a. Results of the planned activities

General
From May 30th through June 3rd, 2005, the Chinese Government Delegation – comprising Mr. Zhu Guangqing, (Deputy Chief of Biosafety Office under the State Environmental Protection Administration (SEPA) and the National Coordinator of the UNEP/GEF Project on the Implementation of the National Biosafety Framework of China), Dr. Zhang Jianzhi, (contact person of the project) and two project experts Prof. Xue Dayuan and Dr. Yu Wenzuan - attended the second Meeting of Parties of the Cartagena Protocol on Biosafety held in Canada. Dr. Zhang Jianzhi presented some of the progress highlights and future work plan of the project, during the side event hosted by UNEP-GEF on 1 June 2005.

Policy
The working group led by Prof. Xue Dayuan from Nanjing Institute of Environmental Sciences, SEPA made further changes to the Policy Research Report submitted in the 3rd quarter of 2004. The completed policy included suggestions for a national biosafety management system and related institutional arrangements, labelling, public participation, and transboundary movement of LMOs, etc. for adoption by the Chinese Government.

1. National biosafety management system and institutional arrangements

The experts put forward the following suggestions:

1. As biosafety management involves multiple fields and numerous departments, it is necessary to establish a national-level management system combining comprehensive supervision and professional management. The management system includes the following characteristics: structurally, it is divided into two levels, namely 1) integrated coordination departments and 2) departments in charge of various professional fields. Functionally, various departments practise a system of work division: where the leading department takes charge of the overall biosafety strategy and policy as well as the comprehensive supervision management at national-level. At the same time, the various departments in charge of the corresponding industries are responsible for the strategy and policy and supervision management of transgenic organisms in the industry and field under guidance of the nationally unified strategy and policy.

2. At the level of comprehensive management, it is necessary to establish a National Biosafety Coordination Committee.

3. At the level of state, ministry and region and between state and region, it is necessary to establish a coordination mechanism. Additionally, a consultation mechanism and supervision mechanism must be established between the government and stakeholders. The government should extensively seek opinions from stakeholders when making important decisions on the environmental release and commercial production of transgenic organisms.

The biosafety management system should cover the administrative management, scientific and technical consultation and technical support systems. The working group has put forward an arrangement for an administrative management agency, scientific advisory body and a technical support system.

China will become a contracting party of the Cartagena Protocol on Biosafety on Sep. 6th, 2005. The Protocol requires each contracting party to designate a national focal point and national competent
authorities and establish a National Biosafety Clearing-House. The working group put forward suggestions for the designation of national focal point, national competent authorities and the setting up of a National Biosafety Clearing-House, which will be important reference for China to establish the mechanism for implementing the Protocol.

2. Labelling

The working group analysed the latest labelling and traceability systems of the European Union and the labelling systems of Algeria, Australia, New Zealand, Switzerland, Poland, Brazil, USA, Israel, Saudi Arabia, Indonesia, Sri Lanka, Korea, and Japan, etc. and further demonstrated the quantitative labelling system and threshold value suggested by this project to the Chinese Government. Simultaneously, it analysed the standpoints of some countries on shipping documentation requirements for bulk shipments of LMOs, intended for food, feed and for processing.

3. Public participation

The working group analysed the requirements and practices of international environmental laws and regulations on public participation, evaluated the present situation, problem and demands of public participation on environmental protection in China, and put forward a mechanism for promoting biosafety public participation in China.

4. Transboundary movement management

The working group analysed the requirements of the Protocol and WTO rules on transboundary movement management of LMOs, the procedure and scope of application of transboundary movement management of LMOs, and the responsibilities of related ministries in the management of transboundary movement of LMOs in China. Comment: In addition to their analysis, what were the recommendations of the Working Group?

Regulatory regime

The working group led by Prof. Wang Canfa from China University of Political Science and Law submitted the Transgenic Biosafety Law of P. R. China (draft) to the Biosafety Office under SEPA in April 2005. The Biosafety Office requested nine experts to provide comments on the Transgenic Biosafety Law (draft). Based on the comments received the working group further modified and completed the draft legislation.

The working group led by Prof. Wang Canfa finished the preliminary Transgenic Biosafety Legislation Verification Report, which fully absorbs opinions and suggestions coming from organizations, agencies and experts and the information obtained at the 2nd Meeting of Parties of the Cartagena Protocol on Biosafety. The latest progress of domestic and international biosafety legislation practice and research was brought into the verification report of Domestic Transgenic Biosafety Legislation Study, according to the newly collected data.

The legislation group will further revise and complete the verification report and legislation text. The Transgenic Biosafety Law (Version V) and the Verification Report on Transgenic Biosafety Legislation Study will be revised before the end of August and submitted to the Biosafety Office under SEPA.

Systems to Handle Requests

Experts further modified the case study reports on risk assessment and risk management of LMOs in this quarter and have basically finished these case studies. Due to the scarcity of case studies on transgenic animals and microbes, Dr. Liu Biao from Nanjing Institute of Environmental Sciences, SEPA organized the following experts to develop new case studies:

(1) Case Study Report on Risk Assessment and Risk Management of Growth-enhanced Transgenic Carp, by Prof. Liang Liqun from Heilongjiang River Fisheries Research Institute of Chinese Academy of Fishery Sciences.

(2) Case Study Report on Risk Assessment and Risk Management of Recombinant Virus- vaccine (Live Carrier Vaccinum of Transgenic ss/Hbs Vaccinia Virus) That Can Promote Growth, Comment: Please confirm the accuracy of this statement by Prof. Du Nianxing from Animal Medical College of Nanjing University of Agriculture.
(3) Case Study Report on Risk Assessment and Risk Management of recombinant bacteria (K88 and K99 Transgenic *Escherichia coli* for controlling pigling’s Yellow Dilute Diarrhoea), by Prof. Zhou Zhiai from Farming Veterinary Institute of Shanghai Academy of Agricultural Sciences.

In this quarter, the working group led by Dr. Liu Biao developed the first draft of the Technical Guideline on Risk Assessment and Risk Management of Transgenic Plants, which encompasses:

1. **An Assessment and management of the escape of transgenes and their ecological risks**
   2. The object? Comment: *Is it really ‘object’ or is it ‘likelihood and consequences’?* of transgene escape and its possible consequences. The likely targets of outcrossing with foreign transgene include cultivated plants cultivars, and wild relatives including weeds.
   3. The means of transgene escape, including pollen flow, seed dispersal, and movement of vegetative organ.
   4. Factors possibly causing transgene escape and bringing environmental risks, including the factors causing intraspecific and interspecific gene flow, the factors affecting transgene escape and causing ecological consequences, the factors for transgenic plant to form weed population in natural habitat, the factors causing transgenic plant to become weed, the factors for transgene to store and disperse in natural habitat via interspecific hybrid, survival and dispersal of transgene and the factors causing potential agricultural and ecological consequences, possible impacts of transgene flow on biodiversity of local breeds, impacts of escape of transgenic plant towards wild relatives on the biological characteristics of wild relatives, and impacts of transgene flow towards wild relatives on non-target organisms and its biodiversity. Several assessment parameters were designed corresponding to each factor.
   5. Pollen-mediated gene escape of transgene towards wild relatives and assessment method for transgene expression in wild relatives.
Flow for assessment of escape of transgene towards wild relatives and its expression in wild relatives and ecological consequences:

Classification of target transgenic plants and understanding on its systematics background

Investigation on the geographic distribution of transgenic plants and their wild relatives

Evaluation of escape of transgene towards wild relatives can be terminated if there is no distribution of wild relatives

To understand the blooming habit of transgenic plants and wild relatives

Evaluation of escape of transgene towards wild relatives can be terminated if the florescence of cultivated plant and wild relatives can’t meet

To understand the genetic relationship between transgenic plant and its wild relatives

Can help understand the maximum pollen flow distance of transgenic plant

Evaluation of escape of transgene towards wild relatives can be terminated if the genetic relationship between cultivated plant and its wild relatives is very distant

Pollen flow test of transgenic plant (anamophily)

Evaluation on gene flow between transgenic plant and its wild relatives

Evaluation of escape of transgene towards wild relatives can be terminated if there is no gene flow or only extremely low frequency of gene flow between cultivated plant and its wild relatives

Detection and analysis on expression amount of exogenic transgene in wild relatives

Evaluation of ecological consequences for escape of transgene towards wild relatives can be terminated if exogenic transgene can’t be expressed normally in wild relatives

Analysis on ecological fitness of the wild relatives carrying exogenic transgene

This step of evaluation is not included in this report
The assessment of escape of transgene towards wild relatives and its ecological consequences should be conducted step by step. The results of each step of assessment and research will influence on whether or not to continue the implementation and assessment of next step work. This report described the research objectives, principles, equipment and materials, methods, and data and report of each step of the assessment.

2. Risk assessment and risk management on environmental invasion (possibility of becoming weed) of transgenic plants with resistance against herbicide or pests

The methods for detecting the survival, competitive advantage, increased fitness, changes in breeding capacities of transgenic plants, the possibility for evolvement of transgenic crops into autogeneous seedling, the anti-adversity capacity of transgenic plants, and persistence (dormancy) (Comment: plants to do hibernate, only animals do) of transgenic plant seed will be addressed by the test design, cultivation management, investigation and record, and result analysis, etc.

3. Assessment on non-target effects of transgenic plants with pest resistance

(1) Procedures for assessment on non-target effects of transgenic plants engineered for pest resistance:

To determine the non-target organisms that should be evaluated through investigation and research (species selection); to evaluate the impacts of transgenic plants on specific non-target organisms through worst case scenario in laboratory; to test in greenhouse or small-scaled field under control condition so as to evaluate the impacts of transgenic plants on specific non-target organisms; and to test in open field so as to evaluate the impacts of transgenic plants on specific non-target organisms.

(2) Contents and methods for assessment on non-target effects of transgenic plants engineered for pest resistance:

Step 1, to select and determine the non-target organisms that should be evaluated;

Step 2, to evaluate the impacts of transgenic plants on specific non-target organisms in laboratory, including test system, test method, and test terminals (end points) or indices;

Step 3, to test the impacts of transgenic plants on non-target organisms at population level under contained condition;

Step 4, to make full-scale field test in natural environments.

Additionally, test guidelines on toxicity of transgenic plants engineered for pest resistance on beneficial insects such as domestic silkworm, bee, and earthworm were put forward.

4. Technical plan for evaluating the resistance of cotton bollworm to transgenic Bt cotton

Methods to test the probability of resistance and resistance evolution of cotton bollworm to transgenic Bt cotton, monitor the resistance and to detect the consequences of the resistance were developed and the measures for controlling the risk arising from resistance of cotton bollworm to transgenic Bt cotton were put forward, from the aspects such as test material, test insect, test condition, test method, and result analysis, etc.

The first draft of the Technical Guideline on Risk Assessment and Risk Management of Transgenic Plants was about 60,000 characters, which will be further revised in the 3rd quarter.

Monitoring and enforcement

1. Risk assessment and environmental monitoring of transgenic cotton with pest resistance

(1) Assessment and monitoring on impacts of transgenic cotton with pest resistance on soil microbe

Dr. Liu Biao from Nanjing Institute of Environmental Sciences, SEPA, cooperated with Cotton Institute of Chinese Academy of Agricultural Sciences in Anyang, Henan, to evaluate and monitor the impacts of transgenic cotton with pest resistance on soil microbe. They selected different plots that were planted with transgenic cotton and conventional cotton separately, in the Cotton Institute of Chinese Academy of Agricultural Sciences. Stalks were returned to farmland after harvest in all these plots. One of these plots was planted with conventional cotton for seven years in succession, one plot each was respectively planted with transgenic cotton for one year, four years and seven years. Sampling was carried out from three points in each plot and three soil samples (1-10cm below earth’s surface)
collected from each point. The soil samples collected on Jul. 10th and Dec. 10th in 2004 were analysed in this quarter with the detection method showed in Progress Report in the 3rd Quarter of 2004.

The primary test indicated that: the quantities of fungi, bacteria and actinomycetes in soil of different cotton plots differ remarkably in July; the quantities of fungi, bacteria and actinomycetes in soil of different cotton plots change to a certain extent in December; the time interval for planting transgenic cotton has great impacts on the quantity of soil microbe in cotton plots in July and December. Comment: Is this related to the low temperature in Dec. rather than the time of planting?; the metabolic diversity of soil microbe in the four cotton plots has no remarkable difference in July and December.

(2) Assessment and monitoring on impacts of transgenic cotton with pest resistance on the structure and species diversity of arthropod community in farmland ecosystems

The work below concerning transgenic cotton was done by Prof. Wu Kongming from Plant Protection Research Institute of Chinese Academy of Agricultural Sciences. The emphasis of the work from Section (2) through Section (5) was to summarize the previous tests.

The method of field system investigation in combination with engine-driven worm sucker sampling was employed to regularly investigate arthropod species and dynamics, and study the impacts of transgenic cotton on arthropod’s community diversity, dominant species and the succession of dominant insect species in transgenic cotton and conventional cotton. The results indicated that, transgenic cotton enhances remarkably the arthropod’s community diversity in cotton field ecosystem at the middle and late stages, because of reduction in pesticide use for controlling cotton bollworm, which is advantageous to ecosystem stability and comprehensive control of pests. A series of studies on the growth and development of domestic silkworm and tussah were made with pollens of transgenic Cry1Ac cotton and transgenic Cry1A+CpTI cotton, in combination with test of sediment quantity of pollen flow. These tests indicated that, the pollen flow of transgenic cotton has no remarkable impacts on the growth and development of domestic silkworm and tussah. The levels of Cry1Ac protein in the rhizosphere soil of the cotton plants in Bt cotton fields in Henan, Jiangsu, Hubei and Shandong were tested with ELISA reagent kit. The results showed that all tested soil samples have Cry1Ac protein level lower than 1 ng/g. Comment: This is a very interesting finding and should be documented more comprehensively in a peer-reviewed journal, when more data is collected!

(3) Assessment and monitoring on the control effect of Bt cotton on lepidoptera pests such as cotton bollworm, etc. and the impacts of Bt cotton on dynamics of non-target pest population and natural enemy insect population

Typical Bt cotton field without chemical spray, conventional cotton field with chemical spray and conventional cotton field without chemical spray were selected to investigate the dynamics of insect population, analyse the control effect of Bt cotton on lepidoptera pests such as cotton bollworm, etc. and the impacts of Bt cotton on dynamics of non-target pest population and natural enemy insect population, and investigate the species and population of predatory natural enemy and biophilous natural enemy in transgenic cotton fields. These tests indicated that, Lygocoris species have become dominant pest species in cotton fields of North China, and tobacco cutworm (Spodoptera litura) has become important pest in Bt cotton fields in Yangtze River Basin.

(4) Monitoring on resistance of cotton bollworm against Bt cotton

The proportion of cotton bollworm population with resistance of Cry1Ac protein in main Bt cotton fields was detected with metrical diagnostics and F1/F2 ancestry analysis method. The results indicated that, since 1997, the resistance frequency of cotton bollworm in Bt cotton plantation regions has no remarkable change and still remains at a sensitive level.

(5) Assessment on natural refuge of cotton bollworm and technology for resistance management of Bt cotton

The role of natural refuge of cotton bollworm in Bt cotton plantation regions and the risk of resistance build-up in cotton bollworm under three main planting modes in North China were systematically evaluated, according to the planting characteristics of crops there. The planting mode of wheat-cotton + corn is of relatively high risk because of lack of refuge for the second and third generation of cotton bollworm; the planting mode of wheat-cotton + soybean (peanut) is of relatively medium risk because soybean (peanut) becomes weak refuge for the fourth generation of cotton bollworm; the planting mode of wheat-cotton + soybean (peanut) + corn is of relatively low risk because soybean and peanut can
provide refuge for the second and third generation of cotton bollworm and corn can provide refuge for the fourth generation of cotton bollworm.

The following measures were put forward to delay resistance of cotton bollworm according to above-mentioned results:

1) To use the planting mode of wheat-cotton + soybean (peanut) + corn together or in succession;
2) To plant the cotton breeds with relatively high resistance against cotton bollworm to realize relatively high-dosage control and reduce the survival of heterozygote;
3) To arrange reasonable plantation of Bt cotton and avoid planting single crop of transgenic Bt cotton in a big area;
4) To use chemical pesticide reasonably and reduce the quantity of larva remaining in Bt cotton field;
5) To perish the hibernation podothece Please explain further! of cotton bollworm in Bt cotton field in combination with the agricultural measures such as winter ploughing and winter irrigation, etc.

(6) Work under way in 2005

1) Detection of resistance gene frequency of cotton bollworm against Bt cotton under different crop planting regimes

The gene resistance frequency of cotton bollworm against Bt cotton under different planting regimes or pattern is being studied and defined, with F1/F2 ancestry analysis method and molecular e detection method for resistant individuals.

2) Resistance evolution model of cotton bollworm against Bt cotton under different crop ecosystems

Models for crop ecosystem, cotton bollworm biological system and Bt cotton resistance frequency will be developed to quantitatively evaluate the degree of impacts of factors on the resistance development.

2. Risk assessment on transgenic rice

(1) Rice pollen flow test

The spatial pattern of pollen flow (volume of pollen within a ) of conventional rice breed Minghui-63 and other rice breeds was tested under natural condition. The test indicated that, under wind speed of 10 m/s, the distance of pollen flow of Minghui-63 was 35 m. Regression analysis showed that the biggest distance of pollen flow of the breed is 110m. The test further indicated that, the volume of pollen of Minghui-63 is highest at a distance of between 1.5-2 m above ground.

The pollen flow tests of other rice breeds and wild rice (Oryza rufipogon) further indicated that, the distance of pollen flow of different rice varieties and wild rice may possibly exceed 110m.

Additionally, a change of pollen viability with time was detected for Minghui-63 and wild rice under natural condition, with culture medium method. The pollen viability of Minghui-63 which is above 85% when the pollen is discharged, declines to 50% after 6 min, and is further reduced to near zero after 30 min. The pollen viability of wild rice, on the other hand, is about 60% when the pollen is dispelled, but this is reduced to below 50% after 10 min, and finally to nearly zero between 60-70 min. after the pollen is discharged.

The above-mentioned test indicated that, for both cultivated rice and wild rice depending on wind pollination, the pollen grain can travel for a certain distance (>100m) and survive for a very long time (>30min) in the air.

(2) Gene flow test

1) Test of gene flow between cultivated rice

The gene flow between conventional hybrid rice (Shanyou-63) and high-quality farmhouse rice (Huangkenuo) was tested with molecule marker (SSR). The analysis and test with abundant seeds indicated that, in close distance (20-50cm), there is very big variance in gene flow frequency between different rice breeds.
The gene flow test was conducted for three transgenic (Bt/CpTI) rice breeds, namely KeFeng6 (restoring line), IIYouKeFeng6 (hybrid rice) and 21SKeFeng6 (hybrid rice) and their non-transgenic parent breeds in Fuzhou, Fujian Province, and Sanya, Hainan Province, with rice foreign gene (antihomomycin) as marker. Four sets of close-distance (20cm) gene flow tests were designed for these three transgenic rice breeds and non-transgenic rice breeds and more than 600,000 seed grains were tested in these two different test fields. It was found that the frequency of plant with resistance against homomycin in non-transgenic rice breed was 0.046-0.832%.

2) Test of gene flow between cultivated rice and wild rice

Both cultivated rice and perennial ordinary wild rice share overlapping distribution space and have synchronous flowering in many countries and regions in Asia. They have very close genetic relationship. Therefore, these two species can happen introgress and hybridise easily under natural conditions. To obtain data of gene flow between perennial ordinary wild rice and cultivated rice, gene flow test between cultivated rice variety Minghui-63 and perennial ordinary wild rice was designed under control condition, so as to identify the biggest possibility of gene flow between perennial ordinary wild rice and cultivated rice under natural condition. Four sets of test were designed, namely, wild rice surrounding cultivated rice, cultivated rice surrounding wild rice, alternate planting of cultivated rice and wild rice, and downwind test with cultivated rice as pollen source. The pollen flow and gene flow of 12 different test populations were studied. The outbreeding ratio between perennial ordinary wild rice and cultivated rice Minghui-63 was detected using micro-satellite (SSR) as molecule marker. The tests indicated that, in natural environment, the gene flow frequency of Minghui-63 to perennial ordinary wild rice is between 2-3%. This result indicated that there is substantial gene flow between perennial ordinary wild rice and cultivated rice that are extensively distributed in Asia.

3) Test of gene flow between cultivated rice and weed rice

As a weed in rice field, weedy rice is a bane to rice cultivation and is found in rice fields all over the world. To understand the level of gene flow between cultivated rice and weedy rice, a transgenic rice variety with resistance against herbicide (Nam29/TR18) and several different kinds of weedy rice collected from all over the world, were used to imitate the growth of weedy rice in rice field. Weedy rice was planted in the field of the transgenic rice to analyse the frequency of gene flow from transgenic rice to weedy rice. Anti-herbicide detection was used. The collected weedy rice seeds were bourgeoned and sprayed with herbicide. The frequency of transgene flow to different kinds of weedy rice changes greatly, with an average 0.5%. This frequency was validated by molecule marker analysis for weedy rice with resistance against herbicide. This test indicated that gene flow of transgenic rice to weedy rice happens at certain frequency within one generation; and if several generations of weedy rice and transgenic rice grow in the same rice field simultaneously, the quantity of genes flowing to weedy rice could potentially be a problem.

The above-mentioned tests indicated that, pollen-mediated gene flow between rice crops is very low. Therefore, the possibility of transgenic rice variety contamination on conventional rice is very low. It also demonstrated that by spatial isolation, this flow frequency will be even lower. However, the frequency of gene flow between cultivated rice and wild rice, and between cultivated crop and weedy rice is very high and will accumulate after many generations of introgression and hybridisation. This could cause potential problems in biodiversity conservation, and other socio-economic problems eventually.

(3) Test of cost-benefit fitness between transgenic rice and conventional rice

To ascertain whether the escape of transgene to wild relatives of rice (including weedy rice) can result in negative ecological consequences, three different transgenic rice varieties (Bt, CpTI and Bt/CpTI) and their non-transgenic parents were selected for cost-benefit fitness analysis. The benefit brought by transgene for rice breeds under worm pressure, and that without worm pressure were compared with their non-transgenic parents used as control. The test indicated that, under worm pressure, each of these three transgenic rice varieties (Bt, CpTI and Bt/CpTI) shows various benefits for pest resistance, i.e., transgene will reduce rice yield loss due to pest damage. However, when there is no worm pressure, stacked transgenic rice harbouring Bt/CpTI will incur extra cost owing to the use of proprietary genetic material. Since the transgenic Bt does not provide an advantage when there is no worm pressure, there is no clear financial benefit for its use under this condition.

The above-mentioned risk assessment on transgenic rice was mainly to summarize the previous test work, which was finished by the group led by Prof. Lu Baorong from Fudan University.
(4) Test work under way in 2005

1) Test of distance attenuation effect of transgene flow frequency between transgenic rice and conventional rice

To identify the reduction of transgene escape frequency with the increase of isolation distance between transgenic crop and non-transgenic crop, Bt/CpTI transgenic rice and its non-transgenic patent rice are used for transgene flow analysis.

2) Expression of foreign transgenic (Bt) in wild rice

To study whether the foreign transgene escaping to wild rice can express normally and have ecological consequences, ELISA method is used to analyse the amount of transgene expression of F₁ and F₂, the hybrids between transgenic Bt rice and wild rice, with transgenic Bt rice as the control.

3) Hybridization between transgenic rice and wild rice/weedy rice and analysis of invasion of transgenic wild rice/weedy rice

4) Risk assessment on resistance of rice bollworm (Chilo suppressalis Walker, Cnaphalocrocis medinalis Guenee, Tryporyza incertulas Walker and Sesamia inferens Walker) against Bt rice

Establish the sensitive baseline of rice bollworm vs. Bt protein and detect the initial resistance gene level of field population of rice bollworm (Chilo suppressalis Walker, Cnaphalocrocis medinalis Guenee, Tryporyza incertulas Walker and Sesamia inferens Walker). Study high dosage/refuge strategy and suggest the optimum proportion for isolated planting between Bt rice and non-Bt rice.

4. Risk assessment of transgenic soybean with resistance against herbicide

Prof. Wang Changyong and Ms. Liu Yan from Nanjing Institute of Environmental Sciences, SEPA are monitoring gene flow of transgenic soybean with resistance against herbicide according to the work plan. It is anticipated that there will be good results in the 3rd quarter.

5. Key laboratory equipments

The equipments for transgenic biosafety assessment and environmental monitoring ordered by Nanjing Institute of Environmental Sciences, SEPA had been delivered to the Institute in June. These include:

(1) 1 set of Research Grade Weather Station from Dynamax Company, (USA);
(2) 1 set of Eppendorf 8-channel pipette from Eppendorf (Germany);
(3) 1 set of Concentrator 5301 System from Eppendorf (Germany);
(4) 1 set of Hybrilinker Hybridization System HL2000 from UVP Company i (USA);
(5) 5 sets of Eppendorf (adjustable) single-channel from Eppendorf (Germany);
(6) 1 set of Stereoscopic Zoom Microscope with Digital Camera SMZ1500 from Nikon Company (Japan);
(7) Other related accessories.

Public information and participation

To celebrate the International Biodiversity Day, SEPA held the “Symposium for Experts and Main Media Journalists in the Capital” in Beijing Botanical Garden on April 15~16, 2005. The main objectives of the symposium were to inform on progress in the implementation of the Convention on Biological Diversity and the main work in biosafety management in China; strengthen communication and exchange with the media by means of discussion with experts; expand the influence of the CBD, Biosafety Protocol and the International Biodiversity Day; and to promote biodiversity conservation and biosafety management in China. The attendees included more than 20 journalists of main media in the Capital, and 6 experts from Chinese Academy of Sciences, Chinese Academy of Forestry Sciences and Nanjing Institute of Environmental Sciences, SEPA, and related personnel from SEPA. Mr. Wan Bentai, Director General, Department of Nature and Ecology Conservation, SEPA, made a keynote address. The experts addressed issues such as the significance of biodiversity conservation, and in the present situation, problems and countermeasures of biosafety management in China.
SEPA held a news update on May 19, 2005 to introduce progress in CBD implementation in China and to notify that the State Council had approved the ratification of Cartagena Protocol on Biosafety officially on Apr. 27, 2005. Mr. Wan Bentai said that the State would further strengthen supervision and management of the environmental problems in China, and would approve the Transgenic Biosafety Law to address biosafety.

To celebrate the International Biodiversity Day and disseminate biodiversity and biosafety knowledge, SEPA organized a biodiversity seminar in Beijing Forestry University on May 22, 2005. The experts of Chinese Academy of Sciences, Beijing Normal University and Beijing Forestry University introduced the role of biodiversity, biodiversity and biosafety knowledge, and the measures needed to strengthen biodiversity conservation and biosafety management in China. About 200 students and teachers from colleges and universities in Beijing attended the meeting.

Dr. Xu Haigen from Nanjing Institute of Environmental Sciences, SEPA drafted the Requirements on Construction of National Biosafety Clearing-House, with contents including the goal, organizational structure, and operational mechanism of national BCH, and the data that should be submitted to the Secretariat of the Protocol, and defined the data format of the biosafety database by referring to the data format regulated by the Secretariat of the Protocol. SEPA is in communication with the Ministry of Agriculture on the construction of national BCH.

Ms. Li Wei and Ms. Lu Yan from Information Center of SEPA make routine maintenance and management for the website of national BCH.

b. Constraints and suggested solution
There was no constraint.

c. Planned activities for next quarter

General
To receive GEF evaluators to assess China’s biosafety project in July 2005 and organize a biosafety training course in Xingcheng, Liaoning Province in August 2005.

Policy
To submit Report on Biosafety Policy and Management Mechanism in China (draft for comments) to the Biosafety Office under SEPA

Regulatory regime
To complete the Transgenic Biosafety Legislation Verification Report and legislation text and submit it to Biosafety Office under SEPA (draft for comments)

Systems to handle requests
To complete the first draft of Technical Guideline on Risk Assessment and Risk Management of Transgenic Plants and submit the first draft of Technical Guideline on Risk Assessment and Risk Management of Transgenic Microbes, the first draft of Technical Guideline on Risk Assessment and Risk Management of Transgenic Fish and Technical Guideline on Safety Assessment of Transgenic Food.
**Monitoring and enforcement**

Continue to conduct risk assessment on transgenic rice and soybean and submit the first draft of field test reports on transgenic soybean, rice and cotton and the first draft of environmental monitoring indices and monitoring method of transgenic organisms.

**Public information and participation**

To present biosafety information, share policy and information on safety management mechanism, enrich biosafety information, supplement biosafety public education knowledge, collect, arrange, and update biosafety information and agricultural biosafety data on permits, and maintain national BCH and its network.