

Cover Note

Project Name: Capacity building for Implementation of the Cartagena Protocol

Date: 29 October 2001

	Work Program Inclusion	Reference/Note
1. Country Ownership		
• Country Eligibility		Cover page
• Country Drivenness	Clear description of project's fit within: <ul style="list-style-type: none"> • National reports/communications to Conventions • National or sector development plans 	Section 2. Summary Sections 7. 1 and 7.2
• Endorsement	• Endorsement by national operational focal point.	Annex E.
2. Program & Policy Conformity		
• Program Designation & Conformity	• Describe how project objectives are consistent with Operational Program objectives or operational criteria.	Section 2. Summary, Section 8.2 Project Strategy
• Project Design	Describe: <ul style="list-style-type: none"> • sector issues, root causes, threats, barriers, etc., affecting global environment. • Project logical framework, including a consistent strategy, goals, objectives, outputs, inputs/activities, measurable performance indicators, risks and assumptions. • Detailed description of goals, objectives, outputs, and related assumptions, risks and performance indicators. • Brief description of proposed project activities, including an explanation how the activities would result in project outputs • Global environmental benefits of the project. • Incremental Cost Estimation based on the project logical framework. • Describe project outputs (and related activities and costs) that result in <i>global</i> environmental benefits • Describe project outputs (and related activities and costs) that result in joint <i>global and national</i> environmental benefits. • Describe project outputs (and related activities and costs) that result in <i>national</i> environmental benefits. • Describe the process used to jointly estimate 	Sections 7.3.1 and 7.5 Annex B. Section 8.2, Section 9, Annex B. Section 8.2 Section 2. Summary; Annex A Section 11. Annex A Section 8; Annex A Section 8; Annex A Annex D contains the revised activities in the NBSE proposed incremental activities

	Work Program Inclusion	Reference/Note
	<p>incremental cost with in-country project partner.</p> <ul style="list-style-type: none"> Present the incremental cost estimate. If presented as a range, then a brief explanation of challenges and constraints and how these would be addressed by the time of CEO endorsement. 	<p>the NBSF, proposed incremental activities and their relation to specific articles of the Protocol (Annex D, page 26). Section 7.1.2</p> <p>Section 11, Annex A</p>
<ul style="list-style-type: none"> Sustainability (including financial sustainability) 	<ul style="list-style-type: none"> Describe proposed approach to address factors influencing sustainability, within and/or outside the project to deal with these factors. 	Section 9, Sustainability and Risks
<ul style="list-style-type: none"> Replicability 	<ul style="list-style-type: none"> Describe the proposed approach to replication (for e.g., dissemination of lessons, training workshops, information exchange, national and regional forum, etc) (could be within project description). 	Section 12
<ul style="list-style-type: none"> Stakeholder Involvement 	<ul style="list-style-type: none"> Describe how stakeholders have been involved in project development. Describe the approach for stakeholder involvement in further project development and implementation. 	Section 10 Section 9, Risks
<ul style="list-style-type: none"> Monitoring & Evaluation 	<ul style="list-style-type: none"> Describe how the project design has incorporated lessons from similar projects in the past. Describe approach for project M&E system, based on the project logical framework, including the following elements: <ul style="list-style-type: none"> Specification of indicators for objectives and outputs, including intermediate benchmarks, and means of measurement. Outline organizational arrangement for implementing M&E. Indicative total cost of M&E. 	Section 14 Section 12 Annex B Section 10, Project Management N/A
3. Financing		
<ul style="list-style-type: none"> Financing Plan 	<ul style="list-style-type: none"> Estimate total project cost. Estimate contribution by financing partners. Propose type of financing instrument. 	Section 2 Summary Section 2 Summary Section 10, Financial Management In accordance with GEFSEC commentaries: The PCU has been treated as a discrete project activity (Section 10, Implementation arrangement). A more detailed budget table with expenditure categories has been prepared (Section 11, page 17).
<ul style="list-style-type: none"> Implementing Agency Fees 	<ul style="list-style-type: none"> Propose IA fee. 	3% for execution support services
<ul style="list-style-type: none"> Cost-effectiveness 	<ul style="list-style-type: none"> Estimate cost effectiveness, if feasible. Describe alternate project approaches considered and discarded. 	N/A N/A

	Work Program Inclusion	Reference/Note
4. Institutional Coordination & Support		
IA Coordination and Support • Core commitments & Linkages	Describe how the proposed project is located within the IA's: • Country/regional/global/sector programs. • GEF activities with potential influence on the proposed project (design and implementation).	Section 15.1 Section 13
• Consultation, Coordination and Collaboration between IAs, and IAs and EAs, if appropriate.	• Describe how the proposed project relates to activities of other IAs (and 4 RDBs) in the country/region. • Describe planned/agreed coordination, collaboration between IAs in project implementation.	Section 10, Implementation Arrangements Section 10, Implementation Arrangements Both agencies will provide project-specific support. UNEP will provide workshop and regional meeting platforms for Mexican scientists and decision-makers. Through its Biodiversity Unit, UNIDO will provide training under a technical co-operation agreement with Mexico as well as streamlining databases on biosafety for access and use by CIBIOGEM. Both agencies will participate in project planning sessions every six months during implementation. Annex I Annex K
5. Response to Reviews		
Council	Respond to Council Comments at pipeline entry.	N/A
Convention Secretariat	Respond to comments from Convention Secretariats.	N/A
GEF Secretariat	Respond to comments from GEFSEC on draft project brief.	Section 11, page 18 Annex I Cover sheet has been updated accordingly
Other IAs and 4 RDBs	Respond to comments from other IAs, 4RDBs on draft project brief.	Section 10, Implementation arrangements, Page 16 Annex H
STAP	Respond to comments by STAP at work program inclusion	Annex G
Review by expert from STAP Roster	Respond to review by expert from STAP roster.	Annex F

PROJECT BRIEF

1. IDENTIFIERS :

PROJECT NUMBER	MEX/00/..
PROJECT NAME	Mexico: Capacity Building for Implementation of the Cartagena Protocol
DURATION	3 years
IMPLEMENTING AGENCY	United Nations Development Program in co-ordination with UNEP and UNIDO
EXECUTING AGENCY	CIBIOGEM
REQUESTING COUNTRY	Mexico
ELIGIBILITY	Cartagena Protocol signed 24 May, 2000
GEF FOCAL AREA	Biodiversity
GEF PROGRAMMING FRAMEWORK	Enabling Activity (EA)

2. SUMMARY:

The project will help consolidate Mexico's national capacity for the implementation of the Cartagena Protocol on biosafety. The Government of Mexico, through its National Commission on Biosafety and Genetically Modified Organisms (CIBIOGEM) has identified the elements of a long-term national plan on biosafety. This proposed GEF project will address short and medium-term aspects of the national biosafety framework related to the trans-boundary movement of LMOs in the context of the Cartagena Protocol.

Specifically, the project will develop the national capacities in biosafety required to: carry out risk assessments with an appropriate scientific and technical level; implement necessary activities for risk management; evaluation and strengthening of legal and regulatory framework; and development of infrastructure for information exchange and data management. The development of national capacities in these areas will consolidate the national framework for biosafety management.

The project builds on the experience accrued in Mexico on public health, plant and animal health and biodiversity conservation efforts, especially the biodiversity enabling activities, and promotes cross-sector synergies.

3. COSTS AND FINANCING (MILLION US\$):

GEF	Project	1.461
	Sub-Total	1.461
CO-FINANCING	Government	4.442
	International/NGO	
	Financing	.500
	Sub-Total	US\$ 4.942
Total Project Cost		US\$ 6.403

4. OPERATIONAL FOCAL POINT ENDORSEMENT

Ricardo Ochoa
Assistant Director General of International Financial Agencies
Finance Ministry
June 27th 2001

5. IMPLEMENTING AGENCY CONTACTS

Lita Paparoni, GEF Regional Co-ordinator for Latin America and the Caribbean
UNDP/GEF lita.paparoni@undp.org

6. LIST OF ACRONYMS

CBD	Convention on Biological Diversity
CCB	Consultative Council on Biosafety
CENICA	National Environmental Research and Training Centre
CIBIOGEM	Commission on Biosafety and Genetically Modified Organisms
CINVESTAV	Centre for Research and Advanced Studies
CNBA	National Commission for Agricultural Biosafety
COD	Centre of Origin and Diversity
CONABIO	National Commission for the Use and Knowledge of Biodiversity
CONACYT	National Commission for Science and Technology
CP	Cartagena Protocol
CIMMYT	International Centre for Maize and Wheat Improvement
DGSV	General Directorate for Plant Health
ECONOMÍA	Ministry of Commerce
FAO	Food and Agriculture Organisation
JICA	Japan International Co-operation Agency
ILSI	International Life Sciences Institute
INE	National Ecology Institute
LGEEPA	General Law on Ecological Balance and Environmental Protection
LMO	Living Modified Organism
NAFTA	North American Free Trade Agreement
NGO	Non Governmental Organisation
NOM	Mexican Official Standard
OECD	Organisation for Economic Co-operation and Development
SAGARPA	Ministry of Agriculture, Regional Development, Fisheries and Food
SAS	Specialised Agricultural Subcommittee
SEMARNAT	Ministry of Environment and Natural Resources
SEP	Ministry of Education
SHCP	Ministry of Finance and Public Debt
SSA	Ministry of Health
UAM	Metropolitan Autonomous University
UACH	Chapingo Autonomous University
UNAM	National Autonomous University of Mexico
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organisation
WWF	World Wildlife Fund

7. BACKGROUND AND PROJECT CONTEXT:

7.1 National Development Plan

Mexico's National Development Plan promotes a medium and long-term development agenda, emphasising the need to balance economic, social and environmental objectives and encouraging the active involvement of civil society in environmental management.

Biosafety is considered to be a safeguard for the conservation of natural resources and is a key aspect in the 2000–2006 National Development Plan under the area of sustainability. Sustainability is one of the main concerns of the current Administration, evidenced by its ranking as number two of four criteria deemed to be crucial for the nation's development.

7.1.2 National Focal point on Biosafety

In November 1999 the National Commission on Biosafety and Genetically Modified Organisms (CIBIOGEM) was created to address the country's needs and priorities related to biosafety and biotechnology issues taking into account risks to human health.

CIBIOGEM's Technical Committee is currently designing a long-term capacity building program to meet Mexico's commitments under the Cartagena Protocol. This committee includes representatives from six Ministries and the CONACyT; hence the resulting program represents a very important inter-institutional effort and promotes cross-sector synergies.

7.2 Biosafety Framework in Mexico

7.2.1 Government Commitment: The Government of Mexico has shown its commitment to biosafety issues by implementing several measures since 1988. Four principal facets of the biosafety framework are detailed below: institutional, legal, environmental and public information.

7.2.2 Institutional context

Government institutional capacity to address biosafety issues has gradually been developed since 1988, with several federal agencies contributing to national biosafety capacity based on their respective mandates. These include the inter-secretarial permanent Commission for the Knowledge and Use of Biodiversity (CONABIO), the Ministry of Environment (SEMARNAT) and its decentralised agency the National Ecology Institute (INE) for risk assessment *vis-à-vis* the environment; the Health Ministry (SSA) to determine potential health impacts of LMOs, and the Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA) to issue permits for the experimental release of transgenic plants. Other offices have more recently been incorporated into the framework: Customs, under the Ministry of Finance, to control entry points, the Ministry of Economy to supervise commercial and trade aspects of LMOs and the Ministry of Education (SEP) to design training programs and incorporate biosafety into higher education curricula. Most recently, GOM created the inter-secretarial Commission on Biosafety and Genetically Modified Organisms (CIBIOGEM). The institutional development process that led to the creation of a national focal point on biosafety is discussed below.

Creation of the National Committee on Agricultural Biosafety (CNBA)

Agricultural biosafety activities and their relation to the environment date to 1988¹ when GOM established a multi-disciplinary expert group to handle the first requests for trans-boundary introduction of LMOs. Its tasks included analyses of import requests and evaluating the possibility of wide spread experimentation. This group was soon formalised as the National

¹Sarukhán (editor). 1999. Organismos vivos modificados en la agricultura mexicana: desarrollo biotecnológico y conservación de la diversidad biológica. pp: 47-60. Biotecnología. Revista de la Sociedad Mexicana de Biotecnología y Bioingeniería, A.C. mayo-agosto. Vol. 4 núm. 2

Committee on Agricultural Biosafety (CNBA), an advisory body of the General Direction for Plant Health in the Agriculture Ministry.

Following the creation of the CNBA the number of evaluated permit requests grew steadily. Close to 190 requests have been evaluated over 12 years, of which the following have been approved: 5 for potatoes, 15 for squash (zucchini or courgettes), 5 for wheat, 17 for soybeans, 48 for cotton, 34 for maize, 26 for tomato, 4 for tobacco, 5 for papaya, 6 for cantaloupe, two for colza (rapeseed) and one each for alfalfa, chilli peppers, rice, pineapple, carnation, lime, linen, safflower, banana and *Arabidopsis*, as well as LMOs such as *Bacillus thuringiensis* and *Rhizobium*². Of these only cotton and soybean have been planted on a semi-commercial scale, and the principal LMO properties evaluated include pest resistance, tolerance to the herbicides glyphosate, ammonium glufosinate and bromoxynil, late ripening varieties and resistance to viruses. The CNBA established requirements and supervised all of the permits requested for experimentation. It is important to mention that the permits issued for experimental release of transgenic maize have been suspended since 1998 given the scientific uncertainty about the impact of transgenic pollen on the landraces and the fact that Mexico is a centre of origin and diversification of *Zea mays*, an open pollination species.

Establishment of a national focal point for Biosafety

The Inter-secretarial Commission on Biosafety and Genetically Modified Organisms (CIBIOGEM), integrated by the federal ministries for Agriculture, Health, Environment, Finance, Commerce and Education, as well as the National Council for Science and Technology (CONACYT), was created by presidential decree on November 5, 1999³. CIBIOGEM's mandate includes policy co-ordination for federal agencies on biosafety issues, the integration and proposal of bills and standards that regulate aspects of biosafety, modification of the legal framework, and the design and implementation of risk assessment and management methodologies for the production, importation, export, transportation, reproduction, release, consumption and in general the use and exploitation of genetically modified organisms and products thereof.

Within the CIBIOGEM co-ordination framework, the ministries of Health, Agriculture and Environment are the agencies with core responsibilities for liberated LMOs and for risk evaluation and management. CIBIOGEM as the focal point serves as the central co-ordination for these activities. The other 4 agencies that form the administrative body of CIBIOGEM provide support in the areas of research, public outreach and border control. CONABIO, a member of the CIBIOGEM consultative body, provides backstopping on Mexico's biodiversity, risk evaluation methodologies and database support. CONABIO is also charged with developing a biosafety information module based on its national biodiversity information system, through the CIBIOGEM constitutional decree.

With the creation of CIBIOGEM, the National Committee for Agricultural Biosafety (CNBA) has been transformed into the Specialised Subcommittee for Agriculture, one of CIBIOGEM's consultative bodies. A Consultative Council on Biosafety was also formed as part of the CIBIOGEM, integrated by researchers from diverse higher education institutes, as well as representatives from the biotechnology industry. The Council's main role is that of a mandatory consultative body of the CIBIOGEM.

7.2.3 Legal context

Mexico is a signatory to the CBD, which was ratified by Congress on March 11th 1993. Under the CBD, through its Article 8g, GOM is committed to establish or maintain means to regulate, manage or control the risks associated with the use and release of living modified organisms (LMOs) resulting from biotechnology which are likely to have adverse environmental impacts

² Dirección General de Sanidad Vegetal. 2001. Estadísticas de los acuerdos del CNBA/SEA.

³ Official Federal Gazette. November 5, 1999)

that could affect the conservation and sustainable use of biological diversity, taking also into account the risks to human health. On May 24th, 2000, Mexico also signed the Cartagena Protocol and the Mexican Congress is currently evaluating its ratification. As mentioned above, however, an operative biosafety framework has been in place since 1988 for the experimental release of transgenic plants.

Biosafety was first incorporated into the country's legal framework by defining transgenic plants and the creation of one specific standard, described in detail below, for experimental release of LMOs. Legal statutes that cover different aspects of biosafety include *The Organic Law of the Federal Public Administration*, the *Federal Law of Plant Varieties*, the *Plant and Animal Health Federal Laws*, the *Agriculture Law*, *Federal Law for Production, Certification and Commerce of Seeds*, the *General Law of Ecological Equilibrium and Environmental Protection*, the *General Health Law* and the *General Law of Wildlife*. As detailed below, the legal framework is currently a hybrid of modified statutes in response to specific biosafety issues.

Trade

As part of the legal modifications made in order to negotiate NAFTA, the *Federal Law for Production, Certification and Commerce of Seeds* and its charter⁴ were modified in 1991⁵ to include restrictions on certification of transgenic plants.

Public Health

In 1997 Congress modified the General Health Law (*Ley General de Salud*) that regulates products for human consumption or use either directly or in processed form. Specifically, Article 98 was modified to include the mandatory constitution of biosafety commissions whenever genetic engineering research is carried out. Chapter XII bis (including articles 282 bis, 282 bis-1 and 282 bis-2) provides a definition for biotechnology products related to organisms modified by genetic engineering, as well as for labelling. The General Health Law's charter regulates biosafety applications in research efforts. Also, Chapter II specifically addresses research that implies the construction and management of recombinant nucleic acids.

The SSA also modified the Charter for Health Inputs (February 1998) to provide a definition for genetically modified organisms and the Charter for Sanitary Control of Goods and Services (Articles 164 through 167) in August 1999.

Environment

The General Law on Ecological Balance and Environmental Protection (LGEEPA) was modified in 1997 in its Articles 82 and 87-bis, to require the issuance of a permit by SEMARNAT for the access to genetic resources for biotechnology applications, if there is prior consent by the property owner/legitimate holder of the proposed cultivation site. Likewise, property owners are legally entitled to an equitable share of the benefits generated by authorised use.

Agriculture

In 1994, reforms to the Plant Health Law⁶ included transgenic material as a specific element of plant and animal health issues. Later, SAGARPA created a standard, NOM-056-FITO-1995⁷ for the instrumentation of Article 43 of this Law that defines the role of the Biosafety Committee. Through this standard the National Agricultural Biosafety Committee (CNBA) issues permits for the experimental release of transgenic plants in Mexico, once the corresponding risk analysis has been performed. However, this standard does not include the commercial stages of

⁴ Official Federal Gazette, May 26 1993.

⁵ Official Federal Gazette, July 15 1991.

⁶ Official Federal Gazette, January 5 1994.

⁷ Official Federal Gazette, July 11 1996. NOM-056-FITO 1995. Plant and animal health requirements established for intra-country movement, importation and establishment of field testing of LMO through genetic engineering.

transgenic crops, and the monitoring of larger scale releases is difficult at present. Until now, SAGARPA has been labelling larger scale applications as pilot-scale operations in order to be able to continue monitoring efforts. Early in 2001 SAGARPA issued a proposal for a new standard that would regulate commercialisation of transgenic plants at both pilot and commercial scales. This standard is currently under discussion, and will most likely be issued as a joint standard between SEMARNAT and SAGARPA (NOM—FITO-ECOL-2001). A similar approach is expected for the proposal of other standards regarding foods derived from transgenic plants, animals and micro-organisms. SAGARPA has also initiated the integration of a standard that would establish requirements on imports, fabrication, experimentation and sale of products derived from molecular biotechnology for animal use and feeds, with the participation of research centres and the pharmaceutical industry.

Biosafety Bill

Two initiatives for Biosafety bills that had been initially discussed during the last legislative session are currently under discussion by the newly installed Congress. Congress is still discussing both initiatives in order to decide if this scope is appropriate for the country or if it would be best to continue with the modification of existing norms and standards as well as the issuance of new instruments. CIBIOGEM's principal goal is to ensure that the eventual legislation, which may evolve into a biosafety law, be embodied in a sufficiently broad instrument that will be able to respond flexibly to the country's biosafety needs. Also, CIBIOGEM and its agencies must provide reliable and timely information to the legislators to help them arrive at informed decisions. As detailed above, the current legal framework for biosafety is largely derived from existing, sector-specific legislation (especially environment, agriculture and health) that has been adjusted to encompass the commercial applications of transgenics through new standards. The only exception so far has been the proposed NOM—FITO/ECOL-2001 that has a cross-sector focus and origin. A broad-based national dialogue on biosafety is a necessary element for a comprehensive legal framework and information needs to be more science-based in order to balance industry lobbying currently underway in Congress.

7.2.4 Environmental context

Mexico is a Vavilov centre of origin and diversity of many globally significant crops such as maize (*Zea mays*, *Zea spp.*), squash (*Cucurbita spp.*), beans (*Phaseolus spp.*), cacao (*Theobronnea cacao*), agave (*Agavaceae*) and chili pepper (*Capsicum annurum*) that are commercially grown often in association with wild relatives. Mexico is also a COD of other crops with regional importance such as avocado (*Persea americana*), papaya (*Carica papaya*) and amaranth (*Amaranthus spp.*). It is also a megadiverse country with more than 10% of the global biodiversity in plant species and correspondingly high levels (40%) of endemism. Mexico occupies the second place world-wide in reptile diversity with 11% (717 species) of known species with 52% of these being endemic; the country is fifth globally in mammalian diversity (12% of the world's total with 450 species of which 29% are endemic) and 4th globally in amphibians (7% of the world's total in 284 species with 60% endemism nationally and 3% endemism in Mesoamerica)⁸.

This globally significant biodiversity and agro-biodiversity has been a decisive factor in an ongoing discussion in CIBIOGEM's Biosafety Consultative Council (CCB): the *de facto* moratorium on the release of transgenic maize in Mexico, even for experimental purposes. The moratorium initiated in 1998 when SAGARPA stopped receiving applications for the experimental release of transgenic maize under NOM-056-FITO-1995, given its potential impacts on landraces (native varieties) in a COD for maize. Consequently, the CCB is developing a maize research program aimed at obtaining reliable information on the possible effects of the release of transgenic maize on the country's plant biodiversity, especially teosinte, taking into account social and economic factors. This information will also provide an

⁸ National Biodiversity Strategy. 2000. CONABIO.

opportunity for Mexico to revise and modify the legal framework as needed for the safe testing and eventual commercial release of maize or other genetically modified crops.

GOM has already dedicated resources to these efforts, and has recently signed an agreement with the Rockefeller Foundation to carry out the study denominated "Identification and evaluation of social, biotechnology and biodiversity parameters needed to establish a strategy for the safe release of transgenic maize landraces in Mexican rural communities." This project will systematically address different aspects of the problem in three key areas: social issues, biodiversity issues and biotechnology issues.

7.2.5 Public information

Following the creation of CIBIOGEM in Mexico the discussions on biosafety issues and the possible implementation of the Cartagena Protocol were expanded to a more plural audience. A specific result is the integration of the new joint Mexican Official Standard (NOM) currently under discussion by Agriculture and Environment. Additionally, two bills have been proposed by different political parties for a Biosafety Law, both of which have been widely discussed by Congress. New subcommittees should be established in CIBIOGEM for environment and health. As mentioned above, the former Biosafety Committee (CNBA) has become a specialised subcommittee under the co-ordination of CIBIOGEM.

CIBIOGEM has also initiated public consultation efforts directed to the NGO, social, government, agro-industry, scientific and academic communities, aimed at building consensus on key issues related to biosafety. An on-going strategy to engage the new legislators has also been implemented in order to familiarise them to issues regarding LMOs. A forum organised by the Congress and CIBIOGEM was carried out in February 2001 to discuss LMO products with the participation of lawmakers from all of the major parties, both in favour and against biotechnology. Most recently, the First Forum on Genetically Modified Organisms was carried out in January 2001 and a forum designed for state governments (undersecretaries for rural development) was also held in Guadalajara in June 2001.

Two public opinion studies were carried out at the end of 2000. One was performed by the International Life Sciences Institute – Mexico (ILSI)⁹, and the other is a joint effort between the *Universidad Autónoma Metropolitana* (UAM) and the Centre for International Studies (CID at Harvard). The first study suggests that the Mexican society has virtually no preconceptions regarding biosafety, greatly increasing the need to design an appropriate right-to-know outreach strategy on the potential risks and benefits of LMOs. The second study, just released for discussion, has identified the actors involved and the institutions that play important roles regarding biotechnology in Mexico, biosafety included.

In light of the priority assigned to commercial relations in Mexico, CIBIOGEM and SAGARPA organised a commercial forum with the U.S. Department of Agriculture to discuss the legal framework regarding labelling of LMO products with representatives of U.S. and Mexican agro-industries.

In a country as biologically complex as Mexico and being COD of many commercial crops, the activities mentioned above are simply a start. The government will have to make its best effort to provide unbiased information and transparency regarding LMOs and biosafety issues. A proposal for institutional strengthening currently under preparation by WWF will provide specific assistance on the development of broader public awareness campaigns.

⁹ Productos Transgénicos e Información en Etiquetas. December, 2000. <http://www.ils-mexico.org>

7.3 Baseline Capacity and identified gaps:

7.3.1 Institutional

CIBIOGEM has the core institutional responsibility for policy making and scientific advice regarding biosafety in Mexico in its different aspects: socio-economic, agricultural, food and feed applications, ecological, public perception and legal framework. As a recently created inter-sectoral institution (1999) it still has to adjust and to increase its capacity to fully address the issues related to the CP. The main tasks of CIBIOGEM have been performed to date by its Technical Committee (the government administrative body) and the CCB (the scientific advisory body). As the national focal point, CIBIOGEM is charged with the implementation of the Cartagena Protocol, and therefore it co-ordinates the specialised subcommittees and in general all governmental activities related to biosafety and risk evaluation and management (see Annex J). It is clear however that without the support of GEF, CIBIOGEM's co-ordination efforts will develop slowly and the disparities in the institutional capacities between the different ministries that make up its technical committee will continue to hamper a more integrated effort. Strengthening CIBIOGEM therefore is based on incrementing the capacity of each of its institutional partners. GEF support will help right these unequal capacities and will ensure that the CIBIOGEM system operates in unison.

CONABIO

This inter-agency Presidential Commission was created in 1993 to increase the country's knowledge on its biodiversity and to move towards its sustainable use. It is an integral piece in the biosafety framework, especially for decision-making in SEMARNAT and SAGARPA on risk evaluation, as national flora and fauna inventories –both aquatic and terrestrial- are in the final stages of integration. Based on these inventories, CONABIO is currently developing a Biodiversity Risk Evaluation Model, to standardise risk assessment procedures in SAGARPA's Sub-Committee on Agriculture and for other decision-makers in the biosafety framework such as SSA under NOM-056-FITO-1995. The model includes an analysis of the biological (taxonomic, genetic and ecological) information of the species, as well as of the spatial information on their distribution. This information is obtained via the National Information System on Biodiversity (SNIB-CONABIO) that includes information on more than 57,000 Mexican species. The Biodiversity Risk Evaluation Model uses only the information related to vascular plants from 57 national and 87 international herbaria, respectively. The possible risks to Mexico's globally relevant biodiversity should be duly evaluated given the increasing intensity of liberated LMOs. Under the proposed NOM FITO/ECOL currently under discussion, the country's 129 protected areas would be designated as LMO-free zones. Mexico's efforts in this respect are increasing, however GEF support would catalyse these efforts and accelerate the full implementation of the CP. To increase CONABIO's response capacity in the context of the CP, information-sharing protocols and additional data capacity are needed to keep pace with the expected increase in trans-boundary movement of LMOs, through the design and operation of an Information System on Transgenic Organisms. The existence of a dedicated database system for biosafety is of vital importance for the effectiveness of Mexico's response to the advanced informed agreement.

SEMARNAT has official representation offices in each state and several resident local offices. Training and timely information on LMOs imparted by regional SEMARNAT staff to local residents is a core necessity to contribute to increased local capacities. The National Institute of Ecology (INE), a semi-autonomous agency operates the National Environmental Research and Training Centre (CENICA). CENICA is the result of a technical co-operation agreement between the Mexican and Japanese governments with the aid of the International Cooperation Agency of Japan (JICA). Its fundamental objective is to support environmental policymakers in Mexico through applied research and training in the areas of air quality and hazardous waste. It has eight laboratories and one of them develops research in bioassays. This laboratory could develop the capacity for LMO detection and monitoring for environment with the upgrade of required equipment and through the provision of training, greatly increasing the Ministry's

capacity to carry out risk analysis to determine the possible impacts of LMOs on near parent species and non-target insects. Nevertheless no infrastructure currently exists, there is no database capacity for monitoring introduced LMOs and there are no specialised laboratory technicians in the area of liberated LMOs. This situation is likely to prevail without the support of GEF.

SAGARPA

Permit issuance by SAGARPA has followed the recommendations made by the members of the Specialised Agricultural Subcommittee. These risk assessments deal mainly with *in situ* agronomic traits and performance. Among the cases already evaluated, maize is the most difficult due to the complex situation of Mexico being COD, as mentioned above. The socio-economic importance of maize in Mexican agriculture, its tradition, as well as its status as our staple food, further complicate the panorama. Other genus such as *Cucurbita* and *Capsicum* (chili peppers) present similar risks given that Mexico is also their country of origin. SAGARPA's delegations in the different regions will play an important role for the collection and processing of samples for the monitoring of transgenics. Good capacity for analysis currently exists in SAGARPA's central laboratory, but specialised equipment for the implementation of molecular biology experiments and the training of personnel is needed to address the challenges of full implementation of the CP. Likewise, the information generated over the past 12 years has not been standardised, collected and verified in databases because of existing human resource and financial barriers, depriving the country of very important historic indicators in the context of implementation of the CP and the clearinghouse mechanism.

SAGARPA has significant experience in the preparation of legal tools for LMO biosafety issues for experimental plots and is currently working together with other stakeholders to prepare a standard for commercial-scale plantings. 3 zones of differing risk for the possible cultivation of transgenic maize and growing areas for transgenic cotton have been identified by SAGARPA. Transgenic cotton is cultivated on near-commercial scale, and very clear procedures are in place for risk evaluation and management SAGARPA also co-ordinates animal health activities based on the management of vaccinations created through modified micro-organisms that are sprayed onto cattle with practically no accompanying biosafety measures. GEF support will allow technical staff, government officials and extension-service personnel to be trained in appropriate measures which otherwise would not be available. GEF support would also be used to provide specific training courses for the operation of specialised equipment.

SSA

SSA has traditionally been in charge of all aspects of evaluation of the safety of transgenic crops for human consumption through its mandate for public health safety for food and drugs. With respect to transgenics, its officials are in charge of the health impacts of commodity grain imports and their applications for food and processing, while feed safety continues to be the responsibility of Animal Health in SAGARPA. An important change in the new Administration government deals with SAGARPA's responsibility for food safety from a production point of view. This means that now safety in the food chain will also include the production stage, and this new responsibility must be geared with SSA's responsibility for food processing and later stages in the retail chain. In order to respond to these needs, and increase food safety knowledge and capacity for introduced LMO and biotechnology products, an expansion of SSA's laboratory infrastructure and provision of specialised training on new equipment is required. In the absence of GEF support, SSA would be unable to provide reliable tracking of LMOs as they enter the country and the food chain, considerably limiting the country's response capacity under the advance informed agreement.

SHCP

The Finance Ministry (SHCP) also plays an important role in the biosafety framework, as the Customs Agency lies under its jurisdiction. As the control for points of entry for transgenic crops, the Customs Agency has a vital responsibility in documenting grain commodity imports.

Its central laboratory facility will also have an important support role that will be co-ordinated through CIBIOGEM with the National Public Health Laboratory (SSA) and SAGARPA regional monitoring stations located countrywide. Customs and PROFEPA signed an agreement in November 2000 regarding classification of goods subject to inspection, which covers 63 commercially important points of entry (ports, airports and borders). The agreement is aimed at verifying the legality of imports of animal and plant species and to detect trafficking of the same, and provides for shared Customs-PROFEPA inspection facilities. Additional baseline training will allow this existing framework to be emulated with CIBIOGEM and scaled-up to provide reliable identification of trans-boundary LMO shipments. As commercial transactions proceed under the auspices of the CP, the information generated in Customs will be of great use to CIBIOGEM and other line agencies that monitor LMO displacement within the country. GEF support will be used to ensure proper information cataloguing and flow to the clearinghouse mechanism.

7.3.2 Biotechnology

Important private industries carry out agro-business in Mexico. The vast majority is multinational, however one large Mexican firm is included in this group: Pulsar. These companies have excellent scientific capacity, although their liaison with Mexican academia and scientific research centres is incipient, except for a few cases like Monsanto's joint venture with CINVESTAV-Irapuato in which the company donated a virus resistant gene to be cloned into native potato varieties. This project still faces great difficulties due to severe gaps in the technology transfer pipeline in this country. Nevertheless the new administration has placed special emphasis on investments in technology and specifically biotechnology, made public by the President during the presentation of UNDP's Human Development Report in Mexico in July, 2001.

Through a presidential initiative, CONACYT has created a new National Programme on Biotechnology under the leadership of a well-known Mexican academic. Its main objective is to increase Mexico's capacity to perform biotechnology research and to further promote Mexican projects through technology transfer towards successful business applications. Biosafety is one of the key aspects of the programme, placing capacity building in the centre of dialogue on national policy issues.

Industry chambers in Mexico are mainly formed by both international and some Mexican enterprises that have industrial-scale operations in the country. In general the enterprises that integrate the Agro/biotech industry have good laboratories and scientific personnel. However they usually do not carry out any research in the country, with the exception of basic laboratory experiments such as tissue cultures to produce disease and pest-free seedlings. These industries are potential allies for obtaining specialised training for government personnel. Contacts through ILSI are initial, but promising.

CINVESTAV is currently developing a research initiative to standardise analytic methods with SAGARPA and Customs to identify LMO presence in imported grains.

Finally, The International Centre for Maize and Wheat Improvement, *Centro de Mejoramiento de Maíz y Trigo* (CIMMYT) in Mexico is a prestigious UN institution that is a leader in maize research and hosts one of the most important maize germplasm banks in the world. Mexican plant scientists have excellent relationships with CIMMYT, and its staff is certainly the most appropriate personnel to be consulted for scientific advice in maize biosafety.

7.4 Potential for LMO

Biotechnological research in Mexico may contribute to resolving food production problem if its application and implementation is focused to solve problems that are unique to Mexico. For example the development of varieties of genetically modified crops resistant to drought or tolerant to acid soils will contribute to the recuperation of lost agricultural lands, a major

problem in the country, as well as to reduce the pressure of deforesting on still conserved ecosystems. The GEF proposal will complement Mexico's national biotechnology efforts by increasing the country's capacity to effectively manage the risks associated with trans-boundary issues related to LMOs.

7.5 Barriers to fully implement the Cartagena Protocol

A number of significant barriers preventing the full implementation of the CP in Mexico have been identified and are described below:

1. Institutional, legal, and policy

CIBIOGEM was created to co-ordinate the activities of other government agencies related to LMO so that GOM –as an importer and exporter of LMOs- would have a uniform position regarding the liberation of LMOs. Nevertheless, CIBIOGEM has experienced administrative difficulties typical of a complicated inter-agency institution, and its role has been restricted to carrying out co-ordination efforts. As an incipient institution, CIBIOGEM needs a catalytic strengthening process, as is proposed under the current project.

The current legal framework for biosafety is largely derived from existing, sector-specific legislation (especially environment, agriculture and health) that has been adjusted to encompass the commercial applications of transgenics through new standards. The only exception so far has been the proposed NOM—FITO/ECOL-2001 that incorporates a cross-sector focus and origin. A broad-based national dialogue on biosafety is a necessary element for a comprehensive legal framework and lobbying efforts need to be more science-based in order to balance industry lobbying currently underway in Congress. As a megadiversity country, and in a commercial environment of trans-boundary movement of LMOs, Mexico has a global responsibility to design and implement a strong, unambiguous and effective legal framework. Under the baseline course of action, modifications to the legal framework will most likely continue, however in the absence of the availability of reliable and unbiased information, a wider national dialogue, and the evaluation of experiences in other megadiversity countries, continued fragmentation of the legal framework and a proliferation of sector-specific legislation is a likely product. Over time, this would tend to dilute Mexico's response capacity to the CP.

2. Market

Objectives under the NAFTA include, *inter alia*, elimination of barriers to trade in, and facilitate the cross-border movement of, goods and services between the territories of the Parties and to improve access to their respective markets through the reduction or elimination of import barriers on agricultural goods. In the event of any inconsistency between the Agreement and the specific trade obligations the Parties may agree in writing to modify Annex 104.1 to include any amendment to an agreement referred to in paragraph 1, and any other environmental or conservation agreement.

Through the Right to Take Sanitary and Phytosanitary Measures each Party may maintain or apply any sanitary or phytosanitary measure necessary for the protection of human, animal or plant life or health in its territory, including a measure more stringent than an international standard, guideline or recommendation. Each Party shall ensure that any sanitary or phytosanitary measure that it adopts, maintains or applies is:

- a) based on scientific principles, taking into account relevant factors including, where appropriate, different geographic conditions;
- b) not maintained where there is no longer a scientific basis for it; and
- c) based on a risk assessment, as appropriate to the circumstances.

Under current capacity conditions in Mexico, the sustained moratorium on transgenic maize imports could result in possible incomppliance under NAFTA with its U.S. and Canadian partners.

3. Human resources.

Human resource limitations are a significant barrier to rural knowledge and capacity for managing LMOs. Aside from private company laboratories and a handful of experts in the field, there is very little knowledge of the nature of LMOs, nor of methodologies to adequately measure their potential risks and benefits. This is especially true in the small agricultural communities and co-operatives that characterise the Mexican rural context, as well as for Customs officials in important commercial points-of-entry.

4. Technical and information barriers.

Mexico has a high installed capacity for data management, good capacity for in situ monitoring in reduced areas and established methodologies in the agriculture and health sectors for monitoring plant and animal populations. However CIBIOGEM's inter-institutional co-operation efforts on information sharing and management are hampered by a lack of standard methodologies and specific institutional interests that are difficult to reconcile in a common context. Follow up on policy impacts is difficult to measure as well, largely due to differing criteria and lack of crucial data needed to either generate or extrapolate models. Finally, the absence of an integrated information system to control points of entry and relay relevant information to CIBIOGEM significantly reduces Mexico's capacity for meaningful trans-boundary inventories of LMOs. Therefore an integrated network of relational databases with taxonomic, curatorial information on cultivated species, transgenic species and their wild relatives is urgently needed.

8. GEF ALTERNATIVE COURSE OF ACTION:

8.1. Project Objectives:

The **development objective** of the project is:

Mexico will be able to implement the basic objectives of the Cartagena Protocol, including the assessment, management and monitoring of the potential risks posed by transboundary movement of LMOs to the conservation and sustainable use of biodiversity, including human health risks

The **immediate objective** is:

Within three years, the country will build sufficient capacity to assess and manage risks associated with the trans-boundary movement of LMOs through strengthening of the legal and regulatory frameworks, enhanced institutional capacity and effective communication strategies. Knowledge and methodologies on biosafety will be shared and transferred through the establishment of regional training programs based in Mexico.

8.2. Project Strategy

The main activities of the project are focused on the identification, regulation and management of the risks derived from the trans-boundary release and utilisation of LMOs, that might present adverse risks to the conservation and sustainable use of biological diversity, taking also in account potential risks to human health. This national approach to capacity building contemplates risk assessment and management, monitoring and evaluation, legal and regulatory reform/strengthening, broad social participation and a dissemination strategy in the context of the Advanced Informed Agreement. GEF is requested to participate in strategic elements of this approach over the medium-term horizon (3 years) that will permit the longer-term consolidation of the strategy. The GEF-financed portion of the project includes training and risk management components with technical support for information network design and implementation that will ensure sustainability and information exchange over the long-term. The project concentrates GEF funds in the areas of trans-boundary risk assessment and management as GOM considers these capacities to be of vital concern that must be developed prior to the implementation of a large-scale communication campaign. Consolidated capacities in these two areas will also help

detect additional gaps in the legal framework and will help fine tune possible strategies for its modification. GEF support will have a catalytic and consolidating effect on the national effort spearheaded by the CIBIOGEM.

The activities and outcomes that are anticipated for each component are summarised below:

Output 1. Enhanced institutional capacity to carry out risk assessment
(GEF: US\$ 745,010; COFIN: US\$ 3,332,500)

The lack of the availability of science-based and local risk assessment knowledge is a critical barrier to the effective implementation of the Advanced Informed Agreement. CIBIOGEM and the expert staff of its Technical Committee would benefit from the preparation of manuals and standardised methodologies for the assessment of risks associated with the trans-boundary aspects of the CP, and especially those that may imperil the country's biodiversity and agrobiodiversity, in support of baseline conservation and sustainable use efforts. National training efforts in toxicology and epidemiology would continue for public health experts at CIBIOGEM and SSA with counterpart resources. Also with baseline resources, CINVESTAV is developing a research project to standardise analytic methods with SAGARPA and Customs to identify LMO presence in processed foods. Agriculture's significant baseline capacity to carry out field tests and to manage experimental data would be strengthened through expert support and training courses to increment the response capacity to LMO challenges in specific site studies linked to the advance informed agreement. CONABIO's risk assessment capacity -of central importance to the CIBIOGEM framework- will be strengthened through enhanced capabilities for modelling exercises on probable impacts or risks related to the liberation of introduced LMOs. This enhanced capacity will be embodied in an Information System on Transgenic Organisms, supported under Output 5. As a megadiverse country and centre of origin of important commercial species, the modelling capacity will be complemented by a limited number of field studies on the effect of gene flow in maize landraces and squash and other *cucurbitaceae*, as well as other important commercial crops. The information and data generated from these studies and database scenarios will be extremely useful for the execution of the advanced informed agreement (AIA) and will provide Mexico with operational tools that will better conserve its biological and agro-biological diversity.

Output 2. National capacities enhanced in risk management and monitoring (GEF: US\$ 327,760; COFIN: US\$ 246,000)

GEF resources will be used specifically for training experts in molecular genetics to detect and track LMOs presented under the AIA. The capacity developed will increase Mexico's potential to monitor in-country movements of LMO and to help prevent their use as crop seeds in the case of commodity grains. Training for SAGARPA and SEMARNAT staff will include GEF support to develop field capacity to monitor possible gene flow between introduced LMOs and semi-domestic and wild relatives. More general training will be imparted for field technicians from these ministries on basic information regarding LMOs as most of these technicians have had no contact with biotechnology products. This training will allow personnel to supervise the implementation of biosafety measures and over the medium term to identify potential gene flow, as well the effect on non-target species. Data on trans-boundary shipments of LMOs at points of entry would be registered, collected and validated by Customs through ad hoc methodologies designed with the help of GEF resources and the technical expertise of UNEP.

Output 3. Strengthening of the legal framework
(GEF: US\$ 42,563; COFIN: US\$ 226,970)

Co-financing resources would be used to carry out an in-depth evaluation of Mexico's current legal framework in the context of the CP and make recommendations for modifications. Intensive, short-term training with GOM funding on the issues and risks surrounding LMO would be made available to lawmakers including *inter alia*: labelling of transgenic foods, processing of commodity grains, the implementation of traceability (either molecular or documentary) within the Codex Alimentarius, and the possible benefits of a transboundary

document control system. The establishment of LMO-free zones beyond those already proposed for country's protected areas (see above, section 7.3.1) would also be explored. Additional cross-sector charters and legal instruments would be explored to reinforce the operational capacity and mandate of CIBIOGEM while eliminating overlaps in the inter-agency framework. GEF funds will be used to complement this effort by supporting targeted country visits to identify and transfer know how to Mexico on useful legal instruments for biosafety, especially from other megadiversity countries. Environment's efforts to harmonise cross-sector legislation related to environmental risks and damages would be extended to the biosafety legal framework. The enhanced monitoring and evaluation capacity detailed above would be used to assess the effectiveness of initial modifications in the legal and regulatory framework.

Output 4. Public awareness program and communication strategies
(GEF: US\$ 28,375; COFIN: US\$ 873,000)

Targeted information needs to be simple and reliable and should make best use of the different available media options under an overall strategy. Modest GEF resources would be used to design a targeted information campaign on potential risks and benefits of LMOs for small-holders in rural communities that participate in GOM's agricultural outreach and subsidy programs. This information would be reviewed during project implementation to take into account the results of capacity building efforts in outputs 1 and 2. WWF project funds will be used to compliment and enhance this strategy to ensure that a wider range of stakeholders are party to reliable information. The elements generated during the participatory process leading up to the integration of this proposal provide sufficient input to create a national proposal for biosafety education, designed for adoption in undergraduate and advanced degree programs. Replication efforts would ensure that lessons learned and scientific and technical innovations on biosafety efforts would be directly incorporated into the human resource preparation efforts over the mid- and long-term. CIBIOGEM as the National Focal Point for the CP, will develop a website to concentrate information and links to different databases in line ministries (Art. 19 of CP). Norms and guidelines, the abstracts of each risk evaluations, final decisions and reports of the procedure for the AIA (Art. 20) will also be included. This information will be at the disposal of the BCH and the focal points of the 26 countries with which Mexico has celebrated trade agreements in order to facilitate transboundary commerce. UNIDO and possibly OECD will be engaged to reinforce specific aspects of information packaging and use in the context of the Clearinghouse Mechanism.

Output 5. Institutional strengthening: laboratory equipment and database infrastructure and protocols
(GEF: US\$ 317,440; COFIN: US\$ 264,000)

GEF support will be used to increment baseline capacities by upgrading databases in Customs and SAGARPA to provide useful and accessible information on the control and monitoring of trans-boundary movements of LMOs. Existing laboratories in Agriculture, Environment and Health will be provided with specialised equipment and training to increase current capacities in identifying, monitoring and tracing LMO through molecular biology and molecular genetics in support of activities in Outputs 1 and 2. Co-financing will be used to develop the Biosafety Risk Management System in CONABIO, and to provide telecommunications equipment in support of the transgenic information system. With GEF support, accumulated data generated on LMO over the past decade in the Plant Health office in SAGARPA (12 years of **hand-written** requests and responses) and toxicology analyses that have been carried out by SSA will be classified, validated and made available in shared database format in support of Output 2. Existing databases in CONABIO on the spatial distribution of crops in will be enhanced through additional genetic and ecological information on cultivated species, transgenic crops and their wild relatives, enabling a greater monitoring capacity over the short, medium and long-term effects of LMO introduction. An inter-institutional transgenic database system will be

developed and made operational with GEF support, with co-financing support for connectivity aspects. Finally all of the existent information in these databases will feed into the Biosafety Clearing House Mechanism.

9. RISKS AND SUSTAINABILITY

Sustainability

The project preparation phase follows the successful implementation of enabling activities in biodiversity and has incorporated lessons learned through the participation of CONABIO in all stages of project design. This capacity-building project is designed to form the first part of a longer-term national effort to consolidate the biosafety framework. Each of the proposed activities addresses gaps or barriers that have been identified during the project preparation process. Capacity building activities have been designed to strengthen not only the capabilities of the Mexican focal point to the CP, but also of key federal line ministries, and awareness and decision-making support activities will ensure cross sector and cross government synergies. UNDP will provide technical, financial and administrative backstopping to the entire process.

Risks

A number of project risks have been identified during the course of preparation, and the project design has been modified accordingly. The following table summarises likely risks and describes abatement measures within the scope of the project.

RISK	ABATEMENT MEASURES
This project will depend critically on the Mexican government's commitment towards implementation and eventual ratification of the Cartagena Protocol on Biosafety	GOM has taken concrete steps to strengthen and consolidate the focal point CIBIOGEM and federal ministries have requested budget allocations for biosafety activities to be approved by Congress in December 2001. The Project Technical Committee (PTC) formed with representation from CIBIOGEM, CONABIO, SAGARPA, UNDP, UNIDO and UNEP will provide project supervision.
Fragmentation of institutional mandates and political cycles may make project implementation difficult.	A project co-ordination unit has been designed to provide appropriate guidance to project implementation. Capacity building exercises in CIBIOGEM gradually increase in accordance with the institution's absorptive potential.
Limited financial capacity of CIBIOGEM.	Management of funds by UNDP through the constitution of a national execution project will avoid budget delays and mitigate the risk of competing funding priorities.
Industry advances continue to outpace government capacity to respond to biosafety challenges.	Stakeholder consultations have included many representatives of the agro-biotechnology sector, and there is consensus that GOM and CIBIOGEM are taking a proactive approach. The sector will be fully engaged in training and research activities under the project implementation. UNIDO brings significant experience to the project in engaging the private sector.

10. STAKEHOLDER PARTICIPATION AND IMPLEMENTATION ARRANGEMENTS

Stakeholder participation

Broad-based public consultations on biosafety issues are currently underway in the context of the integration of the National Development Plan (both traditional 6 years and an innovative 25 years focus). Participants include representatives from all sectors in Mexico.

CONABIO recently hosted a workshop in order to present the Biodiversity Risk Evaluation Model and its operational procedures. Stakeholders included NGOs, biotech industry representatives, government officials and academics specialised in fields such as molecular

genetics and evolution, genetic improvement and population in aquaculture, ecology, foods and biotechnology, etc. The principal focus was to establish a dialogue based on experience and specific concerns that could help validate the methodology designed by CONABIO.

Project design has benefited from public consultation efforts directed to the NGO, social, government, agro-industry, scientific and academic communities carried out by CIBIOGEM. CIBIOGEM has also carried out formal discussions with UNEP and UNIDO as co-executing agencies. Final negotiations will be formalised prior to CEO endorsement, however advanced consultations indicate that UNEP will co-host biosafety workshops with Mexico in the context of the UNEP global initiative, together with the other eligible implementing agencies. UNIDO will provide training facilities and curricula through its Trieste facility to CIBIOGEM and its Technical Committee, and UNIDO databases will be streamlined in direct support to the capacity-building project. The project has also been shared with PAHO, OECD, ICA and USAID for comments. As identified, additional synergies will be adopted into the project planning framework.

Implementation arrangements

The Project will be executed by the Government of Mexico, with the support of the UNDP-Mexico Country Office. The National Commission on Biosafety and Genetically Modified Organisms (CIBIOGEM) is responsible for project execution.

Overall project supervision will be provided by a Project Technical Committee (PTC) formed by CIBIOGEM, SEMARNAT, SAGARPA, SSA, CONABIO, INE, SHCP, and two representatives of CIBIOGEM's Consultative Council) will provide backstopping to the PCU through bi-monthly meetings to monitor project development and to make adjustments as required. UNDP, UNEP and UNIDO will meet every six months to discuss project implementation and to review institutional commitments and support for the project.

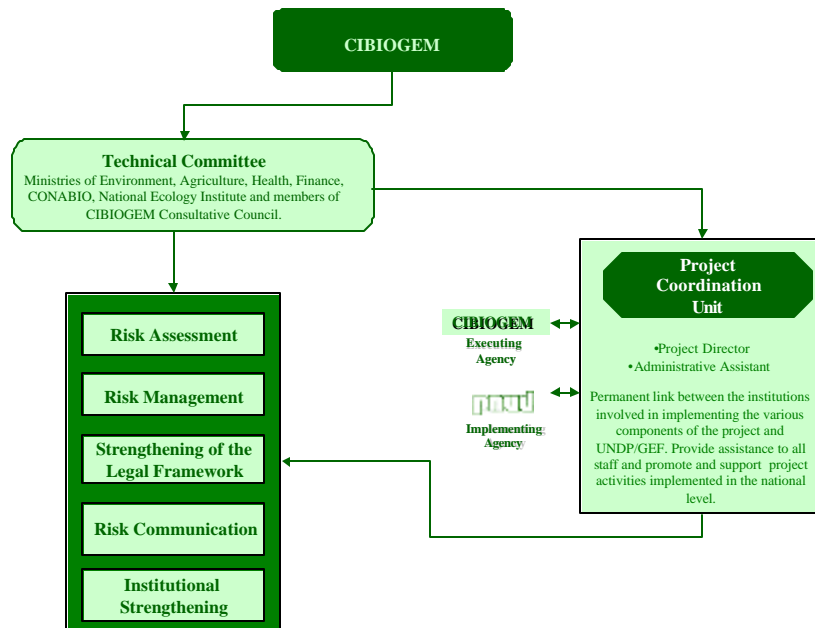
Project Co-ordination Unit

A project co-ordination unit will be created and supported within CIBIOGEM to administrate the project. Tasks will include overall project management, co-ordination efforts amongst the diverse member organisations of CIBIOGEM's Technical Committee, reporting and evaluation. The PCU will also prepare work plans, budgets, and terms of reference for sub-contractors and consultants, and will be responsible for maintaining financial accounts and records according to UNDP guidelines for nationally executed projects. The PCU will consist of a Project Co-ordinator and a Project Administrator, and will report directly to the Executive Secretary of CIBIOGEM and the project Technical Committee.

Project management:

The project co-ordinator will ensure that the project progresses on time and produces the expected results. The PCU will implement work plans and overall strategies agreed in the PSC, and CIBIOGEM and UNDP will be consulted on a regular basis (minimum every 3 months) to monitor and evaluate the progress of project implementation. Corrective measures will be taken accordingly.

The PCU will arrange regular meetings with the Technical Committee to review submission of financial reports and work plans. Finally the PCU will prepare and disseminate information on the project, and lead efforts to co-ordinate field activities with associated programs. A diagram is included below:



Financial management

UNDP will administer and channel the GEF funds in the most efficient and appropriate manner, most likely as payment advances to the PCU once they have produced work plans with associated expenditure estimates on a 3-month rolling basis. The project will operate in strict compliance with UNDP rules and procedures as stipulated in the Manual for Nationally Executed Projects.

11. INCREMENTAL COSTS AND PROJECT FINANCING

Budget in US Dollars

Component/ Activity	GEF	GOM	Other	Total
I. Risk Assessment				
Capacity Building	\$ 575,136	\$ 518,000	\$ 75,000	\$ 1,168,136
Databases	\$ 14,446	\$ 25,000		\$ 39,446
Information on crops and wild relatives	\$ 140,982	\$ 2,684,500 ¹⁰		\$ 2,825,482
Expert Roster	\$ 14,446			\$ 14,446
Bibliography		\$ 30,000		\$ 30,000
Subtotal	\$ 745,010	\$ 3,257,500	\$ 75,000	\$ 4,077,510
II. Risk Management				
Capacity Building	\$ 308,760	\$ 16,000	\$ 200,000	\$ 524,760
Databases	\$ 19,000			\$ 19,000
Curriculum design			\$ 30,000	\$ 30,000
Subtotal	\$ 327,760	\$ 16,000	\$ 230,000	\$ 573,760
III. Legal Framework				
Capacity Building	\$ 42,563	\$ 156,970	\$ 70,000	\$ 269,533
Subtotal	\$ 42,563	\$ 156,970	\$ 70,000	\$ 269,533
IV. Risk Communication				
Capacity Building	\$ 28,375	\$ 210,000		\$ 238,375
Databases		\$ 25,000	\$ 75,000	\$ 100,000
Information strategies and dissemination		\$ 513,000	\$ 50,000	\$ 563,000
Subtotal	\$ 28,375	\$ 748,000	\$ 125,000	\$ 901,375
V. Institutional Strengthening				
Laboratory Infrastructure	\$ 242,717 ¹¹	\$ 174,000		\$ 416,717
Information Connectivity		\$ 70,000		\$ 70,000
Basic Biosafety Information Network	\$ 74,723 ¹²	\$ 20,000		\$ 94,723
Subtotal	\$ 317,440	\$ 264,000	\$ -	\$ 581,440
Total	\$ 1,461,148	\$ 4,442,470	\$ 500,000	\$ 6,403,618

¹⁰ This includes payments for two consultants on databases during the project life; information from the National Biodiversity System; cartography; development of a database platform

¹¹ Existing laboratories will be enhanced through the purchase of additional equipment necessary to implement molecular techniques for the detection, verification and monitoring of trans-boundary LMOs, according to the Cartagena Protocol.

¹² This system will be shared by the core agencies in the biosafety framework (SSA, SEMARNAT, SAGARPA, CONABIO, CIBIOGEM, and Customs) and supported by counterpart funding for interconnections.

Incremental Costs

GEF's participation in strategic elements of Mexico's biosafety capacity building effort over the medium-term horizon (3 years) will permit the longer-term consolidation of the strategy. The GEF alternative provides training and risk management components that will substantially increase Mexico's immediate response to the provisions of the Cartagena Protocol. The project will have a catalytic and consolidating effect on the national effort spearheaded by the CIBIOGEM.

The total costs of the project are estimated at US\$ 6.403 M of which GEF is requested to provide US\$ 1.461 M as agreed full cost funding, or 23% of the project cost. GOM will fund a total of US\$ 4.442 M through CIBIOGEM, SEMARNAT, SAGARPA, CONACYT, SSA, INE, and CONABIO. Other agencies such as WWF and Rockefeller Foundation will provide US\$ 500,000.

12. MONITORING, EVALUATION AND DISSEMINATION

The project will be monitored and evaluated according to standard UNDP rules for nationally executed projects. The PCU will prepare monthly status reports and results will be used to fine tune implementation strategies and schedules of the project components. Dissemination will be made through project workshops with the participation of other IA initiatives. Mexico participates in the Mesoamerican Network for Phyto-genetic Resources (REMERFI, acronym in Spanish). CIBIOGEM has provided the IPPC with a roster of Mexican experts in biosafety issues, and Mexican experts already provide training in biosafety issues in agriculture in the Central American region. This co-operation is expected to continue and will provide an additional forum for knowledge exchange and transfer.

13. COMPLEMENTARITIES WITH OTHER GEF INTERVENTIONS

This is one of 10 demonstration projects currently under preparation, and it builds on the experience accrued in the country through the implementation of biodiversity enabling activities. Negotiations are being formalised with other IA to ensure replicability and complementarity with the different initiatives in biosafety. The project will benefit from the increased knowledge of flora and fauna being generated in Mexico through the projects SINAP I and II, Biodiversity Conservation and Sustainable use of Sierra Gorda Biosphere Reserve and the 3 Priority Eco-regions projects currently under development or execution. In all four cases, the National Biodiversity Information System is the clearing-house for biodiversity inventories. Mexico is also a participating country in two regional projects with UNEP on below-ground agro-biodiversity and elimination of DDT in Mexico and Central America, to be presented in the December 2001 GEF Work Program. As synergies are identified, specific actions will be incorporated into the capacity-building framework. UNEP's participation in the Steering Committee will facilitate this effort. UNDP is currently managing a GEF Short-term Response Measure that will assist SEMARNAT in designing and implementing a long-term Green Plan for the environment sector and a comprehensive Programmatic Framework for biodiversity protection. Biosafety is one of the key cross-sector issues that will benefit from increased national capacity (current proposal) and from increased awareness and environmental responsibility in other line ministries (STRM-Green Plan).

14. LESSONS LEARNED

Mexico participated in all of the negotiations leading up to the signing of the Protocol, and established working contacts with a wide range of countries. The compromises agreed to in order to move forward with the CP allowed Mexico to understand the needs and priorities of other signatories in biosafety. More recently, Mexico has participated in diverse meetings in the biosafety context (IPPC, 2 Clearinghouse meetings (Lima, Montreal), OECD-Thailand, CBD-Cuba) and has used these opportunities to exchange ideas and strategies with countries in the region as well as other megadiversity countries. This experience provided the Mexican authorities with an informal network of decision-makers and experts during the design and implementation of the country's biosafety framework.

Mexico has previously carried out self-assessments of national capacities and gaps in the framework of the enabling activities in climate change and biodiversity. The current project takes on board these previous experiences and concretely builds on the national biodiversity information system (SNIB) hosted in CONABIO.

CIBIOGEM has promoted the establishment of an inter-sector working group on the legal framework for biosafety to promote broader dialogue and to mitigate the risk of continuous rotation of lawmakers in the congressional commission on biosafety.

The process of project design has also promoted wider dialogue and consensus between the different agencies that integrate the technical committee of CIBIOGEM, and has helped to centre the federal government's priorities in relation to LMOs. This improved co-ordination and dialogue is a key aspect of the proposed capacity building activity with the GEF.

15. LINK TO UNDP CCF AND REGIONAL INITIATIVES

15.1. UNDP Initiatives

At the national level, UNDP's Country Co-operation Framework (CCF) for Mexico supports interventions that combine natural resource use with environmental protection measures. UNDP is assisting the Government of Mexico in meeting its commitments under the key international environmental conventions by leveraging funding and supplying technical and administrative assistance to effectively implement programmatic actions towards this end. This project provides strategic capacity building for the country under the Cartagena Protocol, and builds on the experience generated by the biodiversity enabling activities. The initiative has been widely discussed with different federal ministries and forms part of the comprehensive planning framework reached with GOM through SEMARNAT.

15.2. Other

Rockefeller Foundation

GOM, through CIBIOGEM and CINVESTAV has negotiated a research project to be financed by the Rockefeller Foundation. The project will generate preliminary data without the use of transgenic materials to develop science-based environmental risk assessments and risk-benefit evaluations. The information will be used to either direct research towards development of safer products (high risk-benefit), or conversely to move forward to *in situ* experiments with transgenic landraces (acceptable or positive risk-benefit). The project will provide complementary inputs to the proposed GEF project in the areas of risk assessment, risk management and risk communication.

WWF

GOM, through CIBIOGEM has requested the assistance of WWF to address policy, institutional and human capacity building needs to effectively to meet its obligations under the Protocol. Specifically, the proposal will strengthen policy mechanisms for biosafety with the Mexican Congress, will design higher education curricula to address biosafety issues in an interdisciplinary manner, and will strengthen CIBIOGEM's capacity to design and implement wide-spread public awareness strategies.

Annexes:

- A. Incremental Cost Analysis**
- B. Project Logical Framework**
- C. Timetable of activities**
- D. Matrix of activities and corresponding article in CP**
- E. Project Endorsement Letter from GEF Focal Point**
- F. STAP Technical Review**
- G. Response to STAP Review**
- H. Response to Agency comments**
- I. Response to October 18 Bilateral Meetings**
- J. Description of CIBIOGEM**
- K. UNIDO Letter of Support**

Annex A:

INCREMENTAL COST ANALYSIS

BROAD DEVELOPMENT GOALS

Mexico will be able to implement the basic objectives of the Cartagena Protocol, including the assessment, management and monitoring of the potential risks posed by transboundary movement of LMOs to the conservation and sustainable use of biodiversity, including human health risks

GLOBAL ENVIRONMENTAL OBJECTIVE

Within three years, the country will build sufficient capacity to assess and manage risks associated with the trans-boundary movement of LMOs through strengthening of the legal and regulatory frameworks, enhanced institutional capacity and effective communication strategies. This enhanced capacity will assist Mexico to further protect its globally relevant bio- and agrobiodiversity.

BASELINE

Mexico will slowly develop its capacities in evaluating, monitoring, and managing the risks associated with the trans-boundary movement of LMOs. CIBIOGEM's co-ordination efforts will develop slowly and disparate capacities between the different ministries that make up its technical committee will continue to hamper a more integrated effort. Strengthening CIBIOGEM is based on incrementing the capacity of each of its institutional partners. GEF support will help right these unequal capacities and will ensure that the CIBIOGEM system operates in unison. CINVESTAV and other academic institutes will continue carrying out research in support of CIBIOGEM to LMO presence in imported grains, however cost considerations, and the fact that their institutional research programs do not entirely respond to government needs, will not significantly contribute to increased government response capacity for trans-boundary LMO issues.

A national bio-technology program will increase Mexico's capacity to perform biotechnology research and to further promote Mexican projects through technology transfer towards successful business applications. Biosafety is one of the key aspects of the programme and CIBIOGEM's capacity building program will provide needed –if limited- support.

GEF PROJECT ALTERNATIVE

GEF's participation in strategic elements of Mexico's biosafety capacity building effort over the medium-term horizon (3 years) will permit the longer-term consolidation of the strategy. The GEF alternative provides training and risk management components that will substantially increase Mexico's immediate response to the provisions of the Cartagena Protocol. The project will have a catalytic and consolidating effect on the national effort spearheaded by the CIBIOGEM.

The project would focus on the assessment, regulation and management of the risks derived from the trans-boundary release and utilisation of LMOs, that might present adverse risks to the conservation and sustainable use of biological diversity, taking also in account potential risks to human health. This national approach to capacity building contemplates risk assessment and management, monitoring and evaluation, legal and regulatory reform/strengthening, broad social participation, a dissemination strategy and institutional strengthening in the context of the Advanced Informed Agreement.

SYSTEM BOUNDARY

The system boundary of the project is the Mexican national territory, with expected benefits and lessons learned for other regions in the world. Project resources assigned to capacity-building efforts on trans-boundary LMOs will be concentrated on CIBIOGEM and other line ministries

that support biosafety activities. It is likely that agro-biodiversity hotspots such as Chiapas, Jalisco, Michoacan, Oaxaca and Puebla would be used to carry out small-scale site studies and to develop risk evaluation and mitigation strategies.

ADDITIONAL BENEFITS

Mexico's national bio-technology program will benefit from increased national capacity to evaluate and manage risks associated with the trans-boundary movement of LMO's, contributing to the possibility of increasing yields in rural environments and diminishing pressures on arable lands. Increased food production and security may also prove to be eventual benefits of the project. The process of project development has built trust and increased technical exchange between CIBIOGEM and other sectors of the government. The original capacity-building proposal identified by CIBIOGEM in September 2000 has been enriched and strengthened through this consensus-based, inter-agency process. Finally, practical experiences on cross-sector issues such as the impact of trade and market instruments on biosecurity risks and vulnerability in a megadiversity country will be generated through the project.

COSTS

The total costs of the project are estimated at US\$ 6.403 M of which GEF is requested to provide US\$ 1.461 M as agreed full cost funding, or 23% of the project cost. GOM will fund a total of US\$ 4.442 M through CIBIOGEM, SEMARNAT, SAGARPA, CONACYT, SSA, INE, and CONABIO. Other agencies such as WWF and Rockefeller Foundation will provide US\$ 500,000. The baseline costs are US\$ 2,075,000 and the incremental costs total US\$ 4,328,618.

Table A-1 Incremental Cost Matrix

<p>1. Enhanced institutional capacity to carry out Risk assessment</p>	<p>SEMARNAT does not currently have institutional capacity (personnel, equipment and training) to carry out risk assessments with SAGARPA as part of the CIBIOGEM. This situation is unlikely to change in the absence of GEF resources.</p> <p>CONABIO would continue to integrate its Biodiversity Risk Evaluation Model in support of applications from the governmental, non-governmental and industry sectors.</p> <p>SAGARPA would also continue to carry out risk assessment based on their institutional capacity and experience.</p> <p><i>Cost: US\$ 1,500,000</i></p>	<p>GEF support for training (and associated system development in output 5), will consolidated the capacity to carry out analysis and studies necessary to determine environmental risk evaluation.</p> <p>Agriculture's significant baseline capacity to carry out field tests and to manage experimental data would be strengthened through expert support and training.</p> <p>Risk assessment will be carried out with science-based, biological and agro-biological criteria in this megadiversity country.</p> <p>Targeted field studies on the effect of gene flow in maize landraces and squash and other cucurbitaceae would be carried out.</p> <p>The information and data generated from these studies will provide Mexico with operational tools that will better conserve its biological and agro-biological diversity.</p> <p><i>Cost: US\$ 745,010 (GEF) US\$ 1,832,500 (COFIN)</i></p> <hr/> <p><i>US\$ 2,577,510</i></p>	<p>Risk assessment capacities developed and consolidated in a megadiversity country.</p> <p><i>Cost: 1,077,510</i></p>
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Project Outputs	Baseline	Alternative	Increment
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Project Outputs	Baseline	Alternative	Increment
<p>2. National capacities enhanced in risk management and monitoring</p>	<p>SAGARPA databases have not been implemented during its 12-year old experience on risk assessment. None of its decisions has been put in electronic version, neither for public information nor for sharing with other competent authorities or the BCH.</p> <p>In the Ministry of Health databases have been generated. However, the speed of their advancement is slow, as it is the implementation of their own database. They do not have a budget for information sharing with other competent authorities or the BCH.</p> <p><i>Cost: US\$ 75,000</i></p>	<p>Existing databases in CONABIO and Health will be enhanced with GEF support to provide a higher degree of capacity to monitor the short, medium and long-term effects of LMO introduction and displacement within the country. This includes information on LMOs and their wild relatives, taxonomic and phylogenetic information, geographic information on species distribution, phenological information, information on reproductive systems, dispersion mechanisms, demography, environmental parameters, LMO characteristic (modified gene, desired characteristic, method used to transform gene, donor organism, etc.)</p> <p>GEF resources will be used specifically for training experts in molecular genetics to detect and track LMOs in introduced commodity grains. The capacity developed will increase Mexico's potential to monitor in-country movements of LMO and to help prevent their use as crop seeds.</p> <p>National training efforts for SAGARPA and SEMARNAT staff will include GEF support to develop field capacity to monitor possible gene flow between introduced LMOs and semi-domestic and wild relatives.</p> <p>Training will allow personnel to supervise the implementation of biosafety measures and over the medium term to identify potential gene flow, as well the effect on non target insects. Data on trans-boundary shipments of LMOs at points of entry would be registered, collected and validated by Customs through ad hoc methodologies designed with the help of GEF resources and the technical expertise of UNEP.</p>	<p>Risk management capacities developed. LMO tracking to be implemented from point-of-entry.</p> <p><i>Cost: US\$ 423,760</i></p>

Project Outputs	Baseline	Alternative	Increment
		Cost: US\$ 327,760 (GEF) US\$ 171,000 (COFIN) <hr/> US\$ 498,760	
3. Strengthening of the legal framework	<p>Standards would continue to be elaborated on biosafety issues, such as the soon to be emitted FITO/ECOL norm and a standard for animal vaccinations made with transgenic inputs.</p> <p>The biosafety legal framework would continue to be derived from modifying sector-specific legislation and charters.</p> <p>Cost: US\$ 100,000</p>	<p>An evaluation of Mexico's current legal framework in the context of the CP would be carried out with co-financing funds and recommendations made for modifications. Additional cross-sector charters and legal instruments would be explored to reinforce the capacity and mandate of the institutions that integrate CIBIOGEM while eliminating duplicated functions or inefficiencies. GEF funds will be used to complement this effort by supporting targeted country visits to identify and transfer know how to Mexico on useful legal instruments for biosafety, especially other megadiversity countries. Environment's efforts to harmonise cross-sector legislation related to environmental risks and damages would be extended to the biosafety legal framework.</p> <p>Cost: US\$ 42,563(GEF) US\$ 126,970 (COFIN) <hr/> US\$ 169,533</p>	<p>The biosafety legal framework would be mainstreamed into all institutions participating in the NBSF.</p> <p>Increased cross-sector integration would be attained.</p> <p>Cost: US\$ 69,533</p>

Project Outputs	Baseline	Alternative	Increment
<p>4. Public awareness program and communication strategies</p>	<p>Large-scale efforts led by industry would continue to lobby legislators on LMO issues. Mexico's trade partners would continue to lobby for market access of trans-genic crops.</p> <p>CIBIOGEM and SEMARNAT would continue to make modest outreach efforts to the legislature, without the desired scientific backup.</p> <p><i>Cost: US\$ 400,000</i></p>	<p>Targeted information will be developed to make best use of the different available media options. Modest GEF resources would be used to design a targeted information campaign on potential risks and benefits of LMOs for small-holders in rural communities that participate in GOM's agricultural outreach and subsidy programs. The elements generated during the participatory process leading up to the integration of this proposal provide sufficient input to create a national proposal for biosafety education, designed for adoption in undergraduate and advanced degree programs .</p> <p>Replication efforts would ensure that lessons learned and scientific and technical innovations on biosafety efforts would be directly incorporated into the human resource preparation efforts over the mid- and long-term. CIBIOGEM will have a website to concentrate information and links to different databases in line ministries (Art. 19).</p> <p><i>Cost: US\$ 28,375 (GEF) US\$ 473,000 (COFIN)</i></p> <hr/> <p><i>US\$ 501,375</i></p>	<p>Biosafety issues mainstreamed in government agricultural stimulus packages. A national curricula in biosafety prepared and implemented. BCH mechanism operational.</p> <p><i>Cost: US\$ 101,375</i></p>
<p>5. Institutional strengthening: laboratory equipment and information-sharing infrastructure and protocols</p>	<p>In SEMARNAT and SHCP laboratory facilities there is no equipment for molecular detection of LMOs, and only until very recently is its personnel involved in the evaluation of risks to the environment, although biodiversity databases have been complemented in the case of SEMARNAT. In all of their actions the development of capacities would be very slow.</p> <p>In all of the CIGIOGEM participating agencies</p>	<p>An inter-agency information system on transgenic organisms will share information that has been generated or will be generated by the different institutions that make up the biosafety framework. Counterpart funding will support this system through telecommunications equipment and information connectivity. Accumulated information in Agriculture and Health</p>	<p>Operational databases with inter-agency interfaces. Existing laboratories equipped to detect and manage trans-boundary LMO movements. Effects on biodiversity and agro-biodiversity components determined and actions taken accordingly.</p>

Project Outputs	Baseline	Alternative	Increment
	<p>the budget allocated for information system varies, and no shared databases exists. Information protocols are likewise non-existent among the different agencies. This type of information management it is of vital importance in order to comply with the provisions of the CP.</p> <p><i>Cost: US\$ 0</i></p>	<p>will be systematised and computerised. Data generated in SEMARNAT on monitoring of the environment will also be included. Components include taxonomic and phylogenetic information, geographic information on species distribution, phenological information, information on reproductive systems, dispersion mechanisms, demography, environmental parameters, LMO characteristic (modified gene, desired characteristic, method used to transform gene, donor organism, etc.).</p> <p><i>Cost: US\$ 317,440 (GEF)</i> <i>US\$ 264,000 (COFIN)</i></p> <hr/> <p><i>US\$ 581,440</i></p>	<p><i>Cost: US\$ 581,440</i></p>
Global Environmental Benefits	<p>Under the baseline scenario, Mexico will slowly move towards full implementation of the Cartagena Protocol, however the immediate risks to Mexico's biodiversity and agro-biodiversity would remain quite high.</p>	<p>Mexico will be able to fully respond to the challenges of implementation of the Cartagena Protocol in the short and medium term.</p>	<p>The global environmental framework will be strengthened and "greened" through the implementation and eventual ratification of the Cartagena Protocol.</p> <p>Globally important biodiversity and agro-biodiversity components will be protected.</p>
Domestic Environmental Benefits	<p>As institutional capacity gradually increments for risk assessment and risk management, genus of regional importance and commercial importance would be better protected.</p>	<p>CIBIOGEM will become totally operational and will see its inter-agency co-operation framework strengthened. Other government agencies will produce reliable and science-based information on biosafety.</p>	<p>Mexico's commercial environment will be strengthened. Bio-technology issues will develop with appropriate</p>

Project Outputs	Baseline	Alternative	Increment
			safeguards in place and operational.
Costs	<i>Total: US\$ 2,075,000</i>	<i>Total: US\$ 1,461,148 (GEF)</i> <i>US\$ 2,867,470(COFIN)</i> <hr/> <i>Total: US\$ 4,328,618</i>	<i>Total: US\$ 2,253,618</i>

Annex B:

PROJECT LOGICAL FRAMEWORK

Each of these five main components has intermediate outputs expected which will be reached by diverse activities carried out by the main participants of the project.

Component	Outputs	Success Indicators	Means of Verification
1. Risk assessment	<p>1.1 Adequate scientific and technical level in the following areas of evaluation:</p> <ul style="list-style-type: none"> • Site testing to identify risks of gene flow and seed exchange • potential impacts of gene flow under different conditions • risk of conservation and sustainable use of biodiversity effects on ecosystems of the introduction of living modified organisms • potential health impacts (Non GEF) • epidemiology genetics and toxicology (Non GEF) • processed food LMO's identification (Non GEF) <p>1.2 Standardised methodologies on risk assessment for biodiversity</p> <p>1.3 Institutional manuals</p> <p>1.4 Databases on cultivated species; genetic and ecological information on transgenic crops, transgenic species and their wild relatives; information on the spatial distribution on transgenic crops.</p>	<p>Government officials trained in Health (national effort), Environment and Agriculture by the end of the project.</p> <p>24 experts trained on issues related to LMO commodities, molecular genetics and ecological risk assessment by the middle of year 2</p> <p>35 technical support personnel trained on identification of LMO's, monitoring and evaluation of products, and system and database management</p> <p>At least 5 Site studies carried out in Agrobiodiversity hotspots per year, during the life of the project in order to backstop requests under the Advance Informed Agreement.</p> <p>Capacities for a regional training mechanism (national effort) created by the middle of year 2.</p> <p>Methodologies developed by the middle of year 2.</p> <p>Institutional Manuals developed by the middle of year 2</p> <p>Databases developed by the end of year 2</p>	<p>Course participation certificates</p> <p>Site studies reports</p> <p>Technical progress reports</p> <p>Monitoring and evaluation reports</p> <p>Institutional manuals published and disseminated</p> <p>Databases operating and consulted</p>
2. Risk management and monitoring	<p>2.1 Risk management</p> <ul style="list-style-type: none"> • Site testing • Molecular Biology Capacity Building • Molecular biology equipment in the local monitoring stations <p>2.2 Customs officials able to process requests</p>	<p>6 experts trained on molecular biology and risk management by the end of year 2</p> <p>In situ monitoring and data management practices established by the middle of year 2</p> <p>240 technical field support personnel (SAGARPA, SEMARNAT and customs officials) trained on LMOs identification, field testing, risk management and monitoring of LMO's introduction by the beginning of year 2</p>	<p>Course Participation certificates</p> <p>Methodologies adopted</p> <p>Monitoring and evaluation reports.</p>

Component	Outputs	Success Indicators	Means of Verification
	<p>2.3 Methodologies for molecular detection and tracking of LMOs will be developed</p> <p>2.4 Information capacity developed shared.</p> <ul style="list-style-type: none"> • Biosafety Clearing House • Operational manuals • Databases 	<p>Standard methodologies for detection of LMOs available in order to share information among institutions by the end of year 2.</p> <p>Existing databases up-scaled to include the processing of data useful for tracking and monitoring LMO and a gap analysis used to evaluate distinct potentials for data management, by the end of year 2.</p> <p>Databases developed gathering the relevant characteristics of the landraces and native varieties possibly affected by transgenic crops by the end of year 2</p>	<p>Databases operating</p> <p>Operational manuals available</p>
3. Strengthening of the legal framework	<p>3.1 National level consultations regarding the need and scope of a biosafety law and regulations</p> <p>3.2 Targeted visits to identify and transfer know-how to Mexico on useful legal instruments for biosafety</p> <p>3.3. Experts group meetings on the need of diverse standards and regulations regarding biosafety.</p> <p>3.4. Standards for food and feed and release of transgenic plants and microorganisms developed.</p> <p>3.5. Environmental damages as related to introduced LMOs included into civil law</p>	<p>Legal framework reviewed and evaluated by the end of year 1</p> <p>Best practices identified, catalogued and summarised for applications in Mexico by the beginning of year 2</p> <p>Institutional gaps and overlaps identified; modifications suggested and promoted by the end of year 1</p> <p>Experience acquired through Advance Informed Agreement considered for standardised adoption among agencies by the beginning of year 3</p> <p>Evaluation of new requirements following the second year of project implementation</p> <p>Lobbying carried out with legislators by the end of year two</p>	<p>Consultant reports</p> <p>Consultant reports</p> <p>Experts group meetings acts/minutes</p> <p>Standards approved</p> <p>Consultant reports</p> <p>Law Decrees</p>
4. Public awareness program and communication strategies	<p>4.1 Public information fora</p> <p>4.2 Preparation of Basic Information on LMO risks and potential for recipients of official agriculture programs</p> <p>4.3 Stakeholder consultations for specific issue</p> <p>4.3. Information campaigns on media; radio newspapers, television and targeted material</p> <p>4.4. Web page developed.</p>	<p>Communication strategies at national level and in regional and sub-regional contexts developed by the end of year 1 and implemented during the project life.</p> <p>Information included on official programs and disseminated by the beginning of year 2</p> <p>Strategies developed to target core stakeholders for appropriate technical and scientific information by the middle of year 2.</p> <p>Web page operating by the end of year 1.</p>	<p>Campaign plans</p> <p>Media spots, newsletter adds</p> <p>Folders, signs.</p> <p>Number of Web site users</p>

Component	Outputs	Success Indicators	Means of Verification
5. Administrative framework strengthening (lab equipment and database infrastructure)	<p>5.1. Labs and monitoring stations strengthening with modern equipment</p> <p>5.2. Information sharing protocols developed between customs at ports of entry with central databases in CIBIOGEM, SAGARPA; Health and SEMARNAT.</p> <p>5.3. Molecular detection techniques developed</p> <p>5.4. Fully comprehensive databases on national biodiversity, transgenic crops and wild relatives, including a module established in the biotic information system</p> <p>5.5. A roster of experts on every biological group</p>	<p>Equipment in operation by the end of year 1</p> <p>Protocols, databases and Access®-based Information System on Transgenic Organisms operating by the end of year 2.</p> <p>Trained experts and technical personnel implementing molecular detection techniques by the middle of year 3.</p> <p>Databases on biodiversity operating by the end of year 3</p> <p>Feedback from experts on biological groups during the project life</p>	<p>Laboratories established and equipped</p> <p>Software developed and system functioning</p> <p>M & E reports</p> <p>Database searches produced and available in biosafety focal point</p> <p>Roster available on the web site.</p>

Annex C:

TIMETABLE OF ACTIVITIES

COMPONENT	YEAR 1				YEAR 2				YEAR 3			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
RISK ASSESSMENT												
1.1 Adequate scientific and technical level in the following areas of evaluation:												
• Site testing to identify risks of gene flow and seed exchange	■	■			■	■			■	■		
• potential impacts of gene flow under different conditions			■				■				■	
• risk of conservation and sustainable use of biodiversity effects on ecosystems of the introduction of living modified organisms		■				■				■		
• potential health impacts		■				■				■		
• epidemiology genetics and toxicology		■	■			■	■			■	■	
• processed food LMO's identification				■				■				■
1.2 Standardised methodologies on risk assessment for biodiversity					■	■						
1.3 Institutional manuals					■	■						
1.4 Databases on cultivated species; genetic and ecological information on transgenic crops, transgenic species and their wild relatives; information on the spatial distribution on transgenic crops.							■	■				
RISK MANAGEMENT AND MONITORING												
2.1 Risk management												
• Site testing		■	■	■		■	■	■		■	■	■
• Molecular Biology Capacity Building	■	■	■		■	■			■	■		
• Molecular biology equipment in the local monitoring stations							■	■	■	■	■	■
2.2 Customs officials able to process requests					■	■	■	■	■	■	■	■
2.3 Methodologies for molecular detection and tracking of LMOs will be developed							■	■				
2.4 Information capacity developed shared.												

COMPONENT	YEAR 1				YEAR 2				YEAR 3			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
<ul style="list-style-type: none"> Biosafety Clearing House Operational manuals Databases 												
STRENGTHENING OF THE LEGAL FRAMEWORK												
3.1 National level consultations regarding the need and scope of a biosafety law and regulations												
3.2 Targeted visits to identify and transfer know how to Mexico on useful legal instruments for biosafety												
3.3. Experts group meetings on the need of diverse standards and regulations regarding biosafety.												
3.4. Standards for food and feed and release of transgenic plants and microorganisms developed.												
3.5. Environmental damages as related to introduced LMOs included into civil law												
PUBLIC AWARENESS PROGRAM AND COMMUNICATION STRATEGIES												
4.1 Public information fora												
4.2 Preparation of Basic Information on LMO risks and potential for recipients of official agriculture programs												
4.3 Stakeholder consultations for specific issue												
4.4 Information campaigns on media; radio newspapers, television and targeted material												
4.5. Web page developed												
ADMINISTRATIVE FRAMEWORK STRENGTHENING (LAB EQUIPMENT AND DATABASE INFRASTRUCTURE)												
5.1. Labs and monitoring stations strengthening with modern equipment												

COMPONENT	YEAR 1				YEAR 2				YEAR 3			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
5.2 Information sharing protocols developed between customs at ports of entry with central databases in CIBIOGEM, SAGARPA; Health and SEMARNAT, with Information System on Transgenic Organisms functioning												
5.3 Molecular detection techniques developed												
5.4 Fully comprehensive databases on national biodiversity including a module established in the biotic information system												
5.5 A roster of experts on every biological group												

Annex D:

MATRIX OF PLANNED ACTIVITIES IN NATIONAL BIOSAFETY FRAMEWORK

Outcomes	Planned activities to achieve outcomes		Article	Description
	GOM	GEF		
1. CIBIOGEM and its agencies are strengthened ¹³ in their capacity for risk assessment	<ul style="list-style-type: none"> ❖ Site studies carried out in order to backstop requests under the Advance Informed Agreement ❖ Gene flow studies. Its potential impacts under different conditions ❖ Studies on the ecosystems where LMOs are introduced ❖ Processed food LMOs identification and potential health impact studies ❖ Creation of capacities for a regional training mechanism 	<ul style="list-style-type: none"> ❖ Training of official decision makers in Environment and Agriculture ❖ Training courses for technical support personnel ❖ Elaboration of institutional manuals 	9(2 a) 9(2 b) 9(2 c) 10 (2 a) 10(2 b) 10 (3 a-d) 10(4) 10(3) 11(1) 11(3) 11(4,6) 12(2,3)	Acknowledgement of receipt of Notification Decision Procedure Procedures for LMOs intended as FFP Review of decisions
2. Institutional and technical capacity in the management and monitoring of risks associated with the transboundary movement of LMOs	<ul style="list-style-type: none"> ❖ Existing databases will be upscaled to include the processing of data useful for tracking and monitoring LMO, and gap analysis will be used to evaluate distinct potentials for data management ❖ Data will be collected ❖ <i>Ad hoc</i> methodologies for molecular detection of LMOs will be developed. ❖ Standardization of methodologies for LMOs detection 	<ul style="list-style-type: none"> ❖ Information networks and specialised equipment will be integrated ❖ Personnel will be trained on the use of specialised equipment ❖ Information capacity development shared with BCH ❖ Information uploading to CBD BCH databases ❖ Customs officials able to process requests ❖ Operational manuals will be prepared and deployed to relevant institutions 	15(1,2) 16(1) 16(3) 17(1) 20(3) (c,e) 25 (3)	Risk Assessment Risk Management Unintentional transboundary movement Information sharing and BCH Illegal transboundary movements

¹³ For the purposes of this project, a participatory process carried out by CIBIOGEM's technical committee defines capacity building as: *The creation of capacities in biosafety is a dynamic process that will allow Mexico to consolidate a national program.*


			33	Monitoring and reporting
3. A legal and regulatory framework that allows the effective evaluation, management (including enforcement) and monitoring of LMOs	<ul style="list-style-type: none"> ❖ Legal framework reviewed and evaluated by experts group meetings ❖ Modifications to diverse standards, regulations and laws suggested and promoted ❖ Institutional gaps and overlaps identified and corrective measures suggested 	<ul style="list-style-type: none"> ❖ Targeted visits to transfer know-how and practical experiences from other megadiverse countries to Mexico ❖ Experience acquired through Advance Informed Agreement considered for standardised adoption among agencies ❖ Evaluation of new requirements following the second year of project implementation 	<p>2(2) 8(2) 11(2) 9(3) 10(1) 16(3) 16 (4) 17 (1) 18(2a) 18 (2b) 18(2c) 21 (1,6) 21(2) 21(3,5) 21(4) 25(1) 25(2)</p>	<p>General provisions Notification FFP Acknowledgement of receipt of notification Risk Management Unintentional Mvt. Handling, transport, packing and identification Confidential information Illegal Movements</p>
4. Public Awareness Programme	<ul style="list-style-type: none"> ❖ Public information fora. ❖ Target core stakeholders for appropriate technical and scientific information. ❖ Create enabling environment for clear and readily understandable information sharing via targeted material for different media. ❖ Web page development ❖ Evaluate, define and develop communication strategies in regional and sub-regional contexts 	<ul style="list-style-type: none"> ❖ Prepare basic information on LMO risks and potentials for recipients of official agricultural programmes ❖ Adoption of lessons learned and adaptive management in communication strategy. 	<p>23(1a) 23(1b) 23(2) 23(3)</p>	<p>Public awareness and participation</p>
5. Institutional framework strengthening	<ul style="list-style-type: none"> ❖ Information sharing protocols developed between customs at ports of entry and National databases ❖ Comprehensive databases on national biodiversity ❖ Development of 	<ul style="list-style-type: none"> ❖ Complement comprehensive databases on national biodiversity ❖ Labs and monitoring stations strengthened with modern molecular biology and database equipment ❖ Roster of experts 	<p>15 16 19(2)</p>	<p>Risk Assessment Risk Management Competent authority responsible for a particular type of LMO</p>

	molecular detection techniques ❖ Interconnectivity attained between systems in the national biosafety framework.	on different biological groups to be shared at regional level ❖ Institutional strengthening of CIBIOGEM information-sharing framework and AIA	20(1.a.)	Facilitate exchange of information and experience with LMOs
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Annex E:

ENDORSEMENT LETTER

G.M.1



SECRETARIA
DE
HACIENDA Y CREDITO PUBLICO

DIRECCION GENERAL DE CREDITO PUBLICO
DIRECCION GENERAL ADJUNTA DE ORGANISMOS
FINANCIEROS INTERNACIONALES
Dirección de Coordinación Sectorial y Proyectos de
Descentralización y Medio Ambiente

Oficio No.- 305. VI. 3.- 172

México, D.F., a 27 de Julio de 2001

SRA. CLEMENCIA MUÑOZ
Representante Residente en México PNUD
Presidente Mazarik # 29, Piso 8,
Colonia Polanco
C i u d a d

Hago referencia a la propuesta de proyecto " Basic Capacity Development for the Implementation of the Cartagena Protocol on Biosafety " que será sometida a consideración del Fondo para el Medio Ambiente Mundial (GEF) para su financiamiento, a través del PNUD como agencia implementadora del mismo.

Sobre el particular, a través del presente me permito comunicar a usted que en virtud de que el proyecto de referencia cuenta con el respaldo técnico de la Secretaría de Medio Ambiente y Recursos Naturales (SEMARNAT), esta Secretaría de Hacienda y Crédito Público está de acuerdo en que dicha propuesta se someta a consideración del Secretariado del GEF en Washington, a través del PNUD como Agencia Instrumentadora del GEF en México; lo anterior, en virtud de que su financiamiento contribuirá al cumplimiento de metas sectoriales de desarrollo.

Mucho le agradeceré nos mantenga informados del trámite que guarden estas gestiones, y sin otro particular por el momento, aprovecho la ocasión para reiterar a usted las seguridades de mi más atenta y distinguida consideración.

Atentamente,
SUFRAGIO EFECTIVO. NO REELECCION.
El Director General Adjunto de Organismos
Financieros Internacionales

P.A. Claudio Hraysh Bayata


Ricardo Ochoa

Annex F:

STAP REVIEW

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UNIVERSITY OF CALIFORNIA, DAVIS

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DEPARTMENT OF HUMAN AND COMMUNITY DEVELOPMENT
COMMUNITY STUDIES AND DEVELOPMENT
HUMAN DEVELOPMENT AND FAMILY STUDIES
COOPERATIVE EXTENSION
(530) 752-3858
FAX: (530) 752-5660

ONE SHIELDS AVENUE
DAVIS, CALIFORNIA 95616

TO: Jonathan Ryan, UNDP, Mexico D.F.

FROM: Stephen Brush, University of California, Davis 

DATE: 28 September 2001

RE: Review of Project Brief (Mexico)
Capacity Building for Implementation of the Cartagena Protocol

I have reviewed the Project Brief submitted by Mexico to UNDP for GEF funding for “Capacity Building for Implementation of the Cartagena Protocol. My assessment of the project is positive. I make some suggestions for further elaboration and emphasis in the project planning and implementation stages.

Objective

The purpose of the project is to improve the capacity of Mexico to implement the Cartagena Protocol on Biosafety to the Convention on Biological Diversity. Specifically, the project seeks to strengthen the abilities of the Commission on Biosafety and Genetically Modified Organisms (CIBIOGEM) and affiliated institutions to respond to national mandates and international obligations for assessing and managing risks involved in the trans-boundary movement of Living Modified Organisms (LMOs). UNDP/GEF funding is specifically requested to ensure adequate scientific and technical levels in biological and social sciences relating to crop performance, gene flow, conservation of genetic resources, and human health. In addition, the Government of Mexico will commit funds to strengthen the legal framework relating to biosafety, increase public awareness and communication, and improve the administrative framework.

Background

Mexico is a signatory to the CBD (1993) and to the Cartagena Protocol (2000, pending ratification). Beginning in 1988, Mexico developed a national scientific, legal, and administrative framework to deal with biosafety. This framework involves legislation, institutional organization, and re-direction of ministry programs in several interlocking sectors – trade, environment, agriculture, and public health.

Mexico is a world center of biological diversity and agricultural diversity. Mexico is a Vavilov center of crop origins and evolution, and home not only to valuable stores of genetic diversity in traditional crops but also in wild and weedy relatives of those crops. Mexico is a primary center of several food crops of global significance (maize, beans, squash, chili pepper), all of which grow in association with wild relatives and with the potential for gene flow between domesticated and wild stocks. Likewise, it is a primary center of many other crops with regional or secondary importance (e.g., avocado, papaya, and amaranth). Mexico is also a primary center of several important industrial crops with valuable national germplasm (e.g., cacao, agave). The Mexican landscape and vegetation is a mosaic of cultivated and wild plant communities, which are potentially connected through gene flow. Mexico occupies the very highest status in regard to its potential for gene flow between cultivated and domestic stocks.

Mexico is also dependent on imported food, including staples. In 1999, Mexico imported 4.8m MT of maize from the U.S. Food imports, particularly maize, are likely to increase as the NAFTA commodity price regime is implemented. Besides importing maize through the formal commodity chain, it is likely that seed is brought into Mexico through informal channels of the extensive migration, especially between Mexico and the United States.

The United States is a leading producer of commodities using seed developed by transgenic means, including commodities imported by Mexico such as maize and beans. Because the U.S. is the leading supplier of commodities imported to Mexico and does not specifically label commodities as derived from LMOs, Mexico should assume that large quantities of LMO derived commodities are entering the country. These commodities are intended for processing and consumption rather than seed and therefore are exempt from advanced informed authorization under the Cartagena Protocol. Nevertheless, the commodity system is porous and it is likely that LMO commodities have been and will continue to be a source of seed, especially in the small farm sector. Indeed recent research in the states of Oaxaca and Puebla indicates that transgenic maize is already established in Mexico despite a 1998 moratorium on commercial production of transgenic maize. Consequently, Mexico confronts an imminent and on-going test of its ability to fulfill both its national and international mandate to assess and manage the risk of LMOs. Its most serious challenges are to identify key biological and agricultural environments where LMOs are likely to have a negative impact on unique biological resources and to develop means to reduce or mitigate that impact.

Evaluation – Scientific and Technical Soundness

The awareness at the scientific and federal government levels of the potential risks of LMOs in the Mexican environment is high. Mexico has moved expeditiously to develop a national scientific and legal framework to assess and manage risks associated with trans-boundary movement of LMOs into Mexico. The general conception and organization of the framework under CIBIOGEM is appropriate and sufficiently complete. This framework, however, is currently inadequate in terms training to meet the potentially heavy demands for LMO risk assessment and management stemming from the importation of basic commodities. Five different ministries or national commissions are coordinated through CIBIOGEM, and these differ greatly in their capacity to respond to CIBIOGEM's needs. For instance, the ministry of the environment (SEMARNAT) has no specialized laboratory technicians to monitor LMOs in environments where potential hazards to wild fauna (e.g., *Lepidoptera*). Likewise, the ministry of agriculture (SAGARPA) has a large national infrastructure for research and outreach, but its personnel are not sufficiently trained in the areas of monitoring the presence of LMOs, gene flow into domesticated and wild stocks, or the socio-economic impact of the diffusion of LMO seed.

Therefore, the scientific and technical basis of the project are sound. This said, however, I would strongly recommend that the project be more highly focused in its implementation. The project should be planned according to Mexico's unique biological and agricultural contexts. This would put the emphasis on evaluating and managing the risks of trans-boundary movement of LMOs in terms of impact on biological diversity, including agro-biodiversity that is unique to Mexico. The most critical need for capacity building is in identifying high-risk areas where Mexican biodiversity and agro-biodiversity may be negatively impacted by the trans-boundary movement of LMOs.

Another high priority area is education aimed at both the agricultural development and farm sectors to inform them of the risks and management options relating to LMOs. Thirdly, a priority area would be to develop a national regulatory framework to limit the diffusion and impact of LMOs in high risk areas. At present, it is reasonable to assume that commodities from the U.S. contain LMOs. The challenge to Mexico is to identify the Mexican contexts where LMOs will have an unusual and unique impact. Because Mexico has unique biodiversity and agro-biodiversity, it should concentrate on identifying, monitoring and managing the impact of LMOs in these two areas. It is unclear what is meant by evaluation of "in situ agronomical traits and performance." Such evaluation is implied in estimating the likelihood of LMO seeds to either replace or significantly affect local crop populations. Agronomic trials of LMOs should not be funded by this project. Rather, the tracking of LMOs through molecular marker technology should be emphasized.

A significant hazard in the proposal is spreading limited resources too thinly to make a significant improvement in any one area. The project should not attempt to address the entire gamut of programs suggested in the proposal. Thus, I would recommend the elimination of support from this project to the ministry of public health (SSA) to evaluate the food safety of commodities with LMO elements. This is an important area, but the budget available is insufficient to support this activity along with the others just mentioned. Mexican scientists and institutions could benefit from networking with research elsewhere on food safety of LMO products rather than investing scarce resources to duplicate this research. Likewise, I recommend that Mexico not invest limited capacity building funds to develop border monitoring. Scarce funds would be better used to develop the capacity track the movement of LMO commodities into the agricultural systems of Mexico with the objective of limiting their introduction into areas of critical biodiversity and agro-biodiversity.

To summarize my evaluation of the project's scientific and technical soundness: the overall need, background, framework of improving Mexican capacity to implement the Cartagena Protocol is very strong and well developed in the proposal. The soundness of the planned activities will be augmented by eliminating project components dealing with food safety monitoring and border detection of unintentional and illegal trans-boundary movement of LMOs. This will allow Mexico to focus its activities on identifying and managing high risk areas, public awareness, and scientific coordination.

Evaluation – Other Aspects

The importance of Mexico as a center of biological diversity and agro-biodiversity has been mentioned. The global importance of Mexico's agro-biodiversity can hardly be overstated. It is the center of diversity of maize, one of the world's top three crops for human consumption. Moreover, Mexico occupies a critical geographical location involving large-scale migration of different species between regions to the north and south. Migrations of such species as *Lepidoptera* may possibly be negatively affected by the unmanaged diffusion of LMOs in Mexico. No global environmental drawbacks are foreseen in the project.

The project fits extremely well with the implementation of the Cartagena Protocol of the CBD.

Mexico is extremely influential in scientific leadership and training in the region of Central America and beyond. A UNDP/GEF proposal for implementing the Cartagena Protocol should have highly visible and beneficial effects elsewhere in Central America as other countries seek to implement the protocol.

Mexico is currently participating in a number of research projects relating to the new GEF program to support the *in situ* conservation of agro-biodiversity. The capacity to evaluate and monitor risks of LMOs relates directly to other ecological and conservation work relating to its valuable crop genetic resources. Technical capacity developed under this project should be highly relevant to other biodiversity projects. Moreover, Mexico has demonstrated national commitment to carrying out activities relating to conservation of its unique biological diversity. This history suggests that this project is sustainable.

Strengthening the legal and regulatory framework in Mexico is an important aspect of implementing the Cartagena Protocol. In particular, the framework might consider mechanisms to limit the introduction of LMO maize and other commodities into areas that are identified as high risk areas for gene flow (e.g., where teosinte – *Zea mexicana* – is present) or where valuable crop genetic resources exist. LMO commodities may, for instance, be processed before distribution in those areas. Another approach would be national legislation requiring specific labeling and segregation of imported commodities according to LMO content. A recommended path is networking with other countries and international entities that are developing regulatory frameworks for similar goals.

Annex G:

RESPONSE TO STAP REVIEW

Issue	Response
<p>Place emphasis on evaluating and managing the risks of trans-boundary movement of LMOs in terms of impact on biological and agro-biological diversity.</p>	<p>Project components have been redesigned to include more emphasis on biological and agro-biological criteria. Specifically, Environment and Agriculture training programs will be strengthened in the areas of risk assessment and risk evaluation (Section 8.2, outputs 1-2), and CIBIOGEM will be strengthened in its communications strategy (Section 8.2, output 4) and the evaluation and modification of the legal framework (Section 8.2. output 3).</p> <p>Based on their institutional responsibilities, each Ministry is generating information that will form part of the biosafety databases and information exchange. In turn, this will facilitate the operation of the clearing house mechanism, ensuring appropriate and useful information in the context of the CP.</p>
<p>Agronomic traits of LMOs should not be funded by this project, rather molecular tracking should be emphasised.</p>	<p>With national resources, CINVESTAV is currently developing a research project to standardise analytic methods with SAGARPA and Customs to identify LMO presence in processed foods (Section 8.2, Output 1).</p> <p>GEF resources will be used specifically for training experts in molecular genetics to detect and track LMOs in introduced commodity grains. The capacity developed will increase Mexico's potential to monitor in-country movements of LMO and to help prevent their use as crop seeds (Section 8.2, Output 2).</p> <p>Training for SAGARPA and SEMARNAT staff will include GEF support to develop field capacity to monitor possible gene flow between introduced LMOs and semi-domestic and wild relatives (Section 8.2, Output 2).</p>
<p>Recommendation to eliminate GEF support for evaluation of food safety.</p>	<p>Food safety is an integral part of the Mexican biosafety framework. SSA is required by law to carry out food safety testing on all products in the commercial market, including those with LMOs. Following the suggestion of the STAP reviewer and in accordance with the priority-setting exercise carried out during project preparation, co-financing resources will be used to strengthen this area (Section 8.2, Output 1). Additional emphasis will be placed on training in risk assessment and risk management for the Agriculture and Environment sectors</p>

	<p>WWF funds will be used to design curricula in biosafety (including food safety) in higher learning institutions. This will allow the introduction of accredited courses on biosafety issues including food safety, which will be supported by ONUDI (and other agencies such as FAO) with instructors and course material.</p>
<p>Recommendation to not invest GEF funds in border monitoring</p>	<p>Training of Customs personnel will be carried out with counterpart funding, and is focussed on the identification and proper processing of trans-boundary LMO paperwork (Section 8.2, Output 2).</p> <p>Commodity grains enter the country for consumption purposes, however (and as the STAP reviewer points out) once in the country they may be used for seed purposes. This makes proper documentation and tracking of trans-boundary shipments of utmost importance.</p> <p>In this respect, GEF funds will be used to develop the information-sharing protocols between Customs and the centralised databases in CONABIO, SAGARPA, SEMARNAT and SSA (Section 8.2, Output 5). This will substantially increase the capacity of CIBIOGEM to register and monitor trans-boundary shipments.</p>
<p>No global environmental drawbacks are foreseen in the project</p>	<ol style="list-style-type: none"> 1. Current information is insufficient to establish specific global benefits or drawbacks. 2. CIBIOGEM is currently preparing TOR for the case of maize in order to have more reliable information on risk evaluation in this globally important crop in a COD. 3. Modelling outputs using <i>Arabidopsis</i> indicate that gene flow exchange are primarily manifested in plant fitness issues. Training efforts in SEMARANT and SAGARPA therefore will help verify how these processes develop in the field. The results will confirm modelling information and will provide valuable input to fine tune the training efforts. 4. Communication strategies are very important to present reliable, transparent and science-based information on LMO and their effects (both positive or negative) on native landraces. 5. Overall, a positive global impact is expected through the increased capacity of Mexico to protect and utilise its biodiversity and agro-biodiversity components.
<p>Project should be highly visible and should generate experiences beneficial to other countries in the region</p>	<p>The participation of UNEP in this project provides a dissemination mechanism to nearly 100 countries participating in the Global Biodiversity Framework project (Sections 10 and 13).</p> <p>Under the project execution arrangement, UNEP will co-host workshops in Mexico for its global</p>

	<p>project, with the participation of the other GEF IA with biosafety projects such as FAO and World Bank, and other specialised agencies like OECD, CIMMYT, CIP.</p> <p>Mexico participates in the Mesoamerican Network for Phyto-genetic Resources (REMERFI), Section 12.</p> <p>CIBIOGEM has provided the IPPC with a roster of Mexican experts in biosafety issues (Section 12).</p> <p>Finally, Mexico has already provided training in biosafety issues in agriculture in the Central American region (Section 12). This co-operation is expected to continue and will provide an additional forum for knowledge exchange and transfer.</p>
<p>Technical capacity developed under the project should be highly relevant to other biodiversity projects</p>	<p>Projects currently under execution are listed in section 13. The project will engage SEMARNAT personnel trained in field observation of flora and fauna in protected areas to broaden the capacity to monitor pollinators and wild and semi-domesticated relatives of principal genus like <i>Zea</i>, <i>Phaseolus</i>, <i>Capsicum</i>, and <i>Curcubita</i> in key protected areas. CONABIO's risk evaluation system receives biotic information generated by other biodiversity projects in the country.</p>
<p>Modify legal framework to include mechanisms to limit the introduction of LMOs high-risk areas. LMO commodities may be processed before distribution in those areas.</p>	<p>Under the proposed NOM FITO/ECOL currently under discussion, the country's Protected Areas System (SINAP) would be designated as a LMO-free zone (Section 7.3). SINAP covers approximately 11M hectares and includes sites such as Sierra de Manantlán (Jalisco), center of origin of <i>Zea diploperennis</i>.</p> <p>SAGARPA has determined 3 zones of differing risk for the possible cultivation of transgenic maize, and has also designated areas for transgenic cotton (Section 7.3). Transgenic cotton is cultivated on near-commercial scale, and very clear procedures are in place for risk evaluation and management. Growers of transgenic cotton are required to sign binding contracts with SAGARPA that prevent the expansion of the cultivation site.</p> <p>To avoid the use of introduced LMO commodities for seed-base, basic grains could be processed (ground maize, for example) before being introduced into high risk areas. However, given the importance of maize and its many uses and preparations in Mexico's widely diverse cultural mosaic, in-depth socio-economic studies would need to be carried out to measure the potential impact of such a mitigation measure (Section 7.2.4).</p>
<p>National legislation might require specific labeling</p>	<p>Segregation of LMO products is a potentially</p>

<p>and segregation of imported commodities according to LMO content.</p>	<p>favourable legal tool, however at present it is unlikely that Mexico would be able to apply legislation requiring labelling or segregation, as its principal commercial suppliers of commodity grains have not expressed willingness to separate grains. (Section 7.5, para. 1).</p>
<p>Networking with other countries and international entities working on legal/regulatory issues is recommended.</p>	<p>CIBIOGEM has three principal focal areas (legal, public information, and biosafety policy). The legal area in CIBIOGEM is the primary repository of biosafety-specialised knowledge in the country. CIBIOGEM has promoted the establishment of an inter-sector working group on the legal framework for biosafety to promote broader dialogue (Section 7.5).</p> <p>Under the project, co-financing resources will be used to train legal experts in the different line ministries on biosafety issues. This will help mitigate the very present risk of continuous rotation of lawmakers in the congressional commission on biosafety (Annex A).</p> <p>Taking into account the STAP reviewer’s proposal, GEF funds will be used to complement this effort by supporting a maximum of 3 case studies in other countries with possibly useful experiences for Mexico (Section 8.2, Output 3). It is likely that other megadiversity countries would be included in the case studies.</p>

Annex H:

RESPONSE TO AGENCY COMMENTS

Comments from UNEP		
Issue	Response	Note
Why are 2 biosafety bills under discussion.	<p>A discussion between the CIBIOGEM member agencies is currently being held on the best option between a centralised general law on Biosafety, or the modification of standards, norms and regulation under the existing legal framework.</p> <p>Political parties have also initiated a similar discussion from a congressional point of view, with two proposals that were presented during the 2000 legislative cycle. Congress is still discussing both initiatives in order to decide if this scope is appropriate for the country or if it its best to go on with the modification of norms and standards as well as the issuance of new ones.</p> <p>This project and CIBIOGEM's capacity development efforts are aimed at assisting lawmakers by providing reliable and science-based information.</p> <p>It should be noted that as a body of the Executive Branch, CIBIOGEM can only propose elements for national legislation. The Mexican Congress approves bills and transforms them into law, according to the Constitution. In this respect, many proposed bills may co-exist, however Congress would eventually approve only one law.</p>	Section 7.2.3, pages 5-6.
Budget does not have sufficient detail	Per suggestion, a more detailed budget has been provided.	Section 11, pages 16-17
Project Activities not articulated	Please refer to revised Annexes B and D	
Site studies should be limited to a few pilots	As a megadiverse country and centre of origin of important commercial species, Mexico requires field studies on the effect	Section 8.2, Output 1, Annex A System Boundary

	<p>of gene flow in maize landraces and squash and native cucurbitaceae, as well as other important commercial crops. The new information and data generated from these studies will be extremely useful for the execution of the advanced informed agreement (AIA) and future release of LMOs in different Mexican environments.</p> <p>Based on the data generated for the specific Mexican ecosystems, risk analysis information will help the Mexican government in the efficient application of AIA for the commercial trans-boundary movements.</p>	
How many training courses will be carried (duration, etc.)	Please refer to logical framework	Annex B
GEF recommends that activities should not support development of regional capacity	In its response to the STAP review, Mexico noted that regional impacts and benefits should be considered, especially given the agricultural, biological and culture similarities between Mexico and Central American region in particular. UNEP's support for further discussion of this issue with GEFSEC would be welcome.	Annex G
270 technical field support personnel trained is a large number	Mexico is formed by 32 states, an area of 2,000 square kilometers, 10,000 kilometers of coasts and 48 ports of entry to the country (customs points). This country ranks 4 th in megadiversity and is center of origin and diversity of maize and other important crop species, thanks to its varied microclimates. The potential effects of LMOs have to be monitored by field technicians in a country with abrupt topography. Therefore the training will be specific for those field technicians from the ministries of Agriculture, Health and Environment (3 per state) mainly with national trainers, and starting with the general and basic information about LMOs as most personnel has never been in contact with biotechnology products. With this basic training	Section 8.2, Output 2; Annex B

	<p>technicians will supervise the implementation of biosafety measures. This basic training will enable them over the medium term to identify potential gene flow, as well the effect on non target insects.</p>	
<p>UNEP Log. frame activity 3.1 National level consultations regarding the need and scope of a biosafety law and regulations (see UNDP comments)</p>	<p>The in-depth evaluation of Mexico's current legal framework is to be carried out with co-financing resources. It should be noted that an operational biosafety framework exists in the country since 1988. This is the basis for Mexico's participation and signing (and eventual ratification) of the CP. Capacity-building exercises will be used to further adapt –not create- the national biosafety framework in its legal aspects.</p>	<p>Output 3, page 13</p> <p>Section 7.2.2, page 3</p> <p>Output 3, page 13</p>
<p>Log. frame activity 3.2 Non-national activities have been excluded. To be discussed</p>	<p>The proposed activity is not regional in nature. The activity would consist of targeted visits to identify and transfer know how to Mexico on useful legal instruments for biosafety.</p>	<p>Section 8.2, Output 3; Annex B</p>
<p>Food and Feed Please see UNDP comments for Kenya project</p>	<p>The creation of the food and feed standards is to be supported through national efforts with co-funding. UNEP correctly asserts that food commodities intended for processing and consumption are exempt from the advanced informed agreement. Nevertheless, and as pointed out by the STAP evaluator, "it is likely that LMO commodities have been and will continue to be a source of seed [in Mexico], especially in the small farm sector." Hence the focus on the reduction or mitigation of impacts on biological and agricultural hotspots through the integration of norms and standards.</p>	<p>Section 8.2, Output 3.</p>
<p>Number of training courses, participants etc. is missing in most cases (annex A)</p>	<p>Additional information has been provided in the logical framework. Please refer to comment above addressing number of personnel trained.</p>	<p>Annex B</p>
<p>Public information fora have been excluded by GEFSEC recommendations</p>	<p>The public information fora (4.1 of log. frame) are to be carried out through national efforts. Modest GEF funding will be used to design a targeted information</p>	<p>Anenx B, 4.1</p> <p>Section 8.2, Output 4, page 13</p>

	campaign on potential risks and benefits of LMOs for small-holders in rural communities that participate in GOM's agricultural outreach and subsidy programs	
Inclusion of lab equipment should be reviewed, and further information should be included on institutions to be strengthened and type of equipment	<p>Without GEF support for equipment purchase, the capacity to carry out analysis and studies necessary to determine environmental risk evaluation and management would be very slow to develop.</p> <p>The laboratories to be strengthened are found in SEMARNAT and SAGARPA.</p> <p>The purchase of equipment is considered to be a key part of CIBIOGEM's capacity building initiative, and clarifying notes have been added to the budget.</p> <p>If needed, additional information is available on file.</p>	<p>Section 7.5, page 12 Annex A Annex I</p> <p>Section 11, Project financing</p>
Databases should be developed for Biosafety clearing house only	<p>Mexico's effort to develop biosafety databases has several goals. On the one hand to finalise a system to locate the zones of wild relatives of commercial LMOs to substantiate the risk assessment of their introduction into the environment. On the other, these databases will propitiate an efficient information exchange among the ministries of Health, Environment, Agriculture and Customs in order to perform the risk evaluation and monitoring of LMO release into the environment for their future import or commercialisation.</p> <p>The existent information in these databases will be complemented and will be of great use as the national information for CIBIOGEM to feed into the Biosafety Clearing House.</p>	<p>Section 7.5, page 11-12 Section 8.2, Output 5 Annex A Annex B</p>

Comments from UNIDO		
Issue	Response	Note
Output 1. Training in toxicology and epidemiology is overemphasised. More emphasis should be made on environmental impact assessment	Following the suggestions made by UNIDO and the STAP reviewer and in accordance with the priority-setting exercise carried out during project preparation, co-financing resources will be used to strengthen these two public health areas. With GEF resources, additional emphasis will be placed on training in risk assessment and risk management for the Agriculture and Environment sectors.	Section 8.2, Output 1
Output 1. It is unclear what is meant by “in situ agronomic traits and performance”	Training for SAGARPA and SEMARNAT staff will include GEF support to develop field capacity to monitor possible gene flow between introduced LMOs and semi-domestic and wild relatives.	Section 8.2, Output 2
Output 2. It is not clear how Customs officials will undertake the task of recognising LMO. Is it simple validation or laboratory detection of LMO at ports of entry?	Customs personnel will be trained with counterpart funding on the identification and proper processing of trans-boundary LMO paperwork.	Section 8.2, Output 2
General comment: CIBIOGEM should develop links with corresponding entities in other parts of the world to avoid undue duplication of effort regarding direct correspondence of data. UNIDO and OECD could mediate and play an active role.	CIBIOGEM as the National Focal Point for the CP and the central interministerial entity in Mexico on Biosafety, will have a website to concentrate information and links to different databases in line ministries(Art. 19). Norms and guidelines, the abstracts of each risk evaluations, final decisions and reports of the procedure for the AIA (Art. 20) will also be included. This information will be at the disposal of the BCH and the focal points of the 26 countries with which Mexico has celebrated trade agreements in order to facilitate trans-boundary commerce.	Section 8.2, Output 4

Comments from the World Bank		
Issue	Response	Note
Funding balance should be reviewed, particularly with respect to the modest funding assigned to the outreach-participation objectives.	<p>The inter-disciplinary work group that designed the capacity-building strategy for biosafety in Mexico has concentrated on consolidating the country's capacity for risk assessment and management. Information and dissemination strategies would follow from and respond to the increased capacity for the assessment and management of biosafety risks (and benefits). The proposed GEF demonstration project reflects this national priority.</p> <p>Regarding dissemination efforts, CIBIOGEM has the responsibility to provide unbiased and science-based information on the possible risks associated with trans-boundary movement of LMOs, especially since significant funding exists for public information efforts in both the Executive and Legislative branches. Emphasis has therefore been placed on increasing CIBIOGEM's capacity to generate and present reliable information.</p> <p>The proposal made to WWF would cover important –and more general- aspects of the public awareness campaign such as educational programs and general awareness raising.</p> <p>The Bank nevertheless raises a pertinent issue that warrants further consideration as biosafety projects move forward towards implementation. It would be useful for all agencies involved in biosafety issues to discuss GEFSEC's initial policy guidelines on eligibility of awareness-raising efforts pertaining to the Cartagena Protocol.</p>	<p>Section 8.2, page 12</p> <p>Section 7.2.5, page 7</p> <p>Section 7.2.5, page 7</p>

Annex I:

**RESPONSE MATRIX FOR THE BILATERAL DISCUSSIONS, 18 OCTOBER 2001 AND THE
CONCEPT AGREEMENT REVIEW DATED 26 OCTOBER 2001**

Issue	Response	Notes/modification in document
<p>Component for equipment under component V, Institutional Strengthening: Information Networks is too ambitious. Further justification is required and the agency is requested to explore reductions in proposed GEF-financed portion.</p> <p>The cost associated with telecommunications in output 5</p>	<p>The existence of a dedicated database system for biosafety is of vital importance for the effectiveness of Mexico's response to the advanced informed agreement. Taking into account GEFSEC comments and in accordance with the country's minimum requirements for information management on biosafety necessary for CP implementation, a modified biosafety information network is proposed for the six principal agencies: Health, Environment, Agriculture, Customs, CONABIO and CIBIOGEM as the system focal point. The system would be based on an ACCESS©-based system of dedicated servers in each of the organisations mentioned. Interconnectivity would be provided through co-financing.</p> <p>The justification for this biosafety network rests in the need to share information that has been generated or will be generated by the different institutions that make up the biosafety framework, in accordance to their mandate.</p> <p>None of the elements of this framework currently exist and it is of vital importance in order to comply with the provisions of the CP. The only planned component of this network that would be developed in the absence of GEF support is CONABIO's Biosafety Risk management module.</p> <p>The GEF-financed portion of this component has been reduced from US\$ 786,000 to US\$ 467,000, and co-financing of this component has been increased from US\$ 174,000 to US\$ 194,000.</p>	<p>Section 7.3.1, page 8; Section 7.5, page 12</p> <p>Section 8.2, Outputs 1, 2 and 5, pp. 12-14</p> <p>Annex A</p> <p>Annex B</p> <p>Annex A</p> <p>Section 8.2, Output 5, page 14</p> <p>Section 11, page 18</p> <p>Section 11, page 18</p> <p>Annex A, page 28</p>

needs to be moved to the baseline and GEF funding reduced accordingly.	This component has been further modified in agreement with bilateral discussions and the October 26 Concept Agreement Review. Co-financing has been increased in this effort, and GEF resources have been accordingly reduced.	
A better description of CIBIOGEM, its member agencies and distribution of tasks would be useful	More detailed information on the CIBIOGEM framework is provided in the document. An annex has been added describing CIBIOGEM.	Section 7.2.2, page 4; Section 7.3.1 page 7 Annex J
Explicit participation of co-executing agencies and project-related activities is requested.	<p>UNEP has offered to provide shared workshops in the context of the project.</p> <p>UNIDO, through its Biodiversity Unit, has offered specific training on molecular biology in its training facility in Trieste, and UNIDO databases on biosafety will be streamlined for use by Mexican scientists and officials in the context of the biosafety projects. Additional areas co-operation will be identified and exploited as they arise.</p> <p>Finally, both agencies will participate in project review sessions on a six-month basis.</p> <p>Further agency co-operation, such as the 3-IA mechanism suggested by UNEP, should include other actors in biosafety such as UNIDO, FAO, and the OECD among others.</p>	<p>Section 10, page 15</p> <p>Section 10, page 15 Annex K</p> <p>Section 9, Risks, page 15; Section 10, Implementation arrangement, page 16.</p>

Annex J:

DESCRIPTION OF CIBIOGEM

CIBIOGEM is a nascent organisation charged with the responsibility to control the liberation of LMOs to the environment and to establish and co-ordinate biosafety measures in Mexico. To comply with this complex and difficult mandate in a mega-diversity country and center of origin, the Mexican Government created CIBIOGEM through a co-ordination mechanism between 6 federal ministries, the National Commission on Science and Technology and with the technical support provided by CONABIO.

Within the CIBIOGEM co-ordination framework, the ministries of Health, Agriculture and Environment are the agencies with core responsibilities for liberated LMOs and for risk evaluation and management.

CONABIO does not form part of the administrative body of CIBIOGEM although as a member of its Consultative Council it supplies singularly important information on Mexico's biodiversity, risk evaluation methodologies and database support. This information is used principally by SAGARPA and SEMARNAT to avoid liberating LMOs in zones with potential concentrations of wild relatives. CONABIO is also charged with developing a biosafety information module based on its national biodiversity information system, through the CIBIOGEM constitutional decree.

Each of the other CIBIOGEM agencies provides support as detailed below:

The Finance Ministry, through the Mexican Customs Agency, controls the country's 48 points-of-entry and carries out mandatory registration of LMO imports. This information (not accessible in database format outside of SHCP) is of utmost importance for CIBIOGEM and other agencies that monitor the liberation of LMOs in the country. The information would be made available through the proposed biosafety information network and information-sharing protocols.

The Trade ministry liaisons with CIBIOGEM on trade policy related to imports and Mexico's commitments under bi-lateral commercial agreements.

CONACYT is responsible for implementing biosafety research useful for risk analysis. The results of this research, as well as information on biotechnology information in general, will be fully accessible in the CIBIOGEM website and the biosafety clearinghouse mechanism.

Public Education is responsible for designing and implementing dissemination strategies on LMOs for primary and secondary-level textbooks, as well as for teachers and professors in the mandatory public education system.

The carrying-out of co-ordinated activities in the different agencies under the guidance and mandate of CIBIOGEM guarantees an equilibrated development of national capacities in biosafety in the areas of health, agriculture and environment.

Annex K:

UNIDO LETTER OF SUPPORT



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

VIENNA INTERNATIONAL CENTRE

P.O. BOX 300, A-1400 VIENNA, AUSTRIA

TELEPHONE: (+43 1) 260 26-0

FAX: (+43 1) 260266819

www.unido.org

unido@unido.org

19 October 2001

Dear Mr. Ortiz Monasterio,

It is my pleasure to inform you that our office has been invited to participate in a full-scale national execution project on biosafety for GEF funding, as one of 10 pilot country projects worldwide. UNIDO is pleased to collaborate with the Mexican Government and our sister organisations the United Nations Development Programme and the United Nations Environment Programme in this very important initiative.

As you may know, UNIDO is one of two Convention on Biological Diversity Clearing House Mechanism repositories for mandatory information on the Protocol, and as such can provide training in risk assessment and data base management in the area of biosafety.

Additionally, and as party to a formal co-operation agreement with UNIDO, the Mexican Government can participate in the courses and workshops that this unit organises. Your agencies could send officials for training and to participate in the various workshops on risk evaluation and Biosafety for the implementation of the Cartagena Protocol.

In the near future and based on the outcome of negotiations with the GEF, this office would be pleased to finalise the framework for specialised co-operation on biosafety issues in the context of the proposed capacity building project. Mexico's needs are very special, and we look forward to sharing our institutional insights and field experience with your scientists and government officials.

Yours sincerely,

A handwritten signature in black ink, appearing to read "G. Izotzos".

George T. Izotzos

Chief, POPs and Biodiversity Unit

Cleaner Production and Environmental Management Branch
Sectoral Support and Environmental Sustainability Division

Mr. Fernando Ortiz Monasterio
Executive Secretary
CIBLOGEM
Mexico

cc: Mr. Zoltan Csizer, Director, SES/PBM, UNIDO
cc: Mr. Eduardo Fuentes, Principal Specialist on Biodiversity, UNDP-GEF
cc: Mr. Luis Rojas, Resident Representative in Mexico, UNIDO