicines is price. Patent rights protection gives manufacturers the right to decide on price, and to monopolize the sales; drug prices are likely to rise, and costs of medical care will increase enormously as a result. Costs for the development of new medical and pharmaceutical products are high; manufacturers very often use profits gained from certain patent-righted, high-sale products to support the development of new products[(7)]. Therefore, although there is a concern about increasing medical care costs, patent right protection is needed to support the production of new pharmaceuticals and to allow the manufacturers adequate profits to maintain the development of new drugs. The issues of biotechnology, information technology and knowledge of conventional medicine, also involve the question of intellectual property rights, medicines and vaccines as very essential supplies to maintain the health of the

population. Countries in different stages of development have different views on whether they should be regulated like other commodities by the TRIPS. Member states carry on interminable arguments, discussions, and negotiations to find the best solution. The WTO has also asked the WHO for professional comments and suggestions to avoid any negative impact that the TRIPS may cause to the development of public health.

1. 2001 Doha Convention

The Sahara African countries have been under the threat of AIDS for years. Due to not being able to afford expensive medicines, they have been deprived of adequate medical care. To remedy the situation, the Republic of South Africa imported legally, generic medicines that contain the same ingredients as the AIDS drugs of the original manufacturers to reduce the heavy expenditures on drugs. This action provoked the joint objections from 39 international pharmaceutical firms and was brought to the court. Brazil, in order to treat AIDS patients, manufactured domestically as well as imported generic medicines under mandatory authorization. The US plans to bring this matter up to the WTO. These incidents made the WTO face up to the importance of the scope of intellectual property rights protection and maintenance of public health. Therefore, in 2001 in Doha of Qatar a ministerial meeting was convened. At the meeting, repeated negotiations on patent rights of pharmaceuticals and public health finally reached a major breakthrough. A work plan was jointly endorsed by representatives of the involved nations, to include further negotiations on various issues and work plans for the future. A Declaration on the TRIPS Agreement and Public Health[(8)] was released at the conclusion of the meeting. The following agreements on patent rights of pharmaceuticals and mandatory authorization were reached:

(1).We realize that public health is a serious problem in many developing and

less developed countries, particularly the problems of HIV/AIDS, tuberculosis, malaria, and other communicable diseases.

(2).We stress that in the TRIPS agreement of the WHO, countries facing these problems as well as international action should be included.

(3).We realize that the intellectual property right protection is important to the development of new pharmaceuticals; we also understand that the impact of intellectual property right protection of drug prices should not be overlooked.

(4).We agree that the TRIPS agreement will not and should not prevent countries from taking necessary action to protect their public health; we, therefore, reiterate our support for the TRIPS agreement. We state once again that the TRIPS agreement can be interpreted and flexibly executed to some extent, particularly on improving the accessibility to medical and pharmaceutical products to support the rights of the WTO member states to protect their public health. We state again that the WTO member states have full rights to utilize this TRIPS agreement, that has been made more flexible for this purpose. These flexible measures are as follows:

①Under the customary principle of interpreting international laws, the various paragraphs of the TRIPS agreement shall be, according to its principles and objectives, and particularly its purposes and intentions, so interpreted.

②Each member state is entitled to adopt mandatory authorization, and is free to decide on the basis of authorization.

③Each member state is entitled to decide which situations are considered national emergencies or other circumstances of extreme urgency. Public health crises include: HIV/AIDS, tuberculosis, malaria and dangers of other communicable diseases. The existence of these diseases should indicate that the nation is in a state of national emergency or other circumstances of

extreme urgency.

④The power of the exhaustion paragraphs of the TRIPS agreement on intellectual property rights is to give power to member states to freely decide their exhaustion ranges of rights. By complying with Article 3 and Article 4 of the TRIPS agreement concerning principles of the most-favored nation treatment and national treatment, they are free from being challenged.

(5).We recognize that member states of the WTO that have a limited capacity or are without any capacity to produce pharmaceuticals may confront difficulties in effectively executing mandatory authorization. We shall instruct the TRIPS Council to come up with a prompt resolution to resolve this issue, and report by the end of 2002 to the general meeting of the Council.

(6).We reiterate that according to regulations of Paragraph 2 of Article 66 of the TRIPS agreement, developed countries should encourage their domestic enterprises or institutions to offer technical transfer to less developed countries.

(7).We agree that up until January 2016, less developed countries need not implement regulations of Section 5 and Section 7 of Chapter 2 of the TRIPS agreement; and in that manner, by not sacrificing regulations of Paragraph 1 of Article 66 of the TRIPS agreement, less developed countries shall be given the right to seek ways to extend their transitional period.

Though this Declaration is not legally binding, it allows many underdeveloped countries the rationalization for executing mandatory authorization on medical and pharmaceutical products. More importantly, the national emergencies not specified under Article 31(b) of the TRIPS agreement are now clearly specified as HIV/AIDS, tuberculosis, malaria and

other communicable diseases in the Declaration. This statement allows members states of the WTO power to decide on national emergencies. However, Article 31 of the TRIPS agreement[9] stipulates that only under the following circumstances can mandatory authorization on drugs be applied for:

(1).The applicant has negotiated with the rights-holder under reasonable terms, and is not authorized in a reasonable time frame.

(2).Application should be made in the case of national emergency or on the basis of non-profit public interests.

(3).Mandatory authorization can only be applied when the second patent trespasses the first patent.

(4).The scope and time period of mandatory authorization shall be restricted by the objectives of authorization.

(5).Mandatory authorization shall not be exclusive authorization.

(6).In principle, mandatory authorization shall be for the use of the domestic market of the member state.

Though these restrictions may prevent mandatory authorization from being abused, they produce certain obstacles in their execution. Regulation 6, for instance, stipulates that medical and pharmaceutical products manufactured under mandatory authorization can only be used for the domestic market; they cannot be sold at lower prices to countries that are unable to manufacture them, or countries that are in urgent need of these medicines but are unable to manufacture them in time. Restrictions such as this are unlikely to solve public health problems of many countries. In view of this, the WTO discussed again in May 2002 the contents of the Declaration to review any statements that did not meet actual needs. On the issue of accessibility to medical and pharmaceutical products, many countries have also offered practicable recommendations. The European Union, for instance, suggests that, based on the Doha Declaration, in order to

meet the interests of most member states, that communicable diseases likely to have a serious impact on the public health of developing countries should be listed item by item, and they should be used for the WTO to relax patent right restrictions on the importation and usage of medical and pharmaceutical products for these diseases. In addition, the European Union also suggests that medical and pharmaceutical products that promote public health should not be restricted only to the list. When member states are confronted with serious public health problems, the WHO can be consulted to decide if the needed new pharmaceuticals should be on the above-mentioned list. The implications of the suggestions of the European Union are that a professional assessment of public health of the WHO can be used to decide which communicable diseases are likely to produce serious public health problems in developing countries, and the list of communicable diseases can be more specific and flexible at the same time to deal with other public health issues[(10)]. Negotiations continued, and the final resolution was reached in August 2003, that all member states agreed to the establishment of a system that would allow developing countries to import drugs at lower prices for the control of diseases such as AIDS. Under the same conditions, countries with an insufficient capacity or lacking the capacity to manufacture medical and pharmaceutical products may also import drugs for communicable diseases such as AIDS, malaria, and tuberculosis.

2. Impact of the TRIPS Agreement's Patent Right Protection on the Accessibility to Medical and Pharmaceutical Products

The TRIPS agreement originated from the GATT. With large-scale changes in world economy and trade patterns in the last 20 years, the original regulations on tariff, intellectual property protection for instance, are no longer applicable. The US and European countries, in order to protect their manufacturers, forced other countries to accept an American-style intellectual property protection model

in the negotiations. The US model offered a more strict patent right protection, with a longer protection period, and the use of mandatory authorization is not permitted. Many developing and less developed countries did not agree with the US; they considered that intellectual property rights were domestic legal matters that should be decided by the countries concerned, and should not be overly interfered with by the GATT. The US, to expedite negotiations on intellectual property right protection, used it's national trade policies such as the Section 301 of the US Trade Act, 1988, to force developing and less developed countries to accept the US-expected standards. Under the forceful threat of US trade sanctions, the developing and less developed countries had no choice but to accept the negotiations. At the 8th Uruguay meeting[(11)] (a meeting that lasted seven years beginning September 1986), an agreement was finally reached on 15 December 1993). The GATT finally included intellectual property rights in the regulations. In the TRIPS agreement, intellectual property right protection also includes, in addition to the original patent rights, trademarks and copyrights, industrial design, IC circuits, labeling of origin of products, and protection of business secrets. On 21 June 2001, the TRIPS Council under the WTO held a special symposium on intellectual property rights and the accessibility to medicines to discuss several issues relevant to intellectual property rights and public health. In the meeting, the developing and less developed countries asked for the use of mandatory authorization and parallel importation to gain access to less costly pharmaceuticals for the maintenance of public health. Developed countries, however, were of the opinion that without patent right protection, development of new pharmaceuticals would be impossible. However, in developing countries, pharmaceutical industries are likely to use patient right protection and trade agreements to affect accessibility to medical and pharmaceutical products, and thus deprive the public of their basic demands for

medicines[12]. Poor countries might, due to the lack of medicines, fall behind in the development of public health. The WTO should, therefore, help them gain access to needed medicines. The patent right system, however, is not the major reason that the less developed countries have less access to needed medicines. Many medicines that are needed in the less developed countries no longer enjoy patent protection in developed countries. According to WTO statistics, in the period between 1957 and 1999, there were about 1,400 newly developed pharmaceuticals; of the total, 13 treated primarily tropical diseases, and three were for the treatment of tuberculosis. The statistics show that the medicines needed by the less developed countries account for only a very small portion of the patent-protected medicines[13]. The impact of patent right protection on the accessibility to medicines, therefore, is not absolute, depending primarily on the conditions of the countries concerned. The agreement reached by the "Declaration on the TRIPS Agreement and Public Health" should make TRIPS agreement more agreeable to the needs of countries, by interpreting and implementing it under the general principle of public interests.

3. Difficulties in the Use of Mandatory Authorization under the TRIPS Agreement[14]

As mentioned earlier, mandatory authorization in the TRIPS agreement could, under certain conditions, be used to solve the problem of accessibility to medicines. However, since countries differ in their levels of development and economic conditions, they also have different standpoints, and they have a difficult time reaching a consensus on the adequate timing for the use of mandatory authorization. Developing and less developed countries believe that the use of mandatory authorization of patent rights can solve the problem of accessibility to medicines. However, the US and her allies in the developed countries insist that the maintaining of public health and providing the public with

adequate health and medical insurance are the responsibility of the countries concerned, thus developing and less developed countries should not require the patented pharmaceutical firms to bear the responsibilities that should be borne by their governments. They also point out that the excess use of mandatory authorization could lead to serious infringement to the patent right system, and force patented pharmaceutical firms to give up the manufacturing and development of new drugs. The developing and less developed countries, on the other hand, due to their inadequate resources in health and medical care leading to lesser national competitiveness or poorer economic conditions, are already in a less privileged position. Developed countries are already in possession of patent rights of many medicines. If they decide to protect their medicines and monopolize their manufacturing and sales, the prices of drugs are likely to go up, and drugs may become less available. Patent right protection will also not help less developed countries to improve their capacity to manufacture and development medicines. Therefore although the TRIPS agreement can be interpreted with flexibility by using mandatory authorization to help less privileged countries solve their public health problems, in effect, this is not quite practicable.

Conclusion

The WTO has existed for ten years, consisting of 147 member states since the GATT. Through many discussions and negotiations, some agreements have been reached. However, with the rapid development of health and medical care industries, some agreements that are relevant to public health have yet to be clarified. Through cooperation and negotiations between the WTO and the WHO the integration of recommendations of public health professionals in the WTO agreements should make the agreements more flexible by meeting divergent issues of trade and public health of various countries. The TRIPS

agreement in the WTO that is concerned with the protection of patent rights has a significant impact on public health. The merits of patent right protection are to encourage development and progress. However, whether over- protection would attain expected goals, or whether protection would somehow reduce accessibility to medicines and thus increase the costs of public health remain to be seen, and the developed and the developing countries have different views on these matters. When it comes to balancing public interests and private gain, public interests should have the priority, yet inadequate profit should be adequately constrained. The use of mandatory authorization appears to be a good measure to avoid a misbalance between public interests and private gains. Taiwan's patent rights laws do not contain any provision for mandatory authorization but use "franchise patent rights" instead. Article 76 of the Patent Right Act regulates that under the two conditions of the following, franchise patent rights can be granted:

1. Non-profit utilization to meet national emergencies, or to improve public interests, or if the applicant has not yet been authorized under reasonable business terms and for a proscribed period of time, the competent patent authority may, by application, specially grant the applicant patent rights. The execution of the patent rights should be primarily for domestic market needs. Franchise patent rights for semiconductor technology can be, however, used for non-profit purpose for public interests.
2. If patent-right holders are sentenced by court or determined by the Fair Trade Commission of the Executive Yuan to be restricting competition or engaging in unfair competition, even in the absence of the conditions mentioned in the preceding paragraph, the competent patent authority may, by application, specially grant the applicant patent rights.

In the TRIPS agreement, mandatory authorization can be used for national emergencies but is only for the domestic market. This is in line with regulations

of Paragraph 1 of Article 76 of the Patent Right Act of Taiwan. However, even if they are granted franchise patent rights, Taiwan products are unlikely to be exported to other countries to help countries with insufficient capacity or raw materials to manufacture products or if their productivity is unable to meet the emergency needs of the countries. To comply with the WTO regulations and under the pressure of the US and European countries, Taiwan is unlikely to amend her Patent Rights Act. However, when facing the problems mentioned above, the Department of Health and the patent-holders may negotiate and resolve the problems as a special case. By using the mandatory authorization clause, the government could ask the patent-holders to reduce the prices of the needed medicines. The Department of Health has already received requests from other countries to legally help them manufacture patented medicines that are needed but that they themselves are unable to manufacture, and to supply them with these medicines through export. By respecting patent rights, these cases are currently being reviewed as special cases. When they are approved, domestic pharmaceutical companies will be requested to manufacture the medicines to help countries in need. Pharmaceutical companies offer different prices for their products to different markets. Many countries in the world are also using the "parallel importation" clause to purchase medicines from countries with lower prices to reduce costs. Taiwan has no clear restrictions and regulations on parallel importation of medicines; there are some provisions in the Pharmaceutical Affairs Act concerning the importation of pharmaceuticals. According to regulations of Paragraph 2 of Article 39 of the Pharmaceutical Affairs Act, "Medicines shall be imported only by permit license holders and their authorized agents." When drugs are to be imported from countries with lower prices, separate permit licenses should be obtained. If legal information or relevant documents can be submitted according to regulation, domestic firms can

apply for permit licenses, and import drugs from countries of lower prices. Though the Pharmaceutical Affairs Act does not specify that only one agent is allowed to apply for a permit license for one drug, the application procedures are strict and often time-consuming, and due to reasons of cost-benefit, no domestic agents would wish to import drugs in this manner. Though there are no specific restrictions in the Pharmaceutical Affairs Act on the parallel importation of patented medicines, the Patent Rights Act has provisions on the importation of patented commodities. Regulations of Paragraph 1 of Article 56 of the Patent Rights Act stipulates, “Patent-holders of commodities, unless otherwise regulated by this Act, shall have the exclusive rights to prohibit others, without their consent, from manufacturing, making contract for sale, sales, using or importing these commodities for the above-mentioned purposes.” Paragraph 2 of the same Article further stipulates, “Patent-holders of methods, unless otherwise regulated by this Act, shall have the exclusive rights to prohibit others, without their consent, from using these methods, and using, selling or importing commodities manufactured by these methods for the above-mentioned purposes.” According to these regulations, the patent-holders of commodities and methods have the exclusive rights to prohibit others, without their consent, from importing the said commodities or commodities manufactured by the said methods. Therefore, unless authorized by patent-holders, one cannot import patented medicines manufactured and sold by countries with lower prices. Another way is for the government to compensate financially the patent-holders for the patent rights (Paragraph 4 of Article 76 of the Patent Rights Act has this provision). However, how to reach an agreement on the adequate amount of compensation acceptable to the demands of the patent-holders and public interests remains an issue for the government to consider.

Though Taiwan has enjoyed a high standard of public health, and the public

health issues mentioned in the present report seem to have no implications for Taiwan, chances of a crisis cannot be overlooked. The terrorist attack on 9/11 of the US, and the threat of anthrax thereafter, caused the US government to purchase a large amount of certain medicines from Bayer, Germany. These medicines were very expensive, and to reduce costs, the US planned to apply mandatory authorization to force Bayer to sell at a lower price[(13)]. Thus an advanced country such as the US would also have to resort to the use of mandatory authorization under the consideration of public interests and costs. When Taiwan faced the threat of SARS (severe acute respiratory syndrome), if medicines to cure SARS had been patented, the prices would have been high. To protect the health of the population, the government would have had to purchase a large quantity of medicines for any emergency use. Medical expenditures would have been very high; the government would have had to seek point of balance between patent right protection and public interests. We must learn from the lessons of the US. When facing urgent public health crisis, we must know how to effectively use the TRIPS agreement and our patent rights regulations to execute administrative power effectively in order to reduce losses and maintain at the same time the health of the population.

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References

1.Lin CY, Yeh KH, Chang JM. Analysis of Strategies on Taiwan Joining International Economic Organizations. Yehchiang Press, 2000, 51-52.

2.WTO website: http://www.wto.org/english/thewto_e/whatis_e/orgo_e.htm

3.WHO. Public Health and Trade.Weekly Epidemiological Record, June 25, 1999; 74(25): 193-208.

4.WHO. Why is tobacco a public health priority? http://www.who.int/tobacco/about/en/

5.Hach D, Chaloupka FJ. The Globalization of Public Health II: The convergence of self interest and altruism. Am J Pub H, May 1988; 88(5): 738-741.

6.WTO & WHO. WTO Agreements and Public Health – a joint study by the WHO and the WTO secretariat. August 22, 2002, http://www.who.int/mediacentre/releases/who64/en/

7.Scherer FM. The Patent System and Innovation in Pharmaceuticals. Revue International de Droit Economique. Special edition, Pharmaceutical patents, Innovations and Public Health, 2001; 119p.

8.World Trade Organization Ministerial Conference, 4th session, WT/MIN(01)?DEC/2, 2001

9.Tsai MC. Impact of the WTO on the patent right protection legal systems of Taiwan. Yehtan Journal of Laws, No. 79, December 2001.

10. IP/03/24. http://europ.eu.int/rapid/start/cgi/guesten.ksh?p_action.gettxt-gt&doc-IP/03240RAPID&lg-EN

11. Bureau of International Trade website. http://cwto.trade.gove.tw/wedPage.asp?/CuItem-11564.

12.Bulard M. Apartheid of pharmacology. Le Monde Diplomatique, January 8-9, 2000.

13.WHA 56.27, May 28, 2003.

14. Hsu HY. Study on patents of pharmaceuticals associated with the intellectual property rights of trade agreements on issues of health rights. 3rd International Economics and Trade Development Symposium, National Chengchi University, March 2001.

15.Keith Bradsher. Bayer agrees to charge government a lower price for anthrax medicine. NY Times, Oct 25, 2001, Section B,8.

Table 1. Special Public Health Issues Closely Associated with the WTO

Special Public Health Issues Closely Associated with the WTO[1]							
WTO Regulations or Agreements	Agriculture	Food Safety Testing and	TBT	TRIPS	GATS	GATT	Others
Public Health Issues							
Communicable disease control		×	×			×	
Food safety		×					
Tobacco hazards control	×		×	×	×	×	
Ecological environment		×	×			×	
Accessibility to medicines			×				
Health and medical care services					×		×
Food protection and nutrition	×	×				×	
Emerging Issues							
Biotechnology	×	×	×	×			
Information technology				×	×		
Conventional medicines				×			

Only the WTO agreements that have important associations with certain special public health issues are presented.

Source: WTO & WHO: WTO Agreements and Public Health, 2002.