



Report

Workshop on Capacity-building for Research and Information Exchange on the Socio-Economic Impacts of LMOs under the Cartagena Protocol on Biosafety

14-16 November 2011, New Delhi

The Cartagena Protocol on Biosafety (CPB) to the Convention on Biological Diversity is an international treaty which seeks to protect biological diversity from the potential risks posed by living modified organisms resulting from modern biotechnology. The Protocol was adopted on 29 January 2000 as a supplementary agreement to the Convention on Biological Diversity. So far 163 countries have ratified the protocol.

Under the Cartagena Protocol on Biosafety, the Conference of the Parties serving as the Meeting of the Parties (COP-MOP) at its fifth meeting at Nagoya, October, 2010 agreed to adopt the Decision BS V/3.IV "Cooperation on identification of capacity-building needs for research and information exchange on socio-economic considerations.¹" The decision required to organise a regionally-balanced workshop on capacity-building for research and information exchange on socio-economic impacts of living modified organisms (LMOs) prior to the COP-MOP 6, to be held in India in 2012. As follow-up of the aforesaid decision a workshop on "Capacity-building for Research and Information Exchange on the Socio-Economic Impacts of Living Modified Organisms under the Cartagena Protocol on Biosafety" was held in New Delhi from 14 to 16 November 2011. The workshop was organised by the Government of Norway and the Ministry of Environment and Forest, Government of India in collaboration with the Research and Information System for Developing Countries (RIS).

Forty-five participants from 24 countries representing various stakeholders took part in the workshop. Dr. P. G. Chengappa, National Professor of the Indian Council of Agriculture Research at the Institute for Social and Economic Change from India and Dr. Casper Linnestad from Norway were the Co-chairs.

Mr. Hem Pande, Joint Secretary, Ministry of Environment and Forests, Government of India, chaired the inaugural the session. Mr. Charles Gbedemah, Principal Officer for Biosafety, Secretariat of the Convention on Biological Diversity (CBD) made an opening statement on behalf of the Executive Secretary. He noted that socio-economic considerations will be one of the key items on the agenda for the sixth meeting of the Parties to the Protocol which is scheduled to be held in Hyderabad in October 2012 and that the outcomes of the workshop would be an important contribution to those deliberations. Mr. T. Chatterjee, Secretary, Ministry of Environment and Forests, Government of India, outlined a number of socio-economic aspects of LMOs and their importance in the decision-making process. He indicated that capacity-building is necessary to enable countries to undertake socio-economic assessments and noted that the workshop offered a unique opportunity to learn, exchange ideas and engage in meaningful discussions on the implementation of Article 26 of the Protocol.

A representative of the Secretariat of the Convention on Biological Diversity gave an overview of the objectives, programme and expected outcomes of the workshop. The workshop included presentations by resource persons, plenary sessions for sharing experiences and small breakout group discussions. Participants at the workshop examined the available information and case-studies on the application of socio-economic assessments in a range of fields. The workshop was divided into the following sessions dealing with different agendas.

Agenda: Exchange and Analysis of Information on Socio-economic Considerations

This session included presentation on socio-economic assessments in fields other than biosafety; socio-economic assessments in agriculture and breakout group discussions. Dr. Asha Rajvanshi, Professor and Head of the Environmental Impact Assessment Cell of the Wildlife Institute of India made a presentation on "Socio-economic considerations in environmental decision-making in India". She characterised the evolution of socio-economic considerations and environmental impact assessment (EIA) in India and outlined some ongoing constraints and challenges in the EIA process in India, that is, there is the lack of an inter-disciplinary approach among government ministries. She also noted that while there were requirements that only certified experts can conduct EIAs, capacity-building on methods for conducting EIAs and assessing socio-economic impacts is needed. She further underlined that there were still limited options for integrating public views in decision-making. Lack of clarity

about the linkages between biodiversity and socio-economic impacts posed one of the biggest challenges for decision-making.

Dr. José Falck-Zepeda, Research Fellow, International Food Policy Research Institute (IFPRI) made a presentation on “Socio-economic Impact Evaluation: Topics, Methods and Ongoing Work” on behalf of the International Centre for Tropical Agriculture (CIAT). He noted that impact evaluation is one of the themes addressed by CIAT and their objective is to assess the impacts of technologies, institutions and projects in order to target, document and increase the effectiveness of research and development. He described four steps in the design and conduct of a socio-economic impact evaluation, that is, defining the objectives, technology and the target population; designing the evaluation tools (e.g. questionnaire, interviews) and approaches (qualitative versus quantitative); conducting field work to collect the data; and analysing the data.

Breakout Group Discussions

After the preceding presentations, Co-Chair invited the participants to break into small groups and suggested the following guiding points to facilitate the small group discussions: to identify some areas in the respective countries of participants where socio-economic considerations are taken into account in decision-making; how these areas might help to inform the incorporation of socio-economic considerations into decision-making on LMOs; and to identify the application of socio-economic considerations in other areas related to biosafety. In response to these, it was reported that the socio-economic considerations are taken into account in processes such as agricultural development, pharmaceutical and chemical approvals, etc. It was also reported that the number of countries have requirements for conducting *ex ante* assessments of the environmental impacts of large projects and for some these assessments also include socio-economic aspects. Further, some of the groups noted that the lessons learned from existing systems can be useful in the context of biosafety but the specific aspects or issues relevant to biosafety need to be taken into account when designing systems for decision-making on LMOs.

After the breakout group discussions, following presentations were made on the national experiences with socio-economic considerations in decision-making on LMOs.

Mr. Martin Rémondet, Chargé de mission with the Economics, Ethics and Social Committee of the High Council on Biotechnology of the

Government of France, made a presentation on “French ‘High Council for Biotechnologies’: an innovative institution for GMO assessment”. He stated that the High Council for Biotechnologies (HCB) was created in 2008 and consists of a Scientific Committee and an Economic, Ethics and Social Committee. The HCB provides advice to the French authorities on any question related to biotechnology but it does not have decision-making power. Mr. Rémondet elucidated that the Economic, Ethics and Social Committee conducts case-by-case analyses to determine the possible benefits and detriments of a GMO and to consider the GMO in the broader economic, social, ethical and agronomic context.

Ms. Georgina Catacora, Advisor with the Directorate General for Biodiversity and Protected Areas, Government of Bolivia, provided an overview of “Socio-economic Considerations in Decision-Making related to LMOs: Experiences from the Plurinational State of Bolivia. She outlined three cases of LMO introductions in Bolivia – living modified (LM) potato, soybean and maize – and the different socio-economic issues that were raised in these cases. She also described Bolivia’s legal framework for addressing socio-economic considerations related to LMOs. She outlined a number of different regulatory instruments which establish the overall objective for the inclusion of the socio-economic considerations in the decision-making process on LMOs, namely to promote well-being by preventing and avoiding potential risks and adverse effects on ecological, socio-economic and life systems resulting from LMOs, products thereof and related technological packages. Ms. Catacora also stated some of Bolivia’s challenges related to consideration of socio-economic aspects of LMOs

Dr. Sachin Chaturvedi, Senior Fellow, RIS, made a presentation on the “Indian Legislative Experience with Socio-Economic Provisions on GM Crops”. He reviewed a number of studies that addressed the socio-economic impacts of Bt cotton in India. He noted that the studies suggest that Bt technology has been a major factor in boosting cotton productivity, has had positive effects on human health and the environment due to reduced use of pesticides, and has increased farmers’ net returns. He then described the three criteria used by regulators in India when assessing LMOs: safety, efficacy and effectiveness. The criterion of effectiveness addresses how the LMO actually works in different contexts and conditions and he stated that this is directly relevant to the assessment of socio-economic impacts. Dr. Chaturvedi analysed the proposed Biotechnology Regulatory Authority of India (BRAI) bill. He noted that BRAI provides for the creation of an Economic Analysis Unit that would conduct *ex ante* and *ex post* impact analyses.

Mr. Bjarte Rambjør Heide, Senior Advisor to the Norwegian Directorate for Nature Management, presented on Norway's experiences with socio-economic considerations in decision-making on LMOs. He indicated that five assessment criteria for applications for the release of GMOs have been identified on the basis of the legislative provisions, namely health, environment, ethics, sustainable development and benefit to society. Mr. Heide then described Norway's experience with applications for two different LMOs. In one case, the Norwegian Biotechnology Advisory Board (NBAB) members agreed that a modified carnation was not particularly beneficial to society nor contributed to achieving sustainable development but a majority of the members were of the opinion that these factors could not be the basis for a negative decision. In another case, 14 of 15 NBAB members recommended a ban on a GM maize variety due to sustainability issues and overall lack of documentation on sustainability, benefit to society and ethics. Mr. Heide noted that the Norwegian Directorate for Nature Management is currently considering how to develop trait-specific guidelines for assessment of sustainability and benefit to society. He further mentioned that the Norwegian Gene Technology Act requires a broad approach to GMO assessment, which increases complexity. He stated that Norway has not used the socio-economic criteria to any large extent in decision-making on LMOs and implementing the criteria requires continuous efforts.

Breakout Group Discussions

Following the presentations, the Co-Chair invited the participants to break into small groups to discuss issues arising from the presentations and suggested the groups should also try to identify the goals of participating countries which they wish to achieve by taking the socio-economic considerations into account in biosafety decision-making and the challenges faced by the countries in doing so. In response, the following goals were identified: achieving food security; assessing the impact on the cost of inputs; encouraging research and development on sustainability issues; income and livelihoods; and coordinating with policy goals in areas such as climate change and biodiversity protection. Further, the groups identified the following challenges like: lack of clarity on the meaning and scope of socio-economic considerations and the level at which analysis should be undertaken (for example, household, community, country); lack of clear policy decisions or regulatory frameworks that include the socio-economic considerations; limited understanding of what can and cannot be done by

socio-economic assessments; lack of qualified personnel and information on methodologies; lack of cooperation between regulators working on biosafety and their colleagues in other sectors with experience conducting socio-economic assessments; lack of guidelines identifying relevant socio-economic indicators, how to weigh different socio-economic considerations and when in the regulatory process a socio-economic assessment should be performed; and a need for mechanisms to encourage public awareness and participation.

Capacity-Building Activities, Needs And Priorities Regarding Socio-Economic Considerations

Dr. Hartmut Meyer presented on his role as the Chair of the Coordination Meeting for Governments and Organizations Implementing and/or Funding Biosafety Capacity-building Activities to provide an overview of the discussions on the issue of socio-economic considerations. He enumerated the activities on socio-economic considerations that took place in the context of the Biosafety Protocol between 2004 and 2011. He pointed to the mandate given to the Coordination Meeting by the Parties in decision BS-IV/16 to further consider possibilities for cooperation in identifying needs for capacity-building among Parties for research and information exchange on socio-economic impacts of LMOs and to submit any recommendation for consideration by COP-MOP 5. He found that 56 per cent of national biosafety frameworks (NBFs) and regulations mention socio-economic considerations. He presented regional breakdowns of the numbers of NBFs as well as draft and enacted regulations that do and do not mention socio-economic considerations. He summarised the information in the BCH capacity-building needs and priorities database² and also pointed to some publications on strategic environmental assessment and biofuels which could provide lessons and experiences relevant to biosafety.

Mr. Erie Tamale, from the CBD Secretariat, made a presentation on the online survey on the application of and experience in the use of socio-economic considerations in decision-making on LMOs. He indicated that the survey was conducted online from 14 October to 13 November 2009 in English, French and Spanish and received a very high response rate of 578 respondents from 154 countries. He outlined the key survey results regarding capacity-buildin and he noted that approximately half the respondents indicated that their country did not have adequate capacity to perform socio-economic assessments. According to the responses the most agreed statements were: there

is a need to build countries' socio-economic assessment capacity and that a methodological toolkit would be a good starting point to build that capacity. A large number of respondents also agreed that a methodological toolkit would assist in the inclusion of socio-economic considerations in decision-making on LMOs. He also noted that while respondents agreed that a methodological toolkit would be useful, the information to be included in the toolkit needs investigation.

Dr. Falck-Zepeda Presented on "Experiences of the International Food Policy Research Institute (IFPRI) in capacity-building on socio-economic considerations". He explained that the socio-economic impact assessments examine the benefits, costs and risks from the adoption and use of a technology. He also stated that inclusion of socio-economic assessments in decision-making should be done with clear decision-making rules and standards. Dr. Falck-Zepeda analysed a number of different issues for consideration in regulatory design such as the nature of the inclusion of socio-economic considerations in a regulatory system; the scope, approach and trigger for conducting an assessment; and determining when assessments may be needed and how they should be conducted. He also enumerated about the options for functional capacity-building on socio-economic considerations and outlined three approaches to capacity-building for different target groups of countries. He noted that the approach to capacity-building on the socio-economic considerations should be systematic, anticipatory, long-term and should be coordinated, especially with risk assessment.

Dr. Dorothy Mulenga, Policy and Advocacy Officer with the Regional Agricultural and Environment Initiatives Network-Africa (RAEIN-Africa), presented on "Towards development of a socio-economic impact assessment guideline of LMOs: RAEIN-African experience". She indicated that most countries of the Southern African Development Community (SADC) have provided for socio-economic considerations in their national biosafety frameworks but they have taken different approaches to paragraph 1 of Article 26 of the Protocol, ranging from narrow to liberal interpretations. From RAEIN-Africa's experience, she noted that there is a lack of clarity on how to operationalize Article 26, paragraph 1, including: lack of international guidelines or standards on socio-economic assessments that meet the provisions of the Biosafety Protocol and relevant international trade obligations; lack of clarity on what socio-economic issues can be considered in the context of Article 26; and lack of methods and tools to assess some of the issues. Dr. Mulenga outlined the steps taken by a RAEIN-

Africa project to develop a socio-economic impact assessment guideline for LMOs.

Breakout Regional Group Discussions:

Following the presentations, a breakout regional group discussion was organised to discuss capacity-building on the socio-economic considerations. The groups were invited to identify criteria that could be used to prioritize capacity-building needs. The groups were also asked to prioritize specific capacity-building needs from the perspective of each region; to identify options for cooperation to meet those needs; and to discuss how to develop conceptual clarity on the socio-economic considerations in decision-making on LMOs.

Asia

The participants from Asia reported that capacity-building for socio-economic considerations is a priority for some countries but for some of them it is yet to become a priority. They also noted that for countries that have already provided for the socio-economic considerations in their legal systems and are looking to implement these provisions; capacity-building on tools and methodologies, criteria for assessment and effective administrative structures may be useful. The issues of public awareness and participation and their links to the socio-economic considerations were also raised. The Asian participants also noted that there are different contexts and situations in the region. In this regard, it was suggested that South-South cooperation, cooperation among like-minded countries across regions as well as regional workshops may be useful. Regarding the development of conceptual clarity, the Asia group noted that the level of conceptual clarity varies from country to country, depending on their national situations. The group emphasised that for countries already taking the socio-economic considerations into account in their decision-making, there is a need for capacity-building to build conceptual clarity within and across existing institutions and to enable national policy coherence.

Western Europe and Others Group and Central and Eastern Europe

Participants from countries in the Western Europe and Others Group (WEOG) and Central and Eastern Europe (CEE) suggested developing a conceptual clarity on the socio-economic considerations in decision-making on LMOs by taking decisions on the the scope and aims of the socio-economic considerations. This may involve building ad hoc technical

experts group as well as national consultations, research cooperation and information exchange. This would also involve countries deciding whether to take a narrow or broad approach of Article 26 (1) of the Protocol. They identified a number of steps that may be necessary to assess capacity-building needs including stock-taking of existing national experience in including the socio-economic considerations in environmental decision-making; deciding which socio-economic issues are of relevance for the decision-making system and for specific cases; choosing the appropriate means of capacity-building; and creating the interface between the socio-economic considerations and the environmental and health risk assessment of the LMO. The WEOG and CEE group also identified a number of criteria for prioritising capacity-building needs including the links to the legal framework, the findings of national stakeholder consultations, national goals and the needs of vulnerable groups.

Latin America

The participants from Latin America identified capacity-building needs in following areas: socio-economic considerations related to co-existence, quantitative and qualitative assessment methodologies. Regarding developing conceptual clarity, they suggested that this could be done through analysing different case studies, identifying relevant socio-economic parameters and developing a description of socio-economic considerations in the context of the Biosafety Protocol. They also made suggestion for convening an *ad hoc* technical experts group so that the work would incorporate the perspectives of different regions and stakeholders, or to engage a consultant or to use online discussions for the same.

Africa

The participants from Africa stated that a matrix of institutions in various disciplines could be developed to prioritise capacity-building needs. They called for regional cooperation at the political, government/regulatory and institutional levels. In the context of developing conceptual clarity on the socio-economic considerations, it was suggested to define a set of questions for which the answers are needed. These questions dealt with the following: identifying the need for LMOs, finding out whether they are better than alternative products, their impact on employment, problems caused for existing production processes, their impact on traditional practices and cultural values, and exploring the impacts on intellectual property rights protection, if any.

While concluding, it can be inferred from the discussions and the presentations that many countries have already included the socio-economic considerations in their respective regulatory frameworks, while some are in the process of doing so. The participants acknowledged that further work is needed on the socio-economic considerations in order to help Parties that have already taken or wish to take measures to consider the socio-economic impacts of LMOs in their decision-making. Following specific suggestions emerged from the deliberations at the workshop:

- Consideration of the socio-economic issues should be done on a case-by-case basis.
- A framework to provide conceptual clarity on the socio-economic considerations should be developed.
- Any further work should take into account existing information, tools, methodologies, experience, expertise and capacities available in other relevant sectors,
- The views and interests of stakeholders as well as indigenous and local communities need to be taken into account.
- There is need to take stock of the existing legislation and policies with provisions on the socio-economic considerations, capacity-building activities, existing expertise and other policy initiatives concerning social and economic impact assessments to develop a global overview.
- There is a need for stock-taking of existing capacity and resources and assessing capacity-building needs.

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Endnotes

¹ http://bch.cbd.int/protocol/cpb_art26/bsv3.shtml

² See document UNEP/CBD/BS/WS-SEC/1/4)