THE CHINA COUNCIL
FOR INTERNATIONAL COOPERATION
ON
ENVIRONMENT AND DEVELOPMENT

THIRD ANNUAL MEETING

Grand Hotel, Beijing
20 - 22 September 1994

SUMMARY RECORD

October 1994
# TABLE OF CONTENTS

I. INTRODUCTION 1

II. AGENDA ITEMS 7

1. ELECTION OF THE INTERNATIONAL VICE-CHAIR 7
2. APPROVAL OF NEW MEMBERS 8
3. ADOPTION OF THE AGENDA 9
4. OPENING CEREMONY 10
5. REPORT BY THE SECRETARY GENERAL 19
6. REPORTS OF THE WORKING GROUPS 24
   a) Biodiversity 25
   b) Pollution Control 25
   c) Monitoring and Data Analysis 42
   d) Resource Accounting and Pricing Policy 55
   e) Scientific Research, Technological Development and Training 66
   f) Energy Strategies and Technologies 84
   g) Coordination of the Activities of the Working Groups 93
   h) Announcement of Conference on Transportation and Communications 109

7. CHINA'S AGENDA 21 116
   a) Report on China's Agenda 21, from the State Science and Technology Commission 119
   b) China's Agenda 21 from the International Perspective 120
   c) Basel Convention, Biodiversity Convention and Montreal Protocol 124

- i -

e) Framework Convention on Climate Change

8. PRESENTATIONS ON SUBSTANTIVE ISSUES

a) International Trade and Sustainable Development

b) Policy Instruments and Measures for Environmental Protection Under the Market Economy

c) The Role of Business in Environmental Protection

d) Public Participation in Environmental Protection

e) Cleaner Production and the Role of Business in Environmental Protection

f) Study on Practical Measures to Integrate Economic Planning with Environmental Protection in China

g) Environmental Control in the Canadian Pulp and Paper Industry

h) The City of Kitakyushu’s Proposals for China’s Agenda 21

9. REPORT ON COUNCIL BUDGET AND FINANCE

10. DISCUSSION AND ADOPTION OF RECOMMENDATIONS

11. CLOSING CEREMONY

III. RECOMMENDATIONS TO THE CHINESE GOVERNMENT

IV. MEETING WITH MR. LI RUIHUAN

a) Presentations by Members of the Council

b) Response by Mr. Li Ruihuan
# ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC</td>
<td>European Community</td>
</tr>
<tr>
<td>ECU</td>
<td>European Currency Unit</td>
</tr>
<tr>
<td>GATT</td>
<td>General Agreement on Tariffs and Trade</td>
</tr>
<tr>
<td>GEF</td>
<td>Global Environment Facility</td>
</tr>
<tr>
<td>GNP</td>
<td>Gross National Product</td>
</tr>
<tr>
<td>NEPA</td>
<td>National Environmental Protection Agency</td>
</tr>
<tr>
<td>NPC</td>
<td>National People's Congress</td>
</tr>
<tr>
<td>SPC</td>
<td>State Planning Commission</td>
</tr>
<tr>
<td>SSTC</td>
<td>State Science and Technology Commission</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>UNCED</td>
<td>United Nations Conference on Environment and Development</td>
</tr>
<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
</tr>
<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific, and Cultural Organization</td>
</tr>
<tr>
<td>WTO</td>
<td>World Trade Organization</td>
</tr>
</tbody>
</table>
I. INTRODUCTION

1. The China Council for International Cooperation on Environment and Development ("the Council") was established by the State Council of the Chinese Government in April 1991 to facilitate cooperation between China and the international community in the fields of environment and development.

2. The Council is a high-level advisory body that makes proposals for consideration by the Chinese Government on the integration of environment and development. It has so far held three annual meetings and is expected to meet regularly for an initial period of five years. It will assist in developing an integrated, coherent approach to environment and development, and it will encourage systematic cooperation between China and other countries.

3. The Council is a non-governmental body but with strong government involvement. Currently, the Council comprises 28 Chinese Members and 22 international Members, all chosen for their expert knowledge and their experience.

4. The Members of the Council attended the Third Annual Meeting at the invitation of State Councillor Song Jian, on behalf of the Chinese Government. State Councillor Song Jian is Chairman of the State Science and Technology Commission (SSTC).

5. The host institution was the National Environmental Protection Agency (NEPA). NEPA has been made responsible for inter-ministerial coordination and for supporting the activities of the Council. It has established a Secretariat to maintain and develop international and domestic contacts and to ensure follow-up within China to the suggestions made by the Council, as well as to deal with the routine work of the Council when it is not in session. The Secretariat is assisted by the Canadian Support Office, which is directed by Prof. Earl Drake, located at Simon Fraser University in Vancouver and funded by Canada.

6. This Summary Record of the Third Annual Meeting of the Council was prepared for the Canadian Support Office by Mr. Patrick Kavanagh on the basis of more detailed notes recorded during the meeting. The Summary Record represents the Canadian Support Office's interpretation of the discussions and not necessarily the views of all the participants. To ensure frank and direct exchanges, it has been agreed that the Summary Record of the meeting should present an overview of the discussions without attribution to individual speakers in the debates.
II. AGENDA ITEMS

ITEM 1. ELECTION OF THE INTERNATIONAL VICE-CHAIR

7. With State Councillor Song Jian presiding as chair, Mme. Huguette Labelle, President of the Canadian International Development Agency, was acclaimed as International Vice-Chair. She replaces Mr. Marcel Massé.

ITEM 2. APPROVAL OF NEW MEMBERS

8. A number of new Chinese and international Members were acclaimed.

ITEM 3. ADOPTION OF THE AGENDA

9. The agenda was agreed as presented.

ITEM 4. OPENING CEREMONY

10. The Third Annual Meeting of the Council was opened by State Councillor Song Jian with the introduction of Mr. Qian Qichen, Vice-Premier of the State Council and Foreign Minister of China. State Councillor Song Jian observed that the Vice-Premier’s presence indicates the importance that the Chinese Government attaches to this meeting.

11. In his speech Vice-Premier Qian Qichen delivered the following remarks:

12. Over the past two years, the international community has made considerable efforts to implement the agreements reached at the United Nations Conference on Environment and Development (UNCED). Regrettably, however, the "new global partnership" is far from becoming a reality. Therefore, what is most urgent now is to set up as expeditiously as possible such a partnership. To this end, we propose to start from the following three aspects:

1) In implementing the commitments made at the UNCED, little progress has been made in such key areas as providing additional funds and transferring technology. We hope that all countries, the developed ones in particular, will immediately start to adopt effective and concrete measures. Otherwise, the "new partnership" would be out of the question.

2) The principle of "common but differentiated responsibilities" as agreed at the UNCED should be truly adhered to. Whether in view of their part in the environmental degradation in the past or their present capacity, the developed countries undoubtedly should contribute more in this regard.
3) We must check the tendency of containing the development of the economy and trade of the developing countries in the name of environmental protection. Unrealistic standards and requirements imposed on industries and products of the developing countries, under the pretext of environmental protection, are likely to become new trade barriers. These will impair the economic growth of the developing countries and thus cripple their ability to participate in international cooperation on environmental protection.

13. The following participants made introductory statements to mark the opening of the Third Annual Meeting of the Council:

1. Council Chair and State Councillor Song Jian

2. Vice-Chair Huguette Labelle, President of the Canadian International Development Agency

3. Vice-Chair Qu Geping, Chairman of the Committee of Environmental Protection and Natural Resources of the National People's Congress (NPC)

4. Vice-Chair Gu Ming, former Vice-Chairman of the Legal Affairs Committee of the NPC

5. Mr. Koichi Suyoshi, Mayor of the city of Kitakyushu, Japan

6. Mr. Cong Zhenglong, Vice-Governor of Liaoning province

7. Dr. Arthur Holcombe, Resident Representative for China, United Nations Development Programme (UNDP)

8. Dr. Mary Ann Burris, Acting Representative for China, The Ford Foundation

14. In the course of these opening remarks, the following points were made:

15. During the past year, the Chinese Government has taken three steps of far-reaching significance in the field of environment and development. It has approved China's Agenda 21: White Paper on China's Population, Environment, and Development in the 21st Century and introduced the first program of priority projects. It has promulgated China's Action Plan for Biodiversity Protection. And it has begun implementing a three-year plan for inspection on environmental law enforcement.

16. The Chinese Government is now preoccupied with the incorporation of Agenda 21 concepts and targets into specific Ninth Five-Year Plan policies and programs. China's strategy for sustainable development is a pioneering effort, and so it will require all possible support during the planning and implementation phases. The Council could be very helpful in orienting the recommendations of its Working Groups more to the priority needs of Agenda 21.

17. The foundation has been laid for the future of the Council. Its Working Groups are now ready to advise the Chinese Government on specific issues. But aside from this, the general work of the Council can contribute to solving global
environmental questions. The Council has a responsibility to share the fruits of its work, to allow its findings to radiate beyond the borders of this country.

18. China's high growth rate has been achieved through following the traditional mode of development which is characterized by resource consumption. We cannot afford to lose any time in changing this pattern and in following the road of sustainable development.

ITEM 5. REPORT BY THE SECRETARY GENERAL

19. Mr. Xie Zhenhua, Secretary General of the Council, reported to the Third Annual Meeting on events and activities since the Second Meeting, which was held in Hangzhou, 3 - 5 May 1993. His report covered the following areas:

20. During the past year China has made major progress in the field of environment and development. It has determined its sustainable development strategies, implemented international conventions, made important decisions on clean production and pollution control, formulated its Action Plan for Environmental Protection as required by the International Development Association, and worked out its environmental protection program for the next five years.

21. In response to the recommendations made by the Council at its Hangzhou meeting, China has implemented specific measures in the areas of energy efficiency, biodiversity protection, protection of farmland, resources accounting, public awareness, legislation, and international cooperation.

22. The Council's Working Groups have completed their basic investigation and data collection and have now entered the stage of data analysis and reporting of results.

23. The Secretariat distributed to Council Members the remarks of President Jiang Zemin following the Hangzhou meeting and the Executive Summary of the meeting. It coordinated membership changes in the Council during the year. And it made preparations for the Third Annual Meeting.

ITEM 6. REPORTS OF THE WORKING GROUPS

24. With Vice-Chair Huguette Labelle presiding as chair, the six Working Groups reported to the Council.

a) Biodiversity

25. Dr. John MacKinnon and Prof. Wang Sung, co-chairs of the Biodiversity Working Group, presented the Group's second annual report. In a slide-show accompanying the presentation, the following points were highlighted:

26. Biodiversity is more than a few pretty or rare or interesting animals or plants. Most of China's population, being rural, is directly dependent on biodiversity for fuel, medicine, and protein, and indirectly for soil protection and for water and climatic regulation. Biodiversity provides benefits and services in the order of
something like $100 per person per year across the whole country. That's about one quarter of the Gross National Product (GNP) -- a big sector of the economy. And this sector is threatened.

27. The Group focused on the state of wildlife utilization, *ex situ* conservation, data management, and the wildlife trade in East Asia. During the year it held four workshops in different areas of China, enabling it to make field visits and to talk with local officials.

28. The Group examined "semi-conservation, semi-commercial" projects such as the farming of tigers and other animals. One difficult issue facing the Chinese Government is the farming of bears for their gall, which is used in traditional medicine. In straight scientific terms this is good conservation, since fewer wild bears have to be killed to produce the medicine required. But of course this doesn't address the ethical questions of animal rights and cruelty.

29. Many species in China are consumed or utilized for food or medicine or other reasons, and wildlife counts indicate that resources are much depleted. The opening of China's economy and borders has caused a huge increase in animal trade. The Group studied the problem by monitoring the availability of species for sale in the markets of Macao, Hong Kong, Shenzhen and Guangzhou, and the trade between Vietnam and Guangxi province, and has started to draw a map of the animal trade routes in East Asia.

30. Preparations are underway for the East Asian wildlife trade control initiative, a proposal advanced by State Councillor Song Jian at the Council meeting in Hangzhou. If the supporting funds can be found, the meeting will be held in Guangxi during the first half of 1995.

31. The Group proposes to establish, first, a meta-database, and then, a national network of biodiversity monitoring stations. Currently many agencies are collecting and analyzing various types of biodiversity information. Our aim is to reduce duplication, to make data more available to people who need it, and to fill gaps where people should be collecting data but are not.

32. Currently there are three types of *ex situ* projects. Some are pure conservation ventures. Some might be described as "semi-conservation, semi-commercial". And some are pure commercial or display schemes, in zoos or commercial parks. Thus a clarification of terminology is needed in this area.

33. Among several areas the Group would like to explore in future work is habitat restoration. In the reforestation of bare lands in China, current policy is to plant what may be inappropriate species, a practice that is causing a great loss of biodiversity.

Discussion

34. In the comments that followed the Group's presentation, the following points were made:

35. There appears to have been little coordination between the Group and the NEPA unit that produced China's Action Plan for Biodiversity Protection. Units of the Chinese Government have been criticized in the past for fragmentation and
duplication of tasks, and intense competition among themselves. For the greater good of China, the Council should challenge this tendency.

36. It is important to safeguard China's staple crops. The sudden and unexpected loss of biodiversity can be prevented by monitoring the genome and making sure it is preserved.

37. The Group is small and has limited resources, and therefore avoids tackling problems in areas, such as crop variety, where other bodies are already working. The Group's small size, however, does give it the advantage of being able to respond quickly to Chinese Government requests for research.

38. None of the Group's suggestions will work unless adequate resources are made available. Hainan province for example has no money, equipment, or personnel to implement safeguards on its biodiversity. In future, the Group may wish to outline a comparison of the resource levels that would be needed to meet its recommendations with those resource levels that are available.

39. While the Chinese Government has taken biodiversity protection measures, such as the establishment of nature reserves, it is true that there is a serious shortage of resources. Sometimes, measures even provoke additional, unforeseen costs, as for example when a prohibition on pesticides leads to farm losses which must be redressed.

40. China is like every other place on earth: all living things are connected. This simple point must be brought home to people through the education system. Considering that many rural dwellers are semi-literate, China might wish to check out the large volume of eco-awareness television material available, often for free, from other parts of the world.

41. The Group is urged to seek cooperation with related international programs, such as DIVERSITAS, which is affiliated with the International Council of Scientific Unions and with UNESCO. Concerning the ethical aspects of animal experimentation, the Group might wish to consult the International Council of Laboratory Animal Science.

b) Pollution Control

42. Dr. Tonny Schneider and Prof. Qu Geping, co-chairs of the Working Group on Pollution Control, presented the Group's 1994 report and underscored the following points:

43. During the year the Group held two meetings, in the Netherlands and in Guangzhou. The Group feels it is important to note that the Chinese and international members cooperated excellently throughout: two different cultures can work well together.

44. In the context of the Guangzhou meeting, a task force drafted a "State of the Environment Report" for the city and for Guangdong province. This report included many recommendations which form the basis for the Group's general recommendations to the Council:
1) Environmental policy planning should be incorporated in the existing and future master plans for a city or province.

2) An integrated environmental policy approach should be introduced in the planning procedure within the People's Republic of China.

3) A comparative risk approach should be used in environmental priority setting.

4) Improvement of institutions and capabilities of local and provincial environmental management should have top priority in order to strengthen its authority.

45. The Group also stressed these specific recommendations:

1) Following the State of the Environment Report for Guangzhou (an area of rapid development) and another on Chongqing (a heavily industrialized area), two other typical study areas should be chosen. One might be Jiangsu province, observing town and village enterprises, another either Hainan or Inner Mongolia, observing a large agricultural sector.

2) Policy planning exercises such as the one carried out recently in Beijing should be continued also for all the selected typical study areas.

3) The basins of large rivers that supply large cities should be studied in a systematic and coordinated procedure. In particular, support should be given to the Dongjiang River project and the Pearl River Delta study.

46. Apropos of point 2) above, Dr. B.C.G. Zoeteman, Deputy Director General for Environmental Protection, the Netherlands, and Council Member, here reported on the Chinese-Netherlands Seminar on Integrated Environmental Policy Planning, held in Beijing during 31 August - 2 September 1994. The following points were emphasized:

47. China's Action Plan for Environmental Protection and NEPA's Report on the State of the Environment in China provide excellent bases for developing environmental planning. Reports on the state of the environment can be expanded from a local or provincial scale (aided by international twinning arrangements) to a national scale, and projected so that extrapolation can be made to a "future state of the environment" for the whole of China.

48. In the same stepwise fashion, these reports can form the basis of provincial and national environmental policy plans, the goal being to arrive at a national policy plan for China three years from now.

49. It is important that environmental problems be tackled by the appropriate state structure. Only those issues that require national attention, such as ozone depletion or toxic waste handling, for example, should be regulated at that level. The cleaning of river basins might fall to the provinces, and noise abatement left to the municipalities.

50. With many similarities in their problems and in their approaches to solving them, the Netherlands can be seen as an experimental laboratory for China.
Discussion

51. It is often argued that China, a poor country, has inadequate resources for pollution control. But China has plenty of money. What’s more, environmental policies are a great investment with a good rate of return. The problem is political: arguments for abatement measures are not being made clearly enough. Ministries must be bolder in demanding money.

52. The volume of the industrial investment that creates pollution makes the resources devoted to abatement look like peanuts. So what is needed is not just more abatement money. Other parts of the Government must be convinced that they will gain a lot by investing a little.

53. When it comes to scientific knowledge in the environmental area, China is by no means a developing country. China has a great deal of technical expertise. The problem is how to mobilize this knowledge effectively.

54. China’s dependence on coal makes it almost impossible to improve the pollution situation in a fundamental way. Some helpful policies are in place, for example, raw coals are forbidden in urban areas, and central heating is being extended in Beijing. Still, no more than 1% of China’s 570 cities meet atmospheric quality standards.

c) Monitoring and Data Analysis

55. Dr. Jin Jianming and Dr. Tonny Schneider, co-chairs of the Working Group on Monitoring and Data Analysis, presented the Group’s working report. Their summary highlighted the following points:

56. The Group’s research has concentrated on demonstration projects in environmental monitoring network and environmental quality research, automotive pollution control and scenario models, models of sulphur dioxide emission sources, an environmental index system, and an environmental decision support system. Work to date and plans for continuing activity in each area are laid out.

57. The Group recommends to NEPA that it:

1) broaden information collecting from the monitoring of pollution to the monitoring of damage to ecological systems;

2) accumulate a set of models to aid environmental decision making at all government levels;

3) reorganize the exchange of environmental information to make it more readily available;

4) strengthen research on monitoring technology and methodology;

5) improve training for technicians;

6) publicize more quickly the results of its projects.
While the recommendations are written politely, they hide many difficulties. The fact is, there is no money available for monitoring. This is not a Chinese problem but a worldwide problem. The Council however can help with the creation of the set of models, mentioned in point 2), which are needed from the local to the national levels, and with the improvement of training, point 5), in particular by providing financing in support of Chinese travelling abroad.

Discussion

The Working Group on Monitoring and Data Analysis should coordinate with the Biodiversity Working Group. The two can cooperate in monitoring biological species and at the same time strengthen their applications to funding agencies by making joint submissions.

While it is true that governments have not given monitoring a high priority, governments should get credit for having approved and funded three major global monitoring initiatives, the climate, ocean, and terrestrial observing systems. The Group is encouraged to cooperate with these worldwide efforts.

Last year the Council asked the Chinese authorities to estimate the costs to the economy of pollution damage. The figure supplied was 6.75% of GNP annually, which is far higher than that of many other countries. At the same time, the Council asked what percentage of GNP is currently given to environmental matters, and the answer was .901%. Quite apart from the question of what international resources are required, it must be asked whether the Chinese Government is spending what it might in this area.

One can see the need for monitoring by examining the Agenda 21 White Paper. Its chapters are of varying quality. Some are good, but some offer only general guidelines, or vague recommendations lacking timetables or figures. The reason is the lack of data. Monitoring therefore is essential for the formulation of a clear environmental strategy.

In addition to data monitoring and policy setting, it is important to create a "pollution police" who will ensure that these changes are carried out, who will check and control what actually happens. This step cannot happen without the broad support of public opinion. Public awareness of the importance of pollution control must begin in the educational system, starting at the primary school level.

In so-called capitalist countries, environmental monitoring is often carried out by grassroots, non-governmental organizations. In a socialist market economy, however, such movements are difficult to establish. As well, environmental monitoring obviously is not in the interest of private capital which will see it only as an obstacle. Therefore, it is the state that must take responsibility for monitoring.

Environmental monitoring should be carried out without too much attention to detail. Essential parameters that will facilitate clear policy making should be chosen. Otherwise one may become crushed under a volume of complex information.
d) Resource Accounting and Pricing Policy

66. Prof. Li Yining and Prof. Jeremy Warford, co-chairs of the Working Group on Resource Accounting and Pricing Policy, presented the Group's report for 1993-1994. Their address made the following points:

67. Although market forces inevitably will bring natural resource prices closer to their true "social costs", the market cannot be relied upon to provide optimal prices. The market for example seldom reflects the cost of the depletion of a resource, or the cost of "externalities" such as the environmental damage caused by production. Thus, government intervention is needed to achieve equality of price with social costs and to foster an allocation of resources that avoids waste or over-consumption.

68. The Group has adopted a theoretical framework that seeks the Marginal Opportunity Cost of natural resources, that is, the cost of actual production, plus the cost of the losses to future users resulting from current depletion, plus the cost of environmental externalities. For coal, water and forest resources, the Group has developed pricing models, carried out case study research, and offered policy suggestions.

69. Although these calculations are difficult to make, they don't need to be precise in order to be useful. The difference between the true social costs of China's resources and the current production costs is very large. The direction and magnitude of the price adjustments that the Group will recommend to the Chinese Government is already obvious.

70. The case studies highlight the importance of geographical location in making cost estimates. The wide variations across the country in availability and local costs of water, coal, and forest resources have policy implications. The huge expense of supplying water to Beijing, for example, demonstrates the need for a pricing policy that will encourage large industrial users of water to locate where the water is, rather than transferring the water to them.

71. The Group's research is likely to produce useful recommendations for China's international trade. When prices are adjusted to take account of depletion and environmental costs, in addition to production costs, different options for importing versus exporting natural resources will emerge.

72. The Group's findings show that there is large scope for price reform that can satisfy both economic as well as environmental objectives. There are many "win-win" opportunities. Clearly, in a developing economy these must be pursued to the fullest.

73. In making arguments to persuade governments to undertake environmental protection it may help to factor into the calculation of the country's total effort toward improvement those policy reforms which, while addressing environmental objectives, can also be justified on purely economic terms. One good example of such measures is "green taxation" which supports environmental protection but also augments general revenues.

74. There are many obstacles to immediate price reforms. Clearly it is not workable to introduce reforms in any one sector of the economy unless reform has already taken place elsewhere. It is unrealistic for example to expect farmers to pay
higher prices for water if they themselves face constraints in the price they can charge for their produce.

75. Developing countries have found that implementing the sort of price reforms the Group is suggesting can sometimes lead to a dramatic increase in economic activity. Paradoxically, China may need to make parallel reforms in legal and institutional structures to cope with the environmental and other problems that may result from this increased activity.

76. While the Group's research is carried out with the immediate aim of setting prices and determining levels of usage for specific resources, its broader objective is to encourage a long-term awareness by the Government of the total cost to society of its policies, that is to say, that the economic cost of policies necessarily includes depletion and environmental costs.

Discussion

77. Another way to express environmental pricing theory is to consider that the price of a commodity should reflect three principles:

1) the rate of use of renewable resources should not exceed the ability of the world to replace them;

2) the rate of use of non-renewable resources should not exceed the world's capacity to find substitutes;

3) the rate at which we pollute the environment should not exceed the capacity of the environment to absorb that pollution.

78. If a government wishes to put these principles into practice, then environmental considerations must become a central factor in all political, social, and economic decision-making. Market forces, which by their nature are short-term, cannot invoke these principles, cannot ensure that prices reflect the additional factor of environmental externalities.

79. The responsibility falls to governments. Governments must set standards that will enable people to compete on an equal basis. They must use fiscal instruments such as taxation to achieve recognized social goods. And they must acknowledge these factors in their national accounting, in particular by fostering the notion of the world's "capital stock" of nature. One might say that the world must not "run down its capital" but should "live off the interest".

80. Four years ago, at China's first conference on the integration of environment and development, a Chinese expert made an interesting point: in the past, when the labour theory of value applied, it was considered that natural resources had no value because no labour was involved in creating them. So it can be seen that we have come a long way in a very short time.

81. Rather than, as has been suggested, broadening the number of areas being studied, the Group now should direct the next stage of its work toward the practical applications of concrete strategies, particularly in the areas of energy and water. Energy is crucial because it determines so much else in China, water because in many places, such as Hainan, large amounts are being wasted owing to its low price.
82. The demand for cheap electricity has resulted in China's coal burning plants continuing to use obsolete, inferior equipment. The gradual de-subsidization of energy prices should be accompanied by a requirement that these plants install the best available technology.

83. In implementing price changes, China must consider how much the people are willing to tolerate. If prices rise too fast, China will have grave social problems. During the course of its work the Group must bear this serious concern in mind.

e) Scientific Research, Technological Development and Training

84. Dr. Osayuki Yokoyama and Prof. Sun Honglie, co-chairs of the Working Group on Scientific Research, Technological Development and Training, presented the Group's second report. The following points were made:

85. The Group will concentrate its work on the issue of cleaner production. Sustainable development in China can only be achieved if cleaner production is implemented as a matter of priority. Its effectiveness in reducing pollution and waste and in using raw materials and energy more effectively has been demonstrated. To meet China's particular needs, including its rapid economic growth, a national strategy is required.

86. The Group offered recommendations in the following areas:

1) Legislation: Provisions relating to cleaner production need to be introduced into new and existing legislation. Intellectual property rights should be strengthened to protect investment in cleaner production technologies. The public "right to know" about industrial health conditions needs legislative force.

2) Research: To foster cleaner production, research should be carried out in a number of specified technical and policy areas. Investment in research and development ought to be increased in order to build a Chinese capability in cleaner production, and research targets should be incorporated into the Ninth Five-Year Plan.

3) Training: Training centres for cleaner production technologies and processes should be established. A professional qualification and licensing system is needed to certify industrial pollution control managers and inspectors. Again, the Ninth Five-Year Plan should set training targets so that production of qualified personnel will keep pace with China's growth.

4) Public awareness: A national consumer-education campaign should be undertaken. Pilot projects of voluntary cooperation between industries and local communities on pollution control monitoring ought to be carried out. Cleaner production should be part of the school curricula at all levels.

5) International cooperation: An information clearing house is needed to keep China in touch with developments elsewhere. Cooperation with other countries in areas like eco-labelling will ensure that Chinese products can compete in world markets.
87. Although township enterprises have played an important role in China’s growth, they have also severely polluted the environment. The Council should set up a fund to research this subject.

88. If the introduction of cleaner technologies, especially in coal-burning plants, is not made compulsory, no factory will bother to install them. The Chinese Government should establish a high-level commission to evaluate cleaner production and to implement effective measures.

Discussion

89. Although the Group chose not to work on esoteric problems so beloved of scientists, but concentrated on the commonsense issue of cleaner production, it is important to remember that good basic science is needed to carry out this work effectively. Clean production would not be attainable without good chemists, geologists, physicists, and so on. Perhaps the Group should underscore this point a little more, since government officials often need to be reminded of it.

90. The world of research should involve itself more closely with the world of business, enterprise, and production. One way to achieve this is through the development of scientific and technical parks. These do not necessarily need to be research parks along the traditional model, where all facilities are located in one place, but might also take the form of information networks linking science, industry, and government.

91. Legislators should forbid entrepreneurs from countries with more stringent environmental standards from exporting to China obsolete technologies, thus imposing on the Chinese people and environment a sacrifice that they themselves will not accept at home. The best production methods must be adopted, even if Chinese products will cost more. This is better than importing older systems that will induce long-term costs to China far higher than the short-term gains.

92. Cleaner production is of great concern to the business community. The Business Council on Sustainable Development, for example, has placed a strong emphasis on "eco-efficiency", another term for cleaner production. The Group is advised to seek the involvement of such organizations, since they might help to direct some of the Group’s recommendations.

f) Energy Strategies and Technologies

93. Prof. Thomas Johansson and Prof. Yang Jike, co-chairs of the Working Group on Energy Strategies and Technologies, submitted the Group’s report, "Strategic Energy Alternatives for China". The following points were stressed:

94. The Group attempts a scientifically-based approach to the provision of the energy services associated with socio-economic development, using modern technologies which are suitable to China’s conditions. This will integrate cost-effective improvements in energy efficiency (on the supply and the demand side) with both renewable and cleaner conventional sources of energy.

95. During the past 15 years China has made considerable progress in rationalizing the use of energy. Consumption has grown at only half the rate of
GNP growth -- a remarkable achievement. However, large margins for improvement still exist in all sectors. The energy consumption for major products in China is still some 40% higher than the corresponding figures in industrialized countries.

96. Where technical capacity, financial and security factors allow, China can "leapfrog" and adopt more quickly the most advanced technologies and institutional arrangements.

97. In creating an environment conducive to energy-efficient development, it is vitally important that the communication effort is directed at the points of greatest leverage, in particular at manufacturers of widely used products and equipment, and to decision-makers at national or provincial levels. Massive campaigns to educate all potential users are impractical and costly.

98. In China, the satisfaction of basic human needs and infrastructure building still take priority, while in industrial countries this phase of development is generally over. Where opportunities for innovation exist, particularly in the energy-intensive basic materials industries (such as steel) China should take the lead. Industrialized countries will be slow in bringing forward innovations because demand there is stagnant.

99. Breakthroughs in fuel cell technology have opened the door to attractive options in all modes of ground transportation, including trucks and trains. Fuel cell technology offers near zero vehicle emissions and therefore has no need of vehicle pollution controls. Urban bus transportation is particularly suitable for a demonstration project.

100. In March 1994 the Chinese Government identified nuclear power, oil extraction, and coal industries among priority technologies for state support. The Group suggests that, in addition, natural gas, hydropower, co-generation, wind energy, and long distance high voltage transmission technology should be given comparable priority.

Discussion

101. Much of this Group’s work offers "win-win-win" solutions. It is possible for China to enjoy at once better environmental production, better energy efficiency, and better economic development. The recommendation for exploiting sugar cane co-generation potential, for instance, is a good example of a made-in-China answer to environmental and energy concerns.

102. Because China’s energy system is so coal-based there is need for diversification into oil and gas, but also into nuclear. The Group’s report treats nuclear energy with prudence, but all major Asian countries are betting on it. In future, the Group should stress the conditions under which nuclear energy can be fruitfully introduced rather than cast doubts on its implementation.

103. China’s sources of hydroelectricity are distant from industrial consumers. Since relocating industry to the remote areas near the source of the power is clearly not feasible, it is necessary to convey the energy as cheaply as possible to the consumer. The Group should address the need for research on new electricity transmission technologies. In the West, for example, research is already being carried out on superconductivity and on using hydrogen as an energy vector.
104. A new technology of steel manufacturing has been developed jointly by Italy and Germany. Its variants, generally known as "continuous casting and rolling", offer electricity savings of about 40% over older systems. As China will require a lot of new steel in coming decades, it ought to investigate which of these new technologies can best meet its needs.

105. China's energy will continue to come primarily from coal. Coal produces carbon dioxide, which leads to global warming. One might say that China has the power to cook the world. Some people minimize this concern, pointing to recent evidence of mitigation in greenhouse warming. This evidence itself gives alarm. Cooling happens in highly polluted areas, because sulphates in the atmosphere reflect back more heat from the sun than they absorb rising from the earth. It's not a happy prospect that we should stop the world getting warmer by making it dirtier. China must look for alternative energy supplies and also try to use coal in ways that do not increase the carbon dioxide in the atmosphere.

106. An emerging theory about greenhouse warming holds that this phenomenon may not take the form of continuous, linear warming, but instead, of greater instability, an erratic condition of chaos and unpredictability. This development will be as unwelcome a prospect in China as in the rest of the world.

107. At present, China's refineries are not good environmental performers. They must be modified if they are to make transportation fuels that will meet the higher specifications that will be required tomorrow. What's more, the vehicles that will use those fuels must also be modified, if their pollution is to be mitigated.

108. One should treat with caution optimistic reports about the geological potential of natural gas in China. In other parts of the world, gas has often been found accidently, during a search for oil. It is anomalous that in China, while oil has been found, gas has not, even by accident.

g) Coordination of the Activities of the Working Groups

109. During the intervals of the Third Annual Meeting, informal meetings of the Working Group co-chairs together with Council Members particularly associated with specific Groups ("shadow ministers") discussed the coordination of the activities of the Groups.

110. Following the first of these meetings, Dr. Arthur Hanson, Council Member, presented the following recommendations to the Council:

1) Priority setting by the Council is urgently needed to further focus the efforts of the Working Groups.

2) The Working Groups require a framework which might address cross-cutting themes; the potential for geographically based case studies or demonstration projects; emphasise on national or provincial levels, and various themes critical to Chinese needs.

3) The Terms of Reference Handbook produced in June 1994 should be up-dated as soon as possible after the Council meeting. It should
include an integrative section which reflects cross-cutting themes among the Working Groups.

4) There should also be a coherent short document which highlights our key priorities and brings them together for the Chinese Government.

5) Feedback on utilization of Council and Working Group recommendations from previous years should be circulated two months prior to the Council meeting.

6) Working Group reports should be submitted two months prior to Council meetings so that they may be distributed in good time.

7) A master schedule of Working Group activities for the coming year should be prepared immediately after the Council meeting. This requires information on future Council meeting dates and information on other relevant meetings.

8) As part of the schedule, meetings of the co-chairs should take place at the beginning and end of the working cycle.

9) The role of the shadow minister is a valuable one, and should be continued. Working Group co-chairs should keep their shadow minister informed. The shadow ministers, if possible, should attend the last meeting of the Working Group prior to the Council meeting.

10) Working Groups believe that they can be more effective with expanded funding. Working Groups seek assistance in the development of "salable" funding proposals.

11) In the formation of funding proposals, a component should be capacity-building. This objective can be linked to Working Group needs for data collection by greater use of younger Chinese researchers.

12) More continuity is desired in communication with the Council and its Secretariat, possibly via a regularly produced newsletter or other means.

111. In the discussion following this presentation, it was suggested that the following be added to this list:

13) Working Group documents should adopt formats that distinguish technical and policy materials clearly. Ideally, Council Members should receive for consideration three plainly distinct classes of materials: a) executive summaries, b) the main reports, and c) subsidiary papers, such as minutes of subcommittees, workshops, seminars, and so forth.

112. The Vice-Chair, Mme. Huguette Labelle, observed that these proposals are reasonable, and unless there are opposing views, the Council and its executive Bureau can start to implement the spirit of these suggestions.

113. After the second of the meetings of Working Group co-chairs, Ms. Julia Marton-Lefèvre, Council Member, reported to the Third Annual Meeting as follows:
114. It was agreed not to propose a new Working Group on the subject of transportation. However, since many of the existing Groups are already planning studies in this area, the co-chairs of the Working Group on Energy Strategies and Technologies have volunteered to accept a coordinating role. Each Group will submit to them its own recommendations regarding transportation, and a Chinese member of that Working Group will bring together these submissions in a paper to be presented to the Fourth Annual Meeting of the Council.

115. Likewise, it was agreed that it is not practical at this time to propose a new Working Group on public awareness and education. However, the co-chairs have asked Mr. Charles de Haes, Council Member, to act as a focal point and to seek out expertise in public education that may exist in the Working Groups, in the Council, in China, and in other countries, and bring together a paper for the next meeting of the Council.

h) Announcement of Conference on Transportation and Communications

116. In the context of the decision against striking a Working Group on transportation, Mr. Martin Lees, Director General, International Committee for Economic Reform and Cooperation, and Council Member, briefed the Third Annual Meeting on plans for an international high-level discussion to be convened in Beijing during October 1994. It will explore the strategies open to China in the field of transportation and communications.

117. The authorities are holding this meeting for four reasons: a) to achieve greater overall economic efficiency; b) to improve the balance in economic activity among different regions of China; c) to ensure that China avoids the mistakes other countries have made in this area; and d) to alert the international community to the opportunities for infrastructure investment.

118. It is proposed that after this conference, Mr. Lees will report to the Bureau of the Council on the conclusions of the discussion. If the Council should later decide to strike a Working Group in this area, it would be easy to do so since many of the principal figures in the field can be identified from their involvement in this conference, and because, given the magnitude of the issues, financial constraints are unlikely to be a problem.

ITEM 7. CHINA'S AGENDA 21

119. With Council Vice-Chair Gu Ming presiding as chair, papers concerning China's implementation of Agenda 21 and relevant international conventions were presented.

a) Report on China's Agenda 21, from the State Science and Technology Commission

120. Vice-Chair of the SSTC and Council Member Deng Nan reported on the implementation and coordination of China's Agenda 21. Her address made the following key points:
121. The core of China's sustainable development strategy is development. The elimination of poverty is the primary goal facing the Chinese Government and people. Such development is not based on traditional models, but includes the efficient use of resources and energy, clean production and rational consumption, and reduction of waste emissions. Social and economic development is coordinated with resource and environmental protection.

122. Population, environmental protection and sustainable use of resources are the most important elements in China's Agenda 21.

123. Special attention has been given to capacity-building for sustainable development. Education, science and technology, policies and regulations, structural reform, and mass participation are all important elements in China's Agenda 21.

b) China's Agenda 21 from the International Perspective

124. Dr. Arthur Holcombe, Resident Representative of the United Nations Development Programme, delivered a statement highlighting these issues:

125. There is widespread international perception that China's policies have been consistently biased in favour of rapid social and economic development, and may continue to be so at the expense of environmental protection. Efforts to solve environmental problems have been constrained by inadequate financial resources, and by subsidy policies that encourage inefficient use of such basic resources as coal, water and energy.

126. There is also widespread international perception that China's success or failure with environmental protection will have repercussions for neighbouring countries and for the world community generally. China's ability to reduce its reliance on coal and to phase out ozone-depleting chloro-fluorocarbons, for example, are seen to have serious international implications.

127. At the same time, there is widespread international conviction that successful implementation of China's Agenda 21 is of vital importance for the protection of China's, and the world's, environment.

128. The Council can most usefully support China's Agenda 21 implementation by offering advice:

1) on further environmental legislation that should be promulgated, and on how their enforcement at the central, provincial and local levels can be enhanced;

2) on ways to stimulate maximum international awareness of and support for China's Agenda 21 implementation;

3) on policies for clean energy resources development and energy conservation, including on energy pricing and other financial incentives;

4) on policies to ensure that market forces encourage investor introduction of technologies that meet production needs and avoid environmental damage;
5) on how efforts such as the Environment Action Plan, Biodiversity Action Plan, and National GHG Sources and Sinks study could be integrated into national strategies supporting Agenda 21 objectives;

6) on how work of the Council relates to China's efforts to implement international conventions on biodiversity, forestry principles, and climate change;

7) on measures China can take to benefit from industrial country interest in limiting global greenhouse emissions through emissions offset investments; and more generally, how the worldwide interest in environmental issues could affect China's trade relations, including the General Agreement on Tariffs and Trade (GATT).

c) Basel Convention, Biodiversity Convention and Montreal Protocol

129. Mr. Ye Ruqiu, Deputy Administrator, NEPA, provided details about China's implementation of international conventions relating to the Council's concerns.


130. Mr. Shen Maocheng, Vice-Minister for Forestry, itemized the Chinese Government's legislation and actions to control the international trade in endangered species.

e) Framework Convention on Climate Change

131. Mr. Zou Jingmeng, Administrator of the China Meteorological Administration, and Council Member, outlined the preparatory work of the Administration in meeting the demands of the Convention during the past year.

General Discussion

132. Although China's Agenda 21 is an ambitious program, its diverse elements will be well coordinated. A Leading Group involving senior officials in the State Planning Commission (SPC), the SSTC, and NEPA is responsible for overall coordination. Under the Leading Group is formed a Working Group involving almost 60 departments and ministries. Finally, an Administrative Centre takes care of day-to-day management concerns.

133. In fostering public awareness of Agenda 21's environmental concerns, China should be congratulated for involving children and women. Children are often good "investors" in environmental protection. China is encouraged to bring its Agenda 21 ideas before next year's UN World Conference on Women.

134. China has already done much to publicize awareness of environmental issues. Decision-makers such as political leaders, administrators, enterprise leaders and entrepreneurs are being "environmentally-educated". China holds an annual
competition to choose the nation's most beautiful factory. It observes 5 June as Environment Day. Environmental studies faculties exist at 126 colleges and universities, many of which grant doctor's degrees in the field.

135. China's Agenda 21 should not ignore the important issue of the workplace environment. Polluted industries can have a detrimental impact on workers' health.

136. Because China's economic development has been so successful, it has likely had difficulty finding concessional loans for environmental purposes, from the World Bank for instance. Considering that China contributes so heavily to carbon dioxide and water pollution, China is advised therefore to look to programs like the Global Environment Facility (GEF), which is designed specifically to address environmental issues that have an international aspect.

137. The Council must stress that China's Agenda 21 has to be implemented within the framework of a global partnership. Even were all China's 1.2 billion to advance down the path of sustainable development, this will not be sufficient to address the environmental problems of the whole planet. The Council must emphasize the responsibility of the rest of the world to join in this effort. Unless other countries take steps commensurate with their responsibilities (by reducing consumption, for example) China's efforts will not be fulfilling.

138. The Council has to go beyond expressing words of admiration. There will certainly be need for international financial help in implementing China's Agenda 21. The GEF however is still too small and too constrained. The new technologies that China needs will have to be paid for, and unless we approach the question of practical, equitable arrangements for financing them, that issue will remain to be solved.

139. China ought not to wait until it gets international money to tackle its problems. The momentum of environmental degradation in a country with China's huge population will be awesome indeed, and if China does not attack these problems soon, its people will suffer more than anyone else. While China has every right to expect some assistance from outsiders, postponing action while waiting for someone else to pay is always a disillusions experience.

ITEM 8. PRESENTATIONS ON SUBSTANTIVE ISSUES

140. With Council Vice-Chair Qu Geping presiding as chair, the meeting heard papers on specific issues.

a) International Trade and Sustainable Development

141. Dr. Arthur Hanson, President and Chief Executive Officer, International Institute for Sustainable Development, and Council Member, delivered a paper stressing the following points:

142. Three years ago, the relation between trade and environment was not a priority concern, in China or in most other countries. There has been an explosion of action as trade negotiators and the environmental community struggle to
understand each other. These issues have arisen in different fora: multilateral trade and environmental agreements, packaging and recycling standard-setting exercises, consumer and environmental campaigns, eco-labelling initiatives, and the GATT and the preparations for the World Trade Organization (WTO).

143. China is in a vulnerable position regarding trade and the environment. It is a rapidly expanding exporter with many difficult issues concerning environment, occupational health, and labour standards. Trade-related provisions of multilateral environmental agreements are likely to affect China more than most nations.

144. The coming three years are the defining period, when fundamental concepts and many of the agreements concerning trade and sustainable development will be formulated. The situation is changing so fast that it has become dangerous to take decisions based on past precedents and the published literature. China requires contemporary information access, and very likely some capacity-building within certain ministries in order to formulate good strategies. It is in all countries' interest that China be a well-informed and effective partner in the shaping of new international trade and sustainable development provisions.

145. For these reasons it is proposed that the Council establish a new Working Group on trade and sustainable development. Its terms of reference might include the following responsibilities:

1) to make recommendations on the environment and development implications of China's accession to the WTO;

2) to channel information on international trade and environment actions pertinent to China, such as action taken under GATT and regional trade agreements, eco-labelling, environmental management system voluntary standards, and various approaches to dispute resolution;

3) to review how selected Chinese trade, regulatory and development practices may be affected by new trade and environment positions taken internationally;

4) to demonstrate how China may benefit from trade-related provisions in multilateral environment agreements, and environmentally-related provisions in trade agreements;

5) to identify priorities and approaches for environmental action that will minimize the possibility of consumer boycotts affecting Chinese exports.

146. Mr. Gu Yongjiang, Vice-Minister, Ministry of Foreign Trade and Economic Cooperation, and Council Member, presented a general analysis highlighting these issues:

147. Some countries are abusing environmental protection laws and regulations, taking them as new trade barriers. This practice is detrimental to the development of international trade, violates the aim of environmental protection, and should be strongly opposed.

148. Some Chinese Government departments and staff members, when dealing with the relationship between trade and environmental protection, often pay more
attention to the economic effects while neglecting the environmental effects, pay
attention to the immediate interests while neglecting the long-term interests, and
lay stress on the partial interests while neglecting the whole interests.

Discussion

149. Sometimes, environmental conditionality is imposed on trade in ways that
effectively close out the products of developing countries from the developed world.
Special interest groups such as trade unions are moving into the environmental
field, perhaps not so much because of their environmental concerns, but because it
gives them a chance to throw a monkey wrench into the machinery of trade by
seeking to impose the standards of the developed world on the developing world.
We have to be careful that such preemptive measures, invoked for what appear to
be the best moral reasons, are not creating further discrimination against the
developing world's goods.

150. One example of this problem, in the area of textiles, is of enormous
importance for China and Europe. In Western Europe, questions are being raised
about the residual toxic chemicals that remain in Chinese materials after the
production process is finished, and consequently, about the health of consumers.
The serious issue that must be addressed is how to distinguish between a genuine
environmental concern and a spurious concern which fronts a trade barrier.

b) Policy Instruments and Measures for Environmental Protection Under the
Market Economy

151. Prof. Li Yining, Vice-Chairman of the Legal Affairs Committee of the NPC,
and Council Member, appraised the effects of the market economy on China's
environment:

152. Market mechanisms cannot easily cope with externalities such as
environmental damage and resource depletion. Such destruction and waste are not
private issues but affect the whole of a society, and what's more, for generations to
come. The market, however, is concerned only with private property, and only with
the present.

153. In a properly functioning market economy, actions are constrained by law.
But in China many people violate the existing laws, ignore regulations, and wink at
illegal activities. Such irregularities by firms and consumers will inevitably result in
the deterioration of environment and natural resources.

154. Under the planned economy, firms were subsidiaries of government
departments. It was not easy for them to go bankrupt, to be shut down, annexed, or
converted to other functions. Under the market economy, however, the firm must
answer to investors who make decisions in accordance with the market. Thus, firms
that violate environmental laws can be more easily called to account.

155. In the consumer-controlled buyer's market -- the market economy --
consumers will boycott products that are incompatible with the quality standard
regulated by environmental laws. Firms that do not observe these standards will go
out of business.
156. In the planned economy, natural resources prices are set by state fiat and generally are low. This leads to over-cultivation and denudation. In the market economy, resources are priced more rationally, by demand and supply, and are more beneficial to environmental protection.

157. Prof. Jeremy Warford, of University College, London, and co-chair of the Working Group on Resource Accounting and Pricing Policy, gave a talk which emphasized the following:

158. While market liberalization and the dismantling of government agencies proceeds, at the same time certain aspects of the administrative structure actually need to be strengthened. Above all this applies to environmental bodies.

159. In 1987, Organization for Economic Cooperation and Development member countries relied largely on regulatory or "command and control" mechanisms to enforce environmental protection. By 1992, these countries had shifted towards a reliance on economic mechanisms. These market-based instruments generally took the form not of emissions charges on outputs, but of "presumptive" taxes on hazardous inputs, such as, for example, the sulphur content of coal.

160. China's pollution-levy system of emissions charges on outputs is costly to monitor and enforce. It should be used only for large, key waste discharges. This system should be complemented by growing use of market-based, presumptive instruments based upon inputs.

161. Whether on inputs or outputs, ideally charges should be based on the real damage costs incurred by their use or emission. That is, the Marginal Opportunity Costs, which include the environmental costs, should be reflected in these charges.

162. In response to fears that charging the Marginal Opportunity Cost for water would deny service to the poor, one can argue that the opposite would occur. Inadequate pricing limits the funds available to expand capacity, resulting in inferior water systems and thus, inferior service. Similarly, the raising of electricity rates will bring an infusion of funds for energy reform that will dwarf the amount of foreign aid available for the same purpose.

163. Focusing on individual projects is too narrow an approach to environmental protection. One must address the root problems, the macro-economic policies that encourage waste and pollution. Those responsible for environmental management must work to understand the basic reasons why ecological damage occurs in the first place. They must grasp the complex trade and fiscal policies underlying this degradation, and then take remedial measures. In other words, China needs an environmental impact assessment of its entire economic reform program.

c) The Role of Business in Environmental Protection

164. Mr. Shi Wanpeng, Vice-Chairman of the State Economic and Trade Commission, and Council Member, delivered an address in which the following areas were covered:

165. As China's economy develops, the country's pollution is worsening. Therefore, China must strengthen its environmental management and protection, improve legislation in this area, enforce the laws that already exist, readjust
irrational industrial loans, and at the same time provide economic incentives for enterprises to invest in environmental protection.

166. Above all, China must upgrade its technology. Old technologies, such as inefficient boilers, are the major causes of pollution. China must strengthen its research work to find appropriate, new technologies.

167. China must ensure that adequate resources are allocated toward environmental protection. In the current climate of economic reform, funds tend to be directed first toward development projects, and support for environmental protection is neglected.

Discussion

168. Technological leapfrogging is a complex matter that must be undertaken with prudence. For example, introducing unleaded gasoline requires adapting petroleum refineries, modifying auto engines, reorganizing distribution networks, and revising service activities. Clearly, leapfrogging must be approached from a systems point of view.

**d) Public Participation in Environmental Protection**

169. Prof. Yang Jike, Vice-Chair of the Environmental and Resources Protection Committee of the NPC, and Council Member, delivered a paper which made these points:

170. It is no exaggeration that the effect of active participation by the masses in environmental protection surpasses that of any law or administrative decree.

171. In the wake of UNCED and Agenda 21, a new irreversible flood tide of environmental protection is surging and will pervade every aspect of the globe from national governments, political parties, social organizations to private enterprises, families and individuals.

172. China in the past twenty years has made great efforts in encouraging public participation in environmental protection, the most successful example of which being the mass participation in afforestation. The Chinese Congress has called on its citizens to join in this project, and the Government has encouraged, with awards, those who have done excellent jobs.

Discussion

173. In Canada, it was found that public participation in environmental protection was essential in fostering a sense of public ownership of goals and programs. Here are some of the lessons learned from the Canadian experience:

1) Public participation must be informed. People must receive adequate information in a format that they can understand and use.

2) Participation must be inclusive. It must bring to the same table citizens, scientists, government and business. These people must have a chance to reconcile their differing viewpoints and to learn from one another.

-24-
3) Transparency of results is essential. At the end of the participation process, people must be told of the decisions taken.

4) Early involvement is crucial. If government first does all the preliminary work, and only then consults the people, it may well find it will have to go back and examine the whole issue from the start.

174. Introducing environmental studies into the school system can be frustrating. At the university level, for example, the issue is whether to establish a special course in the field, in which case it is seen as yet another element on a crowded curriculum, or whether it is to introduce environmental studies into existing courses, in which case one comes up against resistance from conservative academics defending their traditional disciplines.

175. There is a big difference between public awareness and formal education. Different approaches and different professionals are needed to handle each one. To foster awareness, an enormous amount of material is available from other countries that, with little adaptation, could be used in China to help the authorities get their environmental message across.

176. In Canada, provincial government authorities responsible for educational programming on television have developed interesting and effective tools for teaching the sciences -- videos, slides, printed materials -- that often incorporate environmental messages. The problem is disseminating these resources to the teachers who need them.

177. In Switzerland, the Worldwide Fund for Nature runs two schools that give courses and provide didactic materials to teachers on ways to integrate environmental awareness across the entire curriculum. Over 30% of the country's teachers are using these materials, starting at the lowest levels of the school system.

178. While it is heartening to see so much afforestation, and involving so much public participation, cautions need to be taken. Afforestation is happening on a massive scale, and if a mistake should be made, such as planting the wrong species, it will be costly to repair. Planted forests provide less effective ecological protection than natural forests, and some hillside that might eventually have evolved into natural forests have instead been planted. The tendency to form huge areas of mono-cultures is biodiversity-poor, and so rather than just planting more and more trees, thinking that trees must be good, attention should be paid to the quality and design of the forest that is being planted.

e) Cleaner Production and the Role of Business in Environmental Protection

179. Dr. John Jennings, Chairman and Managing Director, The Shell Transport and Trading Company, and Council Member, delivered a paper in which these points were made:

180. In the move towards sustainable development, one of the driving forces has been the realization that global environmental issues have needed to be addressed in an international, cooperative way. Climate change, waste minimization, acid rain, oil spills and nuclear energy are all issues that have led to international environmental conventions or agreements. They all have a profound impact on the
way industry and government have to cooperate -- particularly in the areas of technology transfer and economic policies.

181. Continuous improvement in environmental protection simply is good business: prevention pays, and is superior to end-of-pipe solutions. Any company's reputation is determined by its performance and by the communication of that performance. Good intentions are not enough: companies must be open and forthright about problems and responses.

182. Business provides commercial drive and innovation, and managerial, technical and financial resources to contribute to the resolution of environmental challenges. Society itself, though, must determine the balance of risk and benefit in environmentally-sensitive activities, based on sound science and cost-effective use of resources.

183. Legislators have the role of monitoring industry's behaviour, setting the rules and protecting the public good. In business, we have the responsibility to show the way, through improved operational practices and better technologies. In this way we hope to encourage regulators to move away from a technology-based prescriptive "command and control" approach, and more towards setting objectives and targets that can be attained cost-effectively.

Discussion

184. The Council ought to examine practices that foster the development of "stakeholder relationships" among business, government, and other interests. Examples of such practices are corporate reporting and conditionality of financing. In Canada, for example, a corporation cannot get financing unless it proves that its environmental performance is acceptable.

185. Elsewhere, awards for leading environmental performers in the business sector have proved to be good incentives. The Council should propose this idea for adoption in China.

186. Globalization of the world economy means that small enterprises will become more important, and we should extend our analysis to include them. We should favour international cooperation among the small enterprises of China and of other countries, and should promote mechanisms that will allow smaller businesses to enter readily into international joint ventures.

f) Study on Practical Measures to Integrate Economic Planning with Environmental Protection in China

187. Mr. Martin Lees, Council Member, reported on the progress made toward launching this project, which was endorsed at the 1993 meeting of the Council (Second Annual Meeting, Summary Record, Item 4.a). In the course of his report the following points were made:

188. In 1993, a conference on "The Respective Roles of Planning and the Market in a Market Economic System" was sponsored by the SFC. Its purpose was to explore how to reform the planning machinery of government in order to meet the needs of an increasingly decentralized and market-based economy. It was agreed that, in
this effort to adapt China's planning process, a study should be made of how environmental issues could be integrated into the process.

189. When the study proposal was described to the 1993 Council meeting, four aspects of the problem were identified: a) issues of concept, analytical technique and methodology; b) institutional questions relating to the definition of responsibilities, the formulation of policies, and the design of the planning process itself; c) the financial implications of the environmental dimensions of policy; and d) the relationship between planning and policy-making in the government sector, and other actors and partners, notably the private sector.

190. Contacts were made with funding sources in the European Community (EC) which granted agreement in principle. In April 1994, an EC mission led by Prof. Georgio Ruffolo visited China to clarify the objectives of the study. It was agreed that the SPC would act as the leading agency with the participation of the SSTC, NEPA, and other bodies, including the Ministry of Finance, which emerged because of the revenue opportunities arising from environmental taxation and fees.

191. In the view of at least one participant in this mission, in spite of many efforts, the short-term, near-term, and long-term plans for NEPA for environmental protection are not at the moment effectively integrated into national economic planning, and, as a consequence, the necessary resources for environmental protection are not always allocated as they might be.

192. The Chinese participants at this meeting expressed strong interest in learning from the experience of other countries in specific areas, such as the use of the price mechanism, the monitoring and enforcement of legislation, and the promotion of public participation.

193. The Chinese also pointed out that there is a disparity between the degree of environmental awareness at the central government level and in some provincial governments, and the degree of awareness at other provincial governments and at the level of local municipalities. The study has been asked to look at this question.

194. Although the study itself has not yet been designed, the EC has decided, on the basis of Prof. Ruffolo's report, to support the project in the amount of 400,000 ECU. Once funding is assumed, a small group of Chinese and foreign experts will convene to define the study more clearly. The Chinese side has already prepared a project outline.

g) Environmental Control in the Canadian Pulp and Paper Industry

195. Mr. Jim Wearing, Associate Director, Pulp and Paper Research Institute of Canada, presented an engineer's perspective on environmental control in a paper that highlighted the following implications for China:

196. China's pulp and paper industry should complete modifications needed to prevent the formation of chlorinated dioxins and furans. Then, environmental impact studies can determine how much reduction in dissolved and suspended wood material is needed to renew full, multiple use of receiving water systems. Unique problems remain when recovering liquor from non-wood pulping, and their solution should remain a priority. Focusing in this way on maximizing internal process improvements before resorting to effluent treatment will often
conserve energy and other resources, and contribute to modernization of production facilities.

**h) The City of Kitakyushu’s Proposals for China’s Agenda 21**

197. Mr. Koichi Sueyoshi, Mayor of the city of Kitakyushu, Japan, presented a talk and slide-show that made several proposals:

1) that the city of Kitakyushu provide the site and faculty for a facility where engineers from China and Japan can conduct research and training in anti-pollution technology;

2) that China send to Kitakyushu engineers to research the clean production technologies, such as those reducing sulphur oxides and nitrogen oxides, that are currently being developed in the city;

3) that China take increasing advantage of the Kitakyushu resource, the International Centre for the Study of East Asian Development;

4) that China, when promoting women’s participation in sustainable development and in forming an information network, make efficient use of the Kitakyushu Forum on Asian Women;

5) that the Technical Exchange Centre in Dalian, China, continue to carry out exchanges of factory managers and technical specialists with Kitakyushu.

**General Discussion**

198. China’s biggest environmental problem is population. The Council has hardly discussed this issue, partly because the Chinese have already taken the lead in tackling the problem. Nonetheless, at the Council’s next meeting the Chinese participants should be invited to present a paper on population and development, since this issue is of such vital importance to environmental protection.

199. In order to stabilize China’s population in 30 to 40 years, at somewhere between 1.5 and 1.6 billion people, each couple should bear on average 2.1 children. Currently, the fertility rate is just below this figure at 2.05. Further declines in the rate are expected, so the Chinese Government is optimistic about stabilizing the population within a few decades.

200. Linkages must be maintained between units and departments in the Chinese Government and conferences that are tackling the same subjects. Likewise, it is important to connect the Council with the environmental conference to be held in China next year. Too much work needs to be done to allow wasteful duplication.

201. Beware of presenting definitive and unique solutions to environmental problems. We want competition in the system. There may be different positive solutions, and we need to apply several of them and then see what happens in the free play of market forces.
ITEM 9. REPORT ON COUNCIL BUDGET AND FINANCE

202. Mr. Xie Zhenhua, Secretary General of the Council, reported on the financial situation of the Council.

203. In 1992, US $720,000 was disbursed, mainly to cover startup costs.

204. In 1993, $1,031,000 funded a normal program including considerable Working Group activity. This money was donated by China, Canada, the United Kingdom, Japan, and the Ford Foundation, among others. These contributions are highly appreciated.

205. During 1994 the Council anticipates the same spending pattern as in 1993. The budget is $1,406,000, including new contributions committed from current and new donors.

206. In light of the projected budgets for 1995 and 1996, the Council can maintain all the existing Working Groups and also sponsor the creation of one new Group for 1995 and 1996.

ITEM 10. DISCUSSION AND ADOPTION OF RECOMMENDATIONS

207. With State Councillor Song Jian presiding as chair, the Council endorsed specific recommendations for presentation to leaders of the Chinese Government. The text of these recommendations constitutes section III of this report. During the discussion of the draft, the following points were made:

208. The Agenda 21 White Paper raised many questions about transportation and communications. The Council cannot propose specific solutions, but its recommendations should urge that the Chinese Government address these issues.

209. The recommendations ought to give special attention to water, and should call for efforts aimed at its conservation and management and the prevention of its pollution.

210. Since the Council’s discussions on pollution control were concerned with measurements of environmental quality not just in the present but also in the future, the recommendations should call for a database that includes provision for projections.

211. Considering the large number of specific actions needed to reach Agenda 21 goals, the recommendations should insist on the need to develop priorities among them.

212. The extra costs of advanced environmental management technologies place a burden upon economically marginal projects. They risk aggravating a fundamental clash between those who argue for fiscal versus those who argue for environmental responsibility. This concern should be addressed in the recommendations.
ITEM 11. CLOSING CEREMONY

213. Concluding remarks were made by:

   1. Council Chair Song Jian
   2. Vice-Chair Huguette Labelle
   3. Vice-Chair Qu Geping
   4. Vice-Chair Gu Ming
   5. Sir Shridath Ramphal, former Secretary General of the Commonwealth, and Council Member

214. The following comments were made:

215. During the Third Annual Meeting, several unresolved questions have been dealt with in a substantive way: the coordination of Working Group activity, the voicing of a sense of urgency in arriving at practical recommendations, and the highlighting of horizontal issues such as public awareness, education, research and training.

216. Based on the understanding that the Canadian Government will support it, the Bureau has authorized the Secretariat to set up a Working Group on Environment and Trade.

217. Since UNCED, the sustainable development model has gradually been accepted by the international community. The Chinese Government has taken the lead in drafting China's Agenda 21 and action plans to implement the conventions concerned. These activities express the Chinese Government's attitude towards sustainable development, and demonstrate that it is serious and responsible in its promise to the international community.

218. China has gradually been expanding ways to promote the participation of social organizations and individuals in environment and development activities. Respect and protection for the right of public participation has become a basic principle when it makes environmental protection laws. China will continuously promote public participation in this field and try to make it a basic moral standard and code for behaviour for all people and organizations.

219. The Council is a fine example of a non-intergovernmental cooperative program. It is actually a part of civil society, but because of the close links of its Members with governments, it has the capacity to help China advance its goals in special ways that may exceed what would be possible in an intergovernmental process.

220. At the opening of the Third Annual Meeting, Vice-Premier Qian Qichen spoke of the new global partnership promised at the UNCED. He reminded the Council that this partnership implies obligations by others under the concept of "common but differentiated responsibilities". International Members of the Council must use their best endeavours to help broker that partnership.
221. When a China of 1.2 billion people increases its GNP nearly three-fold over 15 years, it is not just China that is changing, but the world.

III. RECOMMENDATIONS TO THE CHINESE GOVERNMENT

222. The Council is impressed by the progress made by China in the field of environment and development since its Second Meeting in Hangzhou in May 1993. It is most grateful to the Secretary General, Mr. Xie Zhenhua, for his report on the subject. It particularly commends the Government's White Paper -- China's Agenda 21 -- on China's Population, Environment and Development in the 21st Century. Its implementation will form part of an effort by the world community as a whole.

223. The Council continues to believe that protection of the environment and promotion of development are complementary. It lays emphasis on the need for greater public understanding of the principal issues and for fuller public participation in activities related to them. There is no higher priority than public education and capacity-building. The Council recognizes the importance of environmental considerations in sustainable development, and their central place in all decisions affecting the economy. It particularly welcomes the three-year plan to improve relevant legislation and its enforcement. In the words of Vice-Premier Qian Qichen in his opening address to the Council, China "must not repeat the old pattern of pollution first and environmental control second".

224. The Council heard reports from its six Working Groups and commends their broad conclusions. On this basis and in the light of debate at the Council, it wishes to make the following specific recommendations. The list is not exclusive. In the future particular attention should be paid to the problems of transportation and water.

1. As always energy is critical to China's development. Present dependence on coal remains a prime cause of pollution and could have global consequences. It is necessary:

- to improve energy saving, conservation and distribution; diversify China's energy sources; and develop alternative technologies, especially cleaner coal and greater end-use efficiency. Full use should be made of demonstration projects;

- to promote competition in clean technologies in the areas of, for example, steel making, commercial buildings, fuel cell powered buses, coal and biomass gasification, and co-generation in the sugar cane industry;

- to ensure that policy on energy and the environment are fully integrated;

- to join in the international effort required to give effect to the Framework Convention on Climate Change.
2. The continued destruction of biodiversity in China is doing major damage to the economy and is likely to get worse. In giving effect to the Government's Biodiversity Action Plan, it is necessary:

- fully to enforce existing legislation to protect existing protected areas and to extend them where possible;

- to cooperate still more closely with neighbouring countries to prevent trade in endangered species;

- to develop a coordinated biodiversity monitoring program;

- to undertake a major educational campaign on the importance of biodiversity;

- to work with local communities to restore degraded land and habitats.

3. Control of pollution requires detailed knowledge which can only be gained through rigorous monitoring. It must form part of integrated environmental policy planning which in turn must form part of economic planning as a whole. It is necessary:

- to put sufficient resources into monitoring;

- to establish a sound database on environmental quality with projections for the future;

- to focus on clean technologies and clean production methods;

- to ensure better coordination between local, provincial and national authorities with a staff training program;

- to make more and better use of such policy instruments as licenses, levies, fees, incentives and disincentives;

- to set priorities for action in meeting the specific goals in the area identified in China's Agenda 21 report;

- to draw upon the experience and up-to-date technologies of industrial countries while recognizing cost factors, with the aim of reducing further damage to the environment.

4. Better accounting for resources and measures to ensure the inclusion of environmental considerations in costing and pricing require a new theoretical as well as practical approach. It is necessary:

- to elaborate the theoretical aspects;

- in the meantime to increase charges on pollution and develop use of economic and fiscal instruments;

- to introduce environmental impact assessments more widely on existing as well as new projects;
- gradually to reform prices on such vital natural resources as water, timber and coal, and to remove inappropriate subsidies;

- to pursue the practical implications of price reform in such areas as energy and transport;

- to examine the role of the environment in international trade.

225. The good health of the environment in a country as large and populous as China is the good health of the world as a whole. In dealing with global environmental problems, the particular responsibility of the industrial countries in clear. But all countries, including China, are vulnerable to environmental change and international cooperation is essential. With its special importance, China can give leadership, as it has done over Agenda 21, in taking action on the linked problems of environment and development.

IV. MEETING WITH MR. LI RUIHUAN

226. Following the Third Annual Meeting of the Council, participants travelled to the Great Hall of the People and met with Mr. Li Ruihuan, Chairman of the National People's Political Consultative Conference and Member of the Standing Committee of the Political Bureau of the Central Committee of the Communist Party of China.

a) Presentations by Members of the Council

227. During opening remarks, Council Vice-Chair Huguette Labelle made the following points:

228. We find this to be a fitting end to the Council conference -- we are meeting with a friend of the environment.

229. The Members of the Council wish to restate the importance of the relationship between environment and development. The two must go hand in hand. It is easier to worry about the environment at the start than at the end: many countries make the opposite mistake. As it carries out its great transition, China should worry about the environment first.

230. While the Council's Working Groups offer numerous recommendations, they draw to the attention of the Chinese Government the fact that they place at the top of the list public awareness and education.

231. Mme. Labelle then introduced the following Council Members who presented the recommendations of the Third Annual Meeting:

1. Dr. John Jennings, Chairman and Managing Director, The Shell Transport and Trading Company, United Kingdom

2. Ms. Julia Marton-Lefèvre, Executive Director, International Council of Scientific Unions, France
3. H.E. Mr. Kazuo Aichi, Member of the House of Representatives, and former Minister of Environment, Japan

232. During the course of their presentations of the formal recommendations (section III of this report) to Mr. Li Ruihuan, the following additional comments were recorded:

233. Inevitably, coal will remain China's energy mainstay. Equally inevitably, coal will be a big atmospheric polluter. The manner in which China uses coal, especially for electricity generation, is a matter of great importance. One Council member recommended a concentrated effort to develop clean, low-cost coal and oil gasification. He added that since China has such a small oil base, it will have to increase its oil imports, and should stimulate oil exploration or re-exploration efforts.

234. Natural gas is currently under-utilized, and China might consider the importation of liquefied natural gas, a measure which may be economically justified.

235. Concerning energy research, the Council recommends that China: a) find ways to reduce the cost of environmentally-friendly technologies; b) aim for improvements across the energy chain, from production to end uses; and c) look for new forms and sources of renewable energy.

236. The Council stresses the need for good scientific research as the backbone of technological development. Without sound science, there is no sound application.

237. The needs of the economy and the needs of the environment are not mutually exclusive. A sound integration of the two policy planning processes will give China an optimal level of stable growth rates.

b) Response by Mr. Li Ruihuan

238. I am grateful for your sincere recommendations which are meant to help the Chinese people. As an ordinary official I attach great importance to your ideas and your advice. China values the Council and hopes to make a serious study of your suggestions.

239. Since China's economy has been growing so fast, and the size was big to begin with, and our development started so late, we fear that if we ignore environmental concerns we will wind up with a lot of problems, which in our closely interrelated society will only aggravate one another.

240. Environmental protection relates in different ways to economic interests. We aim to realize future, holistic benefits. For instance, factory builders would seldom consider the long-term interest of others, but they should understand that if money is spent, at the start, on installing an environmental protection facility, that money will come back to them later.

241. Natural gas is good for urban residential use. One pipe can provide energy for many households. But many ministries of the Chinese Government believe that the first priority for natural gas should be to produce chemicals and fertilizers and
such products. In some cities, all the gas goes to factories, and meanwhile the ordinary people continue to burn coal.

242. International cooperation is essential to meet our environmental challenges. Every country has some kind of environmental problem, and each of these problems affects others. We all live on the same planet, breathe the same atmosphere. For example, acid rain from China falls on Japan, and in fact the Japanese have spent money to help China deal with this issue. We should continue to combine our efforts to find solutions to global pollution.

-35-