



Darwin Initiative for the Survival of Species

‘Building Legal and Institutional Capacity
on Biosafety in Chile’
Ref. 162/10/12

Final Report



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1. Darwin Project Information

Project Title	Building legal and institutional capacity on biosafety in Chile.
Country	Chile
Contractor	Foundation for International Environmental Law and Development (FIELD)
Project Ref. No.	162/10/12
Grant value	£80,317
Start/Finishing dates	May 2001-June 2002
Reporting period	May 2001-June 2002

2. Project Background/Rationale

1. The need for this project was identified by the collaborating institution, University of Chile's *Centro de Derecho Ambiental* (CDA) (which translates as 'Environmental Law Centre') as a result of the lack of a comprehensive and coherent policy on biosafety in Chile. Although there are several public institutions working on this area, such as the Farming and Livestock Department of the Ministry of Agriculture, the Health Ministry, the National Environment Commission and the Chilean National Committee on Biotechnology, no comprehensive legislative initiatives have followed. These institutions and government programmes would therefore benefit from the results of this project.
2. Chile is a Party to the Convention to Biological Diversity (CBD) and is therefore bound by the need, under Article 8(g), to regulate and manage the 'risks associated with the use and release of living modified organisms resulting from biotechnology and which are likely to have adverse environmental impacts on the conservation and sustainable use of biodiversity'. In addition, Chile is a signatory of the 2000 Cartagena Protocol on Biosafety, adopted under the CBD. It is expected that this Protocol will enter into force in 2003.
3. This project also intended to enable the CDA to make an ongoing contribution to the implementation of the Convention on Biological Diversity in Chile.

3. Project Summary

4. The project aimed to assist the CDA to assess the legal and institutional framework needed for an effective biosafety regime in Chile, implementing Article 8(g) of the CBD and the 2000 Cartagena Protocol on Biosafety. The project included:

- an overview of the relevant international law and Chile's international commitments;
 - a study of existing national legislation and institutions;
 - five case studies of comparative law that look at legal and institutional frameworks on biosafety in different countries of the region (Argentina and Brazil) as well as in other regions such as the Cuba, New Zealand and the EU.
5. The aim of the research papers was to identify the main gaps and needs in Chile's legislative and institutional framework and to recommend ways of addressing these with a view to achieving an effective national biosafety regime. A copy of the Logical Framework for this project is included as Appendix IV.
 6. In addition, and more broadly, the project aims at helping build the institutional capacity of the CDA to work on biodiversity-related issues.
 7. There was no change to the project objectives. In relation to the operational plan, there were the following changes to the project schedule, all agreed in advance with the Darwin Secretariat:
 - The visit of the project co-ordinator from CDA (Ms Dominique Hervé) to FIELD in London took place on 10-25 February 2002 instead of in November 2001, as previously agreed, due to heavy workload at the CDA.
 - The national seminar was rescheduled from January to March 2002, due to national elections and summer holidays in Chile. This change also affected the completion of the research papers on relevant national and international legislation, and comparative law case studies, which were then finalised in January 2002 (instead of December 2001).
 - In addition, the project co-ordinator from CDA visited FIELD for a second time, on 11-17 August, to jointly evaluate the project results, discuss the final recommendations; co-ordinate the publication of the project outputs and discuss future collaboration between the two organisations in the area of biodiversity-related legislation. This trip was possible as the Darwin Secretariat had allowed us to carry over £1498 under spent from the previous financial year (by letter dated 27 June 2002, enclosing a revised schedule of conditions for the project reflecting this change).
 8. The CBD provisions that best describe the project are:
 - Article 8(g), on in-situ conservation, which provides for the need to regulate, manage or control the risks associated with the use and release of living modified organisms resulting from biotechnology likely to have adverse environmental impacts that could affect the conservation and sustainable use of biodiversity, taking also in account the risks to human health;
 - Article 19 on the handling of biotechnology and distribution of its benefits;

- The Cartagena Protocol on Biosafety, adopted under Article 19(3) of the CBD.
9. The two main aims of the project: (i) to build the capacity of a Chilean institution to contribute to biodiversity-related issues, focusing on biosafety and (ii) to address the lack of legislation on biosafety at the national level in Chile have been both achieved.
 10. On the first objective, the CDA is now a recognised legal institution in Chile in the area of biosafety, with the project co-ordinator having participated in the following seminars, conferences and courses:
 - Presentation made at the First National Meeting on Environmental Law in Chile (November 2001);
 - Acuaquulture Sciences Seminar at the Faculty of Agronomics of the University of Chile (May 2002);
 - Seminar in international environmental law at the Institute of International Studies of University of Chile (June 2002);
 - Roundtable on biosafety at the National Institute on Food Technology (INTA), (July 2002);
 - Seminar of the Environmental Law Diploma, organised by the CDA (July 2002).
 - Workshop on “GMOs, Trade, Biosafety and Public Perception. Decisions regarding the Biosafety Protocol”, organised by CambioTec project in Chile and funded by the OAS (October 2002).
 11. Throughout the project, the project co-ordinator in Chile and her work on biosafety have featured in university publications (*UNOTICIAS*, February 2002), in two radio interviews in the University of Chile radio station (March and May 2002) and in a report written by the main newspaper in Chile, *Diario El Mercurio* (August 2002).
 12. In relation to the second objective, the project has helped raise awareness about the need to regulate biotechnology and biosafety in Chile. In this sense, it is remarkable that the project co-ordinator at CDA has been invited to join the National Committee on Biotechnology to provide advice on legal and environmental issues. The project objectives have therefore been met, pending publication of the final outputs; an article in the forthcoming issue (December 2002) of ‘*Revista de Derecho Ambiental*’ (Environmental Law Review) of University of Chile; and the publication of the proceedings of the First National Meeting on Environmental Law in Chile, which include a presentation related to this Darwin project.

4. Scientific, Training and Technical Assessment

13. Regarding the research conducted under this project, the staff involved has been: Dominique Hervé Espejo (CDA), Carolina Lasén Díaz (FIELD), Valentina Durán (CDA) and Marcela Main (legal consultant).

14. The methodology involved varied in the case of the main report concerning the legal analysis of Chile's legislation, policy and institutional framework in the area of biosafety, and the five case studies of comparative law. The former focused on the identification of relevant laws and policies on the area of biosafety in Chile, analysing gaps and overlaps. The five case studies followed a common methodology and addresses:
- the scope of the relevant legislation on biosafety;
 - the institutional framework in place;
 - the different procedures to authorise genetically modified organisms in the country;
 - food safety issues;
 - liability; and
 - particular features of interest of each of the national regimes studied.
15. These research papers were presented and discussed at the national seminar held in Santiago, Chile, in March 2002, which adopted ten recommendations for action in the area of biosafety in Chile. In light of the debate and the conclusions of the project research, the CDA prepared a report with recommendations for the development of a legal regime on biosafety in Chile. This final project report has been sent to relevant authorities and key stakeholders in Chile.
16. The publication of the project research papers and final recommendations is under way (expected by November 2002). The translation into English of the case studies and final recommendations is also ongoing. However, the English translations will only be available in electronic format through the websites of the two project partners.
17. On the seminar on 'Biosafety: A legal framework for Chile' held on 19-21 March 2002 at the Faculty of Law of the University of Chile, it was attended by 68 participants, which included government officials, academics, non-governmental organisations and research agencies. The focus of the seminar was to initiate the debate in Chile about the international context on biosafety and possible elements of a future national framework in Chile. Discussion on the legal regimes of other countries and exchange of technical and scientific experience on biosafety lead to the conclusion that a national policy and legal framework on biosafety in Chile is needed. The seminar participants agreed on a list of ten recommendations (see attached the seminar report and related recommendations as Appendix V).

5. Project Impacts

18. The project research activities and the national seminar held in March 2002 have contributed to raising the profile of the partner organisation, CDA, in the area of biosafety in Chile. As a direct consequence of the seminar, the CDA has been invited to participate in a series of events focused on biosafety and organised by the Chilean government and academic institutions. The expertise and high quality legal work of the CDA in this area have been amply recognised in Chile,

and has included the invitation to take part in the work of the recently created National Commission on Biotechnology. More specifically, CDA has been invited to contribute to the debates of the working group on legal issues related to the regulation of biotechnology activities in Chile. This is even more remarkable as the CDA is the only non-governmental organisation to take part in the work of this National Commission on Biotechnology.

19. The March seminar brought together the CDA and Chilean organisations and institutions in the public, private and non-governmental sector, as well as foreign experts and agencies, and strengthened the links among them. The national seminar helped raise awareness of biosafety as an issue of national relevance, in the context of the adoption and forthcoming entry into force of the Cartagena Protocol on Biosafety, which was considered a priority area for implementation at the national level.
20. The recent setting up of the National Commission on Biotechnology, mentioned above, provides clear evidence of the consideration that Chile is giving to this issue. Together with the debate promoted by the Chilean government, there is increasing discussion of these issues in the national parliament as well as in the judiciary. In addition, Chile is also taking part in the UNEP/GEF Project on Development of National Biosafety Frameworks. In this sense, close communication and exchange of information between the CDA and Chile's national co-ordinator for the UNEP/GEF project has helped ensure that both projects remained complementary and the Darwin project outputs have formed a specific contribution to the UNEP/GEF project. The national co-ordinator of the UNEP/GEF project attended the national seminar in Santiago and summarised the status and contents of the UNEP/GEF project at that time, informing all seminar participants of that project's objectives, financing and timeframe.
21. In terms of the collaboration to date between the UK and the local partner (CDA), the good level of communication and collaboration, and the close working relationships between project staff has been an important factor in the implementation of this project. Furthermore, the good experience of jointly undertaking this Darwin project has resulted in the exploration of additional areas of collaboration beyond the two organisations which has resulted in the development of a joint project proposal between CDA and FIELD building on and complementing this Darwin project. On completing this project, it became apparent to the project partners that biotechnology is being increasingly developed in Chile while public and policy debate is currently inadequate, in particular as it relates to its implications for Chile's biodiversity. The biosafety research undertaken under the Darwin project has allowed the project partners to identify several gaps and needs in the existing policy and legislation regarding biotechnology in Chile. In particular, the CDA has highlighted the need for a thorough analysis of intellectual property rights as they relate to the use of biotechnology, including their effects on biodiversity protection and traditional knowledge-based livelihoods, elements also included in the new joint project proposal. CDA and FIELD are currently exploring possible funding sources for this project.

6. Project Outputs

22. See project outputs detailed in the table included in Appendix II. All outputs included in the agreed schedule and logical framework have been achieved.

23. Additional outputs of this project have been:

- One person/week of the project partner co-ordinator at the UK organisation to contribute to institutional capacity-building element of this project. The visit also served to finalise research on project papers and prepare for national seminar in Chile (February 2002);
- One person/week of the project partner co-ordinator at the UK organisation to jointly evaluate the project results; discuss the final recommendations; co-ordinate the publication of the project outputs; and discuss future collaboration between the two organisations in the area of biodiversity-related legislation (August 2002);
- Publication of a presentation made by CDA's project co-ordinator in November 2001 at Chile's First National Meeting on Environmental Law;
- Participation of CDA at an Acuaculture Sciences Seminar at the Faculty of Agronomics of the University of Chile (May 2002);
- Contribution of CDA to a seminar of the International Environmental Law Course at *the Instituto de Estudios Internacionales*, University of Chile (June 2002);
- CDA's participation at a round table on biosafety at INTA (*Instituto Nacional de Tecnología de Alimentos*), University of Chile (July 2002);
- Participation of CDA in a seminar of the Environmental Law Diploma organised by CDA (July 2002);
- Participation of the CDA project co-ordinator in working groups on biosafety co-ordinated by Chile's National Environment Commission (CONAMA) and the country's Foreign Affairs Ministry;
- Participation of the CDA on a related research project on legal aspects of biosafety in Chile funded by the University of Chile and complementary to this Darwin project;
- Participation of the CDA in the 'Inter-disciplinary Programme on Biodiversity' of the University of Chile;
- Ongoing participation of the CDA in the Regulatory Working Group of the national committee for biotechnology;
- Publication of a paper in the *Revista de Derecho Ambiental*, (Environmental Law Review) from the Faculty of Law, University of Chile;
- Presentation of the conclusions and recommendations of the Darwin project in the workshop "GMOs, trade, biosafety and public perception: decisions on the Biosafety Protocol" (October 2002).

24. Regarding the dissemination of project outputs and outcomes, this has taken place through:

- The websites of the two partner organisations, CDA (<http://www.derecho.uchile.cl/cda>) and FIELD (<http://www.field.org.uk>);
- FIELD's newsletter '*FIELD in Brief*, which has a distribution of 2,500 copies world-wide;
- The seminar held in Chile on 19-21 March 2002 where the draft project outputs were discussed. All seminar participants received electronic copies of the presentations as well as of the seminar report and recommendations. They also received a folder with copies of all the research papers produced under this project. More recently, they have been sent a copy of the final report which includes the conclusions and recommendations of the project;
- The publication of all project outputs in a single volume in Chile;
- The translation into English of the five case studies, seminar report and final recommendations report.

7. Project Expenditure

25. See excel file attached.

8. Project Operation and Partnerships

26. The local partner working on project activities was the *Centro de Derecho Ambiental* (CDA) ('Environmental Law Centre') of University of Chile. The need for this work had been identified by the collaborating institution, CDA, as a result of the lack of relevant legislation on this field in Chile. They had envisaged the core activities of the project, which were then discussed with FIELD. Project planning and implementation were undertaken in close partnership between the two institutions. Indeed, the CDA played a leading role in delivering key activities of the project, such as the research on Chile's legislation and policy on biosafety; the organisation of the workshop; drafting of the project recommendations; and preparation of the final publication.

27. This Darwin project also benefited from the participation and contribution of recognised legal and biosafety experts from other countries, which took part in the seminar held in March 2002, such as: Dr Raul Brañes (founding president of the Latin American Association of Environmental Law and legal consultant); Ms Ingrid Noeh (Director of the Department on Biosafety and Risk Assessment of the Federal Environmental Agency in Germany); Dr Amanda Gálvez (lecturer at the Faculty of Chemistry of Mexico's National Autonomous University); and Mr Manuel Ruiz Muller (Director of the International Affairs and Biodiversity Programme of the Peruvian Society of Environmental Law). In addition, scientific experts from Chile also contributed to this project, such as Dr Mary Kalin (Director of the Millennium Centre for Advanced Studies in Ecology and Research in Biodiversity of the University of Chile) and Mr Romilio Espejo (University of Chile's Institute of Nutrition and Food Technology).

28. The level of collaboration and co-operation between the UK organisation (FIELD) and the host country partner (CDA) over the last year has been

excellent. Being able to communicate in Spanish with the project partner as well as contribute to the project research and seminar presentations in this language has been a clear advantage in achieving a good working relationship with the project co-ordinator and other staff at CDA. In addition, the fact that the project co-ordinator at CDA (Dominique Hervé) had taken part in FIELD's internship programme during her time as an LL.M student at University of London in 1997 meant that there was already an understanding of the work of both institutions before this project.

29. There was no collaboration with similar projects in the host country as this Darwin project analysed the biosafety-related legal and institutional framework in Chile, and created the first discussion forum on the regulation of biosafety in Chile for all main stakeholders. The project partner has been in contact with Chile's National Environment Commission and the Farming and Livestock Department of the Ministry of Agriculture throughout the project, including with the national co-ordinator of the UNEP/GEF project to develop a national framework on biosafety.

9. Monitoring and Evaluation, Lessons Learned

30. The project has been closely monitored by senior staff at FIELD and the Director of the Environmental Law Centre. In addition, the foreign experts involved in the seminar provided feedback on the research papers and activities undertaken within this project.
31. In summary, the project activities and outputs have all helped increase the level of awareness about Chile's international obligations and the need to regulate biosafety following a holistic approach, with a view to addressing the sectoral fragmentation that currently exists. The seminar, the dissemination of project outputs through the seminar and the websites of the two organisations, the distribution of the final papers and recommendations, and the planned publication have all been well received by the main stakeholders in Chile as useful tools that contribute to the national debate. Chile's participation in the UNEP/GEF project to develop a national biosafety framework and the creation of the National Commission on Biotechnology further prove the Government's interest in this area and the recognised need for action at the policy and legislative level.
32. In addition, this project has contributed to raising CDA's profile in the country and the region as a professional and able organisation with valuable legal expertise in this issue. CDA's project co-ordinator has been recognised as an expert on biosafety legislation and has been invited to participate in a number of conferences, seminars and courses related to biosafety, biodiversity and environmental law more broadly.
33. The project co-ordinators from the host and UK organisations met in August 2002 to evaluate the project and identify the lessons learned. The good level of

communication and collaboration between project staff was recognised as an important factor in the implementation of this project. The good experience of our working relationship has resulted in the exploration of additional areas of collaboration to follow on this Darwin Initiative project. In this sense, the two project partners are currently engaged in seeking funding for a joint project proposal on ‘Addressing the linkages between biotechnology, intellectual property rights, biodiversity and traditional knowledge: legal implications for Chile’.

34. The project partners have recognised the value of working with existing contacts but emphasised the value of working together on issues of interest for the two organisations, while passing on the experience and helping build the capacity of a young organisation working on similar issues.
35. It has been key that the impetus and drive for this Darwin project came from the host country. They identified the need and contacted the UK-based organisation for a possible collaboration and advice on funding sources. The two organisations have truly worked as ‘partners’ throughout the project, discussing and planning together every phase of the project. However, the CDA took a leading role in the drafting of the final recommendations as they relate to the national circumstances and advice to decision-makers on the way ahead to address biosafety in Chile.

10. Darwin Identity

36. The Darwin logo has been used in all project outputs as all final papers carry the new Darwin Initiative’s logo, and so will the final publication due in late November. At the seminar, the role of DEFRA’s Darwin Initiative as main funder of this project was also highlighted, while the websites of the two organisations have links to the Darwin Initiative home page.
37. This project has contributed to the dissemination of information about the Darwin Initiative among Chilean academics, NGOs and decision-makers working in the area of biodiversity and biosafety. It was apparent at the seminar that most of them had not had any previous contact with or information about the Darwin Initiative.
38. This project received additional funding from the University of Chile to help covering the costs of bringing foreign experts to the seminar, as well as contributing to the publication of the project outputs. These funds were part of a distinct but complementary project involving the CDA and the University of Chile’s biodiversity-related activities.

11. Leverage

39. The CDA contributed with additional funds to support the costs of bringing additional foreign experts to the seminar, as well as funds for the publication of

the final outputs in Chile. In addition, the University of Chile provided in-kind support by making available the seminar venue free of cost.

12. Sustainability and Legacy

40. The project outputs related to the analysis of Chile's legal and institutional framework as it relates to biosafety, and the final recommendations on elements of a future biosafety regime for Chile are likely to be influential in the current process leading to the development of a national biosafety framework under the UNEP/GEF project. In addition, the contribution of the project co-ordinator to the works of the National Commission on Biotechnology regarding legal and environmental issues is also likely to have an impact on the conclusions and recommendations of that Commission. The CDA is now established as a solid organisation working on biosafety and other biodiversity-related issues
41. The two organisations are in touch regarding project-related issues as the translation of the project outputs into English is currently taking place. In addition, the two organisations have developed a project proposal on a related area of work following on the Darwin project results and needs identified. These include intellectual property rights (IPRs) and biotechnology as two critical issues that need to be addressed at the national level, taking account of international frameworks and policy developments on these issues. CDA and FIELD are currently approaching a number of foundations to get support for their joint project 'Addressing the linkages between biotechnology, intellectual property rights, biodiversity and traditional knowledge: legal implications for Chile'.

13. Value for Money

42. Considering the costs and benefits of this project, both those already realised and those expected in the near future, we consider that this project should be rated as very good in terms of 'value for money'. Taking into account the length (13 months) and the grant value of this project (£80,000), this Darwin Initiative project has delivered well on its set objectives. The Darwin grant has allowed the project partners to actively contribute to the national debate on biosafety, pioneering an integrated approach that has brought together academics, NGOs, scientists and decision-makers to address a difficult and controversial issue in an effective manner.
43. The division of work between the project partners led to a clear allocation of roles and responsibilities throughout the project which, together with the involvement of consultants and experts, resulted in an efficient delivery of this project.

Authors/date

This report has been compiled by Carolina Lasén Diaz and José Gama at FIELD, with input from Dominique Hervé (CDA).

London, November 2002.

Appendix I: Outputs

Project Contribution to Articles under the Convention on Biological Diversity (CBD)

Please complete the table below to show the extent of project contribution to the different measures for biodiversity conservation defined in the CBD Articles. This will enable us to tie Darwin projects more directly into CBD areas and to see if the underlying objective of the Darwin Initiative has been met. We have focused on CBD Articles that are most relevant to biodiversity conservation initiatives by small projects in developing countries. However, certain Articles have been omitted where they apply across the board. Where there is overlap between measures described by two different Articles, allocate the % to the most appropriate one.

Project Contribution to Articles under the Convention on Biological Diversity		
Article No./Title	Project %	Article Description
6. General Measures for Conservation & Sustainable Use		Develop national strategies which integrate conservation and sustainable use.
7. Identification and Monitoring		Identify and monitor components of biological diversity, particularly those requiring urgent conservation; identify processes and activities which have adverse effects; maintain and organise relevant data.
8. In-situ Conservation	25% [Art.8(g)]	Establish systems of protected areas with guidelines for selection and management; regulate biological resources, promote protection of habitats; manage areas adjacent to protected areas; restore degraded ecosystems and recovery of threatened species; control risks associated with organisms modified by biotechnology; control spread of alien species; ensure compatibility between sustainable use of resources and their conservation; protect traditional lifestyles and knowledge on biological resources.
9. Ex-situ Conservation		Adopt ex-situ measures to conserve and research components of biological diversity, preferably in country of origin; facilitate recovery of threatened species; regulate and manage collection of biological resources.
10. Sustainable Use of Components of Biological Diversity		Integrate conservation and sustainable use in national decisions; protect sustainable customary uses; support local populations to implement remedial actions; encourage co-operation between governments and the private sector.
11. Incentive Measures		Establish economically and socially sound incentives to conserve and promote sustainable use of biological diversity.

12. Research and Training		Establish programmes for scientific and technical education in identification, conservation and sustainable use of biodiversity components; promote research contributing to the conservation and sustainable use of biological diversity, particularly in developing countries (in accordance with SBSTTA recommendations).
13. Public Education and Awareness	10%	Promote understanding of the importance of measures to conserve biological diversity and propagate these measures through the media; cooperate with other states and organisations in developing awareness programmes.
14. Impact Assessment and Minimizing Adverse Impacts		Introduce EIAs of appropriate projects and allow public participation; take into account environmental consequences of policies; exchange information on impacts beyond State boundaries and work to reduce hazards; promote emergency responses to hazards; examine mechanisms for re-dress of international damage.
15. Access to Genetic Resources		Whilst governments control access to their genetic resources they should also facilitate access of environmentally sound uses on mutually agreed terms; scientific research based on a country's genetic resources should ensure sharing in a fair and equitable way of results and benefits.
16. Access to and Transfer of Technology		Countries shall ensure access to technologies relevant to conservation and sustainable use of biodiversity under fair and most favourable terms to the source countries (subject to patents and intellectual property rights) and ensure the private sector facilitates such assess and joint development of technologies.
17. Exchange of Information		Countries shall facilitate information exchange and repatriation including technical scientific and socio-economic research, information on training and surveying programmes and local knowledge
19. Bio-safety Protocol	65%	Countries shall take legislative, administrative or policy measures to provide for the effective participation in biotechnological research activities and to ensure all practicable measures to promote and advance priority access on a fair and equitable basis, especially where they provide the genetic resources for such research.
Total %	100%	Check % = total 100

Appendix II: Outputs

Please quantify and briefly describe all project outputs using the coding and format of the Darwin Initiative Standard Output Measures.

Code	Total to date (reduce box)	Detail (←expand box)
Training Outputs		
1a	Number of people to submit PhD thesis	
1b	Number of PhD qualifications obtained	
2	Number of Masters qualifications obtained	
3	Number of other qualifications obtained	
4a	Number of undergraduate students receiving training	
4b	Number of training weeks provided to undergraduate students	
4c	Number of postgraduate students receiving training (not 1-3 above)	
4d	Number of training weeks for postgraduate students	
5	Number of people receiving other forms of long-term (>1yr) training not leading to formal qualification(i.e not categories 1-4 above)	
6a	Number of people receiving other forms of short-term education/training (i.e not categories 1-5 above)	
6b	Number of training weeks not leading to formal qualification	
7	Number of types of training materials produced for use by host country(s)	
Research Outputs		
8	Number of weeks spent by UK project staff on project work in host country(s)	One person's week to participate in the project seminar in Chile (March 2002)
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (s)	
10	Number of formal documents produced to assist work related to species identification, classification and recording.	
11a	Number of papers published or accepted for publication in peer reviewed journals	<ul style="list-style-type: none"> - <i>'Bioseguridad: Un Desafío Jurídico y Ambiental para Chile'</i> by Hervé, D., in <i>Primeras Jornadas Nacionales de Derecho Ambiental noviembre de 2001</i>, LOM Ediciones, Santiago 2002 (in print). - <i>'Riesgo Ambiental y Principio Precautorio: Breve Análisis y Proyecciones a partir de dos casos de estudio'</i>, by Durán, V and Hervé, D. in <i>Revista de Derecho Ambiental</i>, CDA, Universidad de Chile, 2002, Vol. 1 (in print).

Code	Total to date (reduce box)	Detail (←expand box)
11b	Number of papers published or accepted for publication elsewhere	-The five case studies, Chile's national report, the seminar report and the final project recommendations report are currently being published.
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country	
12b	Number of computer-based databases enhanced (containing species/genetic information) and handed over to host country	
13a	Number of species reference collections established and handed over to host country(s)	
13b	Number of species reference collections enhanced and handed over to host country(s)	
Dissemination Outputs		
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	- One national seminar organised to present and discuss the research papers.
14b	Number of conferences/seminars/ workshops attended at which findings from Darwin project work will be presented/ disseminated.	<ul style="list-style-type: none"> - CDA project co-ordinator attended the ICCP-2 and ICCP-3 meetings, in October 2001 and April 2002, respectively, and the CBD COP also in April 2002. - CDA project co-ordinator gave a presentation at Chile's First National Meeting on Environmental Law (November 2001) - CDA project co-ordinator gave a presentation at the workshop "GMOs, Trade, Biosafety and Public Perception: Decisions on the Biosafety Protocol" (October 2002).
15a	Number of national press releases or publicity articles in host country(s)	<ul style="list-style-type: none"> - Short articles on project seminar posted in both partner institutions' websites. - Article on the project seminar published in the electronic newsletter 'Boletín Transgénicos' published in Chile (issue no.9). - Article on the Darwin project published in the Newsletter of the University of Chile (February 2002, year 4, issue no.32) - Article on a national newspaper (<i>El Mercurio</i>),

Code	Total to date (reduce box)	Detail (←expand box)
		which referred to the findings of the project (August 2002)
15b	Number of local press releases or publicity articles in host country(s)	-
15c	Number of national press releases or publicity articles in UK	- Article on the project published in FIELD's newsletter ' <i>FIELD in Brief</i> '
15d	Number of local press releases or publicity articles in UK	
16a	Number of issues of newsletters produced in the host country(s)	
16b	Estimated circulation of each newsletter in the host country(s)	Wide circulation in one of major Chilean daily papers. The university newsletter has a wide circulation within University of Chile.
16c	Estimated circulation of each newsletter in the UK	Circulation of 2,500 issues worldwide.
17a	Number of dissemination networks established	
17b	Number of dissemination networks enhanced or extended	
18a	Number of national TV programmes/features in host country(s)	
18b	Number of national TV programme/features in the UK	
18c	Number of local TV programme/features in host country	
18d	Number of local TV programme features in the UK	
19a	Number of national radio interviews/features in host country(s)	
19b	Number of national radio interviews/features in the UK	
19c	Number of local radio interviews/features in host country (s)	Two radio interviews of the CDA project co-ordinator on the project and biosafety issues at the radio station of University of Chile (March and May 2002).
19d	Number of local radio interviews/features in the UK	
Physical Outputs		
20	Estimated value (£s) of physical assets handed over to host country(s)	
21	Number of permanent educational/training/research facilities or organisation established	
22	Number of permanent field plots established	
23	Value of additional resources raised for project	

Appendix III: Publications

Provide full details of all publications and material that can be publicly accessed, e.g. title, name of publisher, contact details, cost. Details will be recorded on the Darwin Monitoring Website Publications Database that is currently being compiled.

Mark (*) all publications and other material that you have included with this report

Type	Detail	Publishers	Available from	Cost £
Research paper(*)	<i>'Diagnóstico sobre la legislación e institucionalidad chilena en materia de seguridad de la biotecnología'</i> by Hervé, D. (July 2002)	<i>Centro de Derecho Ambiental,</i> University of Chile, Santiago (Chile).	-CDA's website http://www.dercho.uchile.cl/cda/investigacion/bioseguridad/bioseguridad.html -Or see FIELD's website http://www.field.org.uk/fieldmain/biodivf/p2.htm	FREE
Research paper(*)	<i>'Estudio de Derecho Comparado: Caso Argentina'</i> by Hervé, D. (July 2002)	<i>Centro de Derecho Ambiental,</i> University of Chile, Santiago (Chile).	-CDA's website http://www.dercho.uchile.cl/cda/investigacion/bioseguridad/bioseguridad.html Or see FIELD's website http://www.field.org.uk/fieldmain/biodivf/p2.htm	FREE
Research paper(*)	<i>'Estudio de Derecho Comparado: Caso Cuba'</i> by Main, M (July 2002)	<i>Centro de Derecho Ambiental,</i> University of Chile, Santiago (Chile).	-CDA's website http://www.dercho.uchile.cl/cda/investigacion/bioseguridad/bioseguridad.html	FREE

			Or see FIELD's website http://www.field.org.uk/fieldmain/biodivf/pg2.htm	
Research paper(*)	<i>'Estudio de Derecho Comparado: Caso Brasil'</i> by Durán, V. (July 2002)	<i>Centro de Derecho Ambiental,</i> University of Chile, Santiago (Chile).	-CDA's website http://www.dercho.uchile.cl/cda/investigacion/bioseguridad/bioseguridad.html Or see FIELD's website http://www.field.org.uk/fieldmain/biodivf/pg2.htm	FREE
Research paper(*)	<i>'Estudio de Derecho Comparado Caso UE'</i> by Lasén Diaz, C. (July 2002)	FIELD, London, UK	See FIELD's website http://www.field.org.uk/fieldmain/biodivf/pg2.htm -Or CDA's website http://www.dercho.uchile.cl/cda/investigacion/bioseguridad/bioseguridad.html	FREE
Research paper(*)	<i>'Estudio de Derecho Comparado: Caso Nueva Zelanda'</i> , by Lasén Diaz, C. (July 2002)	FIELD, London, UK.	See FIELD's website http://www.field.org.uk/fieldmain/biodivf/pg2.htm Or CDA's website http://www.dercho.uchile.cl/cda/investigacion/bioseguridad/bioseguridad.html	FREE

Research paper	'Genetically Modified Organisms and the Environment – Recommendations', by Kalin, M. (March 2002)	<i>Centro de Derecho Ambiental</i> , University of Chile, Santiago (Chile)	-CDA's website http://www.derecho.uchile.cl/cda/investigacion/bioseseguridad/bioseseguridad.html	FREE
Research paper	'Biodiversity and case studies of exotic species: Present patterns, future predictions and general recommendations', by Kalin, M. (March 2002)	<i>Centro de Derecho Ambiental</i> , University of Chile, Santiago (Chile)	-CDA's website http://www.derecho.uchile.cl/cda/investigacion/bioseseguridad/bioseseguridad.html	FREE
Research paper	' <i>Experiencia Chilena en Biotecnología Moderna</i> ' by Espejo T., R. (March 2002)	<i>Centro de Derecho Ambiental</i> , University of Chile, Santiago (Chile)	-CDA's website http://www.derecho.uchile.cl/cda/investigacion/bioseseguridad/bioseseguridad.html	FREE
Report(*)	Report of the seminar 'Biosafety: A legal framework for Chile' by FIELD/CDA (April 2002)	CDA/FIELD	See FIELD's website http://www.field.org.uk	FREE
Report	' <i>Informe del seminario 'Bioseguridad: Un marco jurídico para Chile</i> ' by CDA/FIELD (April 2002)	CDA/FIELD	See CDA's website http://www.derecho.uchile.cl/cda/investigacion/bioseseguridad	FREE
Final report (*)	' <i>Conclusiones</i> '	CDA	See CDA's website	FREE

	<i>recomendaciones para la elaboración de un marco jurídico sobre seguridad de la biotecnología moderna en Chile’.</i> (September 2002)		http://www.dercho.uchile.cl/cda/investigacion/bioseguridad	
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Appendix IV: Logical framework

Project summary	Measurable indicators	Means of verification	Important assumptions
<p>Goal</p> <p>To assist countries rich in biodiversity but poor in resources with the conservation of biological diversity and implementation of the Biodiversity Convention"</p>	<ul style="list-style-type: none"> - ability of the Environmental Law Centre to play an active role and make a contribution to Chile's implementation of the CBD. - The Centre's participation in international, regional and national biodiversity meetings 	<ul style="list-style-type: none"> - publications in international and national legal journals - organisation of workshops, seminars, etc. - participation in regional and international networks of environmental law institutions 	<p>Biodiversity and biosafety remain a priority area of work for Chile.</p>
<p>Purpose</p> <p>To build the capacity of a Chilean institution to contribute to biodiversity-related issues focusing on biosafety.</p> <p>To address the lack of legislation on biosafety at national level</p>	<ul style="list-style-type: none"> - to raise awareness about the need to introduce a legal and institutional framework on biosafety - to produce a set of recommendations on what would be an appropriate framework 	<ul style="list-style-type: none"> - dissemination of project objectives and outputs through the seminar and the publication of relevant papers and set of recommendations 	<p>Chile's interest in complying with its international commitments under the Convention on Biological Diversity and potential obligations under the Cartagena Protocol on Biosafety.</p>
<p>Outputs</p> <ul style="list-style-type: none"> - 2 research papers - Seminar - Recommendations on appropriate legal and institutional framework for biosafety 	<ul style="list-style-type: none"> - papers produced - seminar held - recommendations drafted 	<ul style="list-style-type: none"> - papers published - report of the seminar - recommendations published 	<p>The issues addressed by these papers and seminar are considered of key importance by Chile in implementing the Biodiversity Convention and the Biosafety Protocol.</p>
<p>Activities</p> <ul style="list-style-type: none"> - Research and review relevant national and international legislation; consideration of case-studies, comparative law and interviews with authorities, experts and NGOs - Seminar to identify gaps and needs in Chile's legal system on biosafety - Draft recommendations on appropriate legal and institutional framework on biosafety 	<ul style="list-style-type: none"> - research and review activities undertaken - seminar held - recommendation on appropriate legal and institutional framework on biosafety drafted 	<ul style="list-style-type: none"> - research papers produced/published - report and outputs of the seminar produced - recommendations published 	<ul style="list-style-type: none"> - Research and review activities highlight the need to address biosafety regulation in Chile. - Willingness and availability to attend the seminar. - There are opportunities to input the project outputs into Chile's policy debate on biosafety

Appendix V: Seminar report

<p style="text-align: center;">SEMINAR REPORT 'BIOSAFETY: A LEGAL FRAMEWORK FOR CHILE' 19-21 March 2002 Law Faculty, University of Chile</p>
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Tuesday, 19 March 2002

1. OPENING OF THE SEMINAR

- 1.1 The seminar on *Biosafety: Developing a Legal and Institutional Framework for Chile* was held at the Law Faculty of the University of Chile, on 19-21 March 2002.
- 1.2 The seminar was attended by 68 participants, including representatives from various governmental departments, public services, non-governmental organisations, private sector, researchers and scientists. Annex 2 of this report contains the list of participants.
- 1.3 The seminar was organised by the *Centro de Derecho Ambiental* (Environmental Law Centre) (CDA) of University of Chile, and the Foundation for International Environmental Law and Development (FIELD) with the support of the *Servicio Agrícola y Ganadero* (Agriculture and Livestock Service) (SAG) and Chile's *Comisión Nacional del Medio Ambiente* (National Environmental Commission) (CONAMA).

Official opening

- 1.4 The seminar was officially opened by the Dean of the Law Faculty of the University of Chile, Mr Antonio Bascuñán Valdés, who welcomed the participants and thanked the CDA and FIELD for organising it. The Dean expressed his gratitude to the donor institutions which funded the organisation of the seminar: the 'Darwin Initiative for the Survival of Species' of the UK Department for Environment, Food and Rural Affairs (DEFRA) and the *Departamento de Investigación y Desarrollo* (Department of Research and Development) of the University of Chile.
- 1.5 The Director of the CDA, Mr Sergio Montenegro Arriagada, introduced the two co-ordinators of the project and acted as moderator of the seminar sessions held on Tuesday March 19th.

Welcome and introduction to the seminar

- 1.6 The co-ordinator of the project at the CDA, Ms Dominique Hervé Espejo, introduced the seminar in the context of the research project 'Developing a Legal and Institutional Framework for Chile' funded by the Darwin Initiative, and undertaken in partnership with FIELD. She

also explained the different phases of the project and the relevance of the seminar to achieve the project objectives.

- 1.7 The co-ordinator of the project at FIELD, Ms Carolina Lasén Diaz, emphasised that one of the main objectives of the seminar was to bring together the various sectors and parties interested on biosafety in Chile in order to discuss the draft project research papers and different countries' experiences so as to identify key points which a future Chilean regime on biosafety could take into account. The structure of the seminar was also explained to the participants, i.e. a series of presentations and debates on the first two days followed by working group sessions on the third and last day.

Introduction to the agenda and materials of the seminar

- 1.8 Carolina Lasén apologised on behalf of Ms Ruth Mackenzie, Director of FIELD's Biodiversity Programme, as she had been unable to travel to Chile. She highlighted the only change to the seminar agenda: Ms Lasén's replacing Ms Mackenzie in the first presentation of the day on the Cartagena Protocol on Biosafety.
- 1.9 The seminar materials were given to participants in a folder which included copies of the current legal situation on biosafety in Chile, as well as five case studies on comparative law and a summary note on the Cartagena Protocol on Biosafety. These documents were presented as drafts on which the participants were asked to comment. The folder also included copies of the full text of the Convention on Biological Diversity and the Cartagena Protocol on Biosafety.
- 1.10 In the introduction to the seminar materials, an additional reference was made to a current IUCN/FIELD project preparing an Explanatory Guide to the Cartagena Protocol on Biosafety which is at the drafting stage. A copy of the most recent version of the draft Guide was made available to seminar participants for information.

2. INTERNATIONAL AND CHILE'S CONTEXT ON BIOSAFETY

- 2.1 Carolina Lasén, staff lawyer at FIELD, presented the international context of Chile's obligations as Party to the Cartagena Protocol on Biosafety. The presentation on the Protocol covered the relationship between this new instrument and the Convention on Biological Diversity, its negotiating process and current status, as well as the main obligations for its Parties after it enters into force. In particular, the presentation focused on the advance informed agreement (AIA) procedure which is required prior to the first movement of living modified organisms (LMOs), and on the procedure covering LMOs destined for direct use as food, feed or for processing (LMOs-FFPs). Ms Lasén also covered the role and functioning of the Biosafety Clearing House Mechanism established by the Cartagena Protocol.

- 2.2 Following this presentation a debate took place between the participants and a panel formed by Carolina Lasén and the two foreign experts invited to the seminar, Ms Amanda Gálvez Ph.D., lecturer at the Faculty of Chemistry at the *Universidad Nacional Autónoma* of Mexico, and Ingrid Noeh, Director of the Department on Biosafety and Risk Assessment of the Federal Environmental Agency in Germany, both of whom were members of the Mexican and German delegations, respectively, to the negotiations of the Cartagena Protocol. The debate with the seminar participants revolved around the negotiations of the Protocol and Chile's role in them as member of the so-called 'Miami Group'.
- 2.3 Ms Dominique Hervé, lawyer and researcher at CDA, explained the current legal and institutional situation in Chile regarding biosafety, stressing the existing fragmentation between the different government departments (agriculture, fisheries, economy, foreign affairs, health), the private sector, the academic and scientific community, and civil society. The conclusions reached by Ms Hervé demonstrated the need to establish a policy on this issue in Chile, with appropriate principles and objectives to facilitate co-ordination and ensure the coherence of the work of the different institutions. A clear and well co-ordinated policy would set the basis for the legislative framework needed in its implementation. Dominique Hervé also stressed the need to address biosafety in a holistic manner and not from a sectorial or fragmented point of view, which is the current situation in Chile, both at the legal and institutional level.
- 2.4 After this presentation, the discussion focused on the lack of co-ordination and the contradictions of the current situation in Chile, in the absence of a clear biosafety policy. The participants welcomed the project's research and framework as being an area where there is little information in Chile on policy developments both at the national and international level.
- 2.5 The seminar participants gave their views on the different aspects related to biosafety and biotechnology in Chile, such as the role of consumer organisations and recent lawsuits related to risks to human health posed by GMOs; Chilean research on GMOs; the consequences of the use of GMOs in agriculture; the context of Chile's biodiversity; and problems resulting from GMO contamination.

Wednesday, 20 March 2002

3. REGIONAL LEGAL FRAMEWORKS

- 3.1 This session was chaired by Professor Raul Brañes, founding president of the *Asociación Latinoamericana de Derecho Ambiental* (Latin American Association of Environmental Law), legal consultant and regional expert.
- 3.2 Carolina Lasén Díaz (FIELD) introduced the European Union's (EU) legal framework on biosafety, covering its overarching principles, scope

of application of existing legislation and relevant biosafety institutional framework. Ms Lasén focused her presentation on the regulated activities and the authorisation procedures for the different GMOs. Moreover, reference was made to the new EU legislative proposals pertaining to labelling and traceability of GMOs. The presentation finished with the issue of the current ‘de facto’ moratorium on new authorisations for the commercialisation of GMOs in the EU.

3.3 Manuel Ruiz Muller, Director of the Programme on International Affairs and Biodiversity of the *Sociedad Peruana de Derecho Ambiental* (Peruvian Society of Environmental Law), presented the Regional Biodiversity Strategy of the Andean Community and the programmes addressed in its Action Plan on biosafety. Mr Ruiz also summarised the current legal developments on biosafety in the five countries of the Andean Community (Bolivia, Colombia, Ecuador, Peru and Venezuela), which have incipient biotechnological capacities but do not make commercial use of GMOs.

3.4 After the presentations on regional biosafety frameworks addressed, amongst other issues, the implementation of the precautionary principle, the entry of GMOs as food aid in the Andean Community countries and the possibility of contamination of centres of origin, the level of participation of civil society in the drafting of the Regional Biodiversity Framework in the Andean Community and the relationship between biosafety and access to genetic resources as a result of germplasm being sent from developing to developed countries for its improvement.

4. EXAMPLES OF NATIONAL LEGAL FRAMEWORKS ON BIOSAFETY

4.1 Brazil - The first study of national comparative law was presented by CDA’s researcher Valentina Durán, who introduced Brazil’s regulation on biosafety, being the richest country in biodiversity and the second largest world producer of conventional soya. Ms Durán, a lawyer at CDA, underlined the different positions of the public sector and the debate in Brazilian society, concluding that Brazil has abundant legislation on the matter compared to its surrounding countries, although the recent legal actions brought to courts and the conflicts between the various interested sectors remain unresolved.

4.2 Cuba – Ms Marcela Main, lawyer at Chile’s National Commission on the Environment (CONAMA), introduced the case study on Cuba’s legal and institutional biosafety framework. Ms Main’s presentation started with the objective of the country’s National Biodiversity Strategy in relation to the development of an ethical and environmental biotechnology in Cuba. The presentation went on to address the Legislative Decree 190/99 on biosafety and the licensing mechanism to develop GMO activities in contained use as well as their release into the environment, including the import and export of these organisms and their derivatives.

- 4.3 Argentina - Dominique Hervé (CDA) focused on the scope of the Argentinean system on biosafety and its institutional framework, given that this country is one of the major world producers of GM crops. The regulatory system in Argentina on this issue only applies to the farming sector and there is no general regime on the safety of biotechnology or biosafety. Ms Hervé summarised the different authorisation procedures pertaining to GMOs, covering the testing of GMOs, their release, the flexibility of the conditions of permits for research and release already obtained, and the permit for commercialisation. The latter requires the need to analyse whether it is appropriate or not to introduce the product in the market, and not just to examine its environmental impacts. Ms Hervé stressed the aim of the Argentinean regulatory framework, which is to allow for the implementation of the country's option to promote modern biotechnology in the agricultural sector.
- 4.4 New Zealand - Carolina Lasén (FIELD) continued the session on comparative law and presented New Zealand's biosafety regime. The legislative framework of this country, a law from 1996, is currently under review in light of the report issued by an independent Royal Commission set up by the New Zealand government. In this context, a voluntary moratorium was agreed with the industry for new authorisations during the work of the Royal Commission. While the government is implementing most of the legislative and institutional reforms recommended by the Royal Commission, the moratorium has subsequently been extended until October 2003. A crucial feature of the biosafety policy of this country is the wide consultations undertaken in its review and the high level of public participation in the decision making on issues related to GMOs.
- 4.5 Professor Raul Brañes closed the session by giving examples of national frameworks while putting forward a number of proposals and recommendations for the national biosafety laws of Latin American countries. Mr Brañes stressed the importance of the need to regulate the uncertainties surrounding biosafety and the opportunities given by biotechnology taking into account the rich biodiversity of the region and the importance of its farming practices, in particular in the context of the Chilean case. Furthermore, he noted that the existing national legislative systems in the region can be divided into two types: those with a 'traditional' legislation on the introduction of exotic species and traditional biotechnology focusing mainly in the agriculture sector, and those with specific legislation on the safety of modern biotechnology, which is the case of Brazil, Cuba and Peru. Mr Brañes finally made a number of recommendations on policy, legislation and administration as regards biosafety, as well as on other related areas such as regional biosafety systems, international co-operation and public participation.
- 4.6 The round of questions and debate touched upon the issues of national regimes on labelling and traceability and the existing differences between countries and its consequences on international trade. Seminar participants made remarks on the labelling of nutritional aspects of

certain food products and the implementation of the criteria on 'substantial equivalence'. The issue of traceability and product differentiation was also addressed in the debate in relation to good agricultural practices and the monitoring of these products. Furthermore, questions on the practice and cost of the segregation between GMOs and non-GMOs and their derivatives, as well as questions on producers liability, in relation with the marketing of their products, were raised.

5. TECHNICAL AND SCIENTIFIC ASPECTS RELATED TO BIOSAFETY

5.1 Ms Amanda Gálvez Ph.D, from Mexico's *Universidad Nacional Autónoma*, talked about the division between the legal and the scientific regime on biosafety in Mexico (a megadiverse country where 25% of the population work in agriculture and which has the highest diversity of corn in the world). Dr Gálvez pointed out the advantages of environmentally friendly biotechnologies for the increase of agricultural production and the need not to halt the advancements of science. After outlining the Mexican biosafety legal framework, she concluded that it is necessary to undertake multidisciplinary assessments with independent funding within a framework of transparency and participation in the decision-making. Moreover, Dr Gálvez emphasised the need to do assessments that take into consideration the impacts of GMOs in global biodiversity and socio-economic factors, which would require broader assessments than the usual and take account of the possible long term effects.

5.2 Following this, Ingrid Noeh, Director of the Biosafety and Risk Assessment Department of the German Federal Environmental Agency, presented the German experience on risk evaluation, including that on GMOs and biosafety. Mrs. Noeh explained the German case within the regulatory framework of the EU and focused in the evaluation of environmental risks regarding biosafety and the role of the precautionary principle. The German procedure of risk assessment is currently under review due to the new EC Directive on GMOs which will be soon entering into force. To conclude, Mrs. Noeh complemented her presentation with the example of the risk evaluation of the Bt corn in Germany which resulted, in line with the precautionary principle, in not granting authorisation for commercialisation of a specific GM corn variety due to the possible adverse effects in non-targeted organisms and antibiotic resistance.

5.3 The debate after the presentations revolved around the problem of illegal traffic of GMOs which can reach very high volumes of seeds being traded. Some participants noted the challenges which organic farmers are currently facing and the need to conduct case studies for certain types of products, such as those claiming to have homeopathic, nutritional or environmental properties. While the need to take into account socio-economic factors was also stressed by some participants, others

mentioned the importance of the right to health and the necessary protection of consumers, in particular as regards allergies as many effects are still unknown, which, in turn, is related to the labelling of products derived from GMOs.

6. THE CASE OF CHILE'S BIODIVERSITY AND USE OF MODERN BIOTECHNOLOGY

- 6.1 Ms Mary Kalin Ph.D, Director of the Millennium Centre for Advanced Studies in Ecology and Research in Biodiversity of the University of Chile, presented the situation in Chile where there is a very high level of endemism, higher than in Brazil, and is especially so in the central regions where less than 5% of the territory is protected. In addition to this, Dr Kalin showed the high number of exotic species introduced in Chile and the problems they cause, weeds in particular, as well as the direct and indirect effects of their spread.
- 6.2 Mary Kalin indicated several elements that need to be taken into account in a future national strategy on GMOs, including the need to accept the existence of unknown environmental risks and establish an acceptable level of risk taking into account scientific, economic, social and environmental factors, as well as the necessary endorsement of the precautionary principle. She also stressed the importance of conducting and monitoring field tests of GMOs in accordance with the life cycle of the plants or organisms. Moreover, the possible problems resulting from GM trees and related Chilean industry, for which long term field tests should be undertaken before commercialisation, was also addressed. Dr Kalin finished her presentation by referring to the need to consider, at national level, the option of not having GMOs or, at a global level, not having GMOs in those regions rich in biodiversity such as Chile's region XI.
- 6.3 Romilio Espejo, from the *Instituto de Nutrición y Tecnología de los Alimentos* (INTA) (Institute of Nutrition and Food Technology), University of Chile, presented the situation related to the use of GMOs in research and commercialisation in Chile. The former, consists mainly of genetically modified micro-organisms used and contained in laboratories under the commitment of following a series of non binding good practices based on international standards. However, there is no control over the elements of risk containment. About 300 laboratories in Chile systematically produce genetically modified bacteria and yeast, but in the case of transgenic plants less than 10 laboratories have the necessary technology. Regarding the capacity of Chilean laboratories to detect GMOs, very few of them have the necessary technology which proves that there is a real lack of resources for the eventual compulsory labelling of GM products. On the other hand, there has not been any official release of GMOs in Chile, although it is neighbour to the second largest producer of GM crop varieties, Argentina.

6.4 The seminar participants were very interested in the information given in this session and the related lack of knowledge in the country about the use of modern biotechnology. The debate reflected a number of issues of interest to the participants which included human health considerations, the high level of malnourishment and tuberculosis in the country, and the potential problem of resistance to antibiotics. Other issues of interest were the need to study the biodiversity of the marine species, as only 10-15% are known, which reflected the lack of taxonomists and how crucial they are to distinguish between native and exotic species. In addition to all this, the lack of information on exotic marine species was reminded as well as that there are about 700 exotic species of terrestrial plants in Chile. Generally, the issues of lack of funding for research, as well as the need to apply the precautionary principle were raised. The current negotiations on a trade agreement between Chile and the EU were also pointed out as this agreement will have the effect on Chile's private sector of having to comply with EU's requirements for the import and commercialisation of products derived from GMOs, including their labelling.

Thursday, 21 March 2002

7. WORKING GROUP SESSIONS

7.1 The organisation of the work of the seminar moved on from plenary sessions to two working groups. The first working group focused on the debate on the technical and scientific issues related to the risk assessments of GMOs and capacity building needs in Chile. The second working group discussed the legal and institutional needs to develop a biosafety framework in Chile.

7.2 After the discussion in the working groups, the participants that acted as rapporteurs for each group presented their conclusions to the plenary.

7.3 The first working group did not have enough time to agree on specific recommendations but their deliberations focused on the identification of possible types of GMOs in Chile and their related potential risks. These risks can derive from: the cultivation of seeds and derived food products; the production of genetically modified trees; genetically modified weeds which could hybridise with other crops; and fish farming of GM shellfish and fish. All these organisms result in risks to biodiversity and human health, risks to the environment in general (water and soil) and socio-economic risks to small breeders, farmers and fishermen. The need for raising awareness among the scientific and the academic communities, as well as the private sector, was brought up by this working group. The UNEP/GEF project to develop a national biosafety framework in Chile, co-ordinated by CONAMA, was also debated.

7.4 The second working group discussed the current situation and the legal and institutional needs in Chile for the development of a biosafety framework. The recommendations from this group were presented to and accepted by the plenary and included in Annex 1 to this report.

8. CONCLUSION AND CLOSING OF THE SEMINAR

8.1 The project co-ordinators from CDA and FIELD thanked the participants and foreign experts for their active participation in the seminar. They considered the level of participation and discussion during the seminar very satisfactory, and were positive that the main objective of initiating the debate on biosafety and exchanging information and viewpoints at the national level was achieved. Furthermore, they informed the participants of the next stage of the CDA/FIELD project, which is the distribution of the final report and recommendations of the seminar to all participants and competent authorities on the subject.

8.2 Sergio Montenegro, Director of the CDA, described some of the key activities of the Centre on Environmental Law (CDA) and announced the coming publication of an Environmental Law Journal, highlighting that information about the CDA can be found on their website at www.derecho.uchile.cl/cda. After thanking the funding institutions, invited experts, participants and co-ordinators Mr. Montenegro officially closed the seminar at noon on 21 March 2002.

Annex 1

Seminar recommendations

The ten recommendations resulting from the seminar “*Biosafety: A legal framework for Chile*”, held in Santiago, Chile, on 19-21 March 2002, are as follows:

1. To establish a national policy on biosafety.
2. To legislate on biosafety issues at the national level.
3. To overcome the existing fragmented approach to biosafety with legislation that incorporates a multi-disciplinary approach.
4. To take the debate to the Parliament with a commitment from government, the people of Chile and the necessary allocation of funds.
5. To initiate a legislative debate involving all stakeholders.
6. To establish a national legal framework on biosafety as a ‘Law of the Republic’.
7. To legislate with caution (that is, considering the precautionary approach) in the context of extreme positions worldwide.
8. To motivate politicians to give biosafety a high priority and work on this issue looking at the long term.
9. To legislate following the approach that risk assessments must be done on a case by case basis.
10. To make trade and environment compatible.

Annex 2
List of participants

(see separate file)