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I. General

The Task Force on WTO and Environment (TFWE) was established in early 2003 to examine the issues raised by China’s accession to the WTO and to address trade and environment challenges. It has two overall goals:

1. To assess the environmental consequences of China’s WTO accession and of the implementation of the Doha Declaration, in order to develop appropriate strategies and policy measures to reduce negative impacts on the environment and to promote sustainable trade; and
2. To strengthen Chinese government and academic expertise in post-Doha trade and environment negotiations and to enable China to contribute to the development of WTO rules governing the relationship between trade and environment.

Major activities of the TFWE include the following:

1) TFWE meetings/workshops

The TFWE had two full meetings, one informal meeting and three working meetings among Chinese members. The meetings planned the work of the TFWE and updated and reviewed the research. In addition:

- A workshop on preparation for the WTO Cancun Ministerial Conference was convened shortly before the Conference. Experts who provide technical support to the State Environmental Protection Administration’s (SEPA) participation in the Doha negotiations on trade and environment exchanged views with international experts on the Doha Round negotiations on trade and environment, and discussed the issues important to China.
- A roundtable on WTO Doha Round negotiations and the results of the Cancun Conference was held in conjunction with the TFWE meeting in October 2003. The roundtable assessed the results of the Fifth WTO Cancun Ministerial Conference and the future of the Doha Round.
- A seminar, “Doha Negotiations on Trade and Environment: Challenges and Opportunities for China,” was convened in July 2004. It provided an opportunity for Chinese negotiators and those who provide technical support to exchange views
and to have in-depth discussion with international participants on the issues that are negotiated in the Doha Round and the issues that are most relevant to China.

- A training workshop on trade, environment and sustainable development was organized in July 2004. The workshop aimed to enhance awareness and understand issues related to trade, environment and sustainable development, and build the capacity in China to address the issues at the national level and in international negotiations.

2) Research

The TFWE’s research focuses on its two main goals: (1) environmental impact assessment of China’s WTO membership; and (2) trade and environment negotiations in the Doha Round. Six key sectors of China’s economy that face significant environmental implications were chosen for environmental impact assessment. They are:

1. Agriculture
2. Forestry
3. Aquaculture
4. Automobile
5. Energy
6. Textiles

For Doha negotiations on trade and environment, topics studied include:

- the relationship between the WTO and MEAs, including procedures for information exchange between MEA Secretariats and the WTO;
- the reduction and elimination of tariff and non-tariff barriers to environmental goods and services;
- the effects of environmental measures and market access;
- the relevant provisions of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs);
- labelling requirements for environmental purposes;
- defining eco-labelled agricultural products as environmental measures; and
- trade and sustainable development: China’s overall strategies for Doha Round negotiations on trade and environment.

Research teams for environmental impact assessment of WTO accession as well as for Doha Round negotiations on trade and environment have produced their final reports on their respective sectors and topics. Their work is available at this Council meeting.

3) Other activities

In addition to its meetings, seminars and workshops, the TFWE has also organized a study tour on trade and environment to several European countries, including Switzerland, Belgium and the United Kingdom.
The study tour provided an excellent opportunity for Chinese negotiators and experts to exchange views and positions with European officials and civil society on trade and environmental issues related to the Doha negotiations. In conjunction with the study tour, a high-level symposium on trade, environment and sustainable development took place in Geneva on February 16, 2004. Representatives from MOFCOM and SEPA participated in the study tour. Members wrote a report to MOFCOM, which was submitted to the Permanent Mission of China to the WTO in Geneva. Some of the views shared on the study tour have been formally adopted and expressed as China’s view in the Doha negotiations. The most positive view suggested by the members of the study tour is that China should actively participate in the Doha negotiations on trade and environment, because this means that the WTO should therefore respect many of the principles embodied in MEAs. The participants also pointed out that China’s participation in the Doha negotiations on trade and environment is a great opportunity for China to promote sustainable development domestically and to contribute to global progress.

II. Synthesis of the TFWE’s Research Work

EIA of China’s WTO Accession

1. Introduction

China’s accession to the WTO has been the most important recent development in trade policy—for China and for the WTO as a whole. The impact on China’s economy has been profound. While it is not possible to precisely measure the contribution of WTO accession to the continued growth and transformation of China’s economy, this event has come to symbolize the determination of China’s leadership to pursue its economic course into the future.

Because of the numerous commitments undertaken in the accession process, the consequences of WTO accession have been felt throughout China’s economy. They have probably been stronger and more widespread than those experienced by any country following the conclusion of trade negotiations, including the impact of the Uruguay Round. Moreover, the impacts have been fairly predictable whereas trade agreements typically involve a degree of ambiguity that renders the prediction of economic outcomes much more difficult in practice than is suggested by trade theory.

The environmental impacts of China’s WTO accession have also been profound.

They have been particularly pronounced in six sectors: agriculture, forestry, marine aquaculture, automobiles, energy and textiles. These are among the most important sectors in China’s economy and are also significant in environmental terms. In view of their importance, the Task Force on WTO and Environment (TFWE) of the China Council for International Cooperation on Environment and Development has undertaken environmental impact assessments for each of these sectors.
These studies represent the most comprehensive assessment of the environmental consequences of trade liberalization policies undertaken by any country to date.\(^1\)

The environmental impacts of China’s WTO accession fall into the three major categories that were first identified by the Organization for Economic Cooperation and Development (OECD): scale effects, composition effects and technology effects.

*Scale effects* are the result of growth processes in the economy. They are particularly noticeable in the industrial sectors that can expand production rapidly as long as the necessary inputs are available: natural resources, skilled labour and know-how. This expansion must be accompanied by measured, but determined, policies to ensure environmental quality. Moreover rapidly expanding industries are also involved in large amounts of new investment, a process that creates the possibility of ensuring less environmentally harmful production processes. In most instances, however, this outcome can be assured only through properly crafted public policies.

*Composition effects* can be observed when liberalization leads to the expansion of some economic activities while others contract. These phenomena can be observed within agriculture and, to some extent, in forestry. The result is structural economic change through which the composition of an economy is transformed. The environmental challenges of expansion are largely comparable to the challenges of growth. It is the challenges of contraction that represent the most important difficulty in addressing environmental issues, since branches of economic activity that are contracting are often characterized by: low rates of economic returns for those who remain in the activity; low rates of investment; limited innovation; and slow rates of recruitment of new employees who may also bring new ideas and skills. Yet the environmental problems of contracting economic activities are real, in particular when insufficient measures had been adopted in the past to ensure environmental quality.

*Technology effects* are largely attributable to the impulses for innovation associated with a more open economy. This may occur through the importation of new technologies from outside the country, in particular through investment, or it may be the result of domestic responses to increased competition owing to liberalization. In all instances it is important to ensure that as technological innovation occurs it also takes into account the environmental dimension. In general, newer technologies should always be less environmentally harmful than older ones, although this is not invariably the case.

It is clear that WTO accession has brought significant new challenges for environmental management in China. But it also brings opportunities that need to be grasped through appropriate policy responses.

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1. The Doha Ministerial Declaration states in its Preamble: “We strongly reaffirm our commitment to the objective of sustainable development, as stated in the Preamble to the Marrakesh Agreement. We are convinced that the aims of upholding and safeguarding an open and non-discriminatory multilateral trading system, and acting for the protection of the environment and the promotion of sustainable development can and must be mutually supportive. We take note of the efforts by Members to conduct national environmental assessments of trade policies on a voluntary basis.”
2. Agriculture

Changes in agricultural production are largely attributable to WTO accession since the Uruguay Round Agreement on Agriculture has not produced significant change. Changes in agriculture are very sensitive socially and environmentally and, consequently, of overriding concern from the perspective of sustainable development.

Since WTO accession, China’s agriculture trade has continued to grow. In the first half of 2004, the country exported US$10.62 billion of farm produce, an increase of 10.7 per cent over the same period last year. However, its imports of agricultural products soared unexpectedly by 62.5 per cent than the same time in 2003. This is the first time ever that China’s agriculture trade has had a deficit US$ 3.73 billion. In particular in wheat trade, China was still a net exporter of wheat in the first half of last year, but its imports exceeded its exports by the end of June.

Compared to other countries, China has a shortage of farmland and water for its agriculture production. China, with 22 per cent of the world’s population, has only seven per cent of world farmland and one quarter of world average water resources per capita. In international markets, obviously China’s comparative advantage is in labour and its disadvantages are in land, water and other natural resources. Hence, after accession to the WTO, China’s land- and water-intensive agriculture products, such as wheat, corn and rice, will shrink gradually; and labour-intensive products, like horticulture products, temperate climate fruits, vegetables and livestock products, will expand. Consequently, non-point source pollution by chemical application for wheat, corn and rice will shift to point source pollution by chemicals used for horticulture, fruits, vegetables, poultry and others. Also after joining the WTO, considering more and more workers will move to manufacturing and service sectors and that there will be increasingly strict international environmental requirement, the total amount of chemicals used will decrease compared with the baseline scenario. Figure 1 shows the amount of chemical used and grain production in recent years.

After joining the WTO, another profound impact is the environmental pressure on farmland. More grains could be imported from other countries while implementing the Grain for Green program.
The biggest environmental challenge facing policy-makers with respect to changes, that are anticipated in agricultural practices and production, concerns the need to internalize environmental costs. This is a task that most countries find daunting, since farmers, like all producers of commodities, are essentially price-takers and consequently have limited ability to recover from the market additional costs they may incur for environmental protection, in particular if competitors do not face the same costs. Moreover, agriculture is an activity that occurs in the environment and depends on the environment for all of its most important inputs. Traditionally, farmers have not been asked to make payments for these inputs, even when their use caused significant environmental degradation, for example downstream or through impacts on biodiversity. The introduction of payments for environmental services is resisted by farmers everywhere and is often only possible when issues of scarcity arise.

It is important to recognize that not all measures designed to internalize environmental costs result in increased production costs. For example the elimination of subsidies for pesticides and fertilizers will reduce over-use, which is often widespread and damages the environment. Elimination of such subsidies can result in improved crops, better environmental conditions and reduced costs. Policy-makers need to focus on opportunities for measures that internalize environmental costs and increase economic efficiency, even though such measures are frequently resisted because they involve changes in established practices, the need to learn new techniques and may be perceived as hiding additional risks that farmers are unwilling to accept.

The introduction of measures for cost internalization that increase production costs can only be achieved over a longer period of time with a consistent policy approach and with appropriate measures to support the necessary changes and to cushion the potential economic impact without negating the environmental benefits. This has generally been the approach favoured by developed countries, where producers have received payments that are increasingly tied to the respect of certain environmental conditions.
The shift in public policy from taxing agriculture to supporting it represents an initial appropriate response to the changes in agriculture that have been triggered by WTO accession.

This policy shift must be accomplished in a manner that is consistent with WTO rules. The “Green Box” under the Agreement on Agriculture provides a significant degree of flexibility in fashioning rural policies that involve a focus on environment and sustainable development by providing support to farmers’ incomes, rural communities and the environment.

WTO accession will bring an increase in agricultural trade between China and the rest of the world. China is likely to favour the import of resource-intensive products, such as grains, and the export of labour-intensive products such as vegetables, fruit and poultry. There is already evidence of this process but it creates tensions with established policy priorities, particularly with the longstanding objective of achieving food self-sufficiency. The risks of dependence on international markets are evident and China will move cautiously in this area to ensure stable supplies, to provide buffer stocks and to guarantee a level of domestic production that meets its needs for food security. As a result, China is likely to explore all the options provided by the WTO Agreement on Agriculture and will take a proactive stance on the relevant issues in the ongoing Doha Round negotiations.

There are opportunities for the export of “green food,” products that meet international standards for reduced inputs and improved environmental stewardship. The markets for these products currently offer prices that often more than offset any additional cost, in particular when these costs are based on higher inputs of labour, where China enjoys a comparative advantage. The problem is that these markets are particularly difficult to access since few agreed international standards exist. The result is a complex and costly system of accreditation that generally requires a producer-by-producer approach.

The concern for standards that may have the effect of excluding Chinese products from important markets goes well beyond the area of “green food” and organic standards. Both sanitary and phytosanitary standards and technical standards have been of concern to Chinese agricultural producers in recent years. Many of these standards require substantive changes to products and to the ways in which they are produced. They are often difficult to meet by exporters, and questions have been raised concerning their necessity and appropriateness. It is frequently difficult for producers to obtain information about such standards in a timely manner so that rejections that may occur at the border of the importing country can have severe consequences for them. Rejections were typically based on findings of high amounts of pesticide or veterinary drug residue. In addition, accreditation and verification have proven problematic, leaving producers with a difficult choice between expensive foreign inspection and acceptance of their inability to export to certain markets.

3. Forestry
China’s changed policies on the replanting of forests and timber extraction, combined with the opening to trade associated with WTO accession, have caused a dramatic shift in the patterns of timber production, trade and use. China is now one of the biggest importers of logs and timber and an exporter of wood products such as furniture. Unless it takes effective measures, China may face a challenge in securing reliable timber supply as well as the reputational risks associated with promoting markets in unsustainably produced or illegally harvested timber.

High domestic economic growth, newly implemented massive forest conservation programs since 1998 and WTO entry together have prompted drastic growth in forest products imports by China (Fig. 2).

Increased imports of timber have helped China alleviate environmental pressures on forests. Meanwhile, WTO entry helps China to upgrade equipment and technology in the forest industry and raise wood utilization efficiency. It will also bring increased investments, both public fiscal investment and foreign investment. Increased investment will lead to improved forest management and a better scope for the ecological functions of China’s forests.

The overall impact of China’s WTO accession on the forest industry will be positive, particularly in combination with vigorous measures for forest protection. Possible negative impacts may be anticipated from increased emissions from the wood processing industry, unless these are effectively controlled, and the risk of alien invasive species introduced by increased trade and growing tourism. These could have a major ecological impact.

Increased forest trade in timber products associated with China’s WTO Membership will have global implications as well. The increase in Chinese timber import volume has been dramatic. This has led to concerns about the environmental impacts of China’s growing timber import. China’s timber import has been mostly from countries or regions that do not practice systematic forest stewardship, such as Indonesia, Myanmar, Cambodia, Papua New Guinea, the Solomon Islands, the Congo basin or the Russian Far East. Exporting timber can generate negative environmental impacts in these countries whose
forests are not being well managed. Rapid deforestation has taken place in some of these countries, especially Indonesia, Malaysia and Myanmar.

Not all countries that have increased timber exports to China have, however, experienced a significant reduction in forest resources. Countries such as Russia, Canada, Germany and Cuba have seen little change in their forest resources, while countries such as the United States and New Zealand have actually had an increase. The key is forest management. If a country is pursuing good forestry practice domestically, exporting timber may actually reinforce sustainable forest management and encourage investment in forestry.

There is also the problem of illegal trade in relation to China’s timber imports. Illegal timber logging and trade are destructive behaviours that not only damage forests, but also bring serious negative social and economic impacts. The illegal timber trade can result in loss of jobs and the impoverishment of forest-dependent communities.

There is no doubt that China will continue to import timber and other wood products, most likely from its existing major timber trading partners. China may face accusations of exerting excessive pressure on global forest resources, and the reputational risks associated with using unsustainably produced or illegally harvested timber.

Meanwhile, advanced western developed countries are major exporters of processed wood products, and importers of labour-intensive products such as furniture from China. They have the capacity to assume a greater role in addressing the environmental consequences of the global forest products trade. China and western developed countries should join hands to promote sustainable forest management and to avoid ecological damage in timber supply countries.

The combined changes in domestic forestry policies and timber trade resulting from WTO accession will require close monitoring of forests and forestry policies to ensure that the overall outcomes are desirable. This review should include not only domestic policies and conditions but also import and export policies and forests in other countries that are liable to be impacted.

China levies no tariffs on unprocessed timber, but imposes rising (escalating) tariffs on furniture and other finished goods produced from wood. The impacts of such escalating tariffs, which are used primarily by developed countries, are well known. They shift processing from the country where timber is extracted to the consuming country. In the case of China, the shift is primarily one of processing since China’s comparative advantage in the processing stage of the product chain is so pronounced that it can overcome escalating tariffs that may exist in major developed countries.

If China reduces escalating tariffs, it will help improve the ability of timber producing countries to sustainably manage their resources. There is of course no certainty that such a change will enable the producing country to undertake more processing, nor that additional revenue generated by such processing will in fact support better forest
management. While most countries from which China obtains timber have labour costs that are comparable to those of China, few are able to achieve the same efficiency gains as China. Moreover, additional revenues will only be made available for sustainable timber production if appropriate policies are in place in those countries to ensure that result. Consequently these are issues that cannot be addressed unilaterally—by China or by producing countries—but require the development of a shared approach to the issue of sustainable forest management.

At present, there is no institutional structure that can accommodate China’s evolving forest management needs in relation to timber trade. As China’s relationships with major forest producer countries develop, it will need to identify appropriate institutional venues to address these matters.

China faces similar challenges in the export trade in wood products. This trade is almost entirely composed of processed wood and manufactured products, since China has largely banned the export of domestic timber. The partners in this phase of the product chain are mostly different countries than those that produce raw materials, and the issues and institutions are liable to be different.

There is an opportunity for China to actively cooperate with western developed countries that are the major importers of furniture and processed timber products. The major issues that require consideration concern third party independent certification of timber imports. The primary concern is to ensure that the entire forest product chain is managed in a sustainable manner, reaching from the production of lumber through transport, processing, manufacture, sale, use and disposal. Consequently the two sides of this activity—the relationship with timber producing countries on the one hand and with countries that consume wood products on the other—are in fact closely related. China will not be able to ensure that its products are produced with sustainably managed timber without developing appropriate relationships with producer countries; and it will not be able to recover any additional costs associated with sustainable management of the wood products chain without maintaining the required relationships with consuming countries.

4. Aquaculture

WTO accession has brought a dramatic expansion in aquaculture exports, which are currently about as large as net agriculture imports. These exports are threatened by product quality issues, in particular as a result of “red tide” that appears to be caused by land-based pollution.

The expansion of aquaculture along China’s coast appears to have caught many unaware. The remarkable volume of exports is largely attributable to the general shift towards more labour-intensive products, and the fact that this counterbalances the imports of other foodstuffs should give the Chinese authorities added confidence with regard to food security issues. Yet it is vital to ensure that product quality is maintained, and this is in large measure a matter of protection of the marine environment, the primary production resource.
Major environmental problems of expansion of marine aquaculture include nutrient pollution, chemical pollution (from veterinary products, disinfectants and antiseptics), substrate eutrophication and red tide.

Estimates of the discharge of nitrogen and phosphate shows that the total discharge of these two chemicals is likely to keep rising. However, the discharge of N and P may drop steadily with regulatory and technological efforts. The decrease in average level is largely attributed to the improvement of technology, which results in higher feed efficiency and cuts down on solid wastes.

Overall, economic and environmental benefits that China gets from the development of the marine aquaculture sector will outweigh its adverse impacts on the environment, in particular if appropriate policies are put into place.

Regulations and standards for products and production process are gaining importance in regulating international trade of aquatic products. The key factor in expanding China’s aquatic exports lies in building up a healthy and ecological farming mode and providing clean, sanitary and safe products. In this sense, the requirements imposed by major importers concerning product quality, safety and sanitary conditions against China’s aquatic exports create powerful incentives to adopt needed policies that will result in better products and a better marine environment.

The control of coastal waters is a notoriously difficult task, largely because of jurisdictional complexities in combination with challenging environmental dynamics. Land-based pollution is the principal cause of degraded marine environments that impact aquaculture, and aquaculture itself can contribute to local pollution events. The benefits of controlling land-based pollution are numerous, since this also always improves environmental conditions at the source of the pollution. The difficulties that are typically encountered when reducing land-based pollution are related to the fact that the requirements of the marine environment may dictate more aggressive pollution control measures than those implied by efforts to protect the local environment, for example river quality. Pollutants are typically carried away by rivers but they tend to accumulate in coastal waters and wetlands, the very environment in which much aquaculture is practiced. Protection of the marine environment will contribute to making the aquaculture sector more competitive internationally and preserving existing markets.

Meanwhile, the traditional support policies should be changed. Implementing integrated economic policies will promote marine aquaculture development and environmental protection. There is a need to support an optimal breeding structure and a rational development mode, in order to best use all kinds of resources through cyclical reuse of wastes generated within the rearing system. This will minimize waste discharge and achieve satisfactory breeding effects and economic profits, while attaining environmental benefits.
Aquaculture producers frequently have insufficient information concerning market requirements in other countries. This also requires an effective network so as to provide information concerning import requirements and trends of assessment of China’s major trading partners, and to keep enterprises informed about relevant developments in the aquaculture sector. Enterprises need technical support concerning new technical requirements that may form barriers to trade and in the formulation of preventive countermeasures so as to avoid blindness and losses in trading.

There exists an urgent need for cooperation in the development of relevant international standards for aquaculture products and for the quality of marine waters that support aquaculture. This is an area in which China could take an active leadership role.

5. **Automobiles**

*The impact of WTO accession on China’s automobile market is dramatic and lasting. Reduced prices for automobiles produce a very large consumer surplus, which contributes to increased demand for other goods. From an economic perspective, benefits in this sector as the result of WTO accession are much greater than the costs. Despite the implementation of more stringent emission standards, the explosive increase in the number of cars enhances risks of greatly increased vehicle emission.*

With the growth of the economy and the increase of per capita GDP, consumer purchasing power for automobiles is on the rise. After China’s entry into the WTO, reduced tariffs and duties on automobiles and increased foreign direct investment caused the retail prices of cars to drop substantially, further enhancing purchasing power. The production and sale of automobiles in China will rocket for at least a decade to come.

WTO accession also creates powerful incentives to improve production efficiency and to initiate desirable structural changes in the automobile sector, leading to an increase in quality.

The falling price produces a huge consumer surplus. In 2003, the average price cut of cars was as 9.06 per cent. If the average price for cars was 150,000 yuan, the price cut would be 13,600 each. The total gain by consumers then was 27 billion. By 2005, further price cuts are expected to take place and the consumer surplus could be as high as over 50 billion yuan.
The WTO scenario analysis shows that CO and NO\textsubscript{x}, the major sources of pollution from automobiles in cities, will increase along with the number of cars. However, emissions of CO are reduced owing to the application of Euro I to all new cars in 2001 and Euro II in 2004. Nevertheless, this environmentally desirable impact was substantially offset by the increase in car numbers (Fig. 3). In year 2004, the difference in emissions with and without WTO accession is halved as the number of cars sold is 160 per cent higher.

The existence of a consumer surplus, as the result of trade liberalization and foreign direct investment after WTO accession, creates a unique opportunity to protect the environment. It permits China’s authorities to reduce emission levels and to increase fuel efficiency standards quickly, thus reducing several key impacts of automobiles on the environment. Consumers will benefit from improved product quality that is associated with most of these measures while not perceiving any increase in costs that may be occasioned by these measures because it is shielded by the overall decrease in prices.

This is, however, a transitional phenomenon. Once automobile prices stabilize at a certain level, government measures that result in costs—particularly environmental measures—will be perceived as price increases and are liable to be resisted, even when they produce secondary benefits such as improved performance or higher quality automobiles.

Motor vehicles registered before WTO accession can cause twice or even up to 10 times the pollution of newer cars. Early phase-out of old vehicles can increase the environmental capacity for more cars without increasing total emissions. The resistance to this policy may be minimal and the environmental benefits can be substantial. For those vehicles that have been phased out, no permission should be given for re-sale and re-use. They should be sent to recycling facilities. Disincentives should be provided to curb the use of luxurious cars with large engines, which require more oil and land.

From a longer-term perspective, the Chinese automobile industry faces a number of major challenges, including land vulnerability (in particular arable land); oil supply; traffic congestion; air pollution; and global environmental concerns. These are liable to be magnified by the rapid growth in the automobile market, and will be even more severe if measures are not taken now while conditions are propitious.
There are a number of challenges China is now facing to reduce future risks. The most obvious is the need to develop the system of mass transit to provide people with viable alternatives to the excessive use of automobiles. While this is an issue that is influenced by numerous considerations, many of which have little bearing on the automobile market and its environmental consequences, it is also the case that the existence of a viable system of public transport is a necessary condition for controlling the manifold impacts associated with automobile use, including the environmental impacts.

Another challenge for China is to participate actively in the search for future automobile technologies. No matter what happens to the supply of fossil fuels and their impact on the environment, the automobile represents a technology that will not disappear unless it is replaced by something that is manifestly superior in key respects, including the degree of independence and individual choice offered by the automobile. At the same time it is clear that the automobile as it currently exists needs to be not only improved but also replaced in key respects that reduce its unacceptable impacts. The search for the most promising technology to accomplish this goal is now on—and China must determine what its position is with respect to this development.

Finally it will be necessary to ensure that the financing of the numerous measures that are required to address the impacts of rapid growth of the automobile market is undertaken in a manner that ensures that the polluters—in this instance the users of automobiles—pay. A range of options exist that focus on taxing automobile use or taxing the sources of pollution associated with automobile use. In particular, a levy on luxurious cars with large engines can be imposed to raise financial resources and to reduce the demand for oil and land.

6. Energy

Economic growth associated with trade liberalization has caused rapidly increasing energy demand. If adequate and appropriate policies and countermeasures are not put in place, there will be greater pressure on energy supply and environment, which will surely lead to China’s increased dependence on imported energy and the consequent responsibilities and concerns. Accession to the WTO itself could be a key factor for higher energy demand because of the possibility of more energy-intensive industry moving to China, which could also be more pressure on environment.

The scenario study shows that energy demand in China in 2020 could range from 2.4 billion tce to 3.4 billion tce depending on technological progress and energy-intensive sectoral development, etc. Such a huge energy demand will exert serious pressure on energy supply. That means even for the lowest energy demand scenario, China would need to import 200 million tons of oil, and 100 billion m$^3$ of natural gas; for the high energy demand scenario, China needs to import nearly 400 million tons of oil, 260 billion m$^3$ of natural gas, and 300 million tons of coal (Fig. 4 and 5).
With the income increase in rural households, the energy demand in rural areas will also increase quickly.

Given substantially increased energy production, the environmental impacts could be profound. SO$_2$ emission will keep increasing before 2010 with the rapid increase of coal use in China. However, China has adopted strong policy to control SO$_2$ assuming more and more desulfurization technologies will be used and therefore SO$_2$ emissions will diverge from fossil fuel use. Because of lack of policy to control NO$_x$, its emissions will rise substantially. The same trend will apply for total suspended particulates (TSP) emissions.
China’s energy utilities must be prepared to operate in an increasingly international market. Although many of these utilities are not themselves exposed to international markets, the scope for arbitrage between energy resources will increase as the energy supply system is increasingly integrated, so that even producers who are entirely domestic in orientation are likely to find that prices for all forms of energy in the Chinese market will be significantly influenced by changes in international prices for key energy sources, including oil, coal and gas.

The impacts of the energy system on the environment and sustainable development are well documented. Even as China’s energy markets are increasingly integrated into international markets it has no choice but to establish the foundations of a clean energy system, covering all aspects of energy supply with particular attention to the efficiency of rural energy supply. A wide range of laws, regulations and standards needs to be developed to drive the target of a clean energy system and to make China’s energy supply system competitive internationally.

Coal will continue to play a critical role in China’s energy system. Consequently, China has a particularly pressing need for clean coal technologies. This generally involves participation in international markets for clean coal technology, a process that would be significantly enhanced if China invests its own resources in this sector and cooperates internationally to diffuse new technologies as widely as possible when they become available.

There will be a significant possibility for China to become a manufacturing centre of energy-intensive and resource-intensive products in the world because of low production costs. This trend should be controlled to prevent China from becoming a provider of raw materials and causing damage to the environment. External costs should be included in production costs to help prevent possible environmental and economic damage.

7. Textiles

_**Growth in textiles is driven by WTO accession and the anticipated end of the WTO textile agreement in January 2005 in accordance with the results of the Uruguay Round. It is expected that many of the additional raw materials needed by the industry will be imported.**_

China’s WTO accession has brought unprecedented opportunities for the development of the textile industry. The growth of the sector will be even more rapid after 2005 when the quota restriction is completely phased out (Fig.6). Taking the cotton textile sector as an example, there will be an increase in total output. As output increases, so will wastewater discharge, the main source of pollution in the textile industry (Fig.7). By using 2001, the year China joined the WTO, as the baseline, the forecast shows that the total amount of wastewater discharged from the cotton textile sector will grow by up to 60 per cent by 2005 and by up to 90 per cent by 2010, if the current proportion of discharge remains unchanged. Without WTO, the total amount of wastewater discharged from the cotton
textile sector would have increased by 36.05 per cent by 2005, and by 27.38 per cent by 2010.

Figure 6. Gross Output Value of the Textile Industry after WTO Accession (hundred million Yuan)

Figure 7. Wastewater discharge of the Chinese cotton textile industry after China’s WTO entry (10 thousand tons).

Without a dramatic improvement of technology, increased production will inevitably lead to increased consumption of various resources, such as energy, water, cotton, additives and dyes, etc. It is predicted that consumption of energy and water would more than double by 2010.

WTO accession will bring foreign investment and advanced technology into China at an accelerating rate. It will raise the technological level of the industry, increase production efficiency, use fewer resources and reduce pollution. Many policies have some positive
environmental impacts; including increased cotton import; tightened review and approval for the establishment of new facilities; technology advancement; reinforced environmental enforcement; promotion of cleaner production; and eco-labelling, etc.

Despite potential positive environmental impacts from the prospective technology effect and composition effect, the production scale of this industry may override the benefits of the above positive impacts.

There will be a notable increase in the number of small enterprises in the cotton textile sector after China’s WTO accession due to a low threshold for entry into this sector. If no adequate policies are in place and if no measures are taken, serious environmental problems will arise.

At the same time, a contraction of cotton production is anticipated, since this represents the kind of extensive agricultural activity that does not work to China’s comparative advantage, let alone correspond to the continuing concern about food security.

The most important environmental issue in relation to textile manufacturing is wastewater from processing and dyeing. The resulting wastewater is often difficult to treat, requiring a significant investment in facilities and expert operations. The study also assesses China’s wastewater treatment capacity in the industry, which indicates that capacity in the sector needs to be doubled in order to meet the wastewater treatment needs of a growing production. Policies must be adopted to ensure that all wastewater from textile production is treated. For larger producers this will entail the operation of wastewater treatment facilities on site, for pre-treatment or for full secondary treatment. Where necessary, small and medium enterprises will need to be linked to shared wastewater treatment facilities.

The approval procedures of the new textile enterprises need to be strengthened in particular by implementing rules regarding environmental impact assessment and three simultaneities (pollution control facilities should be designed, installed and put into operation simultaneously as designing, constructing and operating the main part of the project) must be strictly followed in order to increase the environmental threshold for new enterprises to enter the sector.

China is expected to be the leading producer and exporter of textiles in the world. This position entails opportunities to shape the international debate on the environmental impacts of textile production; it also entails responsibilities that fall upon the country with the largest production. China must promote technological innovation including energy efficiency, particularly in small and medium enterprises.

The textile sector is particularly sensitive to changes in product standards. WTO notification procedures do not provide adequate or timely information. China must develop its own information system on foreign standards and prepare to participate actively in the development of international standards.
8. Conclusions

After China’s WTO accession, most of the sectors considered by the TFWE have already experienced and are likely to further experience rapid growth: textiles, automobiles, energy, labour intensive agriculture and aquaculture. This growth is attributable to numerous factors, including economic growth, the development of export opportunities and foreign investment in China. Some sectors, in particular the production of resource-intensive agricultural crops and forestry, are expected to contract or at least to witness high levels of imports.

Growing and contracting sectors will experience totally different environmental consequences and will therefore need to be treated differently by the government, monitoring their development and formulating environmental policies and regulations accordingly.

9. Recommendations

Agriculture:

➢ Take advantage of increased trade opportunities provided by WTO accession, favour the import of resource-intensive products such as grains, which equals the import of indirect environmental benefits; encourage the export of labour-intensive products, such as vegetables, fruits and poultry; and provide support for farmers to switch from resource-intensive agriculture such as wheat growing to labour-intensive agriculture such as animal husbandry and horticulture.

➢ Adopt measures that internalize environmental costs resulting in increased production costs. For example, eliminate subsidies for pesticides and fertilizers in order to provide incentives to avoid over-use of these chemicals, and introduce payments for environmental services. A first step in this direction would be the establishment of a joint group by relevant departments to review existing agricultural subsidies, to explore possible charges for water, ecological compensation fees, and develop appropriate policies to promote sustainable agriculture.

➢ Ensure the shift of public policy from taxing agriculture to supporting it is consistent with WTO rules. “Green Box” measures allow Members to provide support to farmers’ incomes, rural development and the environment. China will need to increase support to its agriculture infrastructure, rural development and agriculture-related environmental protection.

➢ Address the market access difficulty of Chinese agriculture exports by establishing an information mechanism to provide timely information with respect to foreign environmental requirements and test procedures of agricultural products. China needs to strengthen its own standards whenever possible, and reinforce its own inspection and quarantine practices. It should work with its trading partners to strengthen international cooperation and information exchange; participate in international standards setting and invite the consultation of foreign countries in China’s standards setting; and seek the creation of systems of equivalency and
mutual recognition with important export markets.

**Forestry:**

- Review China’s existing forest policy. This review should include not only domestic policies and conditions, but also import and export policies and forests in other countries that are liable to be impacted.
- China should consider reducing escalating tariffs on furniture and other finished goods produced from wood so as to improve the ability of timber producing countries to sustainably manage their resources.
- Establish a semi-official international coordinating group to provide advice on illegal logging and undocumented exports. This will also create a structure that can support necessary information exchange.
- Actively cooperate with western developed countries that are the major importers of furniture and processed timber products, promoting third party independent certification of timber imports and ensure that the entire forest product chain is managed in a sustainable manner, from the production of lumber through transport, processing, manufacture, sale, use and disposal.

**Aquaculture:**

- Strengthen protection of the marine environment so as to contribute to making the aquaculture sector more competitive internationally and to preserve existing markets.
- Formulate and implement integrated economic policies that promote marine aquaculture development and environmental protection. Efforts should be made to support an optimal breeding structure and a rational development mode, in order to best use all kinds of resources through cyclical reuse of wastes generated within the rearing system so as to minimize waste discharge and to achieve satisfactory breeding effects and economic profits, and at the same time, to attain the best ecological benefits.
- Establish an effective network so as to provide information concerning import requirements and trends of assessment of China’s major trading partners, and to keep enterprises informed about relevant developments in the aquaculture sector, and to provide technical support with respect to new technical requirements that may form barriers to trade.
- Actively participate in the development of relevant international standards for aquaculture products and for the quality of marine waters that support aquaculture. This is an area in which China could take an active leadership role.

**Automobiles:**

- Grasp the opportunity of the temporary consumer surplus: collect environmental resources tax and fuel taxes from car consumers, while providing subsidies to manufacturers who adopt advanced technologies and to the consumers who engage in early replacement of outdated automobiles.
Accelerate the introduction of more stringent emission standards.
Speed up the phase-out of old vehicles with no permission for re-sale and re-use.
Develop a viable system of public transport so as to provide alternatives to the excessive use of automobiles.
Vigorously develop future automobile technologies.

**Energy**

- Establish a response system for the coming large energy demand and import; develop a long-term energy development strategy; and establish a system of energy supply and energy security.
- Energy conservation is essential for China to reduce the demand and to release the pressure for energy supply. Use of large amounts of fossil fuel will cause serious environmental problems. A full range of policies and measures should be developed to abate pollution.
- Technology is the key issue for clean energy and a lower energy demand future. Research and development must be emphasized. International collaboration for technology transfer and diffusion should be encouraged. Clean coal technology development should be pursued by China in cooperation with a few other interested countries.
- External costs should be included in production costs, especially for energy and resource intensive products to avoid possible environmental and economic damage.

**Textiles:**

- Policies must be adopted to ensure that all wastewater from textile production is treated. Where necessary, small and medium enterprises must be linked to shared wastewater treatment facilities.
- Efforts should be made to strengthen the approval procedures of the new textile enterprises, in particular the rules regarding environmental impact assessment and three simultaneities (pollution control facilities should be designed, installed and put into operation simultaneously as designing, constructing and operating the main part of the project) must be strictly followed in order to increase the environmental threshold for new enterprises to enter into this sector.
- China is expected to be the leading producer and exporter of textiles in the world. It must promote technological innovation including energy efficiency, in particular in small and medium enterprises.
- The textile sector is particularly sensitive to changes in product standards. WTO notification procedures do not provide adequate or timely information. China must develop its own information system on foreign standards and prepare to participate actively in the development of international standards.

### Doha Negotiations on Trade and Environment
1. Introduction

China became a Member of the WTO at the Fourth Ministerial Conference held in Doha in November 2002, when trade and environment negotiations were, for the first time in the history of the multilateral trading system, launched as a new issue in the WTO.

The Doha Ministerial Declaration (DMD) calls on WTO Members to negotiate on:

1) The relationship between “specific trade obligations” set out in multilateral environmental agreements (MEAs) and WTO rules. The Doha mandates specifically states that the negotiations are to be limited to the applicability of WTO rules to WTO Members that are parties to MEAs, not to WTO Members that are not parties to MEAs;
2) Procedures for regular information exchange between MEA Secretariats and relevant WTO Committees, and the criteria for the granting of observer status; and
3) Reduction and elimination of tariff and non-tariff barriers to environmental goods and services.

The DMD also instructs the Committee on Trade and Environment to examine:
(i) the effect of environmental measures on market access, especially in relation to developing countries, in particular the least-developed among them, and those situations in which the elimination or reduction of trade restrictions and distortions would benefit trade, the environment and development;
(ii) the relevant provisions of the Agreement on Trade-Related Aspects of Intellectual Property Rights; and
(iii) labelling requirements for environmental purposes.

To support China’s active participation in the Doha negotiations on trade and environment, the Task Force on WTO and Environment has engaged several Chinese institutions and experts in a series of studies on the issues that are being negotiated or discussed in trade and environment negotiations in the Doha Round. The following is a synthesis of these studies.

2. The Relationship Between WTO Rules and Multilateral Environmental Agreements (MEAs)

WTO rules and MEAs are two equal and independent bodies of international law. They have different objectives and follow different principles. However, they are related to each other, and there is need to better coordinate the relationship between them. Current negotiations focus more on the definition of MEAs and specific trade obligations (STOs). The Doha environmental mandate places some limitations, and the negotiations may not
be able to resolve the real issues important to the clarification of the relationship between WTO rules and MEAs.

There are many environment-related provisions in WTO agreements, including the Agreement Establishing the World Trade Organization, the General Agreement on Tariffs and Trade (GATT 1994), the Agreement on Technical Barriers to Trade (TBT), the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS), the Agreement on Agriculture, the Agreement on Subsidies and Countervailing Measures (SCM), the General Agreement on Trade in Services (GATS), the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs), the Decision on Trade and Environment, the Decision on Trade in Services and the Environment and others.

Meanwhile, there are also numerous trade-related provisions contained in various MEAs. Eight MEAs are examined by the TFWE studies, including the Convention on Biological Diversity (CBD), the Cartagena Protocol on Biosafety, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention), the Stockholm Convention on Persistent Organic Pollutants (POPs), the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (PIC), the Montreal Protocol on Substances that Deplete the Ozone Layer, and the United Nations Framework Convention on Climate Change (UNFCCC).

As WTO rules and MEAs are two independent and different bodies of international law, they have different objectives, follow different principles and have different implementation mechanisms. The review of their respective provisions indicates that some provisions of WTO rules deal with environmental issues and may conflict with the principles of some MEAs; moreover, some trade measures contained in MEAs may have conflicts with some WTO rules.

More specifically, the UNFCCC and the WTO study identifies several potential perceived conflicts between UNFCCC and WTO rules. For example, national policies and measures adopted under the UNFCCC, energy saving standards, carbon/energy taxes, national government procurement policies and Kyoto flexibility mechanisms (Joint Implementation, Clean Development Mechanism and Emission Trading), may entail conflicts with WTO rules.

In reviewing the current status with respect to the relationship between the WTO and MEAs, there is evidence showing that the international trade and environmental systems have gradually recognized potential conflicts, and are moving toward coexistence, coherence and conflict avoidance. Both are making efforts to look for solutions to address trade and environmental issues. There are three noticeable facts. First, negotiations of MEAs have increasingly recognized trade concerns and WTO rules, particularly recent
MEAs such as the Cartagena Protocol on Biosafety and the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, have explicitly recognized the possible conflict with the trade regime, indicating the need to avoid tension and resist efforts to create a hierarchy of international law. Other MEAs such as the Stockholm Convention on Persistent Organic Pollutants (POPs) also recognize mutual supportiveness of trade and environmental agreements.

Meanwhile, since its establishment, the WTO dispute settlement system has drawn on non-trade law as appropriate as a source of interpretation of WTO provisions. In the first WTO dispute—the Reformulated Gasoline case—the Appellate Body (AB) noted that GATT should not be interpreted in isolation from public international law. In the Shrimp-Turtle case, the AB even moved towards a closer inter-relationship between trade law and public international law/MEAs, by significantly expanding the scope for considering MEAs.

However, what Members agreed upon in Doha was only a narrow mandate with respect to the WTO-MEA relationship, namely, negotiations will only focus on “specific trade obligations” in MEAs, closing the door to the more general measures that are called for by environmental agreements. In addition, WTO Members agreed to only negotiate the applicability of WTO rules to parties to an MEA. The issue of “Party/non-Party,” which would be most likely problematic, was put aside. Paragraph 32 also states that the outcome of these negotiations “shall not add to or diminish the rights and obligations of Members under existing WTO Agreements…nor alter the balance of the rights and obligations, and will take into account the needs of developing and least developed countries.”

There is a risk that the Doha mandate could limit the ability of the AB to respond to MEA-related concerns except when they fall within specific party-party measures. It could reduce the current scope for their use in the interpretive context, and reduce the capacity of the AB to interpret and apply WTO rules in a manner that avoids unnecessary conflict with other systems of law.

It is now not clear what may be the results of the negotiations; it may be difficult to resolve the real conflicts of the WTO and MEAs. However, it is clear that more coordination is needed between the two systems. There is a real need in China to better understand the relationship between the WTO and MEAs in order to actively participate in the negotiations. The culmination of the TFWE work should be disseminated broadly.

3. Procedures for WTO-MEA Information Exchange and Criteria for Granting
Observer Status

*Strengthening information exchange between MEAs and the WTO is a necessary means to avoid potential conflicts between trade and environment. China should welcome increased information exchange between MEAs and the WTO. The observership of major MEA Secretariats to the WTO Committee on Trade and Environment Special Sessions as appropriate would be welcome.*

Members agree that strengthening information exchange between MEAs and the WTO is necessary to avoid potential conflicts between trade and environment. A number of avenues have been identified by Members as useful means for strengthening information exchange including increased documents exchange and joint research with UNEP and MEAs.

On the criteria for observer status, Members have discussed several criteria on the basis of which relevant MEAs can be granted observer status in the WTO. However, some Members argue that the observership issue is a horizontal issue, as it concerns all WTO bodies and not just the Committee on Trade and Environment (CTE). Therefore, the issue should be addressed by a higher body than the Committee on Trade and Environment Special Sessions (CTESS).

As increased information exchange would help address potential conflicts between trade and environment, China should welcome strengthened information exchange and appropriate observership of major MEA Secretariats to the WTO.

4. Trade Liberalization in Environmental Goods and Services

*Current negotiations only focus on traditional capital-intensive environmental technologies and services for which developed countries enjoy a competitive advantage. There is a need as well as an opportunity for the Doha Round to increase environmental goods and services in the global market and address the development concern of developing countries by including other green products, including consumer goods (energy efficient and recycled products) and resource-based products such as organic food, sustainable forest products and fisheries products.*

Negotiations on trade liberalization in environmental goods and services are designed to make environmental goods and services more accessible to all for better environmental protection through removing tariff and non-tariff barriers to trade.

“Modalities” for trade liberalization in environmental goods are being negotiated in the Negotiating Group on Non-Agricultural Market Access; while trade liberalization in environmental services is being negotiated in the Council on Trade in Services. The CTESS, which oversees trade and environment negotiations, maintains an overview of the work of these two bodies, and has been focusing on the definition and lists of environmental goods and services.
A number of key questions have been raised concerning the definition of environmental goods, including whether multiple end-use products should be included in the negotiations (such as a pumps that can serve an environmental purpose, but may also be used for other purposes); whether process and production methods and end-use criteria will be used in defining environmental goods; how the Harmonized System of the World Customs Organization can capture environmental goods; and how the relativity of the concept of “environmental friendliness” is to be tackled.

On environmental lists, some Members proposed that WTO negotiations build on the lists of environmental goods created by the Asia Pacific Economic Cooperation (APEC) and the Organization for Economic Cooperation and Development (OECD). However, other Members have pointed out that the WTO should devise a list of environmental goods, as many WTO Members are not part of OECD and APEC.

The APEC and OECD lists are not applicable. The OECD list is developed as a policy tool, while the APEC list targets voluntary liberalization. The WTO should develop its own list while using the APEC and the OECD lists as reference.

In defining environmental goods, WTO Members should consider not only capital-intensive environmental technologies and devices for pollution control, but other green products such as resource-based products including organic food, sustainable forest products and fisheries products, and green consumer goods such as energy efficient and recycled products.

In defining environmental goods, it will be desirable to develop a set of principles to ensure the increase of environmental goods and services in the global market and address the development concern of developing countries.

In addressing the concerns of developing countries, it will be useful to build the WTO environmental list to include a common list and a development list. The common list refers to the list of all environmental goods agreed by all Members based on certain guiding principles. The development list refers to the list of environmental goods that will provide certain special treatment to developing countries.

5. The Effects of Environmental Measures on Market Access

Environmental measures and market access is an issue of concern primarily to China and other developing countries. Increased use of environmental and health measures have constituted certain obstacles for Chinese exports, in particular textiles, agriculture, fisheries and electro-machinery products. However, it will be unlikely that negotiations will be launched at the Doha Round. How should this issue be addressed? How to minimize the negative impacts of environmental requirements on market access for developing countries, and what can be achieved by the Doha negotiations with respect to environmental requirements and market access, remain uncertain.
To protect the environment, life and health of human, animals and plants, and to meet the increasing demands of green consumers, particularly in developed countries, the international community and most countries have taken environmental protection measures, some of which have direct and indirect effects on trade. These measures can be found in multilateral environmental agreements (MEAs), regional environmental agreements, national environmental laws and regulations, national technical standards, SPS measures as well as voluntary environmental measures such as eco-labelling.

Many of these measures are WTO consistent, but some may not necessarily be so. China’s exports of textiles, agriculture, fisheries and electro-machinery products, etc. are facing some obstacles from the European Union and Japan and other developed countries. One of the main problems China is facing is higher residue level of pesticides in food with high protection levels, inspection and a quarantine system. Major difficulties faced by Chinese exporters include: lack of information and awareness of rapidly changing requirements; lack of financial resources to undertake renovation or to obtain international certification; lack of technological solutions for meeting the requirements of importing countries; and difficulty in meeting test requirements and conformity assessments.

China’s experience also shows that more stringent environmental measures may have some positive impacts in China. They sometimes become the driver for enterprises to undertake technical innovation and increase production efficiency to gain international competitiveness, which is conducive to domestic environmental protection and natural resource conservation.

The WTO Committee on Trade and Environment has engaged Members in the discussion of the issue of environmental measures and market access. Due to slow progress in negotiations on other issues under the Doha mandate, it remains uncertain whether the negotiations on environmental measures and market access will be launched. It’s not clear how this issue will be addressed. Nor is it clear how to minimize the negative impacts of environmental requirements on market access for developing countries, and what can be achieved by the Doha Round with respect to environmental requirements and market access.

Despite the uncertainty of the Doha Round negotiations on environmental measures and market access, China should make domestic and international efforts to minimize the impacts of foreign environmental measures on market access. Domestically, China should:

- Improve information access on existing foreign environmental measures. Efforts should be taken to collect and disseminate existing foreign environmental measures.
- Study and compare these measures with similar domestic requirements; and develop domestic measures to enable exporting enterprises to cope with the foreign measures they face.
• Strengthen domestic environmental management; adjust domestic environmental and health standards, and bring them as much as possible in line with international standards.
• Make use of the WTO notification mechanism, and establish an international information network to acquire advance information on prospective foreign measures, and to provide timely information to relevant enterprises.

Internationally, it should:

• Strengthen international cooperation, and engage in the consultation process of standard-making in foreign countries.
• Actively participate in international standard making, closely monitor notification of new measures of major importing countries of Chinese exports.
• Promote mutual recognition and equivalence of standards and conformity assessment.
• Promote technology exchange and transfer in order to support Chinese exporters’ efforts to find technological solutions for gaining greater market access.

6. The Relationship between TRIPs and CBD

A central focus of the discussions on the relationship between the WTO Agreement on Trade–Related Aspects of Intellectual Property Rights (TRIPs) and the Convention on Biological Diversity (CBD) has been the recognition of the objectives and principles of the CBD, and the need to incorporate those objectives into the text of the TRIPs Agreement. China is the largest developing country with abundant biological diversity in the world. It is also a contracting party of both international agreements. It is in China’s interest to support mutual recognition and coordination between these two international regulatory regimes.

Major issues discussed in the Doha Round include the relationship between TRIPs and CBD; protection of traditional knowledge (TK); the patentability of life forms; and the technology transfer clauses in MEAs.

Major developed Members such as the United States believe that there is no conflict between the two agreements, while most developing Members argue that there is inherent conflict, the implementation of some provisions of the TRIPs Agreement might affect achieving CBD objectives.

Developed Members do not want to discuss the issues of protection of traditional knowledge and the misappropriation and benefit sharing of TK within TRIPs. Developing Members positively claim that it is necessary and appropriate to resolve the issues of the benefit sharing of TK within the TRIPs framework, and believe that the existing IPRs system, contract, database and registration, domestic legislation and *sui generis* system are not sufficient to resolve these issues. They strongly recommend that the relevant provisions of the TRIPs Agreement should be amended in order to embody the principles of origin disclosure, prior informed consent and benefit sharing.
The U.S. strongly supports expanding the scope of patentability of life forms to cover plants and animals, but is not willing to consider the issue of farmers’ rights, which is very important for developing Members. Most of developing Members believe that the scope of patentability of life forms should be lessened in TRIPs as much as possible, and that farmers’ rights must be adequately considered in the protection of plant varieties, and retain the flexibility of a *sui generis* system and respect for Members’ options.

As a biodiversity rich country and the contracting party of both international agreements, it is in China’s interest to ensure the establishment of legal safeguards aimed at ensuring that the TRIPs Agreement, includes the disclosure of the origin and/or the presentation of proof of legal access to genetic resources or traditional knowledge. These are considered essential means for achieving CBD objectives.

### 7. Labelling for Environmental Purposes

Ecolabelling is a certification for products issued by a third party for environmental purposes. Eco-labels can provide consumers relevant information on the environmental impact of products. Through the feedback from consumption and by consumers’ consideration of environmental impacts of goods, eco-labels can provide incentives for producers to produce environmentally friendly products.

From the 1990s on, China gradually started the eco-label scheme in various sectors related to the environment. In general, the results of implementation of eco-labels have been good in China, though there exist some problems, including gaining mutual recognition with other countries, high consulting and certification costs, poor dissemination as well as other management and institutional problems.

Through the analysis of six key sectors of electronic and electrical appliances, agriculture, forestry, textiles, construction materials and automobiles, we realize that the impacts of eco-label schemes on macro and micro economy, ecological and social aspects are as follows:

- Since the proportion of eco-label products take up very small part of GDP, the impacts on macro-economy have not emerged yet.
- Eco-labels may be a green pass of products for exports or a green barrier to products for market access to other countries as well.
- To implement eco-labels would increase the cost of firms in the short run; but, if applied properly, it would help firms to gain reputation, it may reduce total costs in the long run, and improve competitiveness.
- To implement eco-labels also has apparently positive environmental impacts and can help to improve the environment directly and indirectly.
- To implement eco-labels could improve citizens’ environmental awareness and encourage public participation as well as promote sustainable development in consumption.
So far only four Members of the WTO submitted proposals concerning eco-labels to the WTO secretariat. In the WTO there are two main views of negotiation on eco-labelling. Switzerland, EU and Japan hold the same opinion, while Australia, Canada, Brazil, the Philippines, Indonesia, Malaysia and the United States stand on the other side. The essential argument between the two views concerns the location, procedure of discussion and other procedural problems on the coordination with other committees. The focus mainly includes the depth of the discussion on eco-labels in CTE regular meetings, whether this is to be discussed as a core issue in the CTE, or to be discussed in TBT, and further, how to treat the work that has been done by other committees on this issue, and whether further discussion should be focused formulating new WTO regulations or promoting eco-labelling as a voluntary measure.

The EU, Switzerland and Japan try to position eco-labels as a core issue in CTE. The problem of eco-labels is an issue of PPMs—that is to convert the environmental requirement on importing and exporting products to the process and production methods of products. Since the production techniques and methodology in China and some other developing countries are far behind, this requires strong technical support and improvement for the innovation of production techniques and methodology. This is a great challenge for developing countries.

III. Recommendations to CCICED

China’s accession to the World Trade Organization (WTO) was the most important development in trade policy in recent years; for China itself and the WTO as a whole. The impact on China’s economy has been profound. Because of the numerous commitments undertaken in its accession, the consequences have been felt throughout China’s economy. They have probably been stronger and more widespread than those experienced by any country following the conclusion of other trade negotiations, including the impact of the Uruguay Round.

The environmental impacts of China’s WTO accession have also been substantial. They have been particularly pronounced in six sectors for which the Task Force on WTO and Environment (TFWE) has undertaken environmental impact assessment. The six sectors chosen by the TFWE are agriculture, forestry, marine aquaculture, automobiles, energy, and textile. These studies represent the most comprehensive assessment of the environmental consequences of trade liberalization policies undertaken by any country to date.

The following recommendations, based on the assessments carried out by the TFWE, seek to assist the Chinese government in developing and implementing policies that will maximize environmental benefits and minimize environmental risks from WTO accession. As the theme of this Council meeting is “sustainable agriculture and rural development,” the first recommendation is specifically on agriculture and WTO accession. The next three are the overall recommendations of the TFWE. Other detailed recommendations with respect to specific areas of the TFWE work are embodied in the
TFWE report and in the respective individual reports submitted to the CCICED separately.

1. Develop an agricultural policy that integrates environment and sustainable development within the WTO rules

Sustainable agriculture and rural development are key issues for China. Since the economic reforms of the late 1970s, agriculture has achieved remarkable progress under China’s food self-sufficiency policy. China’s WTO accession has brought about significant changes that are socially and environmentally sensitive as well as significant to sustainable development. Many agricultural environmental problems including low efficiencies of water utilization; over-use of pesticides and fertilizers; serious water pollution through agriculture runoff; land degradation; soil erosion; the spread of invasive alien species; and loss of biodiversity are serious issues which demand solutions. Many of them are related to China’s food self-sufficiency policy, which provides low tariffs and subsidies for agricultural chemicals including fertilizers and pesticides. Environmental deterioration in rural areas not only affects the environment and human health in the country, it also affects agricultural exports. Efforts should be made to develop an agriculture policy that integrates environmental and sustainability considerations. WTO accession offers an opportunity for China to gradually shift its policy focus from food self-sufficiency to food and environmental security.

- Take advantage of increased trade opportunities provided by WTO accession, favour the import of resource-intensive products such as grains, which equals the import of indirect environmental benefits; and encourage the export of labour-intensive products, such as vegetables, fruits and poultry. Efforts should also be made to promote organic and green food production and trade development for niche markets abroad; and to provide support for farmers to switch from resource-intensive agriculture such as wheat growing to labour-intensive agriculture such as animal husbandry and horticulture.

- While making efforts to lessen the tax burden on farmers and to increase their incomes, adopt measures to internalize the environmental costs of agriculture production, including eliminating subsidies for pesticides and fertilizers which lead to the over-use of such substances and damage to the environment; and improve the collection of fees for water usage. A first step in this direction would be the establishment of a joint group by relevant departments including the State Development and Reform Commission, the Ministry of Agriculture, the Ministry of Finance, the State Environmental Protection Administration and others to review existing agricultural subsidies, to explore possible charges for water and develop appropriate policies to promote sustainable agriculture. This shift will increase costs to farmers, many of whom are already poor. It must therefore be accompanied by measures to support rural incomes, rather than the subsidization of inputs.

- China will need to increase support to its agriculture infrastructure, rural development and agriculture-related environmental protection. As a WTO Member, the government of China should ensure that measures taken to provide
support to farmers’ incomes, rural communities and agriculture-related environmental protection are fully consistent with the provisions of the “Green Box.” To aid this effort, there is a need to study “Green Box” measures permitted by the WTO rules and adapt them to China’s reality in order to promote sustainable agriculture development.

- Provide necessary support to gain greater access to international markets. Many Chinese exports—such as poultry, fisheries products, tea and vegetables—possess numerous competitive advantages but increasingly encounter more stringent environmental and health standards in developed country markets. China needs to help Chinese exporters cope with the difficulties they face, through mechanisms that provide timely information with respect to foreign environmental requirements and testing procedures. It also needs to strengthen its own standards whenever possible, and reinforce its own inspection and quarantine practices to assure foreign customers that China’s food exports are safe. China should work with its trading partners to strengthen international cooperation and information exchange; participate in international standards setting and invite the consultation of foreign countries in China’s standards setting; and, where appropriate, press for the development of mutual recognition processes whereby Chinese standards are accepted in other countries.

2. Addressing sectoral environmental challenges of WTO accession in order to maximize environmental benefits and minimize environmental risks of WTO Membership

Globalized resource allocation under the WTO will benefit some sectors of the Chinese economy, due to their differences in resource endowment and comparative advantages in the global economy. Other sectors will clearly suffer.

The growth sectors will be those where China enjoys a comparative advantage such as labour-intensive agriculture, and the relatively new sectors of automobile, textiles, marine aquaculture and energy, whereas contracting or stagnating sectors will be those that China has a comparative disadvantage such as resource-intensive forestry and agriculture where land limitations are acute.

Contracting and expanding sectors will experience totally different environmental consequences and will therefore need to be treated differently by the government. This requires that the government develop environmental policies and regulations accordingly.

- In the growing sectors, the government will need to introduce more stringent environmental regulations to improve environmental quality or to improve international competitiveness. For example, the price of automobiles in China is due to drop dramatically as the terms of China’s accession require the significant reduction of duties on car imports. This provides a unique opportunity for China to implement higher emissions and fuel efficiency standards without raising automobile prices. However, this is only a transitional phenomenon. Once automobile prices stabilize at a certain level, government environmental measures
that result in higher vehicle costs will be seen as price increases and are liable to be resisted. In the textile sector, more stringent environmental measures should be applied to wastewater treatment in newer facilities.

➢ In the contracting sectors, measures will be required to ensure these sectoral adjustments will not cause unacceptable environmental harm. The forestry sector will require close monitoring of forests and forestry policies to make the necessary adjustments whenever needed. This review should include domestic policies and conditions, as well as import and export policies and forests in other countries liable to be impacted by dramatically increasing Chinese imports of their products.

➢ Adopt measures to ensure producers in export-oriented sectors have timely and reliable information on environmental requirements of the importing markets and provide technical support with respect to new technical requirements that may form barriers to trade.

3. Actively seek access to global resources while effectively managing China’s ecological footprint associated with such resource importing

Trade under WTO rules involves both (commodities such as grain, timber, crude oil, gas, minerals, etc) and processed goods such as furniture, plastics, electronics, appliances, textile, toys, etc. China’s WTO accession facilitates trade, leading to increased importing of the commodities China lacks. Such importing is instrumental to the continued growth of the Chinese economy in the new century. China will continue to actively seek and secure access to such resources on a global scale.

These increased imports will lead to an increased domestic supply of major raw materials—food and energy—fuelling the expansion of the domestic manufacturing industry. An increase in manufacturing processes may result in higher levels of air, water and noise pollution. As well, many of these imported resources are re-exported as processed goods, this may not only result in increased anti-dumping by other countries, but also create an inward shift of pollution due to lax domestic environmental regulations.

➢ Closely monitor the ecological footprint and environmental impacts of China’s import of commodities.
➢ Pursue improved demand management, e.g., establishing strategic reserves for some crucial resources such as oil and food.
➢ Raise environmental standards for the manufacturing of commodities that are highly polluting domestically to avoid the shifting of pollution toward China, particularly those commodities that are re-exported.
➢ Pursue dialogue, cooperation and green-procurement where possible (such as green forest certification) to reduce potential environmental impacts of Chinese importing on supplier countries and build the international image of China as a responsible consumer; including participation in global environmental regimes, and contribution to the Doha negotiations.
4. **Promote sustainable development through trade**

WTO accession means further integration of China into the world economy, and global re-allocation of productivity elements such as capital, labour, land, resources and the environment. Participating in this global re-allocation process will prompt industrial restructuring in China. In the world economy and international trade, China has a comparative advantage in labour but a disadvantage in natural resources. It should make full use of its advantage, trading its labour for natural resources. This will reduce environmental pressures China is now experiencing in its industrialization process. Efforts should be made to practice sustainable resource management (including human resources and natural resources) sustainable consumption and sustainable trade in China so as to promote sustainable development in China.

- Formulate Green Trade Action Plan; promote the import of resource-intensive and energy-intensive products, and which means indirect import of environmental services, and adopt it as one of the major import policies; promote the export of labour-intensive products, services and technology-intensive products and adopt it as one of the major export policies.
- Conduct environmental impact assessments of current import and export policies including impacts outside China; through trade development make green trade as a necessary means to promote sustainable development, accelerate the process of shifting from China’s traditional industrial structure of high consumption of natural resources and heavy pollution to a national economy that is based on human resources, energy and resource efficiency and environmentally friendly production and consumption.
- Amend the Foreign Trade Law to reflect the concept of sustainable development and ensure the implementation of a green trade policy.
- Actively participate in the Doha Round negotiations; and develop a position that reflects China’s green trade interest in the trade and environment negotiations.

The TFWE is grateful to the State Secretariat for Economic Affairs (SECO), Switzerland, for its support of the Task Force’s work.
## APPENDIX

### Member List

#### Task Force on WTO and Environment

**Chinese Members**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position and Affiliation</th>
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<tbody>
<tr>
<td>YE Ruqiu (Co-Chair)</td>
<td>Senior Advisor and former Deputy Administrator, State Environmental Protection Administration (SEPA)</td>
</tr>
<tr>
<td>CHEN Wenjing</td>
<td>President, Chinese Academy of International Trade and Economic Cooperation (CAITEC), Ministry of Foreign Trade and Economic Cooperation (MOFTEC)</td>
</tr>
<tr>
<td>XIA Guang</td>
<td>Director, Policy Research Centre for Environment and Economy, SEPA</td>
</tr>
<tr>
<td>YU Jianhua (2003)</td>
<td>Deputy Director General, Department of WTO Affairs, MOFTEC</td>
</tr>
<tr>
<td>ZHANG Xiangchen (2003–2004)</td>
<td>Deputy Director General, Department of WTO Affairs, MOFTEC</td>
</tr>
<tr>
<td>ZHANG Shigang</td>
<td>Deputy Director General, Department of International Cooperation, SEPA</td>
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**International Members**

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<thead>
<tr>
<th>Name</th>
<th>Position and Affiliation</th>
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<tbody>
<tr>
<td>David Runnalls (Co-Chair)</td>
<td>President, International Institute for Sustainable Development (IISD), Canada</td>
</tr>
<tr>
<td>Thomas Cottier</td>
<td>Professor of Law and Director, World Trade Institute, University of Bern, Switzerland</td>
</tr>
<tr>
<td>Simon Tay</td>
<td>Professor of Law, National University of Singapore, Chairman, Singapore Institute of International Affairs and Chairman, National Environmental Protection Agency</td>
</tr>
<tr>
<td>Laurence Tubiana</td>
<td>President of Institute of Sustainable Development, Paris, France, and former Conseillere pour l’environnement, Premier Ministre de France</td>
</tr>
<tr>
<td>Konrad von Moltke</td>
<td>Senior Fellow, IISD, and Professor of Free University, Amsterdam, the Netherlands</td>
</tr>
</tbody>
</table>
Advisor

Li Shangtong  Professor, Development Research Centre of the State Council

Team Leaders for EIA work

HU Tao  Senior Fellow, PRCEE, SEPA

CHENG Lulian  Senior Engineer, PRCEE, SEPA

JIANG Kejun  Senior Fellow, Energy Research Institute of State Development and Planning Commission

PAN Jiahua  Senior Fellow, Centre for sustainable Development, the Chinese Academy of Social Science (CASS)

SUN Changjin  Director of Center for Ecological and Environmental Economics, CASS

ZHAO Yumin  Director, Trade and Environment Department, CAITEC

Team Leaders for Doha Round work (SEPA)

CHENG Lulian  Senior Engineer, PRCEE, SEPA

GUO Dongmei  Ph.D, PRCEE, SEPA

SHEN Xiaoyue  Research Associate, PRCEE, SEPA

YU Hai  Ph.D, PRCEE, SEPA

HU Tao  Senior Fellow, PRCEE, SEPA

Team Leaders for Doha Round work (MOFCOM)

LIN Erda  Professor, China Academy of Agriculture

WANG Canfa  Professor of Law, China University of Politics and Law

WU Wenliang  Professor, China Agriculture University
YANG Changju  Professor, China Renmin University
XIA Youfu  Professor, University of International Business and Economics
LIU Ying (Coordinator)  Department of WTO Affairs, MOFCOM

**Chinese Coordinators**

HU Tao (Technical)  Senior Fellow, PRCEE, SEPA
SHEN Xiaoyue  Research Associate, PRCEE, SEPA

**International Coordinator**

Wanhua Yang  Senior Advisor - China, International Institute for Sustainable Development, Canada