

Access and Benefit Sharing from Genetic Resources and Associated Traditional Knowledge

FOR MOUNTAINS AND PEOPLE



About ICIMOD

The International Centre for Integrated Mountain Development, ICIMOD, is a regional knowledge development and learning centre serving the eight regional member countries of the Hindu Kush-Himalayas – Afghanistan , Bangladesh , Bhutan , China , India , Myanmar , Nepal , and Pakistan  – and based in Kathmandu, Nepal. Globalisation and climate change have an increasing influence on the stability of fragile mountain ecosystems and the livelihoods of mountain people. ICIMOD aims to assist mountain people to understand these changes, adapt to them, and make the most of new opportunities, while addressing upstream-downstream issues. We support regional transboundary programmes through partnership with regional partner institutions, facilitate the exchange of experience, and serve as a regional knowledge hub. We strengthen networking among regional and global centres of excellence. Overall, we are working to develop an economically and environmentally sound mountain ecosystem to improve the living standards of mountain populations and to sustain vital ecosystem services for the billions of people living downstream – now, and for the future.

Training of Trainers and Resource Manual

Access and Benefit Sharing from Genetic Resources and Associated Traditional Knowledge

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Published by

International Centre for Integrated Mountain Development, GPO Box 3226, Kathmandu, Nepal

This programme was made possible through special support from GTZ, Federal Ministry for Economic Cooperation and Development

ISBN 978 92 9115 115 8 (printed) 978 92 9115 116 5 (electronic)

Library of Congress Control Number 2009-341521

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All photos KP Oli, except p 31, AK Thaku, Fish; SR Joshi, Bee

Printed and bound in Nepal by

Hill Side Press (P.) Ltd.

Kathmandu

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This publication is available in electronic form at <http://books.icimod.org>.

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Foreword

Before the adoption of the Convention on Biological Diversity, access to genetic resources and associated traditional knowledge was considered free for all mankind. Genetic resources and knowledge were often taken from communities and countries by organisations and individuals who monopolised the benefits. Benefits did not reach the actual owners of the genetic resources and associated traditional knowledge. The local communities and countries of origin of such resources were often not informed about the use of their genetic resources and associated traditional knowledge, which limited their bargaining power and prevented them from sharing the benefits of their own resources.

The growing concern of the provider countries about the monopolisation of benefits generated from the use of genetic resources and associated traditional knowledge led to the negotiation, and adoption in 1992, of the Convention on Biological Diversity. This Convention integrates the objectives of conservation, sustainable use, and benefit sharing. It recognises the importance of the knowledge, practices, and innovations of indigenous and local communities, and makes provision for the prior informed consent of the holders to be obtained by any public or private enterprise seeking access to genetic resources. The provision of access and benefit sharing in the CBD is also supported by the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), which was adopted in 2003 and came into force in 2004 and covers plant genetic resources used for food and agriculture (and then only the listed crops). As of 2009, one hundred and ninety-four countries are party to the CBD, including all the Himalayan countries, and 118 countries are party to the ITPGRFA. The Hindu Kush-Himalayan countries are now engaged in formulating and implementing national policies and laws to implement the CBD and ITPGRFA.

The Hindu Kush-Himalayan (HKH) region includes all or part of four of the 34 global biodiversity hotspots and is a treasure house of genetic resources and traditional knowledge. In recent years, awareness has grown about the value of these genetic resources and associated traditional knowledge. The challenge now is to convert these resources into meaningful economic wealth in an ecologically sustainable and socially equitable way, and to channel the benefits to the communities that are the conservers and custodians of these genetic resources. The CBD, with its provisions for 'access and benefit sharing' (ABS) provides a framework for this.

Although the concept of access and benefit sharing has received considerable attention during the past 15 years, it is still a technically challenging and legally complex issue. In 2004/5, ICIMOD launched a regional programme on Access and Benefit Sharing (ABS) from Genetic Resources and Associated Traditional Knowledge in the Eastern Himalayas (Bhutan, Bangladesh, India, and Nepal) to raise awareness about ABS. The goal is to enhance and strengthen the ecological and livelihood security of marginalised mountain communities (including women and indigenous people) by facilitating fair access to and equitable sharing of benefits arising out of the use of their biodiversity resources and associated traditional knowledge.

The programme has been working to raise the awareness of policy makers, civil society groups, and marginalised local communities, so that they are in a position to contribute to developing equitable ABS agreements with bioprospectors that take account of the mutual concerns of the different stakeholders. In the Himalayan region, many different institutions are involved in supporting ABS policies and the ABS

legal process. However, knowledge about ABS among the majority of the stakeholders and the broader community is limited. Supported by German Technical Cooperation (GTZ), ICIMOD has prepared this manual in order to help build the awareness and capacity of those directly or indirectly involved in the ABS process so that the objective of fair and equitable sharing of benefits is not undermined. The manual is intended to be used for training trainers, who can then multiply the learning across the region. Extensive resource materials are provided as an integral part of the manual, and can also be used by stakeholders in general. Following development and testing in the Eastern Himalayas, the manual is now being made available to a wider audience. We hope that this document will help raise awareness about the ABS regime among the policy makers, development workers, community organisations, and individuals involved in the ABS process in the Hindu Kush-Himalayan region and beyond.

Andreas Schild
Director General, ICIMOD

Acknowledgements

In the process of preparing this manual, many professionals were consulted for their feedback and we take this opportunity to thank them all. In particular, we would like to express our gratitude to Dr LMS Palni, Director of the Govind Ballabh Pant Institute of Himalayan Environment Development (GBPIHED), Dr K Venkataraman, Secretary of the National Biodiversity Authority in Chennai, India, Mr Diederik Prakke, Mr. Mukund Pandey, Dr Nakul Chettri, and Mr. Kamal Aryal of ICIMOD, Ms Medon Yaganagi of the National Biodiversity Center, Bhutan, and Mr AV Parajuli and Mr. Phanindra Gautam of the Ministry of Forest and Soil Conservation, Nepal. This document has been enriched by their suggestions and comments. We would also like to express our gratitude to Dr Andreas Drews of GTZ, Germany who has constantly promoted ABS work in the Himalayan region. Finally, we would like to express our appreciation to Dr Eklabya Sharma, Programme Manager of ICIMOD's Environment Change and Ecosystem Services (ECES) programme and Dr Michael Kollmair, Programme Manager of the Sustainable Livelihoods and Poverty Reduction (SLPR) programme for their continuous support and encouragement of our efforts.

Acronyms and Abbreviations

ABS	access and benefit sharing
BMC	Biodiversity Management Committee
CBD	Convention on Biological Diversity
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COP	Conference of the Parties
FAO	Food and Agriculture Organization
GEF	Global Environment Facility
GTZ	German Agency for Technical Cooperation
HKH	Hindu Kush-Himalayas/n
ICIMOD	International Centre for Integrated Mountain Development
IIED	International Institute for Environment and Development
IPRs	intellectual property rights
IR	international regime
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
MAT	mutually agreed terms
MOP	Meeting of Parties
MTA	material transfer agreement
NBA	national biodiversity authority
NCI	National Cancer Institute
NGO	non-government organisation
PGRFA	Plant Genetic Resources for Food and Agriculture
PIC	prior informed consent
RGOB	Royal Government of Bhutan
TRIPS	Trade Related Aspect of Intellectual Property Rights
UPOV	International Union for the Protection of New Varieties of Plants
WIPO	World Intellectual Property Organization
WSSD	World Summit on Sustainable Development
WTO	World Trade Organization

Introduction



Introduction

This training of trainer's manual on access and benefit sharing (ABS) has been developed by ICIMOD with support from the German Federal Ministry for Economic Cooperation and Development (BMZ) through German Technical Cooperation (GTZ) to help increase the capability of local level staff of organisations and others involved in developing the capacity of indigenous, marginalised, and other local communities in the bioprospecting process. The course can also be used to provide basic knowledge on ABS to university graduate-level students studying forestry, environmental and biological sciences, or law.

Access and benefit sharing is a relatively new area of intervention in the HKH region. Since mid 2005, (the actual start of the project) ICIMOD has been implementing a regional programme on Access and Benefit Sharing from Genetic Resources and Associated Traditional Knowledge in the Eastern Himalayas (Bangladesh, Bhutan, India, and Nepal) supported by GTZ. The overall objective is to facilitate the process of developing and implementing an access and benefit sharing (ABS) regime in the countries of the region under the Convention on Biological Diversity (CBD). To this end, ICIMOD is working to contribute to an increased understanding of the ABS approach to the sustainable use of genetic resources and associated traditional knowledge among the wider mountain community in the region, and to foster the participation of indigenous and local people, especially women and marginalised groups, in the ABS process.

Some countries in the Hindu Kush-Himalayan region, like Bhutan and India, have developed and enforced ABS legislation, while others like China have accommodated it within the existing legal framework through legal amendments. The remainder have draft legislation that they are in the process of promulgating or have only just embarked on developing the approach. Notwithstanding these different stages of development, during the implementation of the ICIMOD ABS programme, it became clear that knowledge and awareness on ABS and bioprospecting among state, provincial, district, and local level functionaries and members of civil society was everywhere extremely low and in general limited to the very few policy makers and other stakeholders directly involved in formulation and implementation. Similarly, there is a general lack of the skills needed to facilitate the ABS implementation process. The importance of the ABS regime and the process of its formulation and implementation have not been fully understood by many relevant stakeholders. The responsible government bodies in charge of implementing the ABS laws also lack the knowledge and skills needed to effectively develop and implement such laws. Further, knowledge and understanding among the public is even more limited, restricted to a very few government officials, civil society organisations, and individuals. As all of these actors are vital in the development and implementation of the ABS process, thus large scale awareness raising and capacity building is crucial.

This manual was developed to address this need and help fill the gaps in knowledge about ABS and the related processes. It contains a training curriculum and the resource materials needed to deliver a basic training in ABS. The manual has been prepared to help different stakeholders (government staff, non government organisations and other civil society groups, lawyers, academics, media people, and bioprospectors) to understand the evolving scenario in access and benefit sharing from genetic resources and associated traditional knowledge, including the key components and procedures. The overall objective of the training is to enable participants to effectively help communities and nations to access and claim a fair share of the benefits derived from genetic resources and associated traditional knowledge in their area, and to raise awareness of the obligations, rights, and responsibilities of government, civil society, local and indigenous communities, and private sector actors. The aim is to develop a pool of people who are able to serve as knowledge multipliers in the region.

While using the manual, it must be remembered that training needs are subject to the specific context in which the training is being conducted. Thus, the trainer¹ should try to place the training in the context of the particular situation in which the training is being conducted. National policy and legislation differs between countries. Thus, it is recommended that country specific policies and legal provisions be reviewed when referring to this manual.

¹ The term 'trainer' has been used throughout this manual, although there may be more than one trainer conducting the training, as well as resource persons for the technical sessions, if required.

How to Use This Manual

This Training of Trainer manual uses an adult learning method for the presentation of materials. Participant-centred learning has been kept in mind while designing the sessions and activities, and in the training process. It is anticipated that participants will be active and open in each session.

Presentations, role-play, case studies, discussions, and question and answer sessions are used to enhance learning in each session. Suggestions are given to help the trainer lead the training effectively. There are a total of 20 sessions, not including the review sessions, of which 16 are technical and focused on a theme. We suggested that participatory teaching and learning methods be used as much as possible in each session, but for highly technical subjects it may be necessary to rely primarily on a presentation format. Sufficient time has been allotted for each session so that the participants are engaged in both learning and sharing. The training course is designed for five days, but the number of days taken can be modified based on the needs of the participants and the context.

Experience shows that the maximum number of participants that can be accommodated is around 30. With more participants it is difficult to ensure interaction and participation of all, and especially effective field risks.

The training process is outlined at the beginning of each session. Resource materials are included at the end of each session, thus the manual can also be used as a resource manual. The sessions are structured as follows:

Session title:	Introduces the main content of the session
Time:	Rough guide of time needed for the overall session and the exercises
Objectives:	Broad and specific objectives, areas to be covered, and skills to be imparted
Suggested method:	The suggested methodology for the session including tools such as role-plays, case studies, and exercises
Materials required:	The materials required
Suggestions for the trainer:	The methodology, process, and themes to be discussed
Activities:	The activities and exercises

Course Structure

The session themes for each day are listed on the first page of the individual day sections. The suggested outline is as follows.

- Day One:** The Convention on Biological Diversity, access and benefit sharing (ABS), and biodiversity status: implications for the Himalayas
- Day Two:** The ABS regime, key components, national legislation, international treaties, customary arrangements, and ABS legal procedures
- Day Three:** Negotiation in ABS and traditional knowledge protection
- Day Four:** Field visit
- Day Five:** Review of field visit, evaluation, and way forward

The curriculum and schedule for the training is provided at the start of the manual.

The manual has been designed so that learning during training sessions can be incorporated when the manual is updated and revised. It is hoped that trainers will be able to conduct the training easily with the help of the manual, and that participants in the training sessions will be able to act as multiplier agents by training others.

Materials for the workshop

Ensure that the materials required for the workshop are ready before the start of the training. Some materials may need to be procured in advance. Planning will help save time and overcome confusion. The following materials are required for the workshop:

- A bag for each participant containing a pen, writing pad, and any relevant documents and materials, to be distributed during registration
- Laptop, overhead projector, extension cords, and any other associated equipment, depending on the training venue and the trainer's chosen methodology; ensure that equipment is set up and tested before the participants enter the training room
- Wall clock
- Flipcharts, softboard, different coloured meta cards (i.e., 6 x 8 cm pieces of coloured card), masking tape, ruler, a white/black board, board markers or chalk, soft pin board and pins, writing pad, pen, and other similar materials
- Appropriate number of copies of reading material for distribution to the participants.

The training room should be set up every day. The materials required for the day should be available during the entire training period.

Tips for the Trainer

- Set up the training room in advance to ensure that everything is in its right place.
- Test equipment in advance to ensure that session time is not used up in making it work.
- Acquaint yourself with the training methodology in advance.
- Prepare exercises prior to the session.
- Put a wall clock in the room and ask participants to align their watches to ensure that everyone arrives at the right time after breaks.
- Make participants as comfortable as possible.
- Seating arrangements should be made keeping aspects of human behaviour in mind.
- Be aware of, and sensitive to, the culture and views of participants.
- Group rules and norms during the training should be made clear at the beginning

Need for an energiser

Observe participants' level of engagement during the sessions and be aware of when an energiser is needed. Ask participants between sessions if they need an energiser and let them know that if they feel they need an energiser, they should tell you. Choose an energiser yourself or ask participants to suggest one. Always have an energiser exercise ready in case the participants cannot suggest one. Typical energisers can be found in HAA (2002) and Pike and Busse (2004).

Suggested Schedule

Day 1	
Morning	Session 1 Introduction
	Session 2 The Convention on Biological Diversity and access and benefit sharing
	Session 3 ABS terminology and traditional ways of using biological resources
Afternoon	Session 4 Status of biodiversity and genetic resources in the Hindu Kush-Himalayan region
	Session 5 Importance of biodiversity, genetic resources and associated traditional knowledge
Day 2	
Morning	Review Session
	Session 6 ABS regime and key components of ABS
	Session 7 International treaties on ABS
	Session 8 Customary arrangements on ABS
Afternoon	Session 9 Evolving ABS policies and national legislation in the HKH
	Session 10 Actors in the ABS process, legal procedures for ABS, and ABS tools
Day 3	
Morning	Review Session
	Session 11 Negotiations in the ABS process
	Session 12 Traditional knowledge protection and documentation
Afternoon	Session 13 Review of sample formal for traditional knowledge documentation
	Session 14 Process of traditional knowledge documentation
	Session 15 Community selection, group formation and field assignments
Day 4	
Whole day	Session 16 Field visits
Day 5	
Morning	Session 17 Review of field visits and group presentations
	Session 18 Way forward
	Session 19 Final appraisal of training expectations
Afternoon	Session 20 Evaluation and closing

Day One

Session 1
Introduction

Session 2
The Convention on Biological Diversity and Access and Benefit Sharing

Session 3
ABS Terminology and Traditional Ways of Using Biological Resources

Session 4
Status of Biodiversity and Genetic Resources in the Hindu Kush-Himalayan Region

Session 5
Importance of Biodiversity, Genetic Resources and Associated Traditional Knowledge



Session 1

Introduction

Registration, Opening and Introduction, Participants' Training Expectations, and Objectives of Training

Time: 2 hours

Objectives

To introduce participants, find out their expectations, and clarify the objectives of the training

- ▶ Registration of participants and resource persons
- ▶ Introduction of participants and resource persons
- ▶ Discovery of participants' expectations
- ▶ Discussion of training objectives in relation to participants' expectations
- ▶ Discussion of any issues of concern raised by the participants

Materials

- One bag per participant containing a pen, writing pad, the training schedule, and relevant documents/materials
- Wall clock
- Medium sized balloons of different colours, small pieces of paper, chairs
- General equipment and materials as described in the section 'How to use this manual'

Activities

Activity 1: Registration

Time: 15 minutes

Suggestions for the trainer

Introduce participants and resource persons at the start of the training; this helps create an environment of ease among all present. Make the introductions fun by using an icebreaker, which serves the dual purpose of making the session interesting and discovering the expectations of the participants. Choose the icebreaker carefully keeping the above in mind. There are many possible icebreakers. One is suggested here, or select or create one of your own. Innovative ideas can make the session more interesting.

(continued on next page)

Suggestions for the trainer (continued)

The objectives can be presented verbally or in a PowerPoint presentation. Call attention to the training schedule and briefly explain the content of the training and the way it is distributed over the days. When presenting the training objectives, compare them with the expectations expressed by the participants and the contents of the training. The comparison should give a picture of the extent to which the participants already have a comprehensive, strategic overview of ABS and whether or not they have expectations outside the scope of the training. If some expectations are not addressed in the objectives, make this clear. If the expectation is relevant but not explicitly addressed, explain that it can be discussed during a related session.

Registration is an informal session to record participants' names and addresses for future use and to distribute materials.

A bag/file should be prepared for each participant containing any materials required during the training such as writing pads and pens, the training schedule, and documents required for the training sessions, and handed to the participants during registration. A simple table can be used to record the name, address, and contact details of each participant. This form can be kept separately at the registration desk and participants should be asked to complete it by themselves.

Sample registration format

S.N.	Name of participant	Organisation	Address	Telephone/ e-mail

Activity 2: Exercise – Icebreaker, introductions, and discovery of participants' expectations

(adapted from Subedi 2008)

Time: 60 minutes

Aim

To introduce participants, resource person(s) and trainer(s)
 To share expectations of the workshop

Method

Mutual introduction of the participants, discovery of expectations

Materials

Medium sized balloons of different colours, small pieces of paper, pens, chairs, meta cards, and markers

Steps

- Step 1** Introduce the aim of the exercise.
- Step 2** Give one balloon, a small piece of paper (just enough for the participant's name), and a pen to each participant, including the trainer and any resource persons.
- Step 3** Split the participants into two teams and seat the teams facing each other.
- Step 4** Ask the participants to write their name on the piece of paper, put it inside their balloon, and blow up the balloon and tie it. Ask them to make the balloon as big as possible.
- Step 5** Place all the balloons on the floor between the groups.
- Step 6** Place a chair in the centre between the two teams.
- Step 7** Team members then take turns in picking a balloon, placing it on a chair in the centre, and sitting on it until it bursts. (The participants should not choose their own balloon if they recognise it). The trainer should encourage the participants to make as loud a noise as possible.
- Step 8** After the balloon bursts, ask the participant to take the piece of paper and return to his/her chair.
- Step 9** Members from Team A and Team B take it in turns to burst the balloons. This is repeated until all the members of both teams have had a turn and have a piece of paper with a name.
- Step 10** Distribute meta cards to all the participants.
- Step 11** After all the balloons have been burst, each participant is asked to find the person whose name is written on the paper from the balloon and find out their partner's name, organisation/group, and at least two expectations that s/he has of the training. They should write the partner's details and each of the expectations on separate cards.
- Step 12** Then ask each participant to introduce their partner and share his/her training expectations.
- Step 13** Pin the meta cards with expectations to a soft board or stick on the flip chart. Group the expectations and discuss in the class. The cards will be kept and reviewed on the last day of the training.

Activity 3: Agreement on group rules and norms

Discuss with participants the rules and norms to be observed to ensure a good atmosphere for the training. Write down the points raised on a flip chart or white board. Summarise on one sheet of paper and display on the wall throughout the training. Some typical ideas that might be included are listed below.

- Confidentiality
- Responsible for your own learning
- Responsible for your 'yes' and 'no'
- Deal with things that disturb participants first. No question or observation is weird.
- Respect for gender and culture
- Respect starting and ending times
- Inform when absent
- Mobiles off (else...)
- One speaker at a time
- Not all group work comes back to plenary
- Keep cases realistic

Activity 4: Training objectives

Time: 30 minutes

It is important that participants understand the objectives of the training and can compare these with their expectations. This provides them with a clear idea of what will be covered and an opportunity to modify their own expectations. The trainer may also consider tailoring the course where appropriate to take into account the starting position and expectations of the participants.

The main aim of the training is to enable participants (who may include a mixture of people from NGOs, local government staff, the media, and national level government resource persons) to effectively help communities and nations to access, and claim a fair share of the benefits derived from, genetic resources and associated traditional knowledge. The course aims to raise awareness of the obligations, rights, and responsibilities of government, civil society, local and indigenous communities, and the private sector in the access and benefit sharing, or ABS, process. At the end of the training the participants should understand the general objectives and exhibit observable behaviour as described below.

Objective 1 Grasp the potential significance and magnitude for communities and nations of owning and using their genetic resources.

Observable behaviour

- Participants are able to give a number of quantified examples of how owning genetic resources can impact on, and benefit, communities and nations.

Objective 2 Understand the potential pitfalls and the reasons why communities and nations tend not to exploit or receive a fair share of the benefits derived from their genetic resources and associated traditional knowledge.

Observable behaviour

- Participants are able to explain who wins and who loses in accessing genetic resources and associated traditional knowledge, and why; and can point out that communities and nations both lose if they receive an unfair share of benefits and if genetic resources remain unused or overused.

Objective 3 Understand how national laws, a regional framework, and international legal instruments can assist communities and nations to use their genetic resources and ensure a fair share of the benefits from their use.

Observable behaviour

- Participants are able to summarise the relevant legal instruments, and explain their intention and implications and how they can be used in accessing and obtaining benefits for communities and nations.

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Objective 4 Understand how different actors (such as local governments, NGOs, researchers or private prospectors, customs officials, and the media) can assist or impede the exploitation of genetic resources by communities and nations and in ensuring that they receive a fair share of the benefits.

Observable behaviour

- Participants are able to identify the relevant actors who assist or impede communities or nations in ABS.

- Participants are able to explain and defend the ABS process, step-by-step, as outlined in the ABS Poster (Resource Materials for Session 9).
- Participants are able to understand the obligations, rights, and responsibilities of the various actors in the bioprospecting process.

Objective 5 Be able to synthesise fair, equitable, and inclusive ABS mechanisms.

Observable behaviour

- Participants' capacity in relation to negotiating skills and biodiversity documentation is enhanced.

Objective 6 Significantly improve conflict management and negotiation skills.

Observable behaviour

- Participants can explain the principles of negotiation using examples from genetic resources and associated traditional knowledge, such as focusing on interests, rather than positions; separating the people from the problem; finding (creative) options for mutual gain; and using fair criteria (which includes proposing and pursuing fair benefit shares).
- Participants display good (improved) negotiation skills in role plays, or can respond with sensible arguments to cases presented to them.

Objective 7 Have an open, proactive, and strategic attitude and have strategies for using genetic resources.

Observable behaviour

- Participants can present ideas about how to attract and regulate bioprospectors.
- Participants can explain the pitfalls of pure protectionism.
- Participants can explain the challenge of having innumerable genetic resources, of which only a few may be commercially significant in the near future (and that, therefore, there is no point in randomly documenting genetic resources).
- Participants can present ideas about how to prevent or follow-up on the poaching of genetic resources and about the conservation of genetic resources.

Activity 5: Other issues (housekeeping)

Time: 15 minutes

It is wise to keep aside some time to discuss any other issues that may need attention during the training. These issues may or may not be related to technical aspects of the training. Letting participants know that any issues that are important to them will be looked after is reassuring and is a way of making participants feel comfortable and engaged. The trainer may ask about time schedules, logistics, or any other issue. If a participant raises an issue, the trainer should seek a solution by discussing with the group. The important thing is to assure participants that their needs will be taken into consideration.

After this discussion, the trainer should continue with the next technical session.

Session 2

The Convention on Biological Diversity and Access and Benefit Sharing

Time: 45 minutes

Objectives

To introduce the Convention on Biological Diversity (CBD), the emergence of the access and benefit sharing (ABS) regime, and the relevant processes.

- ▶ To understand the history of the CBD and the ABS regime
- ▶ To know about governance mechanisms and the implementation of the CBD
- ▶ To be aware of the Conference of the Parties (COP), its chronology, and ABS related decisions
- ▶ To know about the guiding principles of the CBD and the Bonn Guidelines

Methodology

The person who presents the session can choose to do a verbal presentation, use a media tool such as PowerPoint, or come up with his/her own innovative methodology.

Materials

If a media presentation is used, prepare it in advance and ensure that the equipment is set up and ready to use before the session begins.

Suggestions for the trainer

Follow the chronology of the CBD ABS regime. Begin by talking about the status of genetic resources and associate traditional knowledge prior to 1992, followed by the international negotiations that led to the CBD. The resource materials cover the chronology beginning with the history of the CBD and its governance structure and institutions, followed by a description of the Conference of Parties (COP) and a chronology of the COP decisions related to the ABS regime. A copy of the CBD Bonn Guidelines – the guiding principles for implementation of the ABS regime – is also provided. Provide the participants with handouts or remind them that the resource materials are provided in the manual.

Attention!

This session is purely technical and the trainer should have an in depth knowledge of the content. If the trainer is not fully equipped to deal with the content, a resource person(s) can be invited to conduct the session.

Activities

Activity 1: Presentation on the CBD and ABS

The whole of this course is related to the Convention on Biological Diversity and its provisions for access and benefit sharing of genetic resources and associated traditional knowledge. The presentation should outline the main points of the CBD related to access and benefit sharing, the institutional mechanisms, and especially the functions of the Conference of Parties (COP) and the Secretariat and the guiding principles. The presentation should contain or be followed by an opportunity for discussion and explanations

Session 2 Resource Materials

Emergence of the Convention on Biological Diversity and Access and Benefit Sharing Agreements

Background

Prior to the adoption of the Convention on Biological Diversity (CBD) in 1992, access to genetic resources and associated traditional knowledge was considered free for all mankind. Resources and knowledge were often taken from communities and countries by organisations and individuals who monopolised the benefits. There were a few countries that had legal provisions for benefit sharing from the use of genetic resources in the country of origin, but this was largely carried out at the government level and the benefits did not reach the communities that owned the resources and held the associated traditional knowledge. There was no provision for the fair and equitable sharing of benefits, and benefits were mainly tangible in the form of royalties. The local community and country of origin could not obtain the desired benefits from their own resources. Communities and countries of origin were also not informed about their genetic resources and associated traditional knowledge. This prevented them from entering into the benefit-sharing stream for the use of genetic resources and associated traditional knowledge. The monopoly over benefits arising from the use of genetic resources and associated traditional knowledge made resource-providing countries aware of how access could be facilitated and benefits shared in a fair and equitable way.

After the CBD was ratified in 1993 (see below), it took five years until the first countries came up with ABS legislation (the Philippines and the Andean Pact member countries). Before the CBD entered into force the flow of genetic resources was in effect free, without any requirement for benefit sharing.

The Convention on Biological Diversity (CBD)

Today, access and benefit sharing from genetic resources and associated traditional knowledge is governed by the Convention on Biological Diversity (CBD); an international legal instrument on the sustainable use and conservation of biological diversity. The CBD has three main objectives: 1) conservation of biological diversity, 2) sustainable use of its components, and 3) fair and equitable sharing of benefits arising from the use of genetic resources. Issues of plant genetic resources for food and agriculture (PGRFA) had been debated since the International Undertaking on Plant Genetic Resources by the Food and Agriculture Organization (FAO) in 1983, and the Convention on Biological Diversity (CBD) was one response to this. The Convention was adopted at the Earth Summit in Rio de Janeiro in June 1992 and entered into force on 29 December 1993. As of 2009, there are 194 parties to the CBD, including all the countries of the Himalayan region (Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan).

The CBD guarantees individual states sovereign rights over biodiversity and patterns of utilisation. Each state is expected to regulate access to its genetic resources for environmentally sound purposes, and does not impose restrictions that are counter to the objectives of the CBD. In the preamble, the CBD recognises that traditional knowledge, innovations, and practices are of importance to the conservation of biological diversity, and that indigenous and local communities have a close and traditional dependence on biological resources. Their livelihood and lifestyles often depend upon biological resources and are shaped by such resources.

The CBD proposes that each Contracting Party develop (or adapt existing) national strategies, plans, or programmes to reflect the measures set out in the Convention. The CBD also recommends that the conservation and sustainable use of biological diversity be integrated as far as possible and as appropriate into relevant sectoral or cross-sectoral plans, programmes, and policies (CBD no date a).

Institutional Arrangements of the CBD

The institutional mechanisms of the CBD are summarised in Figure 1.

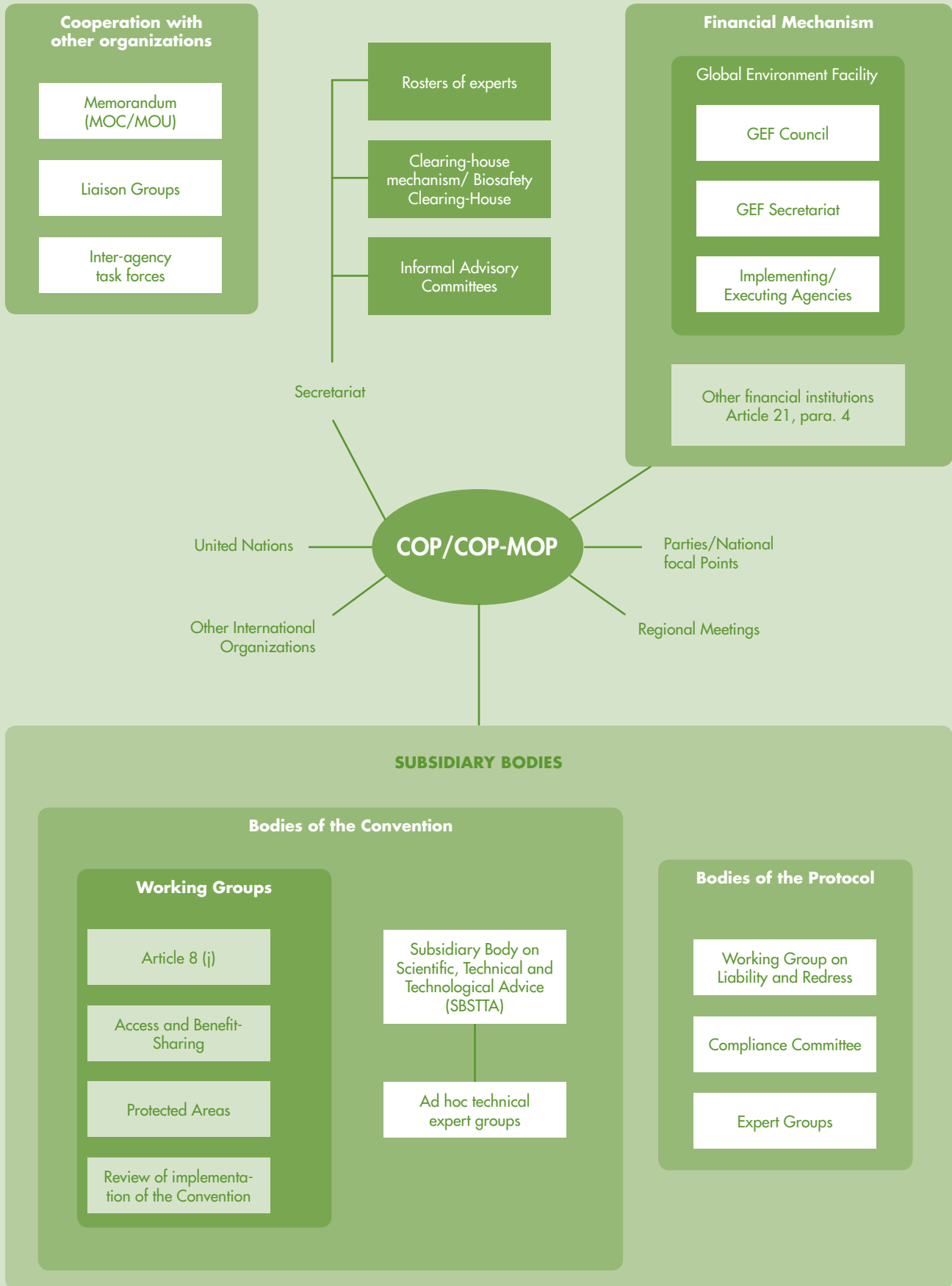
The Conference of the Parties

The governing body of the Convention is the Conference of the Parties (COP), established under Article 23. Its key functions are to keep under review the implementation of the Convention and to steer its development. Other important functions of the COP include adoption of the budget, the consideration of national reports, the adoption of protocols or annexes and the development of guidance to the financial mechanism. A list of functions of the COP under the Convention is set out in Article 23. The decisions taken at different meetings relevant to ABS are summarised in a separate handout below.

The CBD Secretariat

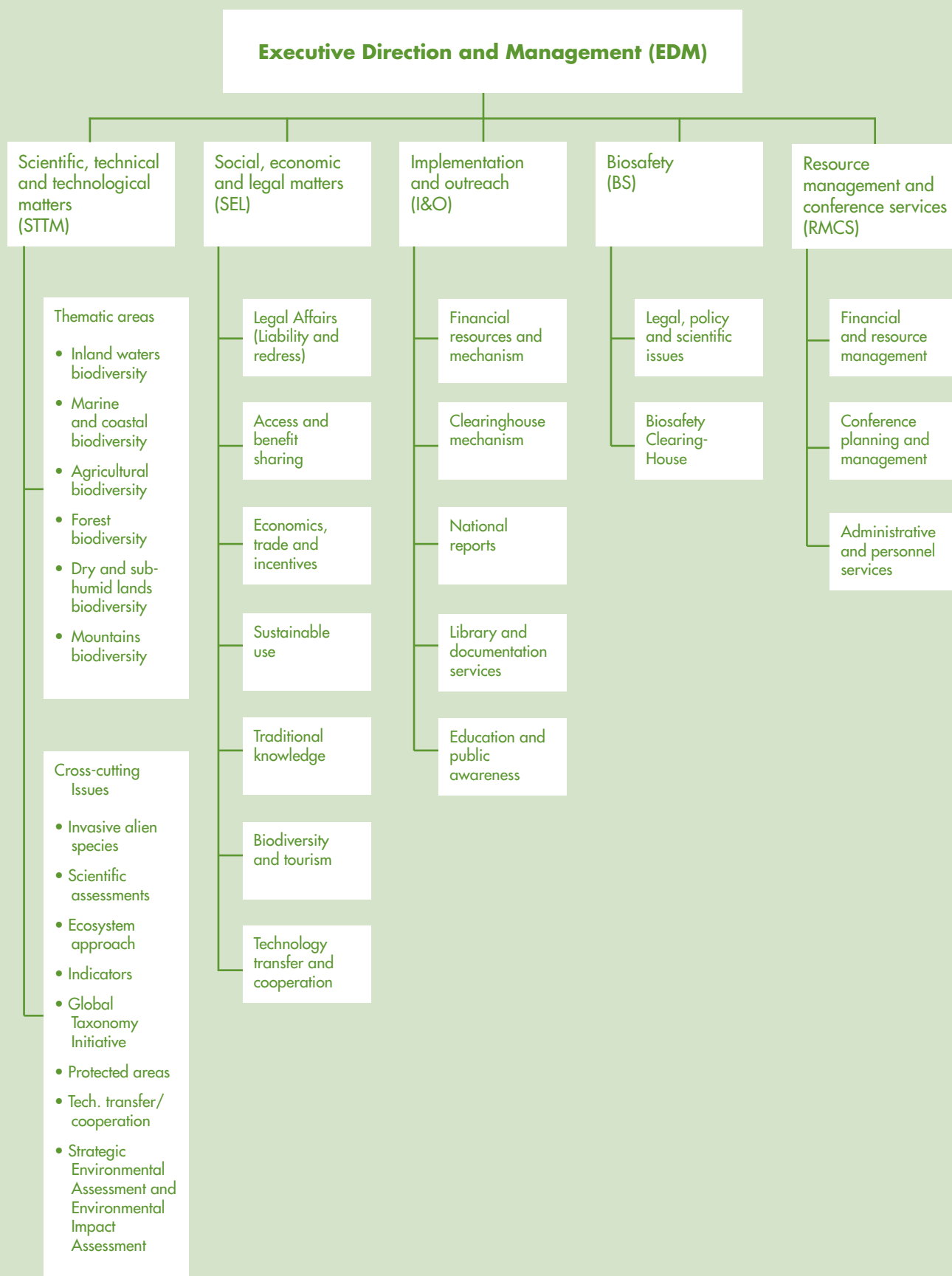
The CBD has a Secretariat whose principal functions are to prepare for, and service, meetings of the COP and other subsidiary bodies of the Convention and to coordinate with other relevant international bodies. The host institution of the Secretariat is UNEP. The Secretariat is located in Montreal, Canada. The Secretariat provides administrative support to various Convention bodies, represents the day-to-day focal point for the Convention, organises all meetings under the Convention, and prepares background documentation for those meetings. It plays a significant role in coordinating the work carried out under the Convention with that of other relevant institutions and conventions, and represents the Convention at meetings of other relevant bodies. The programmatic structure of the Secretariat is shown in Figure 2.

Figure 1: Institutions and institutional mechanisms of the Convention on Biological Diversity



Source: CBD 2005

Figure 2: Programmatic structure of the CBD Secretariat



Source: CBD 2005

Subsidiary Body on Scientific, Technical and Technological Advice

Article 25 of the Convention establishes an open-ended intergovernmental scientific advisory body, Subsidiary Body on Scientific, Technical and Technological Advice, SBSTTA, to provide the COP with advice and recommendations on scientific, technical and technological aspects of the implementation of the Convention.

Financial mechanism

Article 21 establishes a mechanism for the provision of financial resources to developing countries for the purposes of the Convention. In Article 20, developed countries undertake to provide “new and additional financial resources to enable developing country Parties to meet the agreed full incremental costs” of implementing the obligations of the Convention. Article 39 designates the Global Environment Facility (GEF) on an interim basis to operate the financial mechanism of the Convention, and the GEF continues to fulfil this function. The financial mechanism functions under the authority and guidance of, and is accountable to, the COP. Projects of the GEF are undertaken by Parties to the Convention and the Implementing Agencies of the GEF: the United Nations Environment Programme (UNEP), the United Nations Development Programme (UNDP) and the World Bank.

Clearing-house mechanism

Paragraph 3 of Article 18 anticipated the establishment of a clearing-house mechanism (CHM) to promote and facilitate technical and scientific cooperation. An informal advisory committee has been established for the CHM. COP 7 established a programme of work on technology transfer and technological and scientific cooperation with the aim of developing meaningful and effective action to enhance the implementation of Articles 16 to 19 of the Convention.

Additional subsidiary organs In the course of its consideration of specific issues, the COP has seen fit to establish a number of other subsidiary organs with limited and defined mandates. These include: Working Group on Biosafety; Working Group on Access and Benefit-sharing; Working Group on Article 8(j) and Related Provisions; Intergovernmental Committee for the Cartagena Protocol (ICCP); Working Group on Protected Areas; Working Group on Review of Implementation of the Convention; Compliance Committee under the Cartagena Protocol on Biosafety (CBD no date d; CCA no date). These bodies have been established to provide advice and recommendations on specific issues. In each case, the COP has decided the terms of reference of the organ, and has given guidance on its composition.

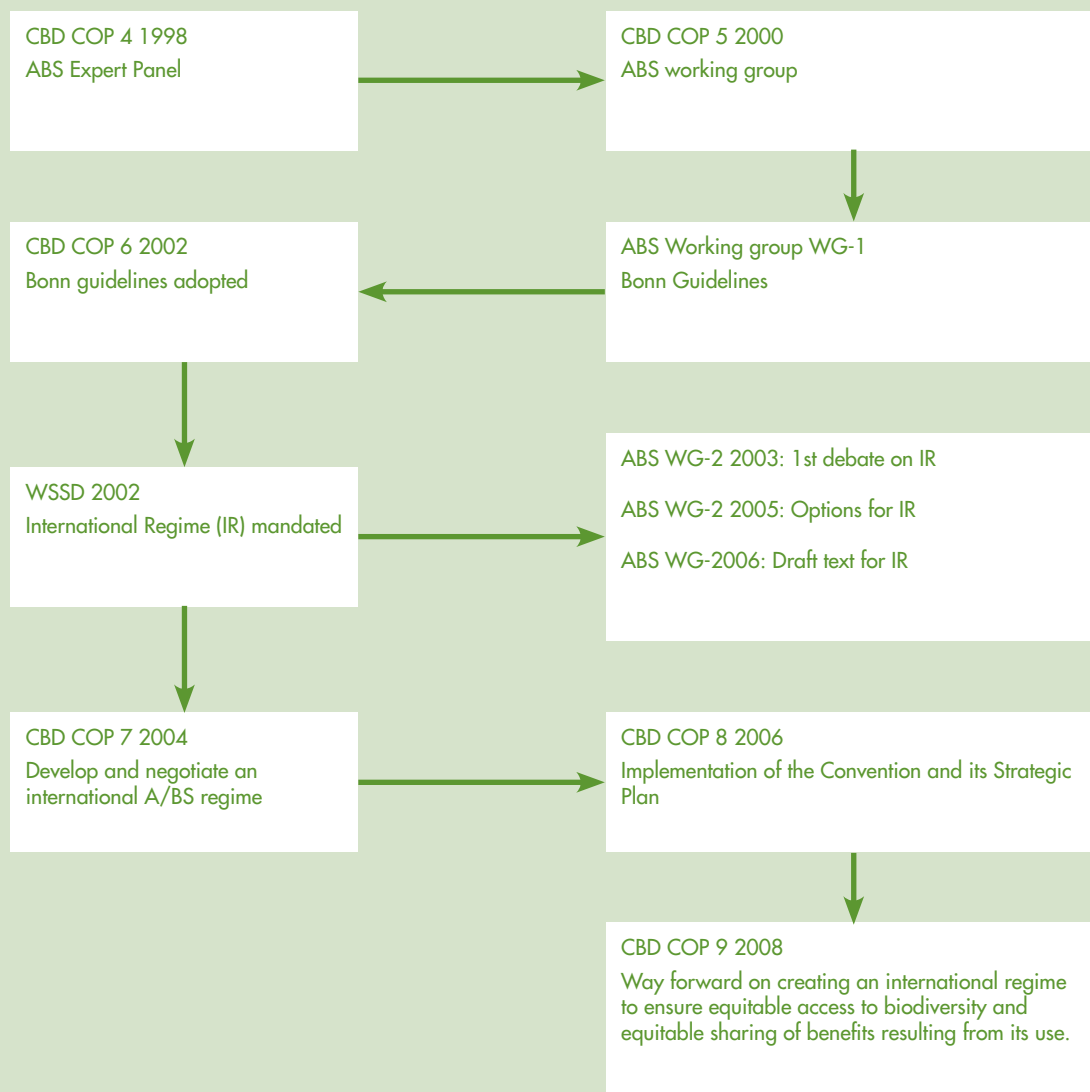
The Conference of Parties (COP) – Decisions and Issues

The governing body of the CBD is the Conference of Parties (COP), established by Article 23. The COP advances implementation of the Convention through decisions it takes at its periodic meetings. To date (2009), the COP has held nine ordinary meetings and one extraordinary meeting (to adopt the Biosafety Protocol). The CBD/COP meetings relevant to ABS and the decisions taken are outlined in Figure 3.

COP 6 took the decision to adopt the Bonn Guidelines (see below) on Access to Genetic Resources and the Fair and Equitable Sharing of the Benefits Arising out of their Utilisation in April 2002. In September 2002, the World Summit on Sustainable Development (WSSD) adopted a plan to implement national and international action on issues related to ABS. Encouraged by the United Nations General Assembly to negotiate an international regime on benefit sharing, CBD COP 7 acted upon the WSSD plan in February 2004. An Ad Hoc Open-ended Working Group on Access and Benefit Sharing started working in collaboration with the Ad Hoc Open-ended Inter-Sessional Working Group on Article 8(j) to develop and negotiate an international ABS regime and to report to COP 8 on its progress. The International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) also came into force on 29 June 2004. The COP 8 meeting held in 2006 led to further developments in the negotiation of an international regime on ABS and an agreement on a 'roadmap' to achieve the 2010 Biodiversity Target to significantly reduce the rate of loss of biological diversity, as a contribution to poverty alleviation and the Millennium Development Goals (MDGs). COP 8 prioritised the preservation, maintenance, and promotion of traditional knowledge relevant to biological diversity. Strategic plans were also developed at the meeting. The process of elaboration and negotiation of the international regime is highly complex and politically controversial. During 2005/06, the positions became polarised, with countries that provide genetic resources on one side and countries that use them on the other.

Since COP 8, there seems to be a new momentum. Working groups on various themes, as decided through COP meetings, are continuing their work and making considerable progress on elaborating and negotiating the international regime. The key questions are: how the ABS system will be supported; what the minimum requirements should be for access regulations and for fair and equitable sharing of benefits; and how traditional knowledge associated with genetic resources will be taken up by the ABS regime. These issues were discussed at the COP 9 meeting in Bonn in May 2008. During the COP 9 meeting, the path towards an international ABS regime was further cleared and the aim set to finalise the regime at COP 10 in 2010.

Figure 3: COP chronology and decisions in relation to ABS



The Bonn Guidelines (Guiding Principles for ABS)

The Bonn Guidelines (CBD 2002b) were adopted during COP 6 to serve as guiding principles for the implementation of access and benefit sharing under the CBD. The Guidelines facilitate and guide the implementation process, without compromising on the objectives of the CBD and its provisions. The Guidelines are intended to assist Parties in developing an overall access and benefit-sharing strategy, which may be part of their national biodiversity strategy and action plan, and in identifying the steps involved in the process of obtaining access to genetic resources and sharing benefits. Full details of the Guidelines are given in Section X of the 'Handbook of the Convention on Biological Diversity' (3rd edition) (CBD 2005).

The objectives of the Bonn Guidelines are as follows:

- To contribute to the conservation and sustainable use of biological diversity;
- To provide Parties and stakeholders with a transparent framework to facilitate access to genetic resources and ensure fair and equitable sharing of benefits;
- To provide guidance to Parties in the development of access and benefit-sharing regimes;
- To inform about the practices and approaches of stakeholders (users and providers) in access and benefit-sharing arrangements;
- To provide capacity-building to guarantee the effective negotiation and implementation of access and benefit-sharing arrangements, especially for developing countries, more so in particular least developed countries and small island developing States among them;
- To promote awareness about the implementation of relevant provisions of the Convention on Biological Diversity;
- To promote the adequate and effective transfer of appropriate technology to providing Parties, especially developing countries, in particular least developed countries and small island developing States among them, stakeholders and indigenous and local communities;
- To promote the provision of necessary financial resources to providing countries that are developing countries, in particular least developed countries and small island developing States among them, or countries with economies in transition with a view to contributing to the achievement of the objectives mentioned above;
- To strengthen the clearing-house mechanism as a mechanism for cooperation among Parties in access and benefit-sharing;
- To contribute to the development by Parties of mechanisms and access and benefit-sharing regimes that recognise the protection of traditional knowledge, innovations and practices of indigenous and local communities, in accordance with domestic laws and relevant international instruments;
- To contribute to poverty alleviation and be supportive to the realisation of human food security, health and cultural integrity, especially in developing countries, in particular least developed countries and small island developing states among them;
- Taxonomic research, as specified in the Global Taxonomy Initiative, should not be prevented, and providers should facilitate acquisition of material for systematic use and users should make available all information associated with the specimens thus obtained.

Session 3

ABS Terminology and Traditional Ways of Using Biological Resources

Time: 60 minutes

Objectives

To review and discuss important terminology in the context of access and benefit sharing and to discuss traditional ways of using biological resources.

- ▶ To discuss important terms related to ABS
- ▶ To understand genetic resources from a scientific perspective
- ▶ To review traditional ways of using biological resources
- ▶ To review the ABS Glossary to learn about the most commonly used ABS terms

Methodology

Individual and group exercises and review of ICIMOD's 'Glossary of Access and Benefit Sharing Terms'. The methodology used in this session depends on the trainer, who may be as innovative as s/he likes.

Materials

ICIMOD's Glossary of Access and Benefit Sharing Terms, flipcharts, markers, tape, board

Suggestions for the trainer

Prepare the individual and group exercises provided in advance. Follow them with a presentation on the theme. Clarify any questions during the presentation and discussion. You can vary the order, but it is suggested that Exercise 1 be carried out first, with each part of the exercise followed by a presentation and discussion on the individual topic; then Exercise 2, followed by a presentation on traditional ways of using biological resources, discussion, and clarification; and finally Exercise 3 with the review of the ABS glossary.

Remind participants that the resource materials for the session are provided in the manual.

Activities

Activity 1: Exercise – Biodiversity, traditional knowledge, genetic resources and bioprospecting

Time: 30 minutes

Aim

Participants are able to understand genetic resources from a scientific perspective.

To review the participants' understanding of biodiversity, genetic resources, and traditional knowledge and give participants an opportunity to reflect on this understanding

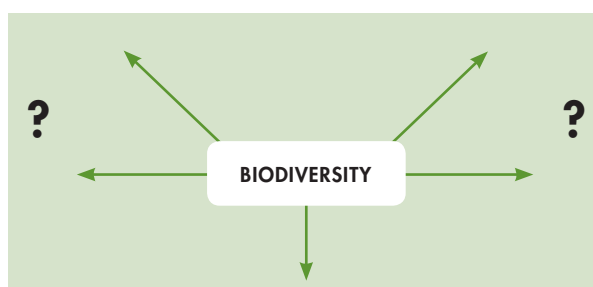
Method: Individual exercise

Materials: Flipcharts and pens

Steps

Step 1 Pin or stick the flipchart to the board.

Step 2 Write the word 'Biodiversity' in the middle of the chart and draw several arrows pointing to the word.



Step 3 Ask for a volunteer from among the participants. Ask the volunteer to either draw or write (in words or sentence) what they know about biodiversity on the chart. For example: 'plants'. Ask more volunteers in turn to add to what has been written.

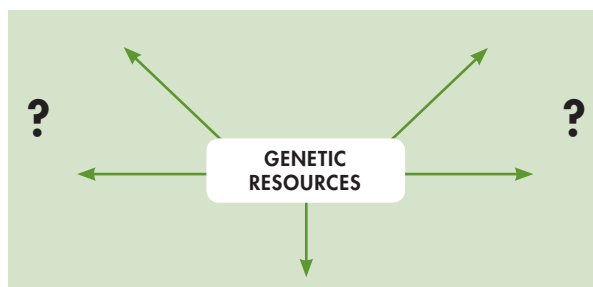
Step 4 When most of the topics related to biodiversity have been covered or at least 10 participants have contributed, give the presentation on biodiversity.

Step 5 Open the floor for discussion.

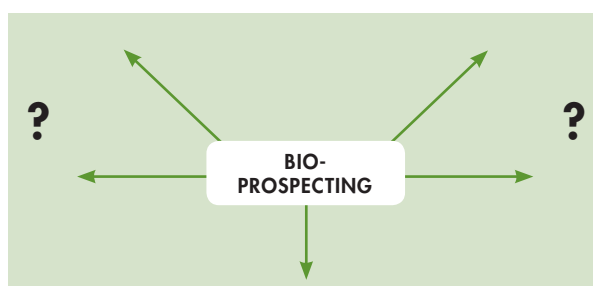
Step 6 After closing the discussion and presentation on biodiversity, repeat the process for the topic 'traditional knowledge' again followed by a presentation and discussion.



Step 7 After closing the discussion and presentation on traditional knowledge, repeat the process for the topic genetic resources, again followed by a presentation and discussion



Step 8 After closing the discussion and presentation on traditional knowledge, repeat the process for bioprospecting, again followed by a presentation and discussion



Activity 2: Exercise – Traditional knowledge systems

Time: 20 minutes

Aim

To understand the evolution of traditional knowledge systems, and traditional ways of using biological resources and their linkages with ABS.

- Participants are able to understand traditional knowledge systems, their evolution, and the system of knowledge transmission through ancestors.
- Participants are able to understand the traditional uses of genetic resources and knowledge associated with them.
- Participants are able to understand the linkages between traditional ways of using biological resources and the ABS regime.

Method

Group exercise

Materials

Flipcharts and pens

Steps

Step 1 Split the participants into groups by allocating a random number based on the number of groups (e.g., for three groups, allocate each person a number from one to three).

Step 2 Introduce the aim of the exercise.

- Step 3** Ask each group to identify genetic resources that are widely used in their community and ask them to discuss their origin, evolution, knowledge transmission process, and associated traditional knowledge. For example, the use of *Datura stramonium*. Hint: Think about traditional medicine and the use of medicinal plants, traditional healers, and traditional food.
- Step 4** When all groups are finished with the exercise, open the floor for discussion. Each group will report during the discussions.
- Step 5** Summarise, and clarify anything that still seems unclear with a short presentation on traditional ways of using biological resources.

Activity 3: Exercise – ABS Glossary

Aim

To ensure that participants are familiar with the common terms used in ABS activities.

Method

Group exercise

Materials

Copies of the ABS Glossary

Steps

- Step 1** Distribute copies of the Glossary to all participants and allow them time for review.
- Step 2** Introduce the aim of the exercise.
- Step 3** Highlight key definitions and ask the participants to refer to them by citing page numbers.
- Step 4** Ask participants if any of the definitions are unclear and discuss these.

Session 3 Resource Materials

Biodiversity – The Web of Life

An ecosystem is made up of all the living animals and plants (biodiversity) and the non-living matter in a particular place, like a forest or lake. All the living things in an ecosystem depend on all the other things – living and non-living – for continued survival, i.e., for food supplies and other needs. In some ways, the actions and reaction that take place within an ecosystem are like a spider web – when one strand is broken, the web starts to unravel. What affects one part of an ecosystem, affects the whole in some way.

The idea of the web of life is shown by the interdependence within an ecosystem. Animals and plants depend on a complex system of food for survival. In a typical prairie ecosystem, the web might work like this: The sun provides energy for the grass; grasshoppers feed on the grass; birds and frogs eat the grasshoppers; snakes eat birds, frogs and mice; owls and hawks will eat the birds as well as snakes, frogs and mice. When an animal dies, it is decomposed by worms, fungi, and bacteria action, and nutrients are released to the soil during the decaying process for the grass to use again. Connecting the many plants and animals with lines representing their functions and food chains within this web would create a tangled maze. It is clear that all forms of life in the ecosystem are dependent on all other living and non-living things for food, nutrients and energy (UI no date; CBD no date a).

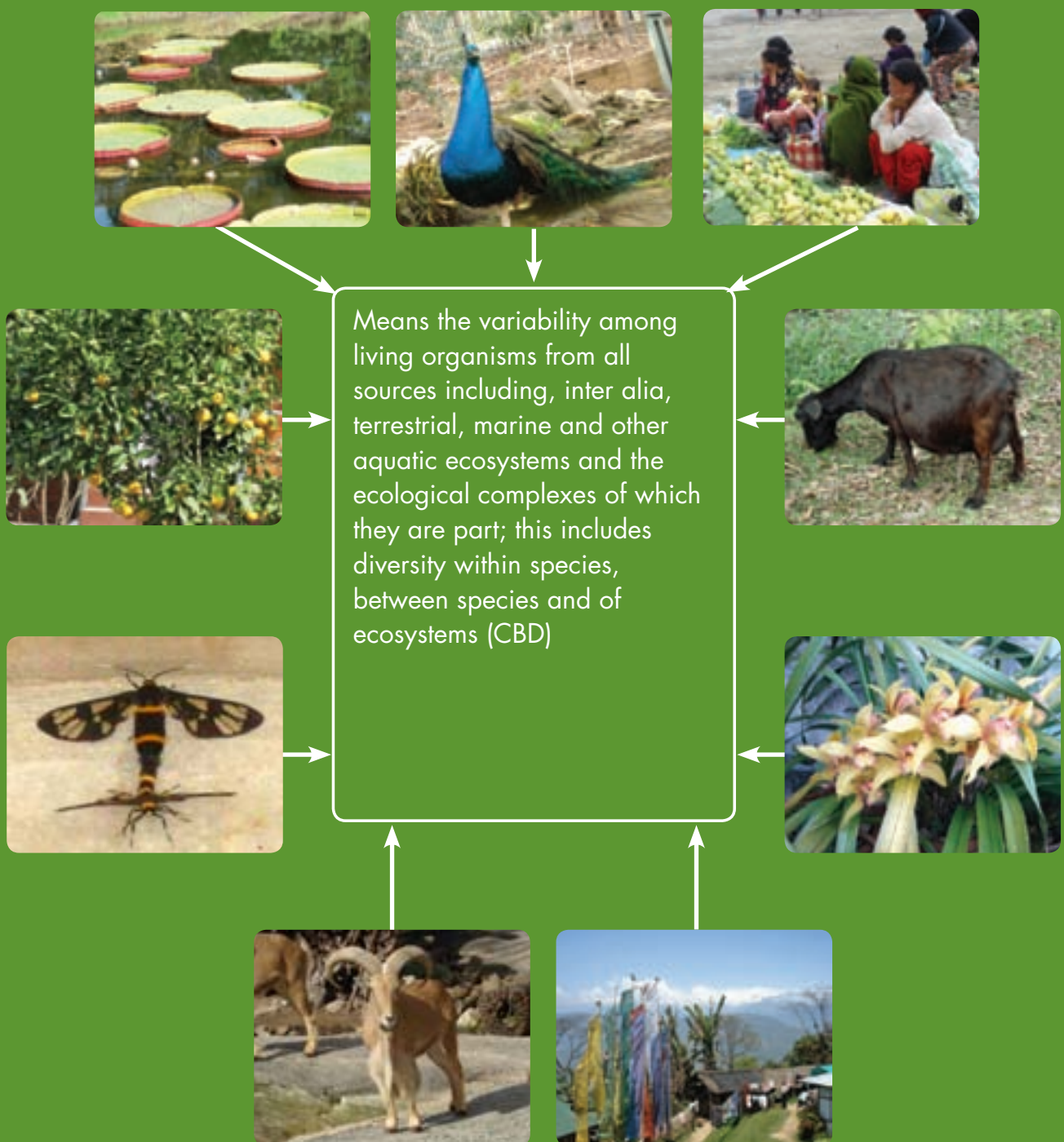


Adapted from Capra 1996

What is Biodiversity?

Biodiversity is the word used to describe the variability among living organisms from all sources. It means the whole range of different living beings including plants, animals, birds, insects, fish, invertebrates, microorganisms, and so on.

Biodiversity



What is Traditional Knowledge?

Throughout the ages, people have worked together in communities for their survival. In the process, they have invented many survival mechanisms, expanded our knowledge of the world, and developed systems for the management of resources. Such knowledge systems are developed from experience gained over centuries and adapted to the local culture and environment. This traditional knowledge is transmitted from generation to generation. Traditional knowledge is mainly of a practical nature, relating to agriculture, fisheries, health, horticulture, forestry, and environmental management.

Traditional knowledge



What are Genes?

Living beings



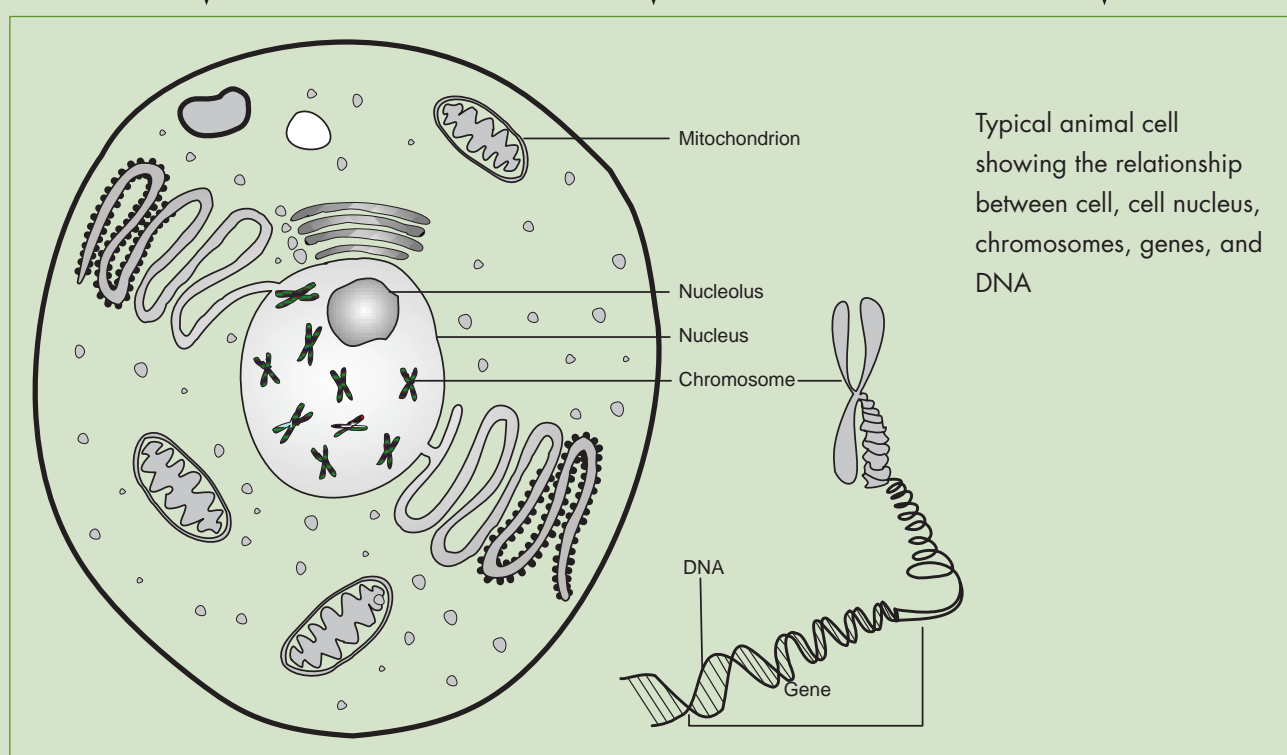
Animals



Plants



Humans



Living beings (animals and plants, including humans) are composed of living tissue, which is made up of numerous cells. Each cell is made up of several parts or organelles, each with specific functions, and including, for 'living beings', a cell nucleus, as shown in the diagram of a typical cell above. To understand the concepts of genes and genetic resources, it is important to look at the cell nucleus, the largest organelle and the 'brain' of the cell; and the centre for direction and coordination of the cell's metabolic and reproductive processes. The nucleus contains deoxyribonucleic acid (DNA) bound together with proteins to form bodies called chromosomes. The **genes** within these complexes are the cell's nuclear genome. Selected parts of the hereditary information in the DNA (particular genes) are transcribed into various forms of ribonucleic acid (RNA): messenger RNA, ribosomal RNA, and transport RNA. These all migrate to the cytoplasm through the nuclear pores; whereby the ribosomal RNA is first packaged into 'ribosomes' in a nuclear body called the nucleolus. Together the different forms of RNA are used to translate the 'message' into proteins, ultimately determining all of the components that together form the living organism.

Genetic Resources

The CBD defines genetic resources as genetic material of actual or potential value. It may be any material of plant, animal, microbial, or other origin containing functional hereditary units. This may include a whole organism, parts of an organism, or biochemical extracts from tissue samples that contain deoxyribonucleic acid (DNA) or, in some cases, ribonucleic acid (RNA). In the context of the ABS regime, this is the key element and is the ultimate biological information that can be used to develop and derive new products and transgenic biological material.

What are genetic resources?

There are many varieties and species of rice crop. Each variety has distinct characteristics like shape, colour, odour, taste, and many others. Some perform well in drought and some in wetlands; some are pest and disease resistant and some are vulnerable. These characteristics are transferred from generation to generation. All of these characteristics are the result of the expression of the plant's genes. These characteristics are referred to as **genetic resources**.



Farmers have developed different varieties of rice for different conditions (e.g., dry slopes, wetland, rich soil) and different needs (e.g., flavour, colour, cooking quality). The characteristics were developed by farmers (unknowingly) selecting for different genes.

Traditional Ways of Using Biological Resources

The idea of 'traditional ways of using biological resources' can be illustrated with an example. Communities in South Asia use turmeric in food, medicines (therapeutic and cosmetic), and ritual ceremonies. Turmeric is rubbed all over the body of slaughtered animals to be used as meat. This acts as an antibacterial agent so that the meat does not decay quickly. Turmeric is used in cooking for colour and for its health properties. During weddings, turmeric paste is applied to the bride and the groom for ritual and cosmetic purposes. Turmeric is the main ingredient in many cosmetics such as fairness creams, as it is believed to have chemical properties that enhance the fairness of the skin. This knowledge on the various properties of turmeric has been passed down from generation to generation.

What is Bioprospecting?

While **bioprospecting** seems to be a new phenomenon, it has existed in many forms since societies began trading with other nations. The colonist expeditions from Europe in the 18th Century went to different parts of the world to seek out exotic plants to bring back to their kingdoms. There were decorative flowers, medicinal herbs, and new food samples. These expeditions were a one way transfer of knowledge, with the biological explorers taking knowledge from local people in the different parts of the world. There was no exchange of knowledge and no offer of compensation to the communities they were invading. However, these explorers established infrastructures that would benefit their extractive practices. One of the most famous bioprospectors was Sir Joseph Banks, the botanical supplier of the Kew Gardens in the United Kingdom, established in 1772 as a centre for biological knowledge sharing. The knowledge sharing was with and among the elites, not to offer self-sufficiency to or for the benefit of the communities from where the biological materials were collected. For example, the East India Company employed botanists to find drugs and dyeing materials fit for European markets, instructing them to find and collect local knowledge and resources and bring them back to Britain and the Kew Gardens from the eastern Himalayan region. Since 1800, the patent office in the United States has supported the growth of pharmaceutical company and corporate interests in researching chemical extracts from plants. This has also taken place in many other parts of the modern world; by the 1930s, the Merck Corporation had started collecting samples, which led them to develop the well-known compound called quinine, used to treat malaria.

Bioprospecting

“The systematic search for genes, compounds, designs, and organisms that might have a potential economic use and might lead to product development”

Tamayo et. al (2004)

Referring to company practices such as these, Thomas Eisner coined the term bioprospecting in 1989. According to him, “bioprospecting is a systematic search for secondary metabolites with potentially therapeutic properties as a strategy for creating economic incentives for conserving biological diversity”. Bioprospecting can also be summarised as the research, collection, and utilisation of biological and genetic resources (or as in the Bhutan Biodiversity Law 2003, the ‘systematic search,

classification, and research of new sources of chemical compounds, genes, proteins, and microorganisms with real or potential economic value’) for the purpose of applying the knowledge derived therefrom for scientific and/or commercial purposes. In other words, bioprospecting consists of the collection of biological materials, such as plants and animals or their parts, comprising economically valuable species and genes that can be used in the development of new pharmaceutical products, improved food crops, or new compounds for industrial products, usually by companies from so-called developed countries. Today, bioprospecting is also understood as a two-way process that both searches for genetic resources in biologically diverse regions and promotes conservation through economic incentives.

Review of ABS Glossary

Some of the important ABS terms are discussed in Exercise 1. However, there are many other terms commonly used in ABS. ICIMOD has published a Glossary of Access and Benefit Sharing Terms, which provides a definition of many of the commonly used ABS terms. The Glossary is provided here as a resource for your reference. The sources of the definitions are given in the original publication.

ABS regime – The Conference of the Parties to the Convention on Biological Diversity (CBD) decided in 2004 to create an international regime on access to genetic resources and sharing of the benefits arising out of their utilisation through an ABS regime. Negotiations on an international ABS regime started in 2005, but it is predicted that it will take up to ten years to complete the establishment of such a regime.

Access – Access to genetic resources is not defined in the CBD or the Bonn Guidelines and, therefore, definition varies according to national legislation and practice. Access may consist of various activities including entering a location or place where genetic resources are found, surveying activities, obtaining or acquiring genetic resources, the use of genetic resources, and the study or systematic investigation of genetic resources for scientific and/or commercial purposes. The Organization of African Unity's (OAU's) African model legislation defines 'access' as acquisition of biological resources, their derivatives, community knowledge, innovations, technologies, or practices.

Accessing party – Sections 3 (1) and (2) of the Indian Biodiversity Act defines an 'accessing party' as any person (including foreigners, non-resident Indians, foreign companies) who intends to obtain any biological resource or associated knowledge occurring in a provider country for research, or for commercial utilisation, or for bio-survey and bio-utilisation, or the transfer of the results of any research relating to biological resources or associated traditional knowledge. The accessing party has to obtain prior approval of the National Biodiversity Authority.

Agrobiodiversity – The variety and variability of animals, plants, and microorganisms used directly or indirectly for food and agriculture including crops, livestock, forestry, and fisheries; agrobiodiversity comprises the diversity of genetic resources (varieties, breeds) and species used for food, fodder, fibre, fuel, and pharmaceuticals, and also includes the diversity of non-harvested species that support production (soil microorganisms, predators, pollinators), and those in the wider environment that support agro-ecosystems (agricultural, pastoral, forest,

and aquatic), as well as the diversity of the agro-ecosystems themselves.

Benefit sharing – IUCN defines benefit sharing as sharing of whatever accrues from the utilisation of biological resources, community knowledge, technologies, innovations, or practices. It also means all forms of compensation for the use of genetic resources, whether monetary or non-monetary.

Monetary benefits may be upfront payments, access fees, milestone payments, license fees, research funding, salaries and infrastructure, joint ventures, and joint ownership of intellectual property rights; non-monetary benefits may include sharing of research results, collaboration in scientific research, participation in product development, collaboration in education and training, and technology transfer.

'Fair and equitable sharing of benefits' has been stressed in the benefit-sharing process. Section 21 (1) of the Indian Biodiversity Act defines it as 'benefits arising out of the use of accessed biological resources, their byproducts, innovations, and practices associated with their use and application and knowledge thereto, in accordance with mutually agreed terms and conditions between the person applying for such approval, local bodies concerned, and the benefit claimers'.

Benefits – Economic or academic advantages arising from research on the utilisation of genetic resources.

Biodiversity acts – National statutory legal instruments developed to implement CBD obligations, including regulation of the access and benefit sharing mechanism from genetic resources and associated traditional knowledge; these are currently operational, amongst others, in India and Bhutan.

Biodiversity management committee – A committee established under the national government for the management of genetic resources and associated traditional knowledge at the local level; Section 41 of the Indian Biodiversity Act stipulates that every local body shall constitute a biodiversity management committee within its area for the purpose of promoting

conservation, sustainable use, and documentation of biological diversity.

Biological diversity – Variability among living organisms from all sources including, inter alia, terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species, and of ecosystems.

Biological resources – These include genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential use or value for humanity. Section 1 (c) of the Indian Biodiversity Act defines it as ‘plants, animals, and microorganisms, or parts thereof, their genetic material and byproducts (excluding their value added products) with actual or potential use value’, but does not include human genetic material.

Biopiracy – Utilisation and/or appropriation of genetic resources that is not based on necessary access permits, or does not fulfil the agreed conditions and is therefore illicit.

Bioprospecting – The collection of biological materials such as genes, plants, and animals of economically valuable species for future pharmaceutical products, improved food crops, or new compounds for industrial products; the survey and collection of species, sub-species, genes, compounds, and extracts of biological resources for any purpose; includes characterisation, inventorisation, and bio-assay (expert submission from India to the Ad hoc Open Ended Working Group on ABS).

IUCN defines it as “the research, collection and utilisation of biological and genetic resources for purposes of applying the knowledge derived therefrom for scientific and/or commercial purposes”.

Section 52 (e) of the Bhutan Biodiversity Act 2003 defines bio-prospecting as the “systematic search, classification, and research of new sources of chemical compounds, genes, proteins, and microorganisms with real or potential economic value forscientific and or commercial purposes”.

Biosafety – Describes efforts to reduce and eliminate the potential risks resulting from biotechnology and its products; for the purposes of the Biosafety Protocol, this is based on the precautionary approach whereby the lack of full scientific certainty should not be used as an excuse to postpone action when there is a threat of serious or irreversible damage.

Biosphere Reserve – These are areas of terrestrial or coastal/marine ecosystems or a combination thereof, which are internationally recognised within the

framework of UNESCO’s programme on Man and the Biosphere (MAB), in accordance with the present statutory framework.

Biotechnology – Any technological application that uses biological systems, living organisms, or derivatives thereof to make or modify products or process them for specific use.

Biotope – The collection, production, transformation, and commercialisation of goods and services derived from native biodiversity under the criteria of environmental, social, and economic sustainability.

Bonn Guidelines (BGL) – The guidelines adopted by Decision VI/24 of the 6th Conference of the Parties to the CBD in 2002; the aim of the Bonn Guidelines is to clarify regulations on ABS contained in the CBD. They provide guidance for drafting national legislation and for negotiating ABS agreements in the absence of national legislation. The BGL are an interpretative instrument and are not binding in themselves.

Byproduct – A molecule or a combination or mixture of natural molecules including crude extracts of live or dead organisms of biological origin that comes from the metabolism of living beings.

Any part taken from biological and genetic resources such as hides, antlers, feathers, fur, internal organs, roots, trunks, branches, leaves, stems, flowers and the like, including the compounds indirectly produced in a biochemical processor cycle.

Centre of origin – A geographical area where plants, animals, or microbial species, either domesticated or wild, first developed their distinctive properties and characteristics

Commercial utilisation of biological resources – Defined in Section 2 (f) of the Indian Biodiversity Act as ‘end uses of biological resources for commercial utilisation such as drugs, industrial enzymes, food flavours, fragrances, cosmetics, emulsifiers, oleoresin, colours, extracts, and genes used for improving crops and livestock through genetic intervention’, but does not include conventional breeding or traditional practices in use in agriculture, horticulture, poultry, dairy farming, animal husbandry, or beekeeping.

Community biodiversity registers – The community resource registry has, to date, been a loosely defined term referring broadly to the processes by which communities seek to protect resources and associated knowledge through some method of documentation. Although documentation is not necessarily a contemporary phenomenon per se (many societies have historically documented their knowledge in various ways), the registry has more recently arisen

out of community concerns for diminishing biological and cultural diversity and the increasing prevalence of bioprospecting activities.

Competent authorities – To facilitate access and benefit sharing from genetic resources, the Bonn Guidelines introduced the term ‘competent authority’. Competent authorities refer to agencies or institutions designated by national legislation as competent to facilitate and negotiate the access and benefit sharing process and grant access.

Conference of the Parties (COP) – The governing body of the Convention on Biodiversity, the Conference of the Parties (COP), advances implementation of the Convention through the decisions it takes at its periodic meetings. Until 2007, the Conference of the Parties has held nine ordinary meetings, and one extraordinary meeting (the latter, to adopt the Biosafety Protocol, was held in two parts). To date, the COP has taken a total of 216 procedural and substantive decisions.

Convention on Biological Diversity (CBD) – An international treaty, enforced in 1993, that guarantees individual states sovereign rights over their biodiversity resources and the pattern of their utilisation; the Convention established three main goals: the conservation of biological diversity, sustainable use of its components, and the fair and equitable sharing of the benefits from the use of genetic resources. There are 190 parties to the Convention including all the Himalayan countries.

Country of origin – The country which possesses those genetic resources in or under in situ conditions.

Country providing genetic resources – The country supplying genetic resources collected from in situ sources, including populations of both wild and domesticated species or taken from ex situ sources which may or may not have originated in that country.

Cultivar – Variety of plant that has originated and persisted under cultivation or was specifically bred for the purpose of cultivation.

Cultural diversity – Culture takes diverse forms across time and space. This diversity is embodied in the uniqueness and plurality of the identities of groups and societies making up humankind. As a source of exchange, innovation, and creativity, cultural diversity is as necessary for humankind as biodiversity is for nature. In this sense, it is the common heritage of humanity and should be recognised and affirmed for the benefit of present and future generations.

Derivatives – A product including information developed, or part taken, or extracted from a biological or genetic resource, e.g., varieties, strains or breeds, blood, proteins, oils, resins, gums, genes, seeds, spores,

bark, wood, leaf matter, or formulae; includes products incorporating material or formulae as above.

Designated authority – Authority designated by the competent authority to monitor and enforce the policy and legal instruments with respect to the access and benefit sharing from genetic resources

Disclosure – Referred to by Article 29 of Trade Related Aspects of Intellectual Property Rights (TRIPS) as a disclosure of the invention in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art, and may require the applicant to indicate the best mode for carrying out the invention known to the inventor at the filing date or, where priority is claimed, at the priority date of the application.

In the CBD, disclosure is associated with Article 8 (j) and Article 15. The Bonn Guidelines provide voluntary guidelines for improving ABS agreements, and recommends that Parties encourage disclosure of origin as a mechanism for compliance with ABS requirements.

Domesticated or cultivated species – Species in which the evolutionary process has been influenced by humans to meet their needs.

Ecosystem – A dynamic complex of plant, animal, and microorganism communities and their nonliving environment, interacting as a functional unit.

Ex-situ conservation – The conservation of components of biological diversity outside their natural habitats (e.g., in gene banks).

Genetic diversity – The variety of genes within a particular species, variety, or breed.

Genetic material – The Convention on Biological Diversity defines genetic materials as materials of actual or potential value. They may be any material of plant, animal, microbial, or other origin, containing functional units of heredity. These may include a whole organism, parts of an organism, or biochemical extracts from tissue samples that contain deoxyribonucleic acid (DNA), or in some cases ribonucleic acid (RNA). In the context of an ABS regime, this is the key element and is the ultimate biological information that can be used to develop and derive a new product or transgenic biological material. This definition excludes sources that may contain units of heredity in other forms. Therefore, in the context of discussion on access and benefit sharing, a political decision to solve problems of definition becomes necessary.

Genetic resources – All genetic materials of actual or potential value; the value need not be commercial or monetary, but may be scientific or academic in nature.

Genetically modified organism (GMO) – A microorganism, plant, or animal whose genetic characteristics have been modified by inserting a modified gene or a gene from another variety or species; genetically modified organisms (GMOs) may be microorganisms designed for use as biopesticides, or seeds that have been altered genetically to give a plant better disease resistance or growth.

Habitat – A place where an organism or population naturally occurs; this definition excludes organisms that have been artificially introduced.

Indigenous peoples – Peoples in independent countries whose social, cultural, and economic conditions distinguish them from other sections of the national community, and whose status is regulated wholly or partially by their own customs or traditions, or by special laws or regulations

In-situ conservation – The conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties

Intangible component – Any knowledge, innovation, or individual or collective practice of actual or potential value associated with genetic resources, its derivatives, or the biological resource containing them, whether or not it is protected by an intellectual property system

Intellectual property (IP) – Refers to creations of the mind: inventions, literary and artistic work, and symbols, names, images, and designs used in commerce; intellectual property may be divided into two categories: industrial property, which includes inventions (patents), trademarks, industrial designs, and geographic indications of source; and copyright, which includes literary and artistic work such as novels, poems, plays, films, musical work, artistic work such as drawings, paintings, photographs, sculptures, and architectural designs; rights related to copyright include those of performing artists in their performances, producers of phonograms in their recordings, and broadcasters in their radio and television programmes.

Intellectual property rights (IPRs) – The legal protection given to persons over their creative endeavours; usually gives the creator an exclusive right over the use of his/her creation or discovery for a certain period of time; IPRs also refer to the recognition that the inventor should be granted a reward such as exclusive rights to use it or to earn royalties from renting out its use.

International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) – A global treaty

adopted by the 31st session of the Food and Agriculture Organization (FAO) in November 2001 that aims to ensure food security and sustainable agriculture; the treaty came into force on 29 June 2004. It aims at conservation and sustainable use of plant genetic resources for food and agriculture and the fair and equitable sharing of benefits arising out of their use, in harmony with the CBD.

International Union for the Protection of New Varieties of Plant (UPOV) – An intergovernmental organisation established by the International Convention for the Protection of New Varieties of Plants, UPOV's mission is to provide and promote effective systems of plant variety protection. Its aim is to encourage the development of new varieties of plants for the benefit of society. The Convention was adopted in 1961 and revised as deemed necessary in 1972, 1978, and 1991. The objective of the Convention is the protection of new varieties of plants through intellectual property rights.

Invention – Section 1 (l) of the Patent Amendment Act of India refers to it as any invention or technology which has not been anticipated by publication in any document or used in the country or elsewhere in the world before the date of filing of a patent application with complete specification; i.e., the subject matter has not fallen in the public domain, or does not form part of the state-of-the-art.

Inventive step – A feature of an invention that involves technical advance as compared to the existing knowledge, or having economic significance, or both, that makes the invention not obvious to a person skilled in the art.

Landrace – A crop cultivar or animal breed that evolved with and has been genetically improved by traditional agriculturalists or farmers, but has not been influenced by modern breeding practices; also a cultivar that was grown by ancient farmers and their successors.

Local knowledge – see 'traditional knowledge'

Material transfer agreements – A legal agreement between the owner of a genetic material and the recipient of the material; they are contracts which are used for the transfer of genetic materials and knowledge and which contain the terms and conditions on which the material is transferred.

Mutually agreed terms – The terms and conditions agreed by the contracting parties at the time of entering into a contract; various types of authorisations defining the conditions for access and benefit sharing by means of which users obtain access to/permission to collect, study, and utilise genetic resources commercially

National Biodiversity Authority – Defined by Section 8 (2) of the Indian Biodiversity Act as, “a body corporate having perpetual succession and a common seal, with a power to acquire, hold, and dispose of property, both movable and immovable, and to enter into contract and shall by the said name sue and be sued”

Patent – A form of intellectual property protection available for inventions, whether products or processes, that are new, involve an (non-obvious) inventive step, and are useful or capable of industrial application; a patent is a legal grant by the State to an inventor allowing the right to exclude others from making, using, exercising, and marketing his/her invention within its geographic territory for a stipulated duration in lieu of disclosing the invention in a patent specification.

A patent is an exclusive right granted for an invention, which is a product or a process that provides, in general, a new way of doing something, or offers a new technical solution to a problem.

Plant variety – A plant grouping within a single botanical taxon of the lowest known rank, defined by the reproducible expression of its distinguishing and other genetic characteristics

Prior art – The existing knowledge base before the invention was discovered, or before the invention was disclosed by filing a patent application

Prior informed consent (PIC) – Prior informed consent is not defined within the Convention on Biological Diversity, but authors have commonly identified the key elements as: (a) *prior*: before access to knowledge or genetic resources takes place, (b) *informed*: based on truthful information about the use that will be made of the knowledge or genetic resources that is adequate for the authority to understand the implications, and (c) *consent*: the explicit consent of the government, and stakeholders or rights holders according to national law. Thus, prior informed consent is an approval in advance for the use of one’s genetic resources and any associated traditional knowledge.

Property rights – Rights to own, control, and alienate property within the system of property law established by the State; property rights may be over material or tangible property such as the land and crops. They may also be rights over intangible property, including knowledge, information, or innovations such as patent rights or a plant breeder’s right.

Protected area – An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means

Providers (providing countries) – All contracting parties to the CBD that provide access to resources situated in their country to users

Public domain – The information and knowledge already available in published or other forms; the realm of publications, inventions, and processes that are not protected by copyright or patent

Public registries – When information or knowledge is placed in the public domain and serves as a form of prior art or defensive disclosure, it is known as ‘public registries’. The information in such registries can be accessed without permission and payment (e.g., traditional knowledge, the Documentation Library of the Ministry of Science and Technology Government of India).

Regime – A set of rules, policies, and norms of behaviour that cover any legal issue and that facilitates substantive or procedural arrangements for deciding that issue

Sovereign rights – Rights which appertain to independent sovereign states to legislate, manage, exploit, and control access to their natural resources; they include the right to determine the property regimes applicable to those resources, what rights of ownership can be entertained, and how ownership is established.

Sovereignty – The power of the State to independently regulate its own internal and external affairs; it is not ownership, it is the power to regulate ownership.

Species diversity – Refers to the variety of species

Species – A group of organisms capable of interbreeding freely with each other, but not with members of other species; (morphological definition) a group of individuals, animals, or plants that is morphologically, physiologically, or biochemically distinct from other groups in some characteristics

Sui generis – Literally one of ‘its own kind’

Sustainable use – The use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations

Traditional knowledge – Refers to the knowledge, innovations, and practices of indigenous and local communities around the world; developed from experience gained over the centuries and adapted to the local culture and environment, traditional knowledge is transmitted orally from generation to generation. It tends to be collectively owned and takes the form of stories, songs, folklore, proverbs, cultural values, beliefs, rituals, community laws, local language, and agricultural practices, including the development of plant species

and animal breeds. Traditional knowledge is mainly of a practical nature, particularly in such fields as agriculture, fisheries, health, horticulture, and forestry.

World Intellectual Property Organization (WIPO) – A specialised agency of the United Nations dedicated to developing a balanced and accessible international intellectual property (IP) system which rewards creativity, stimulates innovation, and contributes to economic development while safeguarding the public interest; WIPO was established by the WIPO Convention in 1967 with a mandate from its member states to promote

the protection of intellectual property throughout the world through cooperation among States, and in collaboration with other international organisations. Its headquarters is in Geneva, Switzerland.

World Trade Organization (WTO) – The world's primary organisation working towards setting the rules of trade between nations; at its heart are the WTO agreements negotiated and signed by the majority of the world's trading nations and ratified in their parliaments. The organisation is based in Geneva and currently has 150 countries as members.

Session 4

Status of Biodiversity and Genetic Resources in the Hindu Kush-Himalayan Region

Time: 45 minutes

Objectives

To review the status of biodiversity in the Hindu Kush-Himalayan (HKH) region and eastern Himalayas.

- ▶ To understand the status of biodiversity and associated traditional knowledge in the HKH and eastern Himalayan region.
- ▶ To know about the biodiversity hotspots in the Himalayas

Methodology

Group exercise and presentation

Materials

Brown paper, markers, tape, board

Suggestions for the trainer

This session is primarily technical. However, the start of the session can be livened up with a group inventory exercise on biodiversity (e.g., Exercise 1 – Inventory of biological resources at the local level). The outcome of the exercise should lead into a formal presentation on biodiversity status at the national and regional level. Make links between the biodiversity at the local level (outcome of the exercise) with the biodiversity at the national and regional levels, to help participants understand and value their own biodiversity and the enormous biodiversity in the region. Clarify anything that is unclear during the presentation and discussion.

Activities

Activity 1: Exercise – Inventory of biological resources at the local level

Time: 15 minutes

Aim

To help participants understand the enormous biodiversity that they possess in their own communities and to help them to make linkages with the national and regional biodiversity hotspots

- Participants are able to understand the enormous biodiversity at the local level and are able to identify the resources most commonly used for livelihoods.
- Participants are able to understand the status and richness of resources by inventorying them.
- Participants are able to compare the local situation with the national and regional situation in relation to the richness of biodiversity.

Method

Group exercise

Materials

Brown paper and marker pens

Steps

- Step 1** Split the participants into groups by allocating a random number based on the number of groups (e.g., for three groups, allocate each person a number from one to three).
- Step 2** Introduce the aim of the exercise.
- Step 3** Distribute brown paper and marker pens to each group.
- Step 4** Ask each group to identify biological resources in their community and make an inventory (list) of such resources. Try to assign a different theme to each group, e.g., food crops, insects, livestock, medicinal plants, aquatic plants and animals, fungi, and so on. Groups assigned food crops should list all the food crops found in their community on the brown paper and so on for each of the themes.
- Step 5** When all groups are finished, ask them to hang their lists on the board or wall.
- Step 6** Using these lists, each group should make a presentation on the status of biodiversity under that particular theme in their area/community.

Activity 2: Presentation on the status of biodiversity in the country, the Hindu Kush-Himalayan region in general and, if appropriate, the Eastern Himalayas in particular.

Allow for questions, clarification, and discussion.

Session 4 Resource Materials

Status of Biodiversity and Associated Traditional Knowledge in the HKH

Mountains globally are being recognised as storehouses of biocultural diversity (Stepp et al. 2005), a diversity which provides the basis of food and livelihood security for mountain communities. The Hindu Kush-Himalayan (HKH) region is one of the ten most biologically diverse regions in the world and has a huge range of species and genetic resources. All or part of four of the world's 34 biodiversity hotspots are located in the region (CI 2000). Table 1 illustrates the rich diversity of plants in the countries of the HKH region. These values refer to the countries as a whole, but a large proportion of the species are found in the mountainous areas.

Table 1: Plant Diversity in the countries of the Hindu Kush-Himalayan Region

Country	Geographical area (km ²)	Number of species of flowering plants and ferns
Afghanistan	652,090	4,500
Bangladesh	144,000	7,400
Bhutan	46,500	5,000
China	9,596,960	29,700
India	2,387,590	17,000
Myanmar	676,577	7,766
Nepal	147,181	5,568
Pakistan	796,095	6,000

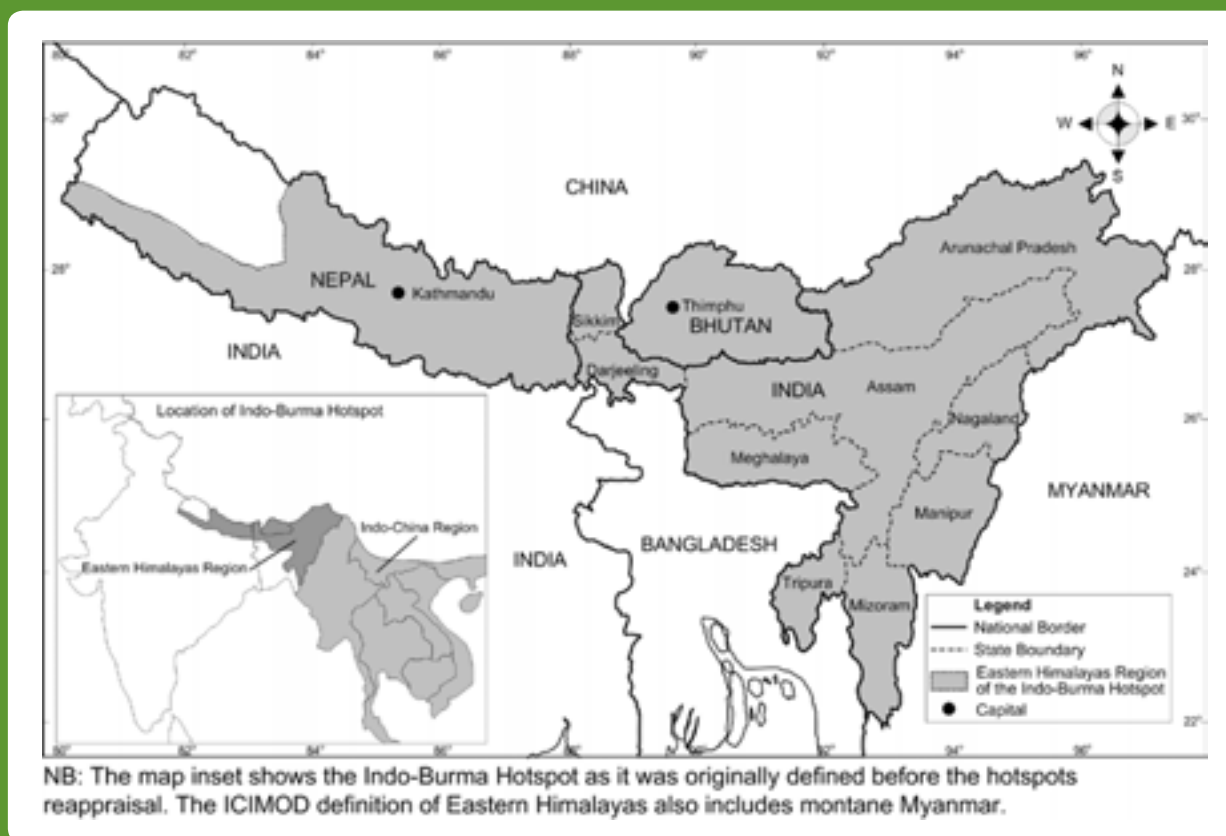
Source: Chen Guangwei 2002

Similarly, the region is a repository for a vast amount of traditional knowledge, especially knowledge about the biological resources, which is passed from generation to generation, mainly verbally. The greater Himalayan region is home to more than 210 million people with a great cultural and linguistic diversity. Some 1000 languages are spoken in the countries that have areas within the Hindu Kush-Himalayan region – Afghanistan has 45 living languages, Bangladesh 38, Bhutan 24, China 202, India 387, Myanmar 107, Nepal 123, and Pakistan 69 (Gordon 2005; Turin 2005, 2007) – and 600 of these are spoken in the mountain areas. Most traditional knowledge is held in one of these local languages. Loss of the language can also result in loss of this knowledge, but 400 of these 600 languages in the Himalayan region are spoken by less than 100,000 people (Turin 2007).

Biodiversity status in the eastern Himalayas

The Eastern Himalayan Region is particularly interesting. It comprises the lowlands of western Nepal and the montane regions of central and eastern Nepal; the State of Sikkim, the northern extent of West Bengal in India including Darjeeling District; Bhutan in its entirety; and the northeastern Indian states of Assam, Arunachal Pradesh, Manipur, Mizoram, Tripura, Meghalaya, and Nagaland (WWF-US 2005) (Figure 4). The ICIMOD area 'Eastern Himalayas' also includes the montane part of Myanmar. The Eastern Himalayas includes parts of the Himalaya and Indo-Burma biodiversity hotspots (CI 2000). This globally

Figure 4: Eastern Himalayan Region



Source: Based on WWF-US 2005

important ecoregion has very diverse species, genetics, ecosystems, and cultures.

Table 2 illustrates the richness of the biodiversity in the eastern Himalayas. Conservation targets are defined as ‘outcomes’, which represent a set of conservation targets in a hotspot that should be achieved to prevent biodiversity loss. ‘Outcomes’ can be species, sites, or landscapes. The species outcomes for the eastern Himalayas consist of those species that are globally threatened (i.e. critically endangered, endangered, and vulnerable). In total, there are 163 globally threatened species: 45 mammals, 50 birds, 17 reptiles, 12 amphibians, 3 invertebrates, and 36 plants. Of these 146 (90%) occur in northeastern India, including 70 species that are endemic to the Eastern Himalayan Region; 75 (46%) occur in Nepal; and 49 (29%) occur in Bhutan (WWF-US 2005).

Table 2: Total number of known species (1992–2002) in some eastern Himalayan countries

	Bhutan	India (whole country)	Myanmar	Nepal
Higher Plants	5,468	18,664	7,000	6,973
Mammals	160	390	300	181
Breeding Birds	209	458	310	274
Reptiles	29	521	262	119
Amphibians	1	231	80	50
Fish	3	5,749	281	13

Source: WWF-US 2005

In India's part of the eastern Himalayas, there are about 5800 plant species, of which roughly 2000 (36%) are endemic. In Nepal, there are around 7000 plant species, of which at least 500 (almost 8%) are believed to be endemic to Nepal. Bhutan possesses an estimated 5500 species, of which as many as 750 (15%) are considered to be endemic to the eastern Himalayas.

Mountain communities have contributed to the development of new food crop varieties and new breeds of livestock, and have pioneered the extensive use of the rich medicinal plant resources of the region. Examples include food crops such as carrots, mustard, gooseberries, apples, pears, apricots, oranges, lemons, and large cardamom, all of which have their origin in the Himalayas and are now grown throughout the world. In addition, biological resources are used for: medicinal purposes, e.g., kurki (*Neopicrorhiza scrophulariifolia*) and chiraito (*Swertia chirayita*); aesthetic purposes, e.g., jau (*Avena sativa*), dubo (*Cynodon dactylon*), coconut, bel (*Aegle marmelos*), pipal (*Ficus religiosa*), and paan (*Piper betle*); and cosmetic purposes and ritual purposes, e.g., babari phool (*Ocimum thyriflorum*) and sandalwood (*Daphniphyllum himalense*). The rich biodiversity and associated traditional knowledge systems in the region are gaining in importance and the region is becoming a priority area in the National Biodiversity Strategy and Action Plans (NBSAP) of national and provincial governments.

Session 5

Importance of Biodiversity, Genetic Resources and Associated Traditional Knowledge

Time: 60 minutes

Objectives

To review and discuss the importance of biodiversity, genetic resources, and associated traditional knowledge in the Hindu Kush-Himalayan region.

- ▶ To be aware of the implications of biodiversity hotspots in the context of the ABS regime
- ▶ To highlight bioprospecting cases and potential bioprospecting opportunities
- ▶ To list issues related to benefit sharing
- ▶ To understand how ABS can present a poverty reduction opportunity

Methodology

Group exercise and presentation

Materials

Two case studies on bioprospecting (one in which benefits were shared and the other in which there was no sharing of benefits).

Suggestions for the trainer

Decide on a methodology for the session and prepare it in advance. The session is a technical one, but the group discussion during the start of the session can enhance the engagement of participants. Use real case studies about the utilisation of genetic resources and associated traditional knowledge for income generation and inequitable sharing of benefits for a group discussion at the beginning of the session before giving a detailed presentation on the theme of the session. The outcome of the exercise should serve as a pointer to the theme. Clarify anything that is unclear during the presentation and discussion.

(continued on next page)

Suggestions for the trainer (continued)

The session can be made more interesting by sharing real stories or cases of bioprospecting that have taken place either in the Eastern Himalayas or in other parts of the world where genetic resources and traditional knowledge have been used and have led to benefit sharing with countries or communities owning the utilised resources and associated traditional knowledge. It is important to present cases that have led to inequitable as well as equitable sharing of benefits. Good real life case studies will capture attention. Link the cases with the scope and magnitude of biodiversity resources for poverty alleviation and the potential of the ABS regime to ensure fair and equitable sharing of benefits in the future, which has been a main area of concern in the past.

Activities

Activity 1: Exercise – Case studies, discussion, and learning outcome

Time: 30 minutes

Aim

To help participants to understand the relevance of biodiversity, genetic resources, and associated traditional knowledge, and the implications of the ABS regime for the region.

- Participants are able to understand bioprospecting and the utilisation of genetic resources and associated traditional knowledge.
- Participants can make linkages between ABS and poverty reduction.
- Participants are able to understand the importance of the ABS regime in their region and its role in addressing concerns about inequitable benefit sharing.
- Participants are able to understand the implications of the ABS regime in relation to fair and equitable sharing of benefits.

Method

Group exercise

Materials

Handouts of case studies

Steps

- Step 1** Split the participants into groups by allocating a random number based on the number of groups (e.g., for three groups, allocate each person a number from one to three).
- Step 2** Introduce the aim of the exercise.
- Step 3** Distribute the case studies among the groups.

- Step 4** Ask each group to discuss the case studies and answer the following questions:
- What are the relevance of the genetic resources and associated traditional knowledge in this case?
 - Who are the owners of the resources?
 - Did the owners receive a benefit from the process?
 - Was the benefit sharing fair and equitable, and, if so, how?
 - What are the implications of the ABS regime as understood from the case?
 - Are there any other relevant points that you noticed?
- Step 5** When all groups are finished, open the floor for full discussion.
- Step 6** The outcome of the exercise (answers to the questions about the case studies) should lead to further discussion and give the trainer an opportunity to clarify any technical aspects of the session theme.

Activity 2: Presentation on the importance of biodiversity, genetic resources, and associated traditional knowledge, including biospropecting and biopiracy.

Clarify the concepts referring to the results of the exercise, and allow for questions and discussions.

Session 5 Resource Materials

Case 1: Sharing the Benefits of Traditional Medicine

While working as a missionary in the Pacific Island of Samoa, Paul Cox fell ill and was cured by a women traditional healer who treated him with the root of a local tree. After returning to the USA, his mother died of breast cancer, motivating Paul to return to Samoa to find a drug to treat breast cancer.

In 1985, Paul came in contact with the US National Cancer Institute (NCI), which had recently isolated HIV. The NCI enquired of any traditional drug that could be used to treat HIV. Paul consulted the traditional healers and sent various samples to NCI, including a sample of the mamala tree (*Homalanthus nurtans*), from which the villagers make a medicinal tea used to treat hepatitis.

The NCI carried out a chemical analysis of the mamala tree and isolated the active ingredient prostratin. The NCI conducted a successful drug trial and applied for a patent, agreeing to give 30% of the royalties to the village in Samoa.

Source: Vastag 2006 (New Scientist)

Case 2: Biopiracy? No Benefit Sharing on Ayahuasca

For generations, Shamans from indigenous tribes throughout the Amazon basin have processed the bark of *Banisteriopsis caapi* Mort. to produce a ceremonial drink known as ayahuasca. The Shamans use ayahuasca (which means 'wine of the soul') in religious and healing ceremonies to diagnose and treat illness, meet with spirits, and divine the future.

American Loren Miller obtained a US Plant Patent (No.5,751 issued in 1986) granting him rights over an alleged variety of *B. caapi* Mort. which he had collected from a domestic garden in the Amazon and called 'Da Vine' and was analysing for potential medicinal properties. The patent claimed that Da Vine represented a new and distinct variety of *B. caapi* Mort., primarily because of the flower colour. The Coordinating Body of Indigenous Organisations of the Amazon Basin (COICA), which represents more than 400 indigenous tribes in the Amazon region, along with others, protested about the patent. They

said that ayahuasca had been known to natives of the Amazon rainforest, and that it is used in traditional medicine and had been cultivated for that purpose for generations, so Miller could not have discovered it and should not have been granted such rights, which in effect, appropriated indigenous traditional knowledge. On reexamination, the United States Patent and Trademark Office (USPTO) revoked the patent on 3 November 1999. However, the inventor was able to convince the USPTO on 17 April 2001 to reconfirm the original claims and restore the patent rights.

Source: TKDL no date

Importance of Biodiversity, Genetic Resources and Associated Traditional Knowledge

The livelihoods of millions of people in the Himalayas depend, and will continue to depend, on biological and genetic resources and traditional knowledge, which have evolved since time immemorial. An estimated 60% to 70% of the people in this region depend upon such resources and traditional knowledge about the region's rich biodiversity for survival. They have maintained and ensured their traditional knowledge by passing it from one generation to another. Biodiversity and associated traditional knowledge are a means of survival for mountain communities who promote and preserve their livelihoods and ecological security by maintaining these resources.

The concept of ABS may be of comparatively recent origin, but trade in genetic resources goes back thousands of years and has played a critical role in the development of the global pharmaceutical, biotechnology, and food industries (Oli and Dhakal 2008). Estimates on the economic benefits of such resources in the region have not been documented, but they may be substantial. The global economic importance of genetic resources is very substantial and has been estimated to be between US\$ 500 billion and US\$ 800 billion (Kate and Laird 1999). However, none, or only a miniscule percentage, of the benefits are shared with the providers of these resources (countries and communities). Thus ABS agreements can be a tool for poverty alleviation given the fact that both poverty and tremendous amounts of genetic resources are primarily found in the developing world, and financial and technological resources in the developed world. The ABS regime can facilitate the transfer of genetic resources in return for economic and technological gains for poverty alleviation. ABS agreements regulate access and use rights between different parties and can, therefore, act as instruments for the redistribution of benefits generated from the use of genetic resources and associated traditional knowledge. Industries using genetic resources are encouraged to pay higher research and development costs than in situations where there are no benefit sharing agreements. Similarly, local communities can receive direct benefits, which can be substantial.

Bioprospecting and Poverty Reduction

ABS agreements can facilitate access to and the use of genetic resources, and associated traditional knowledge. The objective of the ABS mechanism is to facilitate access and ensure fair and equitable sharing of benefits, thereby acting as an instrument for reducing poverty.

ABS in the Himalayas is very much needed owing to the tremendously rich biodiversity of the region and the potential for using these resources for poverty reduction. Implementation of the ABS regime will also encourage the sustainable utilisation of genetic resources; as they become economically important, the economic value attached to them will encourage sustainable use to ensure that they remain available in the future. Once the local and indigenous communities understand that the genetic resource will bring economic gains, they will be encouraged to conserve the resources.

Biopiracy and Inequitable Sharing of Benefits

The knowledge and use of specific plants, animals, microbes and other living and non-living organisms for medicinal, industrial, and other applications is an important component of traditional knowledge. With the growth in modern herbal medicines and anti cancer drugs based on plants such as turmeric and taxol, the cosmetic and food industries have also shown interest in plant and animal genetic resources, their cultivation, and processing. Such knowledge is being taken at an accelerated rate by the interested industries without compensation.

Compensated bioprospecting involves obtaining prior informed consent (PIC) from the source country or from the holder of the knowledge and genetic resources under mutually agreed terms (MAT) that promote the sustainable use of biodiversity. Where indigenous knowledge holders are involved, efforts are made to recognise and protect their rights, and benefits are shared.

Uncompensated bioprospecting does not share the benefits and, therefore, the genetic samples or information associated with it is taken without the PIC (or knowledge) of the holders. This is called biopiracy. Under such conditions, genetic resources and traditional knowledge have increasingly been misused. ABS mechanisms will safeguard such resources and knowledge and ensure the equitable sharing of benefits in the future.

Day Two

Review Session

Session 6
ABS Regime and Key Components of ABS

Session 7
International Treaties on ABS

Session 8
Customary Arrangements on ABS

Session 9
Evolving ABS Policies and National Legislation in the HKH

Session 10
Actors in the ABS Process, Legal Procedures for ABS and ABS Tools



Review Session

Time: 30 minutes

Objectives

To review the participants' perceptions of the previous day's session.

- ▶ To find out what participants learned from the previous day
- ▶ To give participants an opportunity to ask questions and the trainer an opportunity to provide clarification
- ▶ To get feedback on the training and session theme
- ▶ To identify any pressing issues

Materials

Flipchart, markers, tape, and board

Method

Participatory discussion marked on a flipchart

Suggested Questions

- What did you learn from yesterday's session?
- Is any clarification needed?
- Did the methodology used help you to engage in the sessions?
- Do you have any other suggestions?

It is not necessary that only these questions be asked. If other questions arise, the trainer should record the question and politely promise that the feedback will be considered. The trainer should not spend too much time on each question during the review session, keeping the time and purpose of the session in mind.

Immediately after the review, the trainer should move to the first session of the day.

Suggestions for the trainer

Start the day with an energiser exercise, either one you have chosen or one suggested by the participants. Always have an energiser ready in case it is needed. Start the review session after the energiser. Hang a flipchart on the board and record the feedback from the participants.

Session 6

ABS Regime and Key Components of ABS

Time: 90 minutes

Objectives

To discuss the ABS regime in depth and review the important components of ABS.

- ▶ To learn about the CBD ABS regime
- ▶ To know about ABS provisions in the CBD
- ▶ To be aware of important components of ABS

Methodology

The trainer should choose the methodology for this session. The objectives can be presented verbally or using a media tool like PowerPoint.

Suggestions for the trainer

Start by reviewing the CBD framework for ABS and the relevant CBD articles, and then discuss the important components of ABS. Discuss prior informed consent (PIC), mutually agreed terms (MAT), and access and benefit sharing in detail using the bioprospecting case studies prepared for Session 5 or other examples. It is important to mention the negotiation elements in each component. Tell the participants that a detailed process discussion will be held for each theme separately in a later session. Remind participants that the resource materials for the session are provided in the manual.

Attention!

This session is purely technical and the trainer should have an in depth knowledge of the content. If the trainer is not fully equipped to deal with the content, a resource person(s) can be invited to conduct the session.

Activities

Activity 1: Presentation on ABS and key components

Do participants need an energiser?

Session 6 Resource Materials

Access and Benefit Sharing (ABS)

The Convention on Biological Diversity (CBD) guarantees individual states sovereign rights over biodiversity and the patterns of utilisation. Under the CBD access and benefit sharing regime (ABS), states are entitled to regulate access to their genetic resources for environmentally sound purposes, but cannot impose restrictions that are counter to the objectives of the CBD. The CBD has proposed an international regime on access and benefit sharing (ABS) of genetic resources and associated traditional knowledge. The overall aim is to ensure that the country of origin receives a fair share of the benefits in return for sharing its resources with the accessing parties (Article 15).

Article 15 (1,2,3) states that, subject to the individual states' sovereign rights over their biological resources, national governments under their own legal provisions have the authority to determine access to genetic resources. Article 15 (4,5) states that the party responsible for providing access should base its agreement on mutually agreed terms (MAT) and prior informed consent (PIC). Article 15 (6) emphasises that the full participation of the provider in scientific research on genetic resources should be sought. Article 15 (7) states that accessing and providing parties are required to take legislative, administrative and policy measures as appropriate, and in accordance with articles 16 and 19, and where necessary through the financial mechanism established by Articles 20 and 21 for sharing in a fair and equitable way, and such sharing shall be upon mutually agreed terms. The CBD provisions relevant to access and benefit sharing are given in Table 3.

In 2002, COP 6 adopted the Bonn Guidelines to facilitate the implementation of the ABS regime. The Bonn Guidelines assist parties, governments, and other stakeholders in developing overall access and benefit sharing strategies and in identifying the steps involved in the process of obtaining access to genetic resources and benefit sharing. They also facilitate the establishment of legislative, administrative, and policy measures on access and benefit sharing.

Key components of ABS

The CBD contains provisions dealing with various components of ABS regimes in relation to access, bioprospecting, and benefit sharing. These components are a crucial part of any ABS regime and should be included by parties in their respective regional and national ABS legislation. These components, if properly implemented within ABS legal frameworks, can promote cooperation and trust between the parties involved in the bioprospecting process. The components are followed by many research institutions, commercial bioprospecting companies, and national governments, but they are not consolidated into one ABS legal framework. In the absence in many countries of an appropriate legal framework addressing the ABS mechanism, some provisions are present in the form of codes of conduct, while others are absent or vested as a discretionary power in the government and/or leading members of

Table 3: Provisions in the CBD relevant to access and benefit sharing

Article	Details
Preamble	The desirability of sharing equitably benefits arising from the use of traditional knowledge, innovations, and practices relevant to the conservation of biological diversity and the sustainable use of its components.
Article 1	One of the three objectives of the CBD is the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources, by access to genetic resources and technology transfer.
Article 8 (j)	Requires parties to the CBD to respect, preserve and maintain the knowledge, innovations and practices of indigenous and local communities, promote their wider application with their holders' approval and involvement, and encourage the equitable sharing of the benefits arising from their utilisation.
Article 10(c)	Requires parties to the CBD to protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation and sustainable use requirements.
Article 15 (1)	States have the sovereign right to regulate access.
Article 15 (2)	Requires parties to the CBD to facilitate access for environmentally sound purposes and not impose restrictions that are counter to the CBD.
Article 15 (3)	Provides that only the country of origin or a country that has acquired genetic resources in compliance with the CBD may grant access to genetic resources.
Article 15 (4)	Provides for access only on mutually agreed terms.
Article 15 (5)	Provides for access subject to prior informed consent.
Article 15 (6)	Provides for full participation of the provider in scientific research based on the genetic resources provided.
Article 15 (7)	Requires parties to the CBD to take legislative, administrative, or policy measures to share benefits from research and development and commercialisation equitably and on mutually agreed terms.
Article 16 (3)	Requires parties to the CBD to take legislative, administrative, or policy measures to provide access to and transfer of technology that makes use of genetic resources accessed on mutually agreed terms and in accordance with international law.
Article 18 (4)	Requires parties to the CBD to encourage and develop methods of cooperation for the development and use of technologies, including indigenous and traditional technologies.
Article 19 (1)	Requires parties to the CBD to take legislative, administrative, or policy measures to ensure the effective participation by providers in biotechnological research on the genetic resources.
Art 19 (2)	Provides for priority access to the results and benefits from biotechnologies based on genetic resources provided.

Source: CBD 1993

indigenous and local communities. The CBD has tried to make it mandatory to enact these provisions into national ABS legislation after the ratification of the convention.

Components that are central to the development and implementation of an ABS regime include

- **prior informed consent (PIC)** for access to biological resources,
- **benefit sharing from access** to and use of genetic resources and associated traditional knowledge, and
- **mutually agreed terms (MAT)** for access and use of biological resources and traditional knowledge.

These are based on concepts of **intellectual property rights** and **traditional knowledge**.

Each component is defined and described briefly in the following. More detailed discussion of each will take place in later sessions, when discussing the legal steps in the ABS process.

Prior informed consent

Article 15 (5) of the CBD states that the access agreement is subject to the prior informed consent (PIC) of the providing parties, that PIC must also be taken from the communities who own the genetic resources and associated traditional knowledge, and that such provisions should be contained in the individual country's legislation. Prior informed consent is not defined in the CBD, but its key elements are: **prior** – before access to knowledge or genetic resources takes place; **informed** – based on truthful information about the use that will be made of the knowledge or genetic resources that is adequate for the authority to understand the implications; and **consent** – the explicit consent of the government, and stakeholders or rights holders according to national law (ICCBD Canada 2000). Thus, prior informed consent is approval in advance for the use of genetic resources and any associated traditional knowledge (Hansen and Fleet 2003).

PIC is an established norm in some international legal instruments. For example, in the Basel Convention on Control of Transboundary Movement of Hazardous Wastes and their Disposal, PIC is required from the receiving and dumping country before the movement of hazardous waste from the source to the destination country. Similarly, in the medical field, before undertaking an operation on a patient, PIC is required to be taken from the patient or from his/her guardian as to the potential consequences of the operation. Similarly, in bioprospecting under the CBD, PIC has to be obtained from the concerned institutions in the country from where the genetic resources and associated traditional knowledge will be taken. This includes obtaining PIC from the responsible government agency, from indigenous and local communities, and from the holders of the traditional knowledge and genetic resources. This is an important requirement as stipulated in Article 15 of the CBD. However, the requirements will be based on the national ABS legislation. Some laws may only require PIC from the government authority while others may seek it from different levels including from local, indigenous, and marginalised communities.

Benefit sharing

Benefit sharing is the sharing of whatever accrues from the utilisation of biological resources, community knowledge, technologies, innovations, or practices. It also means the sharing of all forms of compensation for the use of genetic resources, whether monetary or non-monetary (CBD 2002a,b). Monetary benefits may be upfront payments, access fees, milestone payments, licence fees, research funding for salaries and infrastructure, joint ventures, and joint ownership of intellectual property rights. Non-monetary benefits may include the sharing of research results, collaboration in scientific research, participation in product development, collaboration in education and training, and technology transfer (CBD 2002a,b). The CBD stresses the 'fair and equitable sharing of benefits'. Section 21(1) of the Indian Biodiversity Act defines benefit sharing as the 'sharing of benefits arising out of the use of accessed biological resources, their byproducts, innovations, and practices associated with their use and application and knowledge thereto, in accordance with mutually agreed terms and conditions between the person applying for such approval, local bodies concerned, and the benefit claimers' (NBA 2005).

Access

Access generally means the acquisition of biological resources or their derivatives, community knowledge, innovations, technologies, or practices, and refers to the granting of permission to enter an area for the purpose of sampling, collecting, surveying, or acquiring genetic resources for general study, examination, or research for scientific or commercial purposes. Access to genetic resources involves obtaining samples of biological or other material that contain genetic material for the purpose of research, conservation, or commercial/industrial application.

After the CBD came into force, access facilitation was vested in national governments holding genetic material and associated traditional knowledge. Therefore, the ABS system applies to research and industrial applications, and other forms of bioprospecting for which genetic resources and associated traditional knowledge are obtained from the providing country/party to the user country/party.

Mutually agreed terms

Article 15 (4) of the CBD stipulates that the access should be based on mutually agreed terms (MAT) between the parties providing the genetic resources and the parties using them. MAT are the terms and conditions agreed by the contracting parties at the time of entering into a contract, in this case for bioprospecting. It refers to the various types of authorisations defining the conditions for access and benefit sharing by means of which users obtain access to genetic resources, or permission to collect, study, or utilise genetic resources commercially. The same basic principles of PIC apply to MAT, but in this case, the focus is on the terms and conditions set while reaching an agreement and signing a contract for bioprospecting, which both parties have to mutually agree upon.

Intellectual property rights

Establishing rights over the creations and innovations of individuals, groups, and communities, in relation to both processes and products, is an important incentive for the promotion of inventions. The establishment of rightful gains for such inventions is called intellectual property rights (IPR). The key international IPR instruments relevant to plants, biodiversity, and trade are the Trade Related Aspects of Intellectual Property Rights (TRIPS) agreements; and the International Convention for the Protection of New Varieties of Plants (UPOV).

Patents are available for any invention, whether for products or processes, in all fields of technology, provided that they are new, involve inventive steps, and are capable of industrial application.

The CBD also contains provisions in relation to IPR. For example, Article 16 (2.1 and 2.3) on access to, and transfer of, technology; Article 8 (j), which states that parties must "...respect, preserve, and maintain knowledge..."; Article 18(4) to develop methods of cooperation for the development of technologies including indigenous and traditional technologies, and Article 17 on the exchange of information, including the results of research, as well as specialised knowledge and indigenous and traditional knowledge.

The UPOV and TRIPS are more concerned with the protection of the IPR of individuals, while the CBD is more concerned with the protection of community rights in relation to the developers and custodians of traditional knowledge and technologies, the source of many innovations.

Traditional knowledge

There is no agreed definition of traditional knowledge. The World Intellectual Property Organization (WIPO) refers to it as tradition-based literary, artistic, or scientific works: performances, inventions, scientific discoveries, designs, marks, names, and symbols, undisclosed information, and all other tradition-based innovations and creations resulting from intellectual activities in the industrial, scientific, literary, or artistic fields. WIPO also suggests that the terms traditional knowledge and indigenous knowledge could be interchangeable (WIPO 2001). The CBD defines traditional knowledge as the knowledge, innovations, and practices of indigenous and local communities around the world, developed from experience gained over the centuries and adapted to the local culture and environment. Traditional knowledge is transmitted orally from generation to generation, it tends to be collectively owned, and takes the form of stories, songs, folklore, proverbs, cultural values, beliefs, rituals, community laws, local language, and agricultural practices, including the development of plant species and animal breeds. Traditional knowledge is mainly of a practical nature, particularly in such fields such as agriculture, fisheries, health, horticulture, and forestry. The CBD refers to indigenous people's knowledge, innovations, and practices in order to highlight the intellectual efforts of indigenous and local communities as they relate to biodiversity conservation and sustainable use (see CBD Article 8 (j)), CBD no date b).

It appears that the term traditional knowledge is only one of the various words used to describe similar subject matter, namely the intellectual efforts of, and the results generated by, indigenous people and local communities that have enabled them to adapt and live in relative harmony with their natural environment throughout the centuries and contribute innumerable products to modern society.

Traditional knowledge is also considered to be a 'prior art'. A prior art or state of art usually refers to the complete body of knowledge on the subject which is available to the public before a patent application is filed. This is required in order to understand whether the innovation subject to patent application is 'novel' or just taken from the existing knowledge. If it is just taken from the existing knowledge with slight alteration, the innovation may not meet the criteria of patentability. Therefore the novelty is measured against the state of art at the time of administering patent. The inventive steps of an invention are established when it is not obvious to a person skilled in the art, taking into account any matter which forms part of the state of the art.

Session 7

International Treaties Related to ABS

Time: 45 minutes

Objective

To review and discuss relevant international treaties related to the ABS regime and their ratification.

- ▶ To highlight relevant international treaties related to ABS
- ▶ To examine their ratification by countries in the Hindu Kush-Himalayan region

Methodology

The person who presents the session can choose to do a verbal presentation or use a media tool such as PowerPoint.

Suggestions for the trainer

Start the session by reviewing other relevant treaties related to ABS, such as the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). WTO and TRIPS should be mentioned briefly in relation to how they conflict with the CBD. Do not focus on detailed discussion and debate as it tends to create confusion. Mention that any other issues can be discussed further during the breaks. Explain to the participants about the strengthening effect of ITPGRFA on ABS. Participants should be able to understand the implications of ratifying these treaties and the CBD. This is enough information. It is critical to mention to the participants that these treaties emerged at, or after, the time that the the debate on ownership of biodiversity and genetic resources gained momentum. Remind participants that the resource materials for the session are provided in the manual.

Attention!

This session is purely technical and the trainer should have an in depth knowledge of the content. If the trainer is not fully equipped to deal with the content, a resource person(s) can be invited to conduct the session.

Activity

Activity 1: Presentation on various international treaties related to ABS.

Session 7 Resource Materials

ABS Related International Treaties

International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)

After the CBD came into force in 1992, the debate over access and benefit sharing of plant genetic resources for food and agriculture (PGRFA) was continued in the Food and Agriculture Organization of the United Nations (FAO). The debate centred on the ownership of genetic resources for food and agriculture and the mechanisms for facilitating access under national jurisdictions. Seven years of negotiation followed the coming into force of the CBD, and in November 2001 the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) was approved by FAO and adopted to address the issue of PGRFA in harmony with the CBD. The ITPGRFA came into force on 29 June 2004. This treaty aims “at conservation and sustainable use of plant genetic resources for food and agriculture and the fair and equitable sharing of benefits arising out of their use, in harmony with the CBD” (FAO 2004). Recognising the sovereign rights of countries over their genetic resources, this treaty recognises the role of farmers in conserving and developing genetic resources and places the responsibility on national governments to establish farmers’ rights. The ‘Multilateral Systems of Access and Benefit Sharing’ and provision for ‘Farmers’ Rights’ are important features of the treaty, which aims for the fair and equitable sharing of benefits from the use of PGRFA for food security and sustainable agriculture.

Both the CBD and ITPGRFA address the fundamental issues of ABS of genetic resources and associated traditional knowledge. Both recognise the sovereign rights of countries over genetic resources and the role of indigenous local communities and farmers in conserving and developing genetic resources. Both introduce a system for regulating the collection of genetic resources and different types of mechanisms for access to genetic resources, referred to as the access and benefit sharing system. This is a process of joint regulation of access and benefit sharing arising out of the use of genetic resources and associated traditional knowledge by researchers, industries, companies, indigenous/local communities, concerned governments, and holders of traditional knowledge.

World Intellectual Property Organization (WIPO)

“WIPO is an international organisation dedicated to promoting the use and protection of intellectual property. It is one of the 16 specialised agencies of the United Nations system of organisations that administers 21 international treaties dealing with different aspects of intellectual property protection” (UNTERM 2006). In relation to the ABS process, WIPO’s role has been to support the CBD COP by developing operational definitions of traditional knowledge and related terms, reviewing existing intellectual property protection of traditional knowledge, and identifying elements of a sui generis system [will be explained during the session] of protecting traditional knowledge. The WIPO provides a forum for

international policy debate and the development of legal mechanisms and practical tools for the protection of traditional knowledge and traditional cultural expressions (folklore) against misappropriation and misuse, and in relation to the intellectual property (IP) aspects of access to and benefit-sharing of genetic resources (WIPO no date a,b).

International Union for the Protection of New Varieties of Plants (UPOV)

The International Union for the Protection of New Varieties of Plants (UPOV) was established by the International Convention of the same name. The Convention was adopted in Paris in 1961 and revised in 1972, 1978, and 1991. The objective of the Convention is the protection of new varieties of plants as intellectual property. Its mission is to provide and promote an effective system of plant variety protection, with the aim of encouraging the development of new varieties of plants for the benefit of society (UPOV 2008a,b,c).

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is an international agreement between governments that resulted from a resolution adopted in 1963 at a meeting of the members of The World Conservation Union (IUCN). It entered into force on 1 July 1975. The major aim of this agreement is to ensure that the international trade in specimens of wild animals and plants does not threaten their survival. It is voluntary for states to adhere to the CITES. Parties who have joined CITES have to implement the Convention. It provides a framework that parties should respect and adopt in their own national legislation to ensure that CITES is implemented at the national level (CITES no date).

CITES provides a critical legal mechanism for the control of the illegal transboundary movement of genetic resources and illicit and unsustainable harvesting of resources, thus helping to achieve the first and second objectives of the CBD: conservation and the sustainable use of biodiversity.

World Trade Organization (WTO) and Trade Related Aspects of Intellectual Property Rights (TRIPS)

The enforcement of the CBD led the World Trade Organization (WTO) to attempt to control the economic aspects of biodiversity through patents in the agreement on TRIPS. Article 27(3)(b) of TRIPS calls for the enactment of protection and the regulation of plant varieties through patents, an effective sui generis system, or a combination of both. The provisions of TRIPS, however, conflict with the sovereign rights of states over biodiversity, as recognised in the CBD. Existing IPR systems are oriented around the concept of private ownership and individual innovation. There is a concern that IPR systems encourage the appropriation of traditional knowledge for commercial use, and, in addition, without the fair sharing of benefits with the holders of this knowledge. The provisions of TRIPS in relation to ABS are still under debate, in particular, Article 27(3)(b). Some of WTO's developing country members have called for this Article to be amended to include the requirement to produce proof of origin of the biological/genetic resources, while other WTO country members are seeking more progressive ways that do not restrict intellectual property rights. The debates on WTO/TRIPS are ongoing. (see WTO no date a,b)

Ratifications in the HKH

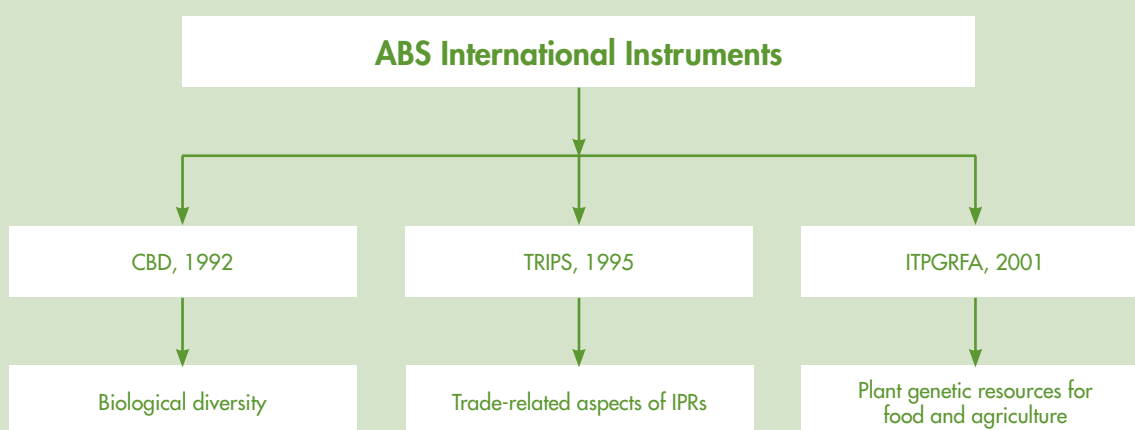
International conventions and other instruments (Figure 5), once signed and ratified, are binding on contracting parties. As of 2009, 194 countries are party to the CBD, including the EU and the eight countries of the Hindu Kush-Himalayan region (Table 4), and over 78 countries have signed the ITPGRFA. All eight countries in the HKH are party to the CITES; and, with the exception of Afghanistan, all are WTO members. Ratification of these treaties by these countries obliges them to enact national legislation implementing the treaties.

Table 4: Parties to the CBD in the HKH region

Country	Signed	Party	Focal Institution
Afghanistan	12 June 1992	19 September (ratification)	National Environment Protection Agency
Bangladesh	5 June 1992	3 May 1994	Ministry of Environment and Forests
Bhutan	11 June 1992	25 August 1995 (ratification)	National Environment Commission
China	11 June 1992	5 January 1993	State Environmental Protection Organization
India	5 June 1992	18 February 1994 (ratification)	Ministry of Environment and Forests
Myanmar	11 June 1992	25 November 1994	National Commission for Environmental Affairs & Ministry of Foreign Affairs
Nepal	12 June 1992	23 November 1993 (ratification)	Ministry of Forests and Soil Conservation
Pakistan	5 June 1992	26 July 1994	Ministry of Environment

Source: CBD no date a

Figure 5: Chart illustrating ABS international instruments



Session 8

Customary Arrangements on ABS

Time: 60 minutes

Objectives

To review customary arrangements on ABS and their relevance to the ABS regime.

- ▶ To understand customary laws regarding the use of biological resources
- ▶ To become acquainted with the customary system(s) in the region and their relevance to the ABS regime

Methodology

Group exercise and presentation.

Materials

Two case studies (preferably one from the trainer and one from the participants)

Suggestions for the trainer

Decide on the specific methodology for this session and prepare it in advance. The session can be made interesting by sharing real stories or cases of customary arrangements on ABS in the HKH region or in other parts of the world for managing and utilising genetic resources and traditional knowledge according to customary laws in a group discussion at the beginning of the session. Cases can be your own or from the participants. You can also use the case study given in the resource materials for this section. The case studies should illuminate the theme of the session. Follow the discussion with a detailed presentation on the theme of the session. Any clarifications can be made during the presentation and discussion. Relate the customary arrangements to the articles of the CBD, which countries are obliged to incorporate into national legislation. Wherever possible (in this and the next session), talk about the customary laws (customs, beliefs, and traditions) incorporated into the statutory ABS legislation of Eastern Himalayan countries, while discussing the ABS legislation of different countries.

Activities

Activity 1: Exercise – Case studies, discussion, and learning outcome

Time: 45 minutes

Aim

To help participants become aware of customary arrangements on ABS in their community and country and the HKH region as a whole.

- Participants are able to understand the customary arrangements on the use of biological resources in the HKH.
- Participants are aware of the CBD provisions that safeguard customary arrangements that exist among communities.

Method

Group exercise

Materials

Handouts of case studies

Steps

- Step 1** Split the participants into groups by allocating a random number based on the number of groups (e.g., for three groups, allocate each person a number from one to three).
- Step 2** Introduce the aim of the exercise.
- Step 3** Distribute the case studies among the groups (the cases in the resource materials for this section can be used).
- Step 4** Ask each group to discuss the case studies within their group.
- Step 5** When all groups are finished with the group discussion, ask them about any similar or other arrangements in their community.
- Step 6** Allow one or two participants to volunteer to share a case from their community.
- Step 7** After sharing, open the floor for discussion.
- Step 8** The outcome of the exercise should lead to further discussion and clarification of the session theme.

Activity 2: Presentation on customary arrangements on ABS

Session 8 Resource Materials

Customary Legal Arrangements

The CBD establishes that nations should respect, preserve, and maintain the knowledge, innovations, and practices of local communities relevant to the conservation and sustainable use of biodiversity.

Customary law is a branch of jurisprudence dealing with rules, laws, or arrangements developed by communities to deal with specific socio-environmental conditions. They may be written or oral, but are adopted by the community. Black's Law Dictionary defines 'customary' as "customs or usages: founded on, or growing out of, or dependent on customs" (Black and Nolan 1990). For the larger part, customary rules or laws are established and have become part of the customs of a community. Even when the customary rule or law cannot be found in any text, it is binding if it has been customary for a long time. Article 10(c) of the CBD provides that parties to the CBD should protect and encourage the customary use of biological resources in accordance with traditional cultural practices compatible with conservation and sustainable use requirements. There are different definitions of customary law or systems, but the key elements are the same as defined in Black's Law Dictionary. For example, the International Institute for Environment and Development (IIED) has a working definition of customary laws as "locally recognised principles, and more specific norms or rules, which are orally held and transmitted, and applied by community institutions to internally govern or guide all aspects of life" (IIED 2008). The important aspect of customary law in relation to the ABS regime is that it generally promotes conservation and promotes and protects traditional knowledge through the sharing of resources and traditional knowledge and collective management for the benefit of the community. Customary law ensures access to resources for subsistence and survival, and promotes social cohesion, solidarity, and equity.

The majority of national constitutions in the Himalayan region respect customary arrangements. The Bonn Guidelines on ABS calls upon parties to the CBD to respect the customs, traditions, values, and customary practices of indigenous and local communities, as well as to secure the customary use of genetic resources and related knowledge. The CBD calls for the integration of such customary arrangements and laws in national ABS regimes. Customary governance still prevails in many parts of the Eastern Himalayas, including in Bangladesh, Bhutan, India, and Nepal, in relation to the management of genetic resources and associated traditional knowledge. In India, "the Indian Constitution under Article 13 treats customary law along with other branches of civil law. A custom or usage if proved would be law in force under this article. These customary rights having the force of law can be taken as judicial notice by courts under Section 57 of the Indian Evidence Act 1872." The Panchayats (Extension to Schedule Areas) Act of 1996 mandates that "states shall not make any law under (Part IX of the Constitution), which is inconsistent with customary law, social and religious practices, and traditional management practices of community resources" (Krishnan 2000).

Customary legal arrangements evolved in response to different situations faced by different societies. They were vital to preserve social order and to enforce the norms and values of the members of the society. Customary legal systems are essentially a combination of local norms, customs, morals, values, and traditions, which are enforced through a process of sanctions developed by the wider community. In the context of natural resource management, customary systems of managing resources are important for their sustainable usage, as customary institutions have much more legitimacy among communities who manage natural resources than statutory arrangements.

There is an urgent need to synergise statutory and customary systems and the overlap between the two to strengthen customary legal systems and make them more responsive to the needs of modern communities. In the ABS process, customary legal frameworks are an ideal mechanism for generating prior informed consent for ABS related activities. Systems for obtaining consent already exist in traditional/indigenous societies. Obtaining 'real' consent is more likely through this socially relevant legal framework. This would be an important contribution of the customary system to the implementation of ABS. As mentioned earlier, customs differ from place to place because they have been developed to address specific problems in specific contexts. Some examples of customary arrangements in natural resources management are given in the following case studies.

Case Study 1: Dzomsa – A Customary System in North Sikkim

Lachen and Lachung are two unique villages in North Sikkim where an age-old community participatory system called Dzomsa is practised. The practice of Dzomsa, which is based on the general consent of the entire community, is more than 200 years old and is still followed with little modification. This system has customary rules, norms, and values for the use of biological resources and aims to conserve the resources as well as promote sustainable

utilisation. In addition, Dzomsa promotes fair access and the equitable sharing of resources among the community.



Sap ko makai (*Arisaema* spp.) is a seasonal staple food enjoyed by the local community. The *Arisaema* tuber/bulbs are found at an elevation ranging between 2100 and 4000 masl (6800 and 13000 feet) under rhododendron and conifer forest. The collection of *Arisaema* is guided by the Dzomsa norms and values, as follows:

- When the appropriate time comes to harvest *Arisaema*, the Dzomsa announces the actual day of collection in each block of forest area. The harvest is limited to a maximum of 2-3 days.
- No member of the community is allowed to access any area except as identified by the Dzomsa.
- No family can collect before or after the fixed date.
- The Dzomsa prescribes the type of implement to be used for digging the bulbs. The prescribed tools are wooden shovels made of *Mallus* and *Bibirrum* species.
- No iron or metal tools are allowed for the harvest. Anyone found using steel and iron is punished.
- After the annual collection, sometime in July/August, the harvested area is closed for at least three years to allow the resources to rejuvenate.

Source: Lachungpa 2008, see also ICIMOD 2002

Case Study 2: Uvouli and Undhouli – Customary Arrangements

In Upper Marsyangdi, in Lamjung District, Nepal, the year is divided into two parts: uvouli and undhouli. These terms refer to the season and are related to the migratory system of animal rearing.

Uvouli means proceeding uphill, signifying the period from when migratory animals start grazing upward after wintering in the lowlands, usually from mid-February, until they reach their highest grazing site at the start of the dry season. It is also the period when certain farm activities take place (sowing maize, potato, and other summer crops). Undhouli means the commencement of winter and starts with the downward movement of grazing animals, from the highest pasture towards their lowest point at the start of the harvest season for rice and other crops in the lowland areas. Both these terms are also related to the season and signify long and short days during the season.

The private and common property resources in upper Marsyangdi used to be regulated by an assembly attended by all settlements and their representatives called sathi sabha. The assembly used to sit twice a year just before uvouli and undhouli to decide on that year's 'thitis' (customary rules) for resource use and management, and to delineate the grazing sites and conservation areas. The customary rules adopted by the mountain communities included the following:

- a. Animals reared under the transhumant system should start their transhumance route for grazing from the lowland settlements from mid-February, and start coming down from highland grazing sites in the second week of October.
- b. Conserved areas should not be grazed or put to fire. Culprits breaking this rule are to be fined by the community.
- c. Grazing and other human activities are strictly prohibited in environmentally sensitive areas, such as heavily denuded areas, landslides, landslide-prone areas, and flooded areas. Persons and households disobeying this rule are fined.
- d. The harvesting of young bamboo shoots from the forest should commence on a fixed date and only mature shoots should be thinned. The young shoots shouldn't be damaged. Annually, each household is allowed to use 500 small bamboos (300 nigala and 200 malinga (*Arundinaria* spp.)) to make 10 to 20 bamboo mats.
- e. Encroachment in the delineated area should be reported to the assembly and, based on the nature of damage, the intruder will be fined. The funds raised from fines are to be used for social activities by the committee.
- f. Herdsmen should monitor the harvesting of medicinal plants, mushrooms, valuable timber species, wild oilseeds, small bamboo, lokta, herbal plants, and endangered wild animals, as well as any destruction of protected areas.
- g. For animals brought for wintering or grazing from other VDCs or districts lower down outside the jurisdiction of the community area, an animal head tax is to be levied by the settlement in which the animals are wintered/grazed and 'sherma' is to be paid to the primary users.
- h. A resource is allocated by the assembly in collaboration with the representatives of the users

These rules were strictly implemented by all the members. Any decisions perceived as unfair and not practised during the year were changed in the following year's assembly meeting and new rules set, allowing for the regular periodic review of customary rules.

Source: Oli 1998

Session 9

Evolving ABS Policies and National Legislation in the HKH

Time: 90 minutes

Objective

To review the evolving ABS policy framework in the HKH region and the ABS policy provisions in specific countries in the region.

- ▶ To learn about the development of ABS policy and legislation in the HKH countries (Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan)
- ▶ To understand ABS legislation and its provisions in the Eastern Himalayan countries

Methodology

The trainer should choose the methodology for this session. The objectives can be presented verbally or using a media tool like PowerPoint.

Suggestions for the trainer

Link the session to the previous one on customary law. Dedicate this session to the review of ABS policies in the HKH region and ABS legislation in the country where the training is taking place. Start the session by discussing the different stages that each country in the region is at in the process of developing and implementing ABS policies and laws. Discuss the various provisions in these legal instruments and refer to the components of ABS in the legislation. Discuss institutional and benefit sharing mechanisms referring to Figure 7 on ABS implementation arrangements. Briefly highlight the need for a regional framework while discussing the laws. Remind participants that the resource materials for this session are provided in the manual.

Attention!

This session is purely technical and the trainer should have an in depth knowledge of the content. If the trainer is not fully equipped to deal with the content, a resource person(s) can be invited to conduct the session.

Activity

Activity 1: Presentation on ABS policies and national legislation in the Hindu Kush-Himalayan region.

Step 1 Presentation

Step 2 Discussion

Do participants need an energiser?

Session 9 Resource Materials

Evolving National ABS Legislation in the HKH

ABS related legislation in the HKH countries

The HKH countries are all at different stages in the development and implementation of ABS laws (see Figure 6). Before the CBD came into force, other legal instruments existed for the regulation of biological resources in these countries.

Afghanistan

Afghanistan is in the early stage of the process of developing ABS related legal instruments.

Bangladesh

Bangladesh has a draft bill on a Biodiversity and Community Knowledge Protection Act 1998.

Bhutan

Bhutan has a Biodiversity Action Plan 1998, a Biodiversity Act 2003, and is in the process of developing regulations to enforce the Act.

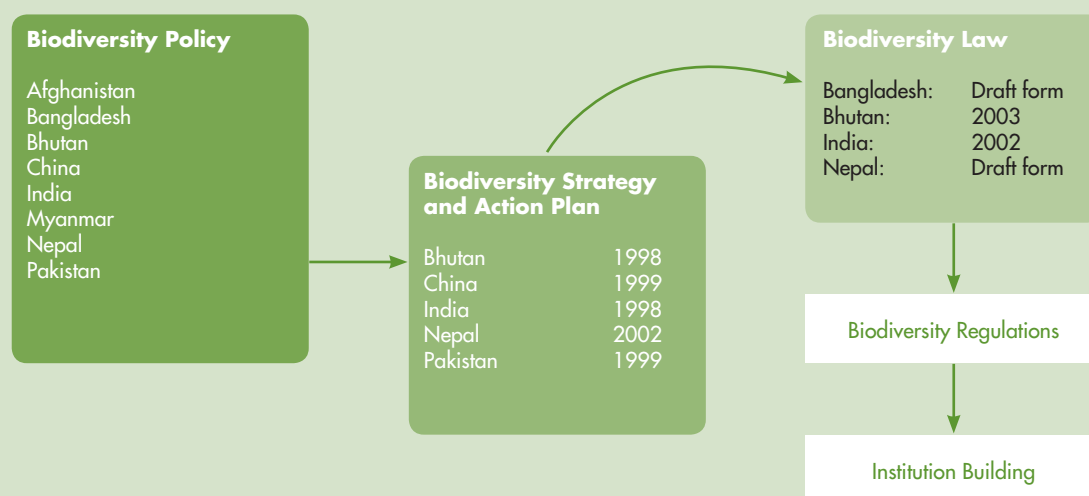
China

China established a National Biodiversity Unit (NBU) in 1993 headed by the national Environment Protection Agency. It adopted a 10 point strategy in 1992 and a Biodiversity Conservation Action Plan in 1997. Access and benefit sharing arrangements are in force through the Wildlife Protection Law 1989, Wild Plant Protection Regulations 1997, Seed Management Regulations (Crop Seeds 1991, Tree Seeds 1995), and Regulation of Breeds of Stock and Poultry Management 1994. The process of making umbrella ABS legislation is evolving as stipulated in the Biodiversity Country Report 1997 (Xue Dayuan 1998).

India

India has a Biodiversity Act 2002, which is enforced through the Biodiversity Rules 2004. State biodiversity boards are in the process of being established and state biodiversity rules are being promulgated. The Protection of Plant Varieties and Farmers Rights Act is also in force. Other supportive legislation includes the Wildlife Protection Act passed in 1973, as amended in 1991 and 2003, the Indian Forest Act 1927, and the Forest Conservation Act 1980. The major policies outlined in this period were the Forest Policy of 1988 and the National Wild Life Action Plan 2002.

Figure 6: Status of ABS policy and legislation in the Hindu Kush-Himalayas



Myanmar

Myanmar has a National Environment Policy from 1994. A Forest Act 1992 and Wildlife Act 1994 were developed in response to the implementation of the CBD and to manage biodiversity resources in the country.

Nepal

Nepal has a Biodiversity Strategy 2002 and has prepared a Strategy Implementation Action Plan 2006-2010. ABS laws have been drafted and a draft Farmers’ and Breeders’ Rights Act has been prepared. Since the CBD, protected area legislation and forest laws have been amended and policies developed to protect biodiversity and implement the provisions of the CBD.

Pakistan

Pakistan adopted a Biodiversity Action Plan in 1999 with a view to promoting conservation and the sustainable use of biodiversity and the equitable sharing of benefits arising therefrom. Pakistan has a draft law on Access to Biological Resources and Community Rights 2004. Previously, the Plant Variety Protection Act was in force from 1994, which also dealt with ABS in relation to food crops, while the Environment Protection Act 1997, and various provincial acts and ordinances deal with the environment.

Legal provisions on ABS in the Eastern Himalayan countries

The national biodiversity legislation of the four Eastern Himalayan countries – Bangladesh, Bhutan, India, and Nepal – contains ABS provisions related to access, prior informed consent, benefit sharing, the ABS legislative framework, the bioprospecting process, and institutional mechanisms. These provisions are shown in detail in Table 5.

ABS implementation arrangements in India

Institutional mechanisms for the implementation of the access and benefit sharing regime have been constituted in India. A four-tier organisation has been developed to operate in an interrelated manner (Figure 7).

The competent authority is at the apex and oversees the work of ABS. The National Biodiversity Authority (NBA) regulates access to biological resources. The NBA is responsible for determining equitable benefit sharing and carries out negotiations for access and benefit sharing and the overall implementation of ABS laws in the country. The next authority is the state/provincial/district Biodiversity Board. Each Board is responsible for developing and implementing biodiversity rules in its own jurisdiction. The Biodiversity Boards regulate bioprospecting activities within the state and give advice on matters to the state government. At the base of the pyramid is the Biodiversity Management Committee (BMC), which is constituted at the local level by representatives of communities. They give prior informed consent, engage in benefit sharing agreements, prepare biodiversity registers, and perform functions as stipulated in the Biodiversity Rules 2004.

At each tier, a corresponding trust fund has been established in a decentralised manner so that benefits received from bioprospecting reach the appropriate level. The monetary benefits, fees, and royalties received as a result of approvals by the NBA are deposited in the 'National Biodiversity Fund'. The Fund is proposed to be used for the conservation and development of areas from where resources have been accessed, including the management and conservation of heritage sites wherever applicable. The State Biodiversity Funds will come through the NBA and other sources, as decided by the state governments. Such funds are proposed to be used for the management and conservation of heritage sites, compensation or rehabilitation of any group of people economically affected by the notification of biodiversity heritage sites, the conservation and promotion of biological resources, and the socioeconomic development of areas from where such biological resources have been accessed.

Figure 7: ABS implementation arrangements in India

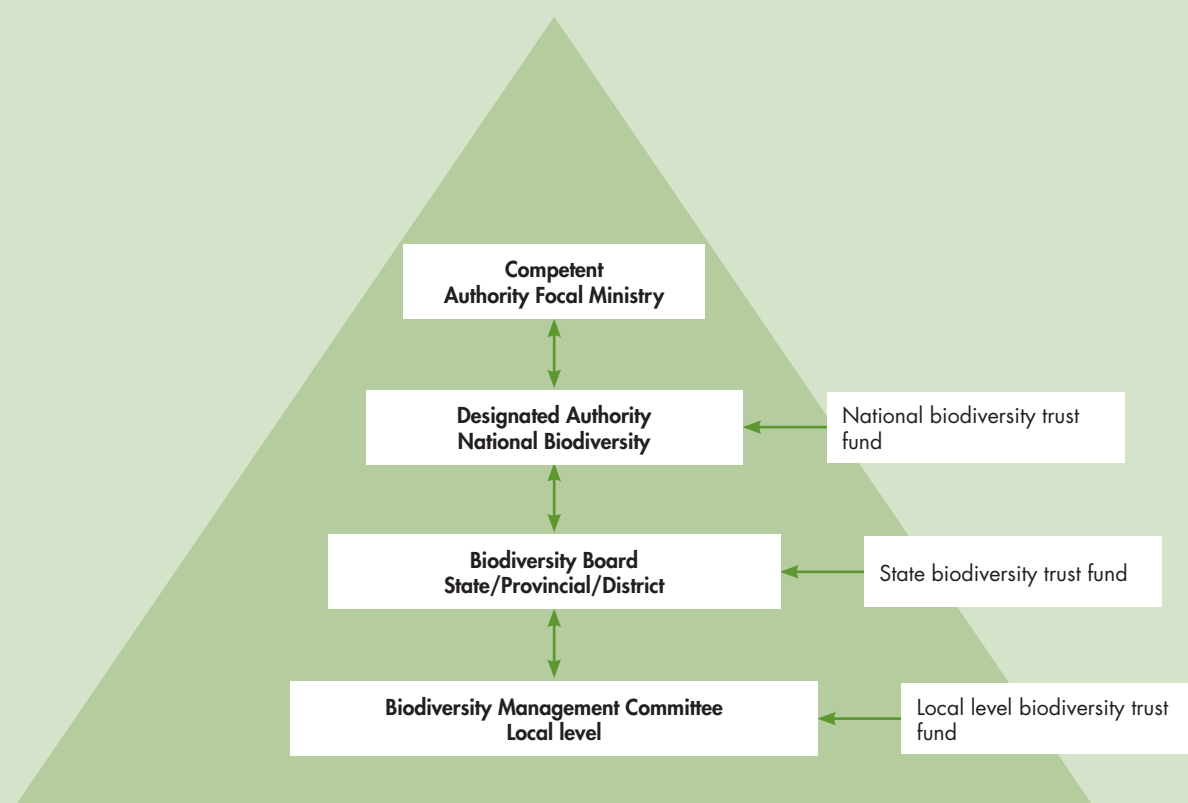


Table 5: Legislative provisions on ABS in the Eastern Himalayan countries

Country	Bangladesh	Bhutan	India	Nepal
Legislation	Biodiversity and Community Knowledge Protection Act, 1998 – Draft	Biodiversity Action Plan 1998 and Biodiversity Act 2003	Biodiversity Act 2002 and Biodiversity Rules 2004	Biodiversity Strategy 2002 and draft legislation
Principle	Recognises states sovereign rights over their biological resources, addresses the responsibility to establish a legal, administrative, and policy environment concerning access to genetic resources and associated traditional knowledge. Provides for the inventorying and documentation of traditional knowledge.			
Access	Prior written approval of the NBA and concerned communities is required for access to genetic resources and traditional knowledge. Communities' role in the ABS process is given extra emphasis.	The competent authority will determine the terms and conditions of access and is obliged to provide advice to the owners of traditional knowledge when they are negotiating a user's agreement. The competent authority has the final right to approve agreements in the national interest of the country.	Prior written approval is required from the National Biodiversity Authority (NBA). Access requests by foreign individuals, institutions, or companies, and all matters relating to access and benefit sharing, terms and conditions are to be dealt with by the NBA.	Permission to access is to be taken from the competent authority, which will determine the terms and conditions of access and benefit sharing.
Benefit sharing	<ul style="list-style-type: none"> • Provides for the transfer of technology • Provides for the association of scientists, benefit claimers, and communities with research and development in biological resources and bio-survey and bio-utilisation. • State to ensure that not less than 50% of the net monetary gains go to the communities concerned. 	<ul style="list-style-type: none"> • Provides for flat fees, upfront payments, royalties, the sharing of research results, and milestone payments. • Recognises providers of genetic resources and traditional knowledge as partners in intellectual property ownership of products derived from the supplied material. • Provides for joint research activities and technologies transfer. 	<ul style="list-style-type: none"> • Provides for royalties • Provides for fees to be prescribed • Establishes a venture capital fund • Provides for monetary compensation • Locates research and production units to facilitate better living standards for benefit claimers 	<ul style="list-style-type: none"> • Provides for technology transfer • Provides for fees, royalties, and monetary compensation
Prior informed consent	Recognises the vital role played by communities in biodiversity conservation and recognises the communities as owners, custodians, and stewards of genetic resources and traditional knowledge and the state as a co-owner. The communities are the ones who will negotiate access and benefit sharing in the case of bioprospecting.	The Act states that for any non-customary use of traditional knowledge, PIC should be obtained from the host community. The Act provides a space for rejecting the application to the host community and states that if they accept any such application for access to their traditional knowledge they can enter into a written agreement.	PIC should be sought from the NBA, and the concerned communities as specified in the legislation. State biodiversity boards are to facilitate PIC requirements by engaging the BMC.	The draft legislation requires PIC to be sought from the competent authority and concerned communities. The district committee is required to facilitate the PIC process during the ABS process.
Legislation framework	The National Biodiversity Authority (NBA) in each country will be responsible for implementing a national biodiversity act and will be an autonomous body. The National Biodiversity Authority shall consult communities on matters related to the use of biological resources and associated traditional knowledge within their jurisdiction. Community institutions will be responsible for the conservation, sustainable use, and documentation of biodiversity, and for chronicling knowledge relating to biodiversity.			

(continued on next page)

Table 5. (continued)

ABS process	<p>The prior written approval of the NBA and concerned communities is required as part of the ABS process. The sharing of financial benefits must be based on the mutually agreed terms between the accessing party and the concerned communities, and then the NBA will sign an agreement on behalf of its communities and the state. Agreement is based on the terms and conditions of benefit sharing from commercial utilisation of resources and is initially for a period of three years.</p>	<p>Prior approval is required from the competent authority before commencing the ABS process. Terms and conditions of access will be decided by the authority and the owners of the genetic resources or associated traditional knowledge, who will be provided advice while negotiating a user's agreement. The competent authority has the final right to approve this agreement. The violation of terms and conditions regarding access and benefit sharing entails both criminal and civil liability.</p>	<p>Prior approval of the NBA is required for bioprospecting. The NBA, while granting approval, will impose benefit sharing requirements (fees or royalties or both) or impose conditions including the sharing of financial benefits arising out of the commercial utilisation of such rights. The Biodiversity Act also contains rigorous penalties, making offences under this Act both cognisable and non-bailable with a maximum imprisonment of five years.</p>	<p>Prior approval from the competent authority and subsequent consent from the community must be sought in the process.</p>
Institutional Mechanisms for ABS	<p>The legislation provides for a three-tiered structure at national, state, and local levels.</p> <ul style="list-style-type: none"> • The National Biodiversity Authority (NBA) will be responsible for implementing the Act and will be an autonomous body. • State Biodiversity Boards will deal with matters relating to access, only if desired by the communities and does not have the power to negotiate access to biological and genetic resources for commercial purposes. • Community institutions will be responsible for the conservation, sustainable use, and documentation of biodiversity and the chronicling of knowledge relating to biodiversity. The National Biodiversity Authority shall consult communities on matters related to the use of biological resources and associated traditional knowledge within their jurisdiction. 	<p>The tiered structure has not been decided on in Bhutan and is not contained in current legislation. However provision for a three-tiered structure is being discussed as part of the drafting of the Biodiversity Rules.</p>	<p>The legislation provides for the setting up of a three-tiered structure at national, state and local levels.</p> <ul style="list-style-type: none"> • The National Biodiversity Authority (NBA) will be responsible for implementing the Act and will be an autonomous body. • State Biodiversity Boards will deal with matters relating to access by Indians for commercial purposes and restrict any activity that violates the objectives of conservation, sustainable use, and equitable sharing of benefits. • The Biodiversity Management Committee (BMA) is the lowest tier consisting of institutions of self-government in their respective areas for conservation, sustainable use, and documentation and chronicling of knowledge relating to biodiversity. The NBA will consult the BMC on matters related to the use of biological resources and associated traditional knowledge. 	<p>The draft law calls for the setting up of an authority called the National Genetic Resources Council, which will also have representation at the district level. The mandate of this council will be to regulate access and benefit sharing primarily in the case of foreigners seeking to access biological resources and associated traditional knowledge.</p>

Session 10

Actors in the ABS Process, Legal Procedures for ABS and ABS Tools

Time: 2 hours

Objectives

To map ABS actors, to review the legal procedures in the bioprospecting process, and to practise the use of ABS tools.

- ▶ To understand the various actors in the ABS process
- ▶ To be aware of the general procedure for ABS from genetic resources and associated traditional knowledge
- ▶ To practise the use of ABS tools

Methodology

Individual and group exercises

Suggestions for the trainer

In this session, individual and group exercises are carried out based on a theme with each followed by a presentation. Clarify anything that is unclear during the presentation and discussion.

Exercise 1 (Mapping of ABS actors) is best presented at the start of the session. The mapping exercise will help you to review participants' understanding of the actors in the ABS process. Follow it with a presentation on the various actors, and their obligations and rights in the ABS process, complemented by the diagrammatic representation provided in the resource materials.

Exercise 2 (Role play on the ABS process) follows immediately after the first presentation. The ABS Poster (Figure 9) is the main focus of the role play and discussion. Give the poster to the participants and explain briefly. The role-play exercise will engage participants and help them to understand the ABS process. The use of various ABS tools can be practised during the role play, such as completing sample PIC and MAT forms (contained in the resource materials), but this depends on the extent to which participants have been able to grasp the ABS process. Follow the

(continued on next page)

Suggestions for the trainer (continued)

exercise with an in depth presentation, discussion, and clarification of the legal process, again using the ABS Poster. Highlight the important components of the ABS regime, such as PIC, MAT, and ABS. It is critical to mention the need for negotiation in the ABS process and highlight the points at which it is necessary. Remind participants that a detailed discussion of the process, tools, and negotiation will be done during a later session.

Mention that the sample ABS tools and other resource materials for this session are provided in the resource section. Hold an energiser if needed.

Activities

Activity 1: Exercise – Mapping of ABS actors

Time: 45 minutes

Aim

To review participants' perceptions and knowledge of the various actors involved in the ABS bioprospecting process.

- Participants reflect on their understanding of the actors involved in the ABS process.
- Participants know the various actors involved in the ABS process
- Participants understand the obligations, rights, roles, and responsibilities of the various actors in the process.

Method

Individual exercise and review of diagram mapping the actors.

Materials

Flipchart, markers, tape, board, diagram of actors

Steps

Step 1 Attach a flipchart to the board.

Step 2 Write 'ABS Actors' in the middle of the chart.

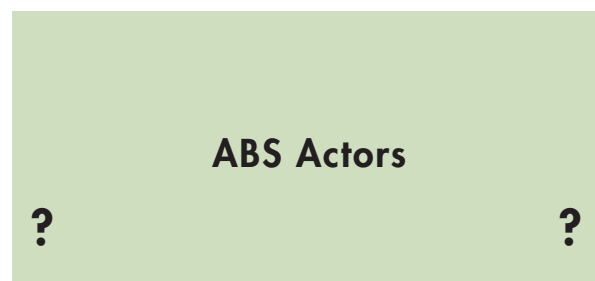
Step 3 Ask a volunteer to come forward as a scribe.

Step 4 Ask the participants to identify the actors in the ABS process while the volunteer writes them on the chart.

Step 5 When most of the actors have been mapped, or at least 10 participants have suggested an actor, initiate the presentation and open the floor for discussion.

Step 6 Pin up the diagram mapping the actors

Step 7 Hold a brief discussion, making clarifications as needed, before the presentation



Activity 2: Presentation on the actors in ABS and their obligations and rights

Activity 3: Exercise – ‘Learning by doing’, ABS process role play

Time: 45 minutes

Aim

To help participants to understand the ABS process through role play.

- Participants learn about the ABS process through role play.
- Participants understand the components of the ABS process and the actors involved in the process.
- Participants understand the obligations, rights, roles, and responsibilities of the various actors in the process.
- Participants are able to identify where negotiation is necessary in the ABS process and why.

Method

Group exercise and review of ABS poster

Materials

ABS Poster, flipchart, markers, tape, board

Steps

Step 1 Split the participants into four groups.

Step 2 Introduce the aim of the exercise.

Step 3 Distribute the roles among the groups

First group: Company representatives

Second group: Responsible competent authority/government representative

Third group: Community representatives/biodiversity management committee

Fourth group: Audience

Step 4 Each group should be briefed on the role that they will be playing during the exercise.

Step 5 Ask the groups to refer to the ABS Poster for the script and chronology and to learn about their role.

Step 6 Mentor each group on their role and functions.

Step 7 Distribute the appropriate tools such as PIC and MAT forms to the relevant groups (provided in the resource materials).

Step 8 Allow groups at least 10 minutes to prepare for the role play.

Step 9 When the groups are ready, initiate the role playing exercise.

Step 10 The trainer and the audience group should carefully observe the role play.

Step 11 After the role play, open the floor for discussion.

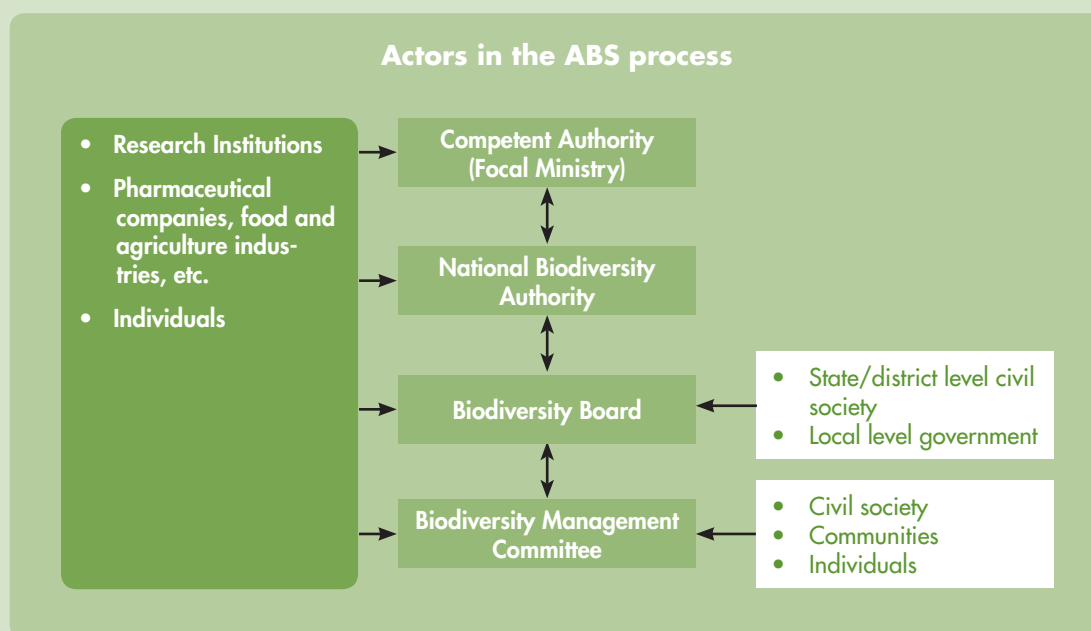
Step 12 Use a flipchart to record the outcome of the role play.

Activity 4: Presentation on the ABS legal process

Use the outcome of the role play to explain the ABS process in detail. This can be done through a media presentation or by referring to the role play together with the ABS Poster and tools. Discussion and clarifications should be made until it is time to move to the next session.

Session 10 Resource Materials

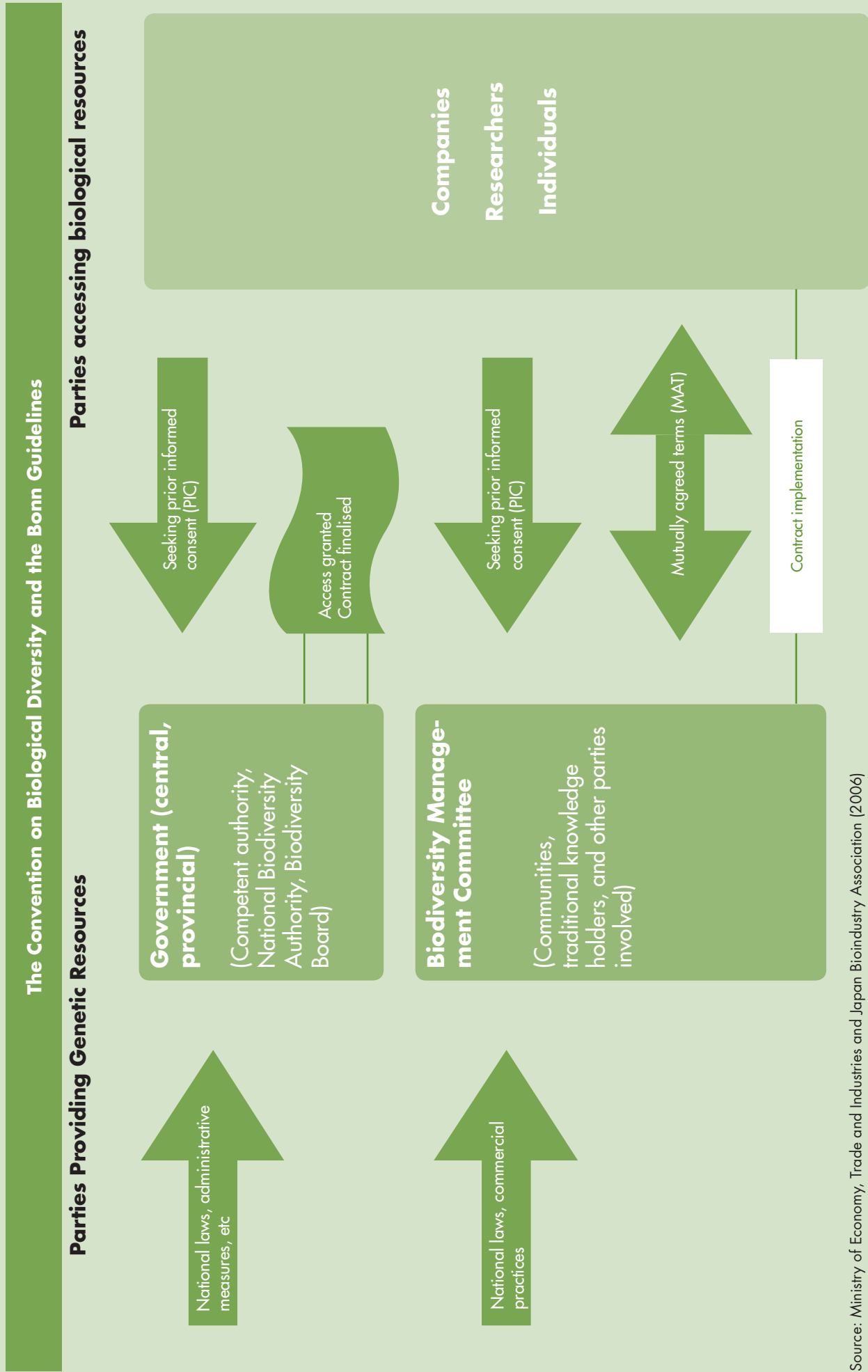
Mapping of ABS Actors



General Legal Process for Access and Benefit Sharing

It is important to understand the general procedure involved in ABS, the legal responsibilities and roles of the providing and accessing parties, and the roles and rights of traditional knowledge holders in the agreement process. Figure 8 provides a diagrammatic representation of the access and benefit sharing process. The parties accessing genetic resources should seek prior informed consent (PIC) from the parties providing genetic resources and from the traditional knowledge holders. Parties should base their access and benefit sharing agreement on mutually agreed terms (MAT). Figure 9 (ABS Poster) depicts the general legal process in most Eastern Himalayan countries for access and benefit sharing from genetic resources and associated traditional knowledge.

Figure 8: Access and Benefit Sharing Process



Source: Ministry of Economy, Trade and Industries and Japan Bioindustry Association (2006)

Figure 9: General Legal Process for Access and Benefit Sharing from Genetic Resources and Associated Traditional Knowledge



DAY TWO

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ABS poster: Access and benefit sharing steps

The ABS Poster (Figure 9) outlines the ABS process step-by-step. The individual steps are outlined in chronological order corresponding to the picture numbers. The detailed procedure can be explained step by step as described below:

Pictures 1 and 2

Bioprospectors who represent companies are aware of the availability of valuable genetic resources in village X of country Y. They express interest in bioprospecting.

Picture 3

The bioprospectors seek prior approval from the competent authority in country Y.

Pictures 4 and 5

The bioprospectors obtain and complete the appropriate PIC application for country Y and submit the application at the biodiversity authority office. The final decision will be announced after the official procedure is complete, within the legally specified time.

Pictures 6, 7 and 8

The competent authority announces the decision, which is either acceptance or rejection. In case of rejection, the bioprospectors may seek review by the court. However, the availability of this option varies from country to country. If the application is approved, the bioprospectors take the next step required by the legislation.

Pictures 9 and 10

The legislation of country Y requires bioprospectors to obtain PIC from the from the communities/traditional knowledge holders of the resources of village X as well as from the State Biodiversity Board (SBB), District Biodiversity Board (DBB), and Biodiversity Management Committee (BMC). Therefore, the bioprospecting team visits the community to obtain PIC from them. While obtaining PIC, the team informs the concerned stakeholders of the details of their bioprospecting plan (what resources they will use, what they will do with the resource, and how they will share the benefits with the national government and the community, and so forth). The community asks the bioprospectors questions about the bioprospectors' proposal. After thorough discussion between the bioprospectors and the community, the community announces their decision to accept or reject the proposal. If they accept, the bioprospecting team takes the next step required by the ABS laws of country Y. If the community rejects the proposal, then the bioprospectors may look to the ABS laws to see if they have any options.

Note: PIC options may vary from country to country. The law in relation to PIC for the particular country needs to be verified.

Pictures 11 and 12

The bioprospecting team gets a green PIC signal from village X. The bioprospectors then conduct preliminary research on the biological resources and associated traditional knowledge in the village. They

also conduct an environmental impact assessment (to understand the potential impact of their work on the ecosystem and local community). The legislation of country Y directs whether or not, and in what situation, this assessment is needed.

Pictures 13, 14, 15 and 16

The bioprospecting team completes its preliminary research in the village. From the findings of their study, they develop a detailed proposal with a research and resource use and benefit sharing plan. They submit the detailed proposal to the competent authority of country Y. The competent authority reviews the proposal. When the reviewing procedure is complete, which may take some time, the authority either accepts or rejects the proposal.

Pictures 17

The competent authority (providing parties) and bioprospecting team (accessing parties) base their ABS agreement on MAT (terms and conditions that both parties agree upon). When the competent authority is satisfied with the MAT, it accepts the proposal.

Pictures 18 and 19

The bioprospecting team then conducts detailed research during which they collect samples of biological resources and document the traditional knowledge in village X of country Y. The physical samples are either sent to a laboratory within country Y or abroad for detailed investigation of the chemical properties and to verify the properties indicated by traditional knowledge.

Pictures 20, 21 and 22

Based on the findings of the detailed investigation of samples or traditional knowledge, the company draws a plan for the kind of products it can develop from the resource. The products may be medicine, food, cosmetics, or other. They then design a business plan for the products that they are going to manufacture from the accessed genetic resources. The products are then marketed and profits generated by the company.

Picture 23 and 24

The bioprospecting team (the company) signs an agreement with the competent authority of country Y based on MAT. A benefit sharing plan is agreed upon by the company in the agreement. According to the benefit sharing plan, benefits in the form of money, royalties, upfront payments, resources sharing, and technology must be shared by the bioprospectors with the country and community from where the resources were accessed.

After making a profit, the bioprospecting company shares the agreed benefits with the government of country Y, represented by the competent authority. Based on the national legislation of country Y, the competent authority then shares the derived benefits with the community in village X, who are the owners of the accessed resources and traditional knowledge. The community then decides how to utilise the benefits.

Review and Practise of ABS Tools

The ABS/bioprospecting process has several components that are critical to the process. Each component must be complied with by both the providing and accessing parties and the holders of traditional knowledge so as to ensure the fair and equitable sharing of benefits arising out of the utilisation of genetic resources and associated traditional knowledge. Prior informed consent (PIC) must be obtained by the accessing party from the providing party. Both parties are required to formulate a joint agreement to facilitate access to genetic resources and the sharing of benefits arising from their use. Parties are required to base their agreements on mutually agreed terms (MAT). The parties are required to establish legal, administrative, and policy procedures to ensure the fair and equitable sharing of benefits from the utilisation of genetic resources and associated traditional knowledge.

To ensure that parties abide by these requirements, countries in the region are developing administrative measures to facilitate the ABS process. Some have developed measures already, and others are in the process of developing them, including tools such as PIC and Material Transfer Agreement (MTA) forms for research/commercialisation purposes to ensure the smooth implementation of the ABS process. Some of the tools developed in Bhutan and India are provided here as a sample.

Sample 1: PIC Application for research and collecting permit (Bhutan) (in draft rules)

ROYAL GOVERNMENT OF BHUTAN

National Biodiversity Centre

Application for a scientific research and collecting permit

Select one of the following: <input type="checkbox"/> New application <input type="checkbox"/> Renewal of a previously issued permit <input type="checkbox"/> Modification of a previously issued permit	Please enter existing permit numbers for renewal or modification requests:
Name of principal investigator (last name, first name):	Nationality of principal investigator:
Mailing address of principal investigator:	Legal status of principal investigator:
	Office phone # of principal investigator:
Name and location of institution represented:	Office fax # of principal investigator:
	Office email address of principal investigator:
Additional investigators and institutions (last name, first name, office phone, office fax, office email) (include respective responsibilities):	
Project title:	
Purpose of study (include the purpose and field(s) of the proposed access activity, the type and extent of the research, the teaching or commercial intention of the research, and any expected use(s) to be derived from the research):	
Scientific description of genetic and biological resources to be collected (include taxonomic group or name, sample size, quantity, and frequency of proposed collection):	
Proposed starting date (month/day/year):	Proposed ending date (month/day/year):
Location(s) where activities will take place within Bhutan:	

Provide information on the arrangements made within Bhutan to facilitate the collection work as well as information on the prior informed consent of the relevant stakeholders when necessary (include plans, if any, for cooperation with national institutions, scholars, scientists, students, farmers and farmer groups in Bhutan in the field mission and/or its follow-up activities):

Demonstrate that the collection/access activity will have no negative environmental impact:

Describe the principal investigator's technical and financial capability to conduct the access activity (include descriptions of any previous biological resource collection activities within Bhutan and elsewhere) (Attach Proposal Budget Form):

Provide information about existing or proposed contracts between any applicant(s) relating to the use of any information and products resulting from the access activity:

Describe the economic, social, technical, scientific, environmental, and/or other benefits that this activity intends and that may likely accrue to Bhutan (include an indication of the types of short, medium, and long term benefits to be shared with the RGOB and other relevant stakeholders as well as the proposed benefit sharing mechanisms and arrangements):

I certify that this application is accurate and complete. I agree to abide by the conditions set out by the Competent Authority for collection activities. This includes appropriate arrangements with the Authorized Agency to facilitate the collection mission, including establishing provisional routes, estimated timing, types of material collected and quantities and identification of methods of collection (sampling, harvest and storage methods). I also agree to pay all costs involved in collection, including participation of at least one governmental official of the RGOB in the collection mission.

Signature of principal investigator: _____ Date: _____

Signature of additional investigator: _____ Date: _____

Signature of additional investigator: _____ Date: _____

Signature of principal investigator: _____ Date: _____

(Additional signature pages may be attached.)

For Authorizing Agency use only

Date received

Assigned permit number:

Sample 2: PIC permit for research (bhutan) (in draft rules)

Scientific research and collecting permit

Grants permission in accordance with the attached general and special conditions

Royal Government of Bhutan
National Biodiversity Centre

Study #:

Permit #:

Start Date #:

Expiration Date #:

COOP Agreement #:

Optional Park Code #:

Name and Contact information of Principal Investigator:

Name of Institution Represented:

Additional Investigators:

Project Title:

Purpose of Study:

Location Authorized:

Transportation Method to Research Site(s):

Collecting of the Following Specimens or Materials, Quantities, and any Limitations on Collecting:

Name of Repository for Specimens or Sample Materials if Applicable:

Specific Conditions or Restrictions (also see attached conditions):

Recommended by park or RGOB official
(Name and Title):

Name

Date

Reviewed by Collections Manager:

Yes _____ No _____

Approved by RGOB official:

Name & Title: _____

Date Approved _____

I agree to all conditions and restrictions of this permit as specified.
(Not valid unless signed and dated by the Principal Investigator)

(Principle Investigator's Signature)

(Date)

This permit and attached conditions and restrictions must be carried at all times while conducting research activities in the designated area(s)

Sample 3: PIC application for access to biological resources and traditional knowledge (India)

GOVERNMENT OF INDIA
National Biodiversity Authority

FORM I (See Rule 14)

Application form for access to biological resources and associated traditional knowledge

Part A

- i) Full particulars of the applicant
 - ii) Name:
 - iii) Permanent address:
 - iv) Address of the contact person/agent, if any, in India:
 - v) Profile of the organization (personal profile in case the applicant is an individual). Please attach relevant documents of authentication):
 - vi) Nature of business:
 - vii) Turnover of the organization in US\$:
2. Details and specific information about nature of access sought and biological material and associated knowledge to be accessed
 - a) Identification (scientific name) of biological resource and its traditional use:
 - b) Geographical location of proposed collection:
 - c) Description/nature of traditional knowledge (oral/documentated):
 - d) Any identified individual/community holding the traditional knowledge:
 - e) Quantity of biological resources to be collected (give the schedule):
 - f) Time span in which the biological resources are proposed to be collected:
 - g) Name and number of persons authorized by the company for making the selection:
 - h) The purpose for which the access is requested including the type and extent of research, commercial use being derived and expected to be derived from it:
 - i) Whether any collection of the resource endangers any component of biological diversity and the risks which may arise from the access:
 3. Details of any national institution which will participate in the Research and Development activities.
 4. Primary destination of accessed resource and identity of the location where the R&D will be carried out.
 5. The economic and other benefits including those arriving out of any IPR, patent obtained out of accessed biological resources and knowledge that are intended, or may accrue to the applicant or to the country that he/she belongs.

6. The biotechnological, scientific, social or any other benefits obtained out of accessed biological resources and knowledge that are intended, or may accrue to the applicant or to the country that he/she belongs.
7. Estimation of benefits that would flow to India/communities arising out of the use of accessed bioresources and traditional knowledge.
8. Proposed mechanism and arrangements for benefit sharing.
9. Any other information considered relevant.

Part B

Declaration

I/we declare that:

- Collection of proposed biological resources shall not adversely affect the sustainability of the resources;
- Collection of proposed biological resources shall not entail any environmental impact;
- Collection of proposed biological resources shall not pose any risk to ecosystems;
- Collection of proposed biological resources shall not adversely affect the local communities.

I/we further declare the information provided in the application form is true and correct and I/we shall be responsible for any incorrect/wrong information.

Signed:

Name:.....

Title:.....

Place:.....

Date:.....

Sample 4: PIC application for traditional knowledge access and non-customary use (Bhutan) (in draft rules)

ROYAL GOVERNMENT OF BHUTAN

Ministry of Agriculture

Application for traditional knowledge access and non-customary use

(Please Note: All information provided should be in either Dzongkha or English. Additional pages may be added as needed.)

DAY TWO

Select one of the following: <input type="checkbox"/> New application <input type="checkbox"/> Renewal of a previously issued application <input type="checkbox"/> Modification of a previously issued application	Please enter existing application numbers for renewal or modification requests:
Name of principal researcher (last name, first name):	Nationality of principal researcher:
Mailing address of principal researcher:	Legal status of principal researcher:
	Office phone # of principal researcher:
Name and location of institution represented:	Office fax # of principal researcher:
	Office email address of principal researcher:
Additional researchers and institutions (last name, first name, office phone, office fax, office email) (include respective responsibilities):	
Project title:	
Purpose of study (include the purpose and field(s) of the proposed access activity, the type and extent of the research, the teaching or commercial intention of the research, and any expected use(s) to be derived from the research):	
Description of subject matter and/or types of traditional knowledge to be accessed (include also identity and/or name of community group, geographic location/address, , and subject matter and/or types of traditional knowledge including related biological and/or genetic resources):	
Proposed starting date (month/day/year):	Proposed ending date (month/day/year):
Location(s) where activities will take place within Bhutan:	

Provide information on the arrangements made within Bhutan to facilitate the research as well as information on the prior informed consent of the relevant stakeholders when necessary (include plans, if any, for cooperation with national institutions, scholars, scientists, students, farmers and farmer groups, or other community groups in Bhutan in the field mission and/or its follow-up activities, and proposed methods for protecting the confidentiality of any traditional knowledge accessed):

Demonstrate that the collection/access activity will have no negative environmental impact:

Describe the principal researcher's technical and financial capability to conduct the access activity (identify previous traditional knowledge and related biological resource ('ethno-botanical') research activities within Bhutan and elsewhere) (Attach Proposal Budget Form):

Provide information about existing or proposed contracts between any applicant(s) relating to the use of any information and products resulting from the proposed access activity:

Describe the economic, social, technical, scientific, environmental, and/or other benefits that this activity intends or that could accrue to Bhutan (include an indication of the types of short, medium, and long term benefits to be shared with the RGOB and other relevant stakeholders as well as the proposed benefit sharing mechanisms and arrangements):

I certify that this application is accurate and complete. I agree to abide by the conditions set out by the Competent Authority for the activities described in this Application. This includes appropriate arrangements with the Authorized Agency and appropriate stakeholders to facilitate the collection mission, including establishing provisional routes, estimated timing, types of material collected and quantities and identification of methods of collection (sampling, harvest and storage methods). I also agree to pay all costs involved in collection, including participation of at least one governmental official of the RGOB in the collection mission.

Signature of principal researcher: _____ Date: _____

Signature of additional researcher: _____ Date: _____

Signature of additional researcher: _____ Date: _____

Signature of principal researcher: _____ Date: _____

(Additional signature pages may be attached.)

For Authorizing Agency use only

Date received

Assigned application number:

Sample 5: MTA biological material transfer agreement (Bhutan) (in draft rules)

ROYAL GOVERNMENT OF BHUTAN

National Biodiversity Centre

Biological material transfer agreement (BMTA)

I. Definitions

PROVIDER: The term **“Provider”** means the person(s) providing the **Material**. The name and address of **Provider** is:

(name)

(address)

RECIPIENT: The term **“Recipient”** means the person(s) receiving the **Material**. The name and address of **Recipient** is:

(name)

(address)

TRANSFERRED MATERIAL: The term **“Transferred Material”** means the **Material** being transferred from **Provider** to **Recipient** that is described as follows: _____

MATERIAL: The term **“Material”** means Research Specimens, Replicates, and Derivatives.

RESEARCH SPECIMENS: The term **“Research Specimens”** means biological material in **Provider’s** possession that **Provider** has or had authority to collect under the collection permit or permits issued by [name of authorizing unit of the Royal Government of Bhutan] to **Provider** (copy of permit(s) attached hereto), or which otherwise were originally and lawfully collected from Bhutan and now in **Provider’s** possession.

REPLICATE: The term **“Replicate”** means any biological or chemical substance that represents a substantially unmodified copy of the **Material** such as, but not limited to, substances produced by growth of cells or microorganisms or amplification of the **Material**.

DERIVATIVE: The term “**Derivative**” means substances created from the **Material** that is substantially modified to have new properties such as, but not limited to, recombinant DNA clones.

PRODUCT: The term “**Product**” means any commercially valuable or otherwise useful or potentially useful substance, compound or useful or potentially useful combination of substances or compounds recovered, obtained, derived, resulting, or otherwise isolated by or developed from scientific research conducted on any **Replicate, Derivative, or Research Specimen** originally acquired from Bhutan.

COMMERCIAL PURPOSE: The term “**Commercial Purpose**” means the sale, lease, license, or other transfer of any **Material, Replicate, Derivative, or Product** for value received, including but not limited to scientific research uses of any **Material, Replicate, Derivative, or Product** by any person (including but not limited to **Provider** and **Recipient**) in the performance of any contract research, screening compound libraries, or the conduct of research activities that result in any sale, lease, license, or other transfer of any **Material, Replicate, Derivative, or Product**.

II. Terms and Conditions of this Agreement and Authorization

1. **Provider** and **Recipient** hereby acknowledge that the Royal Government of Bhutan retains ownership of the **Research Specimens** and **Replicates**. **Provider** is authorized to transfer to **Recipient** the specific **Transferred Material** described above in paragraph 1.3 upon execution of this Biological Material Transfer Agreement (BMTA) by **Provider, Recipient,** and [*name of authorizing unit of the Royal Government of Bhutan*].

Recipient agrees that the Transferred Material:

- a) will be used in compliance with all applicable laws, governmental regulations and guidelines (including but not limited to all applicable terms and conditions of the Permit that governs collection, distribution and use of **Research Specimens** collected from Bhutan (reference copy of applicable Permit terms and conditions attached));
- b) may be used for scientific or educational purposes only, and may not be used for any **Commercial Purpose** without the prior written authorization of the Royal Government of Bhutan; and
- c) may not be sold or otherwise transferred to any other person without the prior written authorization of Royal Government of Bhutan.

Recipient understands and agrees that the Royal Government of Bhutan may seek damages to which it may be entitled including but not limited to injunctive relief for any unauthorized sale, transfer or other use of **Transferred Material**.

Recipient agrees to provide to [*name of authorizing unit of the Royal Government of Bhutan*] a copy of any interim reports, final reports, publications, and other scholarly materials resulting from use of **Transferred Material**. **Recipient** also agrees to identify in each such written report or other material the project study number (if any) of the Permit-authorized project that collected the original **Research Specimen** from which the **Transferred Material** is derived. In addition, **Recipient** agrees to provide notice in writing to [*name of authorizing unit of the Royal Government of Bhutan*] not less than sixty (60) days before **Recipient** files an application for a patent or other intellectual property claim resulting from use of **Transferred Material**.

Recipient agrees that the **transferred material** is experimental in nature and is being provided without warranty, express or implied, including any implied warranty of merchantability or fitness for a particular purpose or freedom from infringement of any patent or other proprietary right of a third party.

Recipient agrees to hold harmless and indemnify the royal government of bhutan, any unit thereof, and persons acting on their behalf, for any claim asserted by a third party related to **recipient's** possession, use, storage, or disposal of **transferred material**.

III. Administration

Any correspondence or other notice concerning this agreement should be addressed to: *[insert name and address of authorizing official and unit of the Royal Government of Bhutan]*.

Signatures begin on next page.

SIGNATURE PAGE

Signatures

In Witness Whereof, the parties have executed this **biological material transfer agreement (BMTA)** on the dates set forth below. This BMTA may be signed in counterparts, each of which will be deemed to be an original. All such counterparts shall together constitute a single, executed instrument when all parties have so signed. Any communication or notice to be given shall be forwarded to the respective addresses listed below.

For the Royal Government of Bhutan:

[name]

Date

[name of authorizing unit of the RGOB]

Mailing Address for Notices: Competent Authority [*name and address*]

For Provider:

[signatory's name]

Date

[title]

[name of Provider (if different from signatory)]

Mailing Address for Notices: [name and address]

For Recipient:

[signatory's name]

Date

[title]

[name of Recipient (if different from signatory)]

Mailing Address for Notices: [name and address]

NOTE: Both **Provider** and **Recipient** should sign this BMTA, and then forward it to [name of authorizing unit of the Royal Government of Bhutan] for approval. A fully executed copy of the completed BMTA will be sent to **Provider** and **Recipient** upon approval. This agreement does not enter into force until signed by the authorizing unit of the Royal Government of Bhutan.

Sample 6: MTA biological material license agreement # 1 (Bhutan) (in draft rules)

THE ROYAL GOVERNMENT OF BHUTAN
National Biodiversity Centre

Biological Materials License Agreement # 1

This Agreement is entered into between the Royal Government of Bhutan (RGOB), through the National Biodiversity Centre (NBC), and _____ ("LICENSEE").

[INSERT NAME, BUSINESS ADDRESS, AND CORPORATE AFFILIATE – IF ANY.]

1. DEFINITIONS

a. **"Materials"** means the following biological materials including all replicates and derivatives.

[Describe licensed Material[s] and location of laboratory.]

b. **"Replicate"** means any biological or chemical material that represents a substantially unmodified copy of the material such as, but not limited to, material produced by growth of cells or microorganisms or amplification of Material.

c. **"Derivative"** means material created from the Material that is substantially modified to have new properties such as, but not limited to, recombinant DNA clones.

d. **"Commercial Purpose"** means the sale, lease, license, or other transfer of any **Materials**, including **Replicates** and **Derivatives**, for value received, including but not limited to scientific research uses of any **Replicates**, **Derivatives**, by LICENSEE in the performance of any research, screening compound libraries, or the conduct of research activities that result in any sale, lease, license, or other transfer of any **Replicates** or **Derivatives**.

e. **"Licensed Products"** means substances created by LICENSEE resulting from use of the Materials.

2. LICENSEE wishes to obtain a license from RGOB to use the **Material[s]** provided under this Agreement in its research or product development and marketing activities. LICENSEE represents that it has the facilities, personnel and expertise to use the Material[s] for research purposes and agrees to expend reasonable efforts and resources to develop the **Material[s]** consistent with this agreement.

3. RGOB hereby grants to LICENSEE a worldwide, non-exclusive license to use the **Material[s]** for scientific research purposes only. The LICENSEE shall not distribute, sell, lend or otherwise transfer the **Material[s]** or **Replicates** for any reason. Any commercial use of the **Material[s]**, **Replicates**, **Derivatives**, and **Licensed Products** is prohibited without RGOB's prior written authorization. If LICENSEE decides to use or sublicense the **Material[s]**, **Replicates**, **Derivatives**, or **Licensed Products** for **Commercial Purposes**, LICENSEE agrees in advance of such use to negotiate in good faith with the RGOB (See RBOB Biological Materials License Agreement #2).
4. In consideration of the grant in Paragraph 3 above, LICENSEE hereby agrees to make the following payments to RGOB:
 - a. Concurrent with its execution of this Agreement, a noncredit able, nonrefundable license issue royalty of _____ **[INSERT CURRENCY TO BE USED]**.
 - b. A nonrefundable minimum annual royalty of _____ **[INSERT CURRENCY TO USED]**, which shall be due and payable on January 1 of each calendar and may be credited against earned royalties due for sales made in that year. The minimum annual royalty for the first calendar year of this Agreement is due and pay able within thirty (30) days from the effective date of this Agreement and may be prorated according to the fraction of the calendar year remaining between the effective date of this Agreement and the next subsequent January 1.

[INSERT THE DESIRED METHOD OF PAYMENT IN FULL DETAIL]. If a payment is not made within 15 days of its due date, the LICENSEE will be charged 10% of the unpaid payment. Late charges will be applied to any overdue payments. The payment of such late charges shall not prevent **RGOB** from exercising any other rights it may have as a consequence of the lateness of any payment.

5. LICENSEE agrees to make written license reports to RGOB within sixty (60) days after the end of each calendar year. This report shall describe the use of the **Material[s]** and state the number, and description of **Licensed Products** made, or otherwise disposed of. LICENSEE shall submit each such report along with payment due RGOB for the calendar year to RGOB at the address listed in Paragraph 5 above and shall also send a copy of the report to RGOB at the Mailing Address for Notices indicated on the Signature Page of this Agreement.
6. This Agreement shall become effective on the date when the last party to sign has executed this Agreement and shall terminate _____ () years from this effective date, unless previously terminated under the terms of Paragraphs 11 or 12 below.
7. LICENSEE agrees to retain control over the **Material[s]**, and not to distribute them to any unauthorized parties without the prior written consent of RGOB.
8. No warranties, express or implied, are offered as to the merchantability or fitness for any purpose of the **Material[s]** provided to licensee under this agreement, or that the **Material[s]** or **Licensed Products** may be exploited without infringing the patent rights of any other parties. licensee accepts license rights to the **Material[s]** and **Licensed Products** as "as is," and RGOB does not offer any guarantee of any kind.

9. LICENSEE agrees to indemnify and hold harmless the RGOB from any claims, costs, damages or losses that may arise from or through LICENSEE's use of the **Material[s]** or Licensed Products. LICENSEE further agrees that it will not by its action bring the RGOB government into any lawsuit involving the **Material[s]** or Licensed Products.
10. LICENSEE agrees in its use of any RGOB-supplied **Material[s]** to comply with all applicable statutes, regulations and guidelines, including the NBC and RBOG regulations and guidelines.
11. LICENSEE may terminate this Agreement upon sixty (60) days written notice to RGOB.
12. RGOB may terminate this Agreement if LICENSEE is in default in the performance of any material obligation under this Agreement, and if the default has not been remedied within ninety (90) days after the date of written notice by RGOB of such default.
13. Upon termination of this Agreement, LICENSEE agrees to return all **Material[s]** or provide RGOB with certification of their destruction (if so permitted by the RGOB). Any further use of **Material[s]** by LICENSEE shall constitute a material breach of this agreement.
14. Within ninety (90) days of termination of this Agreement, LICENSEE agrees to submit a final report to RGOB, and to submit payment of any royalties due.
15. LICENSEE is encouraged to publish the results of its research projects using the **Material[s]** or **Licensed Products**. In all oral presentations or written publications concerning the **Material[s]** or **Licensed Products**, LICENSEE will acknowledge the contribution of RGOB (unless requested otherwise by RGOB).
16. This Agreement shall be construed in accordance with the laws of the Royal Government of Bhutan.
17. This Agreement constitutes the entire understanding of RGOB and LICENSEE and supersedes all prior agreements and understandings with respect to the **Material[s]**.
18. The provisions of this Agreement are severable, and in the event that any provision of this Agreement shall be determined to be invalid or unenforceable under any controlling body of law, such invalidity or unenforceability shall not in any way affect the validity or enforceability of the remaining provisions of this Agreement.
19. Paragraphs 8, 9, and 15 of this Agreement shall survive termination of this Agreement.

Signatures begin on next page.

RGBOB Biological Materials License Agreement

SIGNATURE PAGE

In Witness Whereof, the parties have executed this agreement on the dates set forth below. Any communication or notice to be given shall be forwarded to the respective addresses listed below.

For **RGBOB**

[Insert name, address of authorized signature and date of signature].

For **LICENSEE** (The undersigned expressly certifies or affirms that the contents of any statements of **LICENSEE** made or referred to in this Agreement are truthful and accurate.)

Signature Date

Printed Name

Title

Mailing Address for Notices: _____

Sample 7: Community level PIC form traditional knowledge (India)

NATIONAL INNOVATION FOUNDATION

Traditional knowledge – Prior informed consent form

Dear Traditional Knowledge Holder(s),

The Department of Science and Technology, Government of India established the National Innovation Foundation (NIF), in March 2000, as an autonomous society to recognise and promote grassroots innovations and traditional knowledge of individuals/communities. This initiative shall help in reducing the erosion of knowledge, increase the social esteem of the grassroots innovators and knowledge providers and help India become an innovative society. NIF strives to obtain the written consent and authorization from all the innovators/knowledge providers to disclose and/or add value to the innovation/traditional knowledge submitted for inclusion in the National Register of Green Grassroots Technological Innovations and Traditional Knowledge. An explanatory note, describing the implications of various options given in the form, is enclosed along with this form to assist you to fill up the form. NIF assures full compliance with the conditions specified by you and any modification in these conditions will be taken up only after obtaining your written consent.

Reference No.: _____

Title of traditional knowledge/herbal practice: _____

Please tick the appropriate boxes

How did you come to know about the knowledge/practice?

Elder By Self Family Tradition Community

If you have ticked box a, b or c, please fill section A, and if box d, then please fill section B, Section C to be filled by all.

SECTION – A

A. Can NIF share your address with those interested in your traditional knowledge?

(Yes/No): _____

B. Can NIF display/publish your traditional knowledge on the Internet/in Honey Bee magazine or any other media?(Yes/No) _____

C. To what extent can NIF share your traditional knowledge?

a) Partial disclosure/summary OR

b) Full disclosure

D. Would you like NIF to pursue further research on your traditional knowledge (if applicable), if yes, please specify _____

SECTION – B

- A Name of the community, _____ authorized leader
 - a) elected : _____
 - b) traditional: _____

- B. Can NIF share the address of the community with those interested? (Yes/No): _____
 Can NIF display/publish the traditional knowledge on the Internet/in Honey Bee magazine or any other media? (Yes/No) _____

- C. To what extent can NIF share the traditional knowledge ?
 - a) Partial disclosure/summary OR
 - b) Full disclosure

- D. Whether the consent of local community has been taken while submitting the community traditional knowledge to NIF? (Yes/No) _____

- E. To what extent specific traditional knowledge/community knowledge is known and/or practiced within or among the concerned communities?
 - a) Known to few Known widely
 - b) Practiced by few Practiced widely

- F. Has any improvement been done in the knowledge/practices of the community? (Yes/No)

 If YES, please specify by whom? Self Others Not aware

- G. Has the concerned community been informed of the improvements made in the traditional knowledge belonging to them ?(Yes/No).....

SECTION- C

- Would you prefer non-monetary benefits, if your traditional knowledge is found to be outstanding and worthy of special recognition?
- If Yes, then please tick the suitable option/s.
 - Honour in a public function at local, state or national level
 - Recognition in media
 - Recognition in text books in case of really unique distinction
 - Travel support for contacting other innovators/traditional knowledge holders
 - Linkage with R and D institutions for valorization of knowledge
 - Opportunity to share one’s knowledge with others in shodh yatra (journey through the villages on foot) and shodh sankals (workshop of local healers)
 - Guidance from formal or informal sources to conserve the natural resources used in traditional knowledge
 - Supply of scientific information in local language about the herbal or other traditional knowledge submitted by you,
 - Any other, please specify _____

Declaration: I/we have read this Prior Informed Consent Form and have understood the implications of various choices described in the explanatory note. I/We have voluntarily decided to select the option / options which I/we have ticked above in section A and/or section B. I/we further assure NIF that all the information given above is true to the best of my/our Knowledge and belief. I/we acknowledge that if the knowledge innovation/practice contributed by me/us is already in public domain, then the restrictions in the form will not apply.

Name and Address of the Community/Traditional Knowledge Holder:

Signature

Name of the Nominee/Authorized Representative:

Signature

Name and Address of Witness/Collaborator/Scout/NIF Representative:

Signature

Signature of witness

Date (dd/mm/yyyy)

Sample 8: Community level PIC form technological innovations (India)

NATIONAL INNOVATION FOUNDATION

Technological innovations – Prior informed consent form

Dear Innovator(s),

The Department of Science and Technology, Government of India established the National Innovation Foundation (NIF), in March 2000, as an autonomous society to recognise and promote grassroots innovations and traditional knowledge of individuals/communities. This initiative shall help in reducing the erosion of knowledge, increase the social esteem of the grassroots innovators and knowledge providers, and help India become an innovative society.

NIF strives to obtain the written consent and authorization from all the innovators/knowledge providers to disclose and/or add value to the innovation/traditional knowledge submitted for inclusion in the National Register of Green Grassroots Technological Innovations and traditional knowledge. An explanatory note, describing the implications of various options given in the form, is enclosed along with this form to assist you to fill up the form. NIF assures full compliance with the conditions specified by you and any modification in these conditions will be taken up only after obtaining your written consent.

Reference No.: _____

Signature

Stamp of NIF

Title of Innovation/Idea: _____

We will appreciate if you could tick 'YES' or 'NO' in the appropriate boxes (for items A to F).

A. Can NIF share your address with those interested in your innovation/idea? _____

B. Can NIF display/publish your innovation/idea on the Internet/in Honey Bee magazine or any other media? _____

C. To what extent do you wish NIF to disclose the information furnished by you ?

a) Partial disclosure/summary OR _____

b) Full disclosure _____

If Yes, under which of the following conditions:

i) Only on commercial terms (if the interested party is willing to pay for it) _____

ii) Free of Cost _____

iii) Any other option? Please specify: _____

D. Would you like NIF to add value to your innovation/idea
(Analysis by experts, prototype development, testing etc.) _____

E. Would you like NIF to mediate on your behalf for commercialization (if applicable)
(Developing business plan, market research, technology transfer etc.) _____

F. Would you like NIF to protect intellectual property rights (wherever applicable) _____
Technological Innovations and Ideas

G. In case, your innovation/idea is not eligible for any monetary benefit/awards, would you prefer any non-monetary benefits, if YES then please tick the suitable option/s:

- Honour in a public function at local, state or national level
- Recognition in media
- Recognition in textbooks in case of really unique distinction
- Travel support for contacting other innovators/traditional knowledge holders
- Linkage with R and D institutions for valorization of knowledge
- Opportunity to share one's knowledge with others in *shodh yatra* (journey through the villages on foot) and *shodh sankals* (workshop of local experimenters)
- Support to the community to share the knowledge with other communities
- Guidance from formal or informal sources to conserve the natural resources used in traditional knowledge
- Supply of scientific information in local language about the herbal or other traditional knowledge submitted by you
- Any other, please specify _____

Declaration : I/we have read this Prior Informed Consent Form and have understood the implications of various choices described in the explanatory note. I/we have voluntarily decided to select the option/ options which I/we have ticked above for questions from A to G. I/we further assure NIF that all the information given above is true to the best of my/our knowledge and belief.

Name and Address of the Innovator(s)

Signature

Name and Address of the Witness/Collaborator/Scout/NIF Representative:

Signature of witness _____

Date: _____

Day Three

Review Session

Session 11
Negotiation in the ABS Process

Session 12
Protection and Documentation of Traditional Knowledge

Session 13
Review of Sample Formats for Traditional Knowledge Documentation

Session 14
Process of Traditional Knowledge Documentation

Session 15
Community Selection, Group Formation and Field Assignments



Review Session

Time: 30 minutes

Objectives

To review the participants' perceptions of the previous day's session.

- ▶ To find out what participants learned from the previous day
- ▶ To give participants an opportunity to ask questions and for the trainer to provide clarification
- ▶ To get feedback on the training and session theme
- ▶ To discover any pressing issues

Materials

Flipchart, markers, tape, and board

Method

Participatory discussion

Suggested Questions

- What did you learn from yesterday's session?
- Is any clarification needed?
- Did the methodology used help you to engage in the session?
- Do you have any other suggestions?

It is not necessary that only these questions be asked. If other questions arise, the trainer should record the question and politely promise that the feedback will be considered. The trainer should not spend too much time on each question during the review session, keeping the time and purpose of the session in mind.

Suggestions for the trainer

If appropriate, start the day with an energiser exercise; one of your own or one suggested by the participants. In any case, have an exercise ready in case the participants do not come up with one. Start the review session after the energiser.

Attach a flipchart to the board and record the feedback from participants. Ask participants their perceptions of the previous day's sessions.

Then move to the first session of the day

Session 11

Negotiation in the ABS Process

Time: 2 hours

Objectives

To review the negotiation process for ABS.

- ▶ To be acquainted with the principles of negotiation in the ABS negotiation process
- ▶ To understand negotiation issues in ABS bioprospecting
- ▶ To be aware of negotiation elements in the ABS process
- ▶ To be aware of important guidelines and key areas of consideration in the negotiation process

Methodology

Group exercise and presentations. The person who presents the session can choose to make verbal presentations, use a media tool such as PowerPoint, or come up with his/her own innovative methodology. If a media presentation is chosen, prepare it in advance and set up the equipment before the session starts.

Suggestions for the trainer

Link the session to the previous day's session on the ABS legal process. This session should be dedicated to reviewing negotiation in the ABS bioprospecting process. Start by defining negotiation and identifying the negotiating parties in the ABS process, and follow with a discussion of some general principles of negotiation. You can supplement this with a negotiation exercise chosen to reflect the theme of the session. The exercise should lead into a discussion of the theme which will give you an opportunity to clarify anything that isn't clear. Refer to the outcome of the previous day's role play to start the discussion. Discuss the components of ABS in detail while referring to the resource material, and preferably refer to the PIC and MTA tools simultaneously. Mention to the participants that the resource materials for the session are provided in the manual.

Attention!

This session is purely technical and the trainer should have an in depth knowledge of the content. If the trainer is not fully equipped to deal with the content, a resource person(s) can be invited to conduct the session.

Do participants need an energiser?

Activities

Activity 1: Presentation on negotiation in the ABS process.

The presentation should cover the principles of negotiation and negotiating partners in the ABS process.

Activity 2: Exercise – Negotiation role play

Time: 30 minutes

Aim

To help participants understand the principles of negotiation through role play.

- Participants learn the principles of negotiation.
- Participants understand the elements of negotiation in the ABS process.
- Participants are able to understand the power, obligations, rights, roles, and responsibilities of the various actors in the ABS process.

Method

Group exercise, role play on a case

Materials

Flipchart, markers, tape, board

Steps

- Step 1** Split the participants into four groups by allocating a number from one to four.
- Step 2** Introduce the aim of the exercise.
- Step 3** Allocate each group a role:
 - First group: Government project representatives
 - Second group: Ward 1 community representatives
 - Third group: Ward 2 community representatives
 - Fourth group: Audience
- Step 4** Distribute the case to the groups and explain it to them.
- Step 5** Each group should be briefed on the role that they will be playing during the exercise.

- Step 6** Ask the groups to refer to the case for their role.
- Step 7** Mentor each group on their role and functions.
- Step 8** Give the groups at least 5 minutes to prepare before the role play.
- Step 9** When all the groups are ready, start the exercise.
- Step 10** The trainer and audience groups should carefully observe the role play.
- Step 11** After the role play is finished, open the floor for discussion, using a flipchart to record the outcome.

Negotiation practice case

A wetland area (Maipokhari Sacred Lake in Nepal) is rich in biodiversity and genetic resources. A company has offered to the government to use some of the resources and thus generate income which it will share with the government and the community in the ward where the wetland is located.

There is a conflict between the communities in Ward 1 and Ward 2 over ownership of the wetland, as both say that it falls within their ward. The government representatives decide to visit the wetland area and arrange a meeting with the Ward 1 and Ward 2 communities and the bioprospecting party to brief the communities about the project and to initiate a discussion on the utilisation of resources and sharing of benefits. The meeting between the groups takes place and all three groups negotiate.

Activity 3: Discussion and Presentation on details of negotiation in the ABS process.

The outcome of the role play should be used by the trainer to explain in detail the power, principles, roles and responsibilities, and obligations in the negotiation process. This can be done through a media presentation or by referring to the role play at the same time as discussing the role play outcome. The discussion should be continued until it is time to move to the next session.

Session 11 Resource Materials

Negotiation in the Access and Benefit Sharing Process

Definition of negotiation

Negotiation is a problem solving process in which two or more people or parties voluntarily discuss their differences and attempt to reach a joint decision on their common concerns. It is one of the most common approaches used to make decisions and manage disputes in natural resources management.

Negotiation occurs between spouses, parents and children, managers and staff, employers and employees, professionals and clients, within and between organisations, and between agencies and the public. It requires negotiating parties to identify issues about which they differ, educate each other about their needs and interests, generate possible settlement options, and bargain over the terms of the final agreement. Successful negotiations generally result in some kind of exchange or promise being made by the negotiators to each other. The exchange may be tangible, such as money, a commitment of time, or a particular behaviour, or intangible, such as capacity development or an agreement to change an attitude, expectation, or to make an apology.

Quite simply, negotiation is an interaction of influences. Such interactions, for example, include the process of resolving disputes, agreeing upon courses of action, bargaining for individual or collective advantage, or crafting outcomes to satisfy various interests. Negotiation involves two basic elements: the process and the substance. The process refers to how the parties negotiate: the context of the negotiations, the parties to the negotiations, the relationships between the parties, the communication between the parties, the tactics used by the parties, and the sequence and stages in which all of these play out. The substance refers to what the parties negotiate over: the agenda, the issues, the options, and the agreement(s) reached at the end (Wikipedia no date).

Negotiating parties

In the realm of ABS, the negotiating parties are known as the contracting parties (i.e., the accessing and providing parties).

Accessing party: Section 3(1) and 3(2) of the Indian Biodiversity Act defines the accessing party as any person (including foreigners, non-resident Indians, and foreign companies) who intends to obtain any biological resources or knowledge associated occurring in a provider country for research or for commercial utilisation or for bio-survey and bio-utilisation or to transfer the results of any research relating to biological resources or associated traditional knowledge, and requires them to obtain prior approval from the National Biodiversity Authority.

Providing party: The providing party is the contracting party (provider country) to the CBD that provides access to resources and knowledge/technology situated in their country to users (accessing parties). The providing party can also be the accessing party.

Principles of negotiation

Most negotiations are oriented towards positions. The predetermined outcome that is perceived by disputants as satisfying their needs and objectives is what we term their position. The bottom line or final position represents the minimum acceptable solution to the disputant. The other disputant sees resolution of the issue from the opposite point of view. If the range of these positions overlap, it may be possible for parties to find a solution that satisfies both. However, usually, the parties' positions are so distant and their views of the problem so mutually exclusive that the only possibility for a solution is for at least one party to compromise. Until concessions are made by one or both parties, the positions of the parties will continue. Compromise is the measure by which each is prepared to concede its own needs in order to obtain a settlement. A solution based on mutual compromise is, therefore, less than optimal for both disputants. Where no compromise is reached, the parties will not negotiate a mutually satisfactory solution. This is the limit of position-based negotiation.

The alternative to this kind of approach to negotiation is interest-based bargaining using a third-party as negotiator. A principle negotiator tries to focus the disputants on a settlement that will meet as many of their mutual and complementary interests as possible. The final position of the disputants shrinks in importance while meeting the interests of each disputant is magnified. In this cooperative negotiation strategy, the parties are more focused on the matter at issue between them and less on the people involved. They try to be inventive and to base their evaluation of possible settlement options on the objective criteria agreed between them.

Interest-based negotiation is the most suitable approach for agreements related to access and benefit sharing from genetic resources and associated traditional knowledge. In interest-based negotiation, both the accessing and provider parties sign an accord agreeing the terms and conditions. The terms of the agreement between the parties (providers and accessing) at the government/community level will be developed between the parties with inputs from the biodiversity authority, board, or committee. In the negotiation, the following points must be remembered:

- Focus on interests, rather than positions
- Separate the people from the problem
- Find (creative) options for mutual gain
- Use fair criteria (which includes proposing and pursuing fair benefit shares)

In the context of ABS, negotiation is an important part of the process and is required at each step, beginning from access right through to when benefit sharing occurs. Parties responsible for providing the access should base their negotiation on mutually agreed terms (MAT) and prior informed consent (PIC), and as stipulated by law.

Conditions for successful negotiation

A variety of conditions can affect the success or failure of negotiations. The following conditions make success in negotiation more likely.

Identifiable parties willing to participate

In the bioprospecting process, several parties are involved for different purposes. If it is for research on genetic resources and associated traditional knowledge, the research institution, researchers, and the indigenous local community where the research is to be undertaken will be the parties. Similarly, if the project is for the commercialisation of genetic resources, multiple parties are involved: the national biodiversity authority, state biodiversity authorities, biodiversity management committees, the indigenous/local communities where the bioprospecting is taking place, and the bioprospecting or accessing party. All those who have a stake in the negotiations should be identified and willing to sit together at a bargaining table if a productive negotiation is to occur. If a critical party is absent or not willing to participate, the potential for agreement declines. For example, in relation to bioprospecting, if the local/indigenous people are absent during negotiations for the sharing of benefits, the negotiation will not be effective.

Interdependence

For productive negotiation to occur, the parties must be dependent upon each other to have their needs met and interests satisfied. The participants either need each other's goodwill or at least a lack of negative action for their interests to be satisfied. If one party can get their needs met without the cooperation of the other, there will be little impetus to negotiate.

Readiness to negotiate

The parties must be ready to negotiate for dialogue to begin. For example, a US based pharmaceutical company is willing to develop a vaccine from the serum of Himalayan ibex in Khunzarab National Park in Pakistan. The government authority gave permission to take the blood sample from the Himalayan ibex in the Park, but the local community was not informed and had no idea of what was happening to the resources that they had conserved for so long. In such a situation, the provider (i.e., the government) and the accessing party (the pharmaceutical company) should be ready to negotiate with the local community to come up with an agreement on the process and activities that would occur, and on the benefit sharing arrangements between the providing parties (i.e., the government/local community) and the accessing party (i.e., the pharmaceutical company).

Influence or leverage

For parties to reach agreement over issues about which they disagree, they must have some influence over the attitudes and/or behaviour of the other negotiator. Influence is often perceived as a negative or underhanded use of power to pressure one party into making an agreement that is beneficial to only that party. However, here we are talking about influence as a way of encouraging change. Asking provoking questions, providing answers, seeking the advice of experts, appealing to influential associates of a party, exercising legitimate authority, or providing rewards, are all ways of exerting influence during negotiations.

Agreement on the issues and a vested interest

People must be able to agree upon some common issues and interests for progress to be made in negotiations. In general, participants will have some issues and interests in common and others that are of concern to only one party. The number and importance of the common issues and interests influences whether or not negotiation starts at all and whether or not it terminates in agreement. Parties must have enough issues and interests in common to commit themselves to a common decision-making process.

Willingness to settle

Both the parties should be willing to settle any dispute that may occur when bioprospecting takes place. The accessing party should clearly explain its position, the expected outcome, and the exact percentage and type of benefit that the community and the government will receive from the bioprospecting. If there is a dispute, both parties should agree to settle it amicably or by use of a third party.

A sense of deadline and urgency

Negotiation generally occurs when there is some pressure or urgency to reach a decision. Urgency may be imposed either by external or internal time constraints or potential positive or negative consequences if settlement is or is not reached. External constraints include court dates, imminent executive or administrative decisions, or predictable change in the environment. Internal constraints may be artificial deadlines selected by the negotiator to enhance the motivation of another to settle. For successful negotiation, the parties must jointly feel a sense of urgency and be aware that they are vulnerable to adverse action or loss of benefits if a timely decision is not reached.

Issues must be negotiable

The negotiators must believe that there are acceptable settlement options open to them as a result of participating in the process. If negotiation appears to have only win/lose possibilities, the parties will be reluctant and have little reason to enter into the dialogue.

Willingness to compromise

Not all negotiations require compromise. Often agreements in bioprospecting can be reached that meet all the parties' needs and do not require compromise by any party. Where the physical division of assets, strong values, or principles preclude compromise, negotiation is not possible. For example, if a product or process goes against the ideals of the local community, negotiation is not possible.

The agreement must be reasonable and implementable

There is no point coming to an agreement in substance, if it cannot be implemented. Thus the parties must be able to establish realistic and workable plans to carry out their agreements that will hold over time.

Resources to negotiate

Parties in negotiations must have the interpersonal skills necessary for bargaining and, where appropriate, the money and time to engage fully in procedures and dialogue. Inadequate and unequal resources may block the initiation of negotiations or hinder settlement. A number of stages must be followed to make negotiation meaningful. These stages include: the introduction and establishment of expectations, discussion and definition of issues, identification of interests, and generating options and solutions.

Steps and Procedures in ABS Negotiation

Prior informed consent: Article 15(5)

Parties seeking access to genetic resources and associated traditional knowledge are required to submit an application for PIC and obtain a written permit from the competent national authority of the provider country. In the process, legislation may require the accessing party to obtain prior informed consent from certain stakeholders (e.g., the community from where the genetic resources and associated traditional knowledge will be accessed). This means that the competent authority, community, or biological resources and knowledge holders should be fully informed about the purpose and objectives, both long and short term, of access and the subsequent benefit sharing arrangement proposed by the accessing parties. The competent authority will have the legal power to grant PIC, but, if deemed necessary, may delegate this power to another entity. The information requirements for PIC are given in Box 1.

Box 1: Information requirements for PIC

Under the Bonn Guidelines, for PIC to be obtained, the following must be disclosed to the providing party:

- a. Legal entity and affiliation of the applicant and/or collector, and contact person if the applicant is an institution
- b. Type and quantity of genetic resources to which access is sought
- c. Starting date and duration of accessing activity
- d. Geographic prospecting area
- e. Evaluation of how the access activity may impact on conservation and the sustainable use of biodiversity, to determine the relative costs and benefits of granting access
- f. Accurate information regarding intended use (e.g., taxonomy, collection, research, commercialisation)
- g. Where the research and development will take place
- h. Information on how the research and development is to be carried out
- i. Identification of local bodies for collaboration in research and development
- j. Possible third party involvement
- k. Purpose of the collection, research, and expected results
- l. Kinds/types of benefits from utilisation of the genetic resource
- m. Indication of benefit-sharing arrangements
- n. Budget
- o. Treatment of confidential information.

Source: CBD 2002b

Why PIC?

PIC helps the genetic resources and traditional knowledge holders and providers, users, and accessing parties involved in the agreement to take informed decisions related to bioprospecting on necessary administrative, legal, and ethical matters and to negotiate fair and equitable benefit sharing, including the sharing of tangible and intangible benefits, ensuring transparency and accountability in the process. PIC also minimises the cases of biopiracy.

Key Elements of PIC

The PIC agreement may include the following.

Approval of PIC application by competent authority or evidence of PIC

Subject to the national legislation of the providing country, the user parties should obtain PIC from the competent authority of that country and relevant stakeholders. The national legislation and customary laws/practices should be taken into consideration before obtaining the approval of local and indigenous communities to access their genetic resources, traditional knowledge, innovations, and practices. Sample PIC application forms developed by the Royal Government of Bhutan and Government of India are provided in the Resource Materials for Session 10.

Timing of application

The PIC application to the provider country should be made when the potential bioprospecting parties have primary knowledge of genetic resources and traditional knowledge that they wish to access from a certain country or geographical area and from a specific community. PIC should be sought in advance to facilitate the application process and so that a meaningful consultation and decision process can take place between the provider and user parties. The time for response to an application for PIC should be specified in the providing country legislation.

Use of accessed resources

The purpose, objective, and use of genetic resources or associated traditional knowledge for which the consent is sought should be clearly spelt out in the PIC application. If there are any changes in the use of the resources and knowledge during the agreed time period for which access has been granted, the user should seek further prior informed consent. This should be mentioned in the terms and conditions of the agreement between the provider and user parties. However, this requirement is subject to each country's ABS legislation.

PIC procedures

Access can be obtained through an application process, subject to the national legislation of the provider country. The degree of information needed by the competent authority may vary based on the bioprospector's purpose and the stakeholders involved. In relation to research, the Swiss Academy of Sciences has identified four cases where PIC is required:

No ABS situation: The research does not involve any access situation or genetic resources. Thus, no ABS contract is necessary. However, other research permits may be required.

Simple ABS situation: The research involves the collection and transfer (including export) of samples for an inventory. A (standard) Material Transfer Agreement (MTA) is sufficient.

ABS situation: The export of samples is required for further analysis and study in a laboratory within the country or abroad. No further exploitation is planned. A simple ABS contract is sufficient.

Complex ABS situation: The proposed research involves various steps, including possible research for commercial purposes or the use of traditional knowledge. A full ABS contract is required.

Regarding the information requirements in the PIC application, the Bonn Guidelines have made suggestions, which have been adopted by most countries in the Himalayan region. The application for access and the decision by the competent authority to grant (or deny) access must be documented in written form. All documents, access, and licences/permits should be recorded. During the process, transparency and accountability of both sides (access seekers and providers) must be ensured. PIC is normally obtained from the biodiversity authorities at the national, provincial, and local levels. However, problems may arise when the potential prospectors go to the area where the resources and knowledge are located. At this stage, the knowledge holders may disagree on the consent and conflict may arise. In order to avoid this situation, it is advised that PIC also be obtained from the community located in the area where the bioprospecting activity is proposed. While obtaining PIC it must be remembered to respond to a blend of different moral rules in addition to the ABS procedure. This will prevent potential obstacles. It may help to prepare by answering a series of questions on ‘who’ and ‘whose’ in relation to planning and disclosure (see Table 6). This will help accessing parties to prepare to obtain PIC from the concerned stakeholders in the local community.

Table 6: Key questions for consideration during the PIC process

STEP 1 Preliminary Planning	STEP 2 Detailed Planning	STEP 3 Disclosure	STEP 4 Outcome
<ul style="list-style-type: none"> • Who will take part in the PIC process? • Who participates in whose PIC? • Who is left out in the PIC? • Who identifies problems in the area? • Whose problems? • Whose questions? • Whose bioprospecting? • Whose concerns are left out? 	<ul style="list-style-type: none"> • Who is influential? • What is the power game? • Who makes the decisions in the community on what is important for the community? • Who should decide? • Who controls the information? • Who is the knowledge holder? • Who in the community is marginalised? <p>Reality check and understanding</p> <ul style="list-style-type: none"> • Whose knowledge and resources? • Who is speaking the truth? • Who is informed and who is not in the proposed bioprospecting? • Who understands the output of prospecting and who does not? • Whose reality is left out? 	<ul style="list-style-type: none"> • Who owns the output of the bioprospecting? • Who owns the data from the research and development? • Who has access to the developed knowledge and products and why? • Who uses this and for what? • Who cannot access and use them? 	<ul style="list-style-type: none"> • What happens in the planned activity? • Who benefits? At whose cost? • Who gains and who loses? • Whose capacity is enhanced? • Who is empowered and who is disempowered due to bioprospecting?

Mechanisms for consultation of relevant stakeholders

Considering the PIC application and subject to statutory and customary laws, the provider country may facilitate the consultation process with relevant stakeholders involving local and indigenous communities and may discuss in detail access activities and benefit sharing arrangements. However, subject to the national legislation of each country, the PIC of the community should also be obtained. In such cases, the national standard PIC form may be modified as needed to seek consent from the community concerned.

CBD PIC responsibilities

In many countries in the Himalayan region, bureaucratic governance and lack of transparency can be the key obstacles in the process, despite legal provisions providing for the right to information. Therefore, it is suggested that the user parties carefully follow the responsibilities set out in the Bonn Guidelines (Box 2). By following the Bonn Guidelines, the parties can ensure accountability and transparency and help communities and traditional knowledge holders to take part in the negotiation process, as well as increasing their effectiveness.

Box 2: CBD Bonn Guidelines: PIC user responsibilities

Under the Bonn Guidelines, users of genetic resources and associated traditional knowledge should:

- be encouraged to review their policy, administrative, and legislative measures to ensure they are fully complying with Article 15 of the CBD;
- be encouraged to report on access applications through the Clearinghouse mechanism and other reporting channels of the Convention;
- seek to ensure that the commercialisation and any other use of genetic resources will not prevent the traditional use of genetic resources;
- ensure that they fulfill their roles and responsibilities in a clear, objective, and transparent manner;
- ensure that all stakeholders take into consideration the environmental consequences of the access activities;
- establish mechanisms to ensure that their decisions are made available to relevant indigenous and local communities and relevant stakeholders, particularly indigenous and local communities;
- support measures, as appropriate, to enhance indigenous and local communities' capacity to represent their interests fully at negotiations.

Source: CBD 2002b

Mutually agreed terms (MAT)

Article 15(4) of the CBD stipulates that access should be based on mutually agreed terms (MAT) between both parties. The same basic principles used in PIC are used in developing MAT, but in the case of MAT the focus is on the terms and conditions set while reaching the agreement and signing the contract for bioprospecting. Such a contract is legally binding in the ABS process and ensures transparency and accountability on both sides. After the agreement is reached and terms and conditions are satisfied between the parties, a material transfer agreement (MTA) can be made. The responsibilities related to MAT suggested by the Bonn Guidelines are summarised in Box 3.

Box 3: CBD Bonn Guidelines: MAT user responsibilities

Under the Bonn Guidelines, users of genetic resources and associated traditional knowledge should:

- seek PIC in conformity with Article 15, paragraph 5, of the CBD;
- respect customs, traditions, values, and customary practices of indigenous and local communities;
- respond to requests for information from indigenous and local communities;
- only use genetic resources for purposes consistent with the terms and conditions under which they were acquired;
- ensure that uses of genetic resources for purposes other than those for which they were acquired only take place after new prior informed consent and mutually agreed terms are given;
- as much as possible, endeavour to carry out the use of the genetic resources in, and with the participation of, the providing country;
- establish special terms and conditions under mutually agreed terms to facilitate taxonomic research for non-commercial purposes;
- ensure the fair and equitable sharing of benefits, including technology transfer arising from the commercialisation or other use of genetic resources, in conformity with the mutually agreed terms established with the indigenous and local communities or stakeholders involved.

Source: CBD 2002b

Elements of MAT

While developing the MAT, some fundamental elements must be considered. These include the following:

- Legal certainty and clarity
- Minimisation of transaction costs
- Inclusion of provisions on user and provider obligations
- Development of different contractual arrangements for different resources and for different uses, and development of model agreements; different uses may include, among other things, taxonomy, collection, research, and commercialisation

- Mutually agreed terms should be negotiated efficiently and within a reasonable period of time
- Mutually agreed terms should be set out in a written agreement

In the written MATs, it is necessary to indicate information pertaining to the critical elements given in Box 4.

Box 4: Elements that should be included in the MAT

Under the Bonn Guidelines, the following should be included in the mutually agreed terms:

- Type and quantity of genetic resources, and the geographical/ecological area of activity
- Any limitations on the possible use of the material accessed
- Capacity-building in various areas to be identified in the agreement
- A clause on whether the terms of the agreement can be renegotiated in certain circumstances (e.g., change of use)
- Recognition of the sovereign rights of the country of origin
- Whether or not genetic resources can be transferred to third parties without ensuring that they enter into a similar agreement (except for taxonomic and systematic research that is not related to commercialisation)
- Protection and promotion of innovations and practices of indigenous and local communities and promotion of customary use of biological resources in accordance with traditional practices
- Treatment of confidential information
- Provisions regarding the sharing of benefits arising from the commercial and other use of genetic resources and their derivatives and products

Source: CBD 2002b

In addition to the above, there are some other guiding parameters suggested in the Bonn Guidelines that may be necessary for MAT.

- Take into account the ethical concerns of the particular parties and stakeholders, in particular the indigenous and local communities concerned.
- Provisions to ensure the continued customary use of genetic resources and related knowledge
- Provision for the use of intellectual property rights including joint research, and an obligation to implement rights on inventions obtained and to provide licences by common consent
- The possibility of joint ownership of intellectual property rights according to the degree of contribution

Material transfer agreement (MTA)

Material transfer agreements (MTAs) are contracts used for the transfer of genetic materials and which contain the terms and conditions on which the material is transferred. MTAs may take various forms, ranging from a short shipment document, delivery notice, or standard invoice containing minimal conditions, to a fully-fledged, negotiated, and signed contract containing mutually agreed terms. The important things to consider while executing an MTA are shown in Box 5.

Box 5: MTA – Things to keep in mind

Material transfer agreements (MTAs) may vary depending on

- the specific purpose of an applicant seeking access to genetic resources and traditional knowledge from another contracting party;
- the administrative, legal, and policy frameworks on ABS, as well as the scientific and technological capabilities of the parties to facilitate a fair and transparent ABS deal;
- the mutual concerns of the parties in relation to the conservation of biodiversity and equitable sharing of all kinds of benefits arising from the sustainable use of the resources and associated traditional knowledge, data, and information accessed.

MTA provisions

The CBD Bonn Guidelines provide a framework for developing MTAs with elements that may include introductory provisions, ABS provisions, and legal provisions.

Introductory provisions

- A preamble with a reference to the Convention on Biological Diversity
- The legal status of the provider and user of genetic resources
- The mandate/objectives of the provider and, where appropriate, the user of genetic resources

Access and benefit-sharing provisions

- A description of the genetic resources covered by the MTA, including accompanying information
- The permitted uses of the genetic resources, their products or derivatives under the MTA
- A statement on any change of use that would require new PIC and a new MTA
- A statement as to whether or not IPR is sought and, if so, under what conditions
- The terms of benefit-sharing arrangements specifying the type/kind of benefits to be shared
- A clause on non-warranties guaranteed by the provider on the identity and/or quality of the provided material
- A statement on whether or not the genetic resources and/or accompanying information may be transferred to third parties and, if so, the conditions under which such a transfer is permitted
- Definitions of various terms to avoid ambiguity
- A duty to minimise the environmental impacts of collecting activities

Legal provisions

- An obligation to comply with the material transfer agreement
- The duration of the agreement
- Notice required to terminate the agreement
- The fact that the obligations in certain clauses survive the termination of the agreement
- The independent enforceability of individual clauses in the agreement
- Events limiting the liability of either party (such as events beyond human control, calamities)
- Dispute settlement arrangements
- Assignment or transfer of rights

- Assignment, transfer, or exclusion of the right to claim any property rights, including IPR, over the genetic resources received through the material transfer agreement
- Choice of law under which the agreement will be governed (if contracting between two countries)
- Confidentiality clause

Benefit sharing

Benefit sharing refers to the forms of compensation given to the genetic resources and traditional knowledge provider parties by the user parties according to the contract agreement signed in the bioprospecting plan. These compensation forms are provided in the legislation of individual countries. The CBD suggests the kind of monetary or non-monetary benefits that may be used.

Monetary benefits may include, but are not limited to, the following:

- Access fees or a fee per sample collected or otherwise acquired
- Up-front payments
- Milestone payments
- Payment of royalties
- Licence fees in the case of commercialisation
- Special fees to be paid to trust funds supporting conservation and sustainable use of biodiversity
- Salaries and preferential terms where mutually agreed
- Research funding
- Joint ventures
- Joint ownership of relevant intellectual property rights

Non-monetary benefits may include, but are not limited to the following:

- Sharing of research and development results
- Collaboration, cooperation and contribution in scientific research and development programmes, particularly biotechnological research activities, where possible in the provider country
- Participation in product development
- Collaboration, cooperation, and contribution in education and training
- Admittance to ex situ facilities of genetic resources and to databases
- Transfer to the provider of the genetic resources of knowledge and technology under fair and most favourable terms, including on concessional and preferential terms where agreed, in particular, knowledge and technology that make use of genetic resources, including biotechnology, or that are relevant to the conservation and sustainable utilisation of biological diversity
- Strengthening capacities for technology transfer to user developing country parties and to parties that are countries with economies in transition and technology development in the country of origin that provides genetic resources; also to facilitate abilities of indigenous and local communities to conserve and sustainably use their genetic resources
- Institutional capacity building
- Human and material resources to strengthen the capacities for the administration and enforcement of access regulations
- Training related to genetic resources with the full participation of providing parties, and where possible, for such parties in the providing country
- Access to scientific information relevant to conservation and sustainable use of biological diversity, including biological inventories and taxonomic studies

- Contributions to the local economy
- Research directed towards priority needs, such as health and food security, taking into account domestic uses of genetic resources in provider countries
- Institutional and professional relationships that can arise from an access and benefit-sharing agreement and subsequent collaborative activities
- Food and livelihood security benefits
- Social recognition
- Joint ownership of relevant intellectual property rights

Case 1: Benefit sharing arrangements with the Kani tribe of South India

The Kanis are a tribal community inhabiting the Agastyamalai tropical rainforests of the Western Ghats. Benefit sharing arrangements between the Tropical Botanical Garden and Research Institute (TBGRI) and the Kani tribals of Kerala for the development of a drug called 'Jeevani' based on the knowledge of the Kani tribe ('Jeevani' is a restorative, immuno-enhancing, anti-stress and anti-fatigue agent, based on the herbal medicinal plant arogyapaacha, used by the Kani tribals in their traditional medicine) deserves credit. Within the Kani tribe, the customary rights to transfer and practise certain traditional medicinal knowledge are held by tribal healers, known as plathis. The knowledge was divulged by three Kani tribal members to the scientists of TBGRI who isolated 12 active compounds from arogyappacha (*Trichopus zeylanicus*), and developed the drug 'Jeevani'. The technology was then licensed to Arya Vaidya Pharmacy Ltd, an Indian pharmaceutical manufacturer pursuing the commercialisation of Ayurvedic herbal formulations. A trust fund was established to share the benefits arising from the commercialisation of the traditional knowledge-based drug 'Jeevani'. This experience has provided insight for developing benefit-sharing provisions in the National Biodiversity Policy and Macrolevel Action Strategy, as well as in legislation on biodiversity.

Source: CBD no date c

Case 2: Benefit sharing in Suriname

The International Cooperative Biodiversity Group (ICBG) is a US Government funded programme sponsored by the National Institutes of Health (NIH), the National Science Foundation (NSF), and the United States Agency for International Development (USAID). In 1993, the ICBG awarded a grant to five different institutions who had submitted a joint project proposal for Suriname. The Suriname ICBG group works with local tribal people to conduct bioprospecting activities. The majority of the local participants are Bush negroes, or Maroons, who are descendants of runaway African slaves who escaped Dutch plantations on the coast over three hundred years ago and settled along the river in central Suriname. Six distinct Maroon tribes live in the interior and depend on their extensive knowledge of forest resources for their survival.

The benefit-sharing arrangements and expected results

In Suriname, the ICBG programme is designed to promote drug discovery while conserving both biological and ethnobotanical knowledge. The linking of the various participants is facilitated through a series of oral and written agreements. First, a letter of intent between the Granman of the Saramaka people and Conservation International (CI) was established based on informed consent, as required by Article 15 of the CBD. Renewal of consent by the Saramaka people is also done periodically through formal discussions with representatives of the tribe. The most immediate benefits of the bioprospecting activities, however, come not from the contract which guarantees future royalties, but instead from the up-front compensation, information, training, and technology transfer given in connection with the implementation of the project. Some of these benefits come from activities that are an integral part of the drug development process, for example the knowledge gained from the identification of forest taxonomy and the training of Surinamese university students and faculty in biotechnology and extraction. Other benefits are derived from related projects that are intended to ensure development, conservation, and sustainability, which include the training of Surinamese people in plant collection and identification techniques, ethnobiology, and management.

Source: Guerin-McManus et al. 1999

Session 12

Protection and Documentation of Traditional Knowledge

Time: 90 minutes

Objectives

To discuss the importance of traditional knowledge and the need to protect traditional knowledge through documentation and to review traditional knowledge documentation initiatives in countries.

- ▶ To underline the importance of and need for traditional knowledge documentation
- ▶ To be aware of the benefits of traditional knowledge
- ▶ To understand the provisions for traditional knowledge protection in the ABS laws
- ▶ To be acquainted with traditional knowledge documentation initiatives in different countries

Methodology

The methodology to be used in this session depends on the trainer, who can be as innovative as s/he likes.

Suggestions for the trainer

Dedicate this session to reviewing the opportunities for protecting traditional knowledge. Start the session with an explanation of the need for, and importance of, protecting our genetic resources and traditional knowledge in the realm of ABS. Participants' understanding of the critical need for traditional knowledge documentation can be enhanced by carrying out a group exercise that illustrates the importance of documented evidence and stimulates discussion on the theme. A possible exercise is given below or you can choose one of your own. Use the learning outcome from the exercise as a catalyst for further discussion and clarification. Following the exercise, discuss stories of biopiracy that have occurred in the region, leading to the inequitable sharing of benefits. The case of the biopiracy of Neem in which the patent was revoked as a result of documented evidence is a good example.

(continued on next page)

Suggestions for the trainer (continued)

After this, discuss traditional knowledge protection options and documentation initiatives in the region. It is useful to mention the traditional knowledge database, the Traditional Knowledge Digital Library (TKDL) in India and China, and the Biodiversity Register being developed in India. Also give examples of traditional knowledge documentation initiatives in Bangladesh, Bhutan, China, India, Nepal, and other countries. Explain the challenge of having innumerable genetic resources, of which only a few may be commercially significant (and that, therefore, it is no use to start randomly documenting genetic resources). Mention this during the discussion on traditional knowledge documentation and while referring to the traditional knowledge documentation format. Tell participants to refer to the manual for other resources.

Attention!

This session is purely technical and the trainer should have an in depth knowledge of the content. If the trainer is not fully equipped to deal with the content, a resource person(s) can be invited to conduct the session.

Do participants need an energiser?

Activities

Activity 1: Presentation on Importance of protecting genetic resources and traditional knowledge

Activity 2: Exercise – Case discussion on the documentation of traditional knowledge

Time: 30 minutes

Aim

To help participants understand the need for, and importance of, traditional knowledge documentation

- Participants are able to understand the importance of and need for traditional knowledge documentation.
- Participants understand the benefits of documentation
- Participants are able to understand the relationship between traditional knowledge documentation and the ABS regime

Method

Group exercise and discussion

Materials

Handout of fictional case: 'No evidence'

Steps

- Step 1** Split the participants into three groups by allocating a number from one to three.
- Step 2** Introduce the aim of the exercise.
- Step 3** Distribute the example case among the groups.
- Step 4** Ask each group to discuss the case within their group.
- Step 5** When all groups are finished with the group discussion, open the floor for general discussion.

No evidence

A person named A had a close friend B who was in need of money. A was asked by B to lend him NRs.50,000 for two months. A, without any thought, trusted his friend and gave him the said amount.

After two months had elapsed, B did not show any sign of returning A's money. A asked for the money frequently, but B made excuses and didn't pay him. The relationship between the two turned bitter over the money.

Finally, A filed a case in the court against B. The court dismissed the case because there was no documented evidence that the transaction had taken place. The court needed documentation to prove that B had borrowed the money from A. A learned a lesson, to always document transactions in future.

Questions

1. Why did A lose money?
2. What evidence did the court seek?
3. Why is documentation of evidence necessary?

Activity 2: Discussion on the need for traditional knowledge documentation and initiatives in the region.

The answers to the questions on the example case should lead to further discussion and clarification of the session theme on the importance of, and need for, traditional knowledge documentation.

Session 12 Resource Materials

Traditional Knowledge and its Relevance

Indigenous and local communities have an intrinsic understanding of the area they live in and a knowledge of their natural resources. This knowledge is stored and passed on through their language. Areas rich in language tend also to be rich in traditional knowledge on biodiversity (Oli and Dhakal 2008). However, in recent years, the languages of mountain people have become endangered for a multitude of reasons (Turin 2005, 2007). This also affects people's awareness of and knowledge about their biodiversity as the local words for particular species are lost.

The Hindu Kush-Himalayan region, home to over 210 million people, includes parts of three biodiversity hot spots and is a vast repository of traditional knowledge. Local people know different ways of using wild plants and animals for their livelihoods. These rich resources provide the basis for the food and livelihood security of mountain communities. Communities have used local plants and wildlife since time immemorial – collecting, selecting, growing, and raising varieties of food crops, livestock, and medicinal plants for their livelihoods. Traditional knowledge and practices are extremely important for the livelihoods of such communities, maintaining their health and replenishing the environment. There is a long history of traditional knowledge in the evolution of modern food crops, drugs, and technology. For example, farmers in the Himalayan region domesticated and developed carrots, mustard, gooseberries, apples, pears, apricots, oranges, lemons, and large cardamom. However, as most of the indigenous and local communities in the Himalayan region live in 'development neglect' areas, there is a lack of 'fair and equitable sharing' of benefits from their knowledge (Oli and Dhakal 2008).

In the modern world, several food crops and drugs, such as anti-cancer drugs, antibiotics, anti-malarial drugs, analgesics, anti-neoplastic agents, and osteoporosis drugs have been developed from plant

and animal resources with the use of modern technology based on traditional knowledge. Traditional knowledge is very important in modern pharmaceutical research in that it works as an initial screen and can help in isolating the medically significant properties of plants and animals. Traditional knowledge is dynamic and reflects the traditions of communities. It is also by nature collective, and is often the property of the entire community, not belonging to any single individual or entity. Thus, it is imperative to safeguard the sovereignty of this traditional knowledge and to protect it from being misused by bioprospectors obtaining patents for non-original innovations.

Traditional knowledge

Traditional knowledge refers to the knowledge, innovations, and practices of indigenous and local communities around the world. Developed from experience gained over the centuries and adapted to the local culture and environment, traditional knowledge is transmitted orally from generation to generation. It tends to be collectively owned and takes the form of stories, songs, folklore, proverbs, cultural values, beliefs, rituals, community laws, local language, and agricultural practices, including the development of plant species and animal breeds. Traditional knowledge is mainly of a practical nature, particularly in such fields as agriculture, fisheries, health, horticulture, and forestry.

Protecting Traditional Knowledge

Case 1: Biopiracy – The turmeric patent

In March 1995, a US patent on the 'Use of Turmeric in Wound Healing' was awarded to the University of Mississippi Medical Center. The claim covered 'a method of promoting healing of a wound by administering turmeric to a patient afflicted with the wound', such wounds included surgical wounds and body ulcers. According to Agarwal and Narain (1996), in India the powder of the turmeric plant is 'a classic grandmother's remedy' which 'has been applied to the scrapes and cuts of generations of children'. In mid-1996 the Council of Scientific and Industrial Research of India (CSIR) requested the US Patent and Trademark Office to revoke the patent on the basis that turmeric powder is widely known and used in India for its wound-healing properties, and that a great deal of scientific research has been carried out by Indian scientists that confirms the existence of these properties. One could easily suppose that the patent was awarded because the applicant had omitted to mention related traditional use of turmeric and to cite the relevant literature. After all, there is a limit to the amount of time patent office examiners can devote to examining each application for novelty, inventive steps, and usefulness. However, the patent description helpfully states that: 'Turmeric, a yellow powder developed from the plant *Curcuma longa*, is commonly used as a food colorant in many Indian dishes and imparts a bitter taste. Although it is primarily a dietary agent; turmeric has long been used in India as a traditional medicine for the treatment of various sprains and inflammatory conditions.' No method for extracting the active principle was described. Instead, the patent simply declared that 'turmeric is a natural product that is readily available in the food store'. Given the admission that turmeric has long been used to treat inflammatory conditions, it is difficult to see how this patent could have passed the tests of novelty and non-obviousness during the examination. This patent was revoked after the CSIR's challenge on the basis of its absence of novelty. CSIR did not succeed by proving that many Indians already use turmeric as a wound healing agent, but because it was able to provide relevant scientific literature as evidence. Patent examiners in the US are not required to accept the evidence of traditional knowledge held outside the US as prior art (i.e., already known) unless it has been reported (and thereby validated) by scientists and published in learned journals or otherwise made available to the public. The inventors, in fact, made no explicit claim that the wound-healing agent (i.e., the turmeric powder) was any different from the one used traditionally by Indians. Ironically, Indians in the US using turmeric to treat their children's wounds were therefore infringing the patent. If the University of Mississippi had been awarded a similar patent in India, tens of millions of people would have become patent infringers!. (Source: Duffield 2000)

Case 2: Biopiracy – The neem patent

The neem tree (*Azadirachta indica*) originates from the Indian subcontinent and now grows in the dry regions of more than 50 tropical countries around the world. The tree is mentioned in Indian texts written over 2000 years ago and has been used for centuries by local communities in agriculture as an insect and pest repellent, in human and veterinary medicine, and in toiletries and cosmetics. It is also venerated in the culture, religions, and literature of the region.

In 1971, US timber importer Robert Larson observed the tree's usefulness in India and began importing neem seed to his company headquarters in Wisconsin. Over the next decades he conducted safety and performance tests upon a pesticidal neem extract called Margosan-O. In 1985 he obtained a patent for

his preparation of neem seed extract and the Environmental Protection Agency approved this product for use in the US market. Three years later he sold the patent for the product to the multinational chemical corporation, W R Grace and Co (now Certis).

Grace then approached several Indian manufacturers with proposals to buy-up their technology or to stop production of value-added products so that they could concentrate on supplying Grace with the raw material, and set up a manufacturing plant to process neem seed for export in collaboration with P.J. Margo Pvt. Ltd in India. The patent effectively made the traditional use of neem seed extract by farmers illegal. This provoked intense objections from local scientists, farmers and activists. Indian scientists argued that the patent Grace had claimed involved the natural chemical as a stable solution, which did not make it an invention but qualified it as an extension of traditional Indian processes. In 1995, 200 organizations from 35 nations mounted a legal challenge in the U.S. Patent and Trademark Office (PTO) against W.R. Grace on the basis that the knowledge was available at the time of patenting (Rifkin 1995; TWN 1995). At the same time, a legal challenge was mounted at the European Patent Office (EPO) which administers patents under the European Patent Treaty by the organisation of the Indian environmentalist Vandana Shiva, Magda Aelvoet, then MEP, representing the Greens in the European Parliament, and the International Federation of Organic Agriculture Movements. Their joint Legal Opposition claimed that the fungicidal properties of the Neem tree had been public knowledge in India for many centuries and that this patent exemplified how international law was being misused to transfer biological wealth from the South into the hands of a few corporations, scientists, and countries of the North (IFOAM et al 2005).

The EPO Opposition Division ruled in May of 2000 that the product claimed by the would-be proprietors – the United States of America and the multinational chemical corporation W.R. Grace – was “not ‘novel’ and lacked an ‘inventive step’, two of the criteria for patentability” and the patent was revoked. However, the patentees appealed that decision; five years later in 2005 their appeal was set aside by the EPO’s Technical Board of Appeals following an Oral Proceeding and the patent was definitively revoked.

The attempted patent of neem seed is a good example of a patent successfully fended off. The case not only created a global awareness on neem and its properties but also raised issues on biopiracy, the need for documentation of traditional knowledge, equitable sharing of gains from traditional knowledge, and harmonisation of patent rule. Success of revocation of the European patent illustrates the requirement for systematic documentation of knowledge whether traditional or scientific. Further these cases demonstrate the potential of IPR in creating awareness and, enthusiasm in scientists, entrepreneurs, organisations, and society and increased investments in research and development of products which compete in the market place. This is evident from the upward trend of patents filed globally on neem from 1994- 96 onwards, the intense patent debate period, and the commercial products available in markets from neem.

Concern for traditional knowledge protection

The knowledge and use of specific plants and animals for medicinal and industrial application is an important component in traditional knowledge. With the growth in modern herbal medicines and anti-cancer drugs based on plants such as turmeric and taxol, the cosmetic and food industries have also shown interest in plant and animal genetic resources, their cultivation, and processing. Such knowledge is being exploited at an alarming rate by interested parties. The need for, and importance of, traditional knowledge protection emerges from the fact that in the past many genetic resources and associated traditional knowledge were used by agencies for personal gain. The benefits derived from the use of

these resources were not shared with the owners or custodians of these resources. They were patented in another country as an innovation. Such patents generated benefits in the form of royalties, trademarks, and so forth for the company or individual. Disclosure of origin of the resource was not required. Benefits derived were not shared with the owners of the resource or traditional knowledge. Thus, traditional knowledge has increasingly become the victim of piracy. There is a need to establish traditional knowledge holders' rights over such knowledge. With the increasing number of biopiracy cases and inequitable benefit sharing from utilisation, it has become very important to protect these resources and traditional knowledge.

In many developed countries, like America, documented evidence is needed to revoke a patent. In the case of the neem patent, the patent was revoked only after documented evidence was provided to prove that it was piracy and not innovation. Recognising the gravity of traditional knowledge, the Convention on Biological Diversity (CBD) acknowledges the knowledge, innovations, and practices of indigenous local communities and demands the consent of the holders of such knowledge and practices and the fair and equitable sharing of benefits arising from the use of such knowledge in bioprospecting.

International processes in the protection of traditional knowledge

Article 8(j) of the CBD is important for the protection of traditional knowledge. It recognises the importance of traditional knowledge for the conservation and sustainable use of biodiversity and calls for contracting parties to respect, preserve, and maintain the knowledge, innovations, and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biodiversity. It also calls for parties to involve the holders of such knowledge, innovations, and practices for the equitable sharing of benefits arising from the use of such knowledge, innovations, and practices.

Article 9 (1) of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) acknowledges the enormous contribution made by local indigenous communities and farmers in all regions of the world, and particularly at the centre of origin (countries or places that possess the genetic resources in or under in situ conditions and which have been disseminated from there), which constitutes the basis of food and agricultural production. The World Intellectual Property Organization (WIPO) is in the process of developing a range of practical tools aimed to enhance the intellectual property (IP) interests of the holders of traditional knowledge, resources, and expressions. On the other hand, the Trade Related Aspects of Intellectual Property Rights (TRIPS) agreement of the World Trade Organization (WTO) grants private entities and individuals the right to knowledge, which is not in harmony with the CBD and ITPGRFA. This issue is being debated at the TRIPS meetings. The CBD's objective is to regulate access to genetic resources and associated traditional knowledge through national legal systems. The process of addressing the issue of traditional knowledge at the international level is slow. During the Conference of Parties (COP) 8 meeting, the Open-ended Ad Hoc Working Group on Article 8(j) recommended that the protection of traditional knowledge, innovations, and practices with regard to genetic resources be included in the international regime, with input from indigenous and local communities with regard to their experiences of effective protection. The Working Group also discussed *sui generis* ('a class of its own', 'unique') systems for protection of knowledge, innovations, and practices of indigenous and local communities, and it recommended that parties to the CBD be urged to adopt national and local models for such protection, with full and effective participation and prior informed consent. The Working Group also presented the findings of WIPO regarding issues raised and points made on the relationship between TRIPS and the CBD (UNEP/CBD/COP/8/INF/37) (Lawson and Sanderson 2006).

The 9th meeting of the COP in Bonn in 2008 encouraged further progress towards the integration of the objectives of Article 8(j) and related provisions, including Article 10(c), Article 17, paragraph 2 and Article 18, paragraph 4, into the thematic programme of the CBD and other important scientific and cross-sectional issues. COP 9 noted the progress made in integrating article 8(j) tasks as reflected through the national reports received from countries that are party to the CBD. The COP 9 meeting decided to undertake an indepth review of the progress made towards the implementation of Article 8(j) and related provisions, in order to continue the work of the Working Group on Article 8(j) and with a view to placing greater emphasis on linkages between the protection of traditional knowledge innovations/practices and the conservation and sustainable use of biological diversity and fair and equitable sharing of the benefits arising from the utilisation of traditional knowledge innovations and practices.

While this debate is ongoing at the international level, national governments in the Himalayan countries are developing their biodiversity policies and laws to implement the CBD and protect traditional knowledge in their countries.

Why Document Genetic Resources and Traditional Knowledge?

- To understand the status of biodiversity, the types of genetic resources, their location, and ownership
- To be aware of the traditional knowledge related to genetic resources, traditional methods of using genetic resources, the purpose for which they are used, for how long they have been used, and their ownership
- To understand the gender perspectives of access, division of labour, and control over genetic resources and associated traditional knowledge
- To protect genetic resources and traditional knowledge from biopiracy, establish community knowledge as prior art, and establish the ownership rights of the community
- To design programmes and policies for the conservation and sustainable use of genetic resources that are being threatened
- To build the capacity of local communities for better conservation and sustainable use of resources
- To provide legal protection to the owners of traditional knowledge and ensure the fair and equitable sharing of benefits when used for bioprospecting
- To move forward with the knowledge of prior art and prevent appropriation of traditional knowledge
- To enable the transmission of traditional knowledge for future generations
- To provide evidence of granting of property rights over traditional knowledge to the local communities

Traditional knowledge documentation: A traditional knowledge protection option

In recent years, awareness has been growing of the rich biodiversity in the Himalayas and the value of the region's genetic resources and associated traditional knowledge. In the past, local communities and countries of origin have not been able to benefit from their own resources. Communities and countries

of origin were not informed about their genetic resources and associated traditional knowledge. This prevented them from entering into the benefit-sharing stream for the use of genetic resources and associated traditional knowledge. Hence, there is a need to document the biodiversity existing within communities and under national jurisdiction, covering genetic resources and traditional knowledge.

Documentation of resources and traditional knowledge demonstrates the existence of different genetic materials and associated traditional knowledge within an area. It is evidence of ownership of endemic resources and traditional knowledge, establishes the place of origin, and helps prevent misappropriation, including patenting and piracy, by external agents. Documentation gives indigenous peoples and national governments the evidence they need to fight biopiracy. In addition, documentation helps in controlling illicit exploitation and the movement of genetic resources and associated traditional knowledge outside the centre of origin and helps ensure that the benefits derived from the use of such materials accrue to the holders (providers) of such materials. Documentation also helps to draw the attention of bioprospectors by demonstrating the presence of genetic resources for bioprospecting, thereby allowing holders (providers) of genetic resources and traditional knowledge to benefit from such resources. For these reasons countries/communities in the region have begun to document genetic resources and associated traditional knowledge. After the CBD came into force, many countries in the region initiated the documentation process.

Traditional knowledge documentation initiatives

Initiatives have been taken in India to establish a biodiversity register and to document traditional knowledge, particularly in West Bengal and Kerala, Maharashtra, and Madhya Pradesh by government institutions, NGOs, and the biodiversity management committee at the community level. With the enforcement of the Biodiversity Act through the notification of the Rules, India is ahead in this area in comparison to other Eastern Himalayan countries. In Nepal, traditional knowledge documentation has been initiated on a pilot basis in a few districts by civil society organisations. It is anticipated that the process will be accelerated after the draft ABS bill is promulgated. Bhutan is taking similar initiatives and so is Bangladesh.

The most common and widely known documentation methods are

- inventory of biodiversity in a biodiversity register, and
- traditional knowledge documentation.

Biodiversity registers

Registries of knowledge are ordered collections or repositories of information. Biodiversity registries may be compiled by communities or community groups for the benefit of the communities. They are generally intended to protect local or indigenous rights over genetic resources and traditional knowledge. People's biodiversity registers (PBRs) generally have the categories of information shown in Box 6. Where those outside the community have access, there is typically an effort to control this access so as to define the terms on which the knowledge is used, including provisions for the sharing of benefits from use with the providers. An example from Pattuvam village in Northern Kerala in India shows how the local community has taken control over genetic resources and is protecting them (Box 7). A biodiversity register has been prepared in India to document the biodiversity of the area through data collection. A sample format used in Ernakulum District in Kerala is provided in the resource section of the next session (Resources Materials for Session 13).

Box 6: Information categories in a 'people's biodiversity register'

The following categories of information are contained in a people's biodiversity register:

- Types of user groups using local biological resources (the 'peoplescape')
- Mapping of the mosaic of ecological habitats of the study site (the 'landscape')
- The ecological history of the study site
- The extent and distribution of local collective and individual knowledge about different species of plants and animals and their uses (i.e., the knowledge base)
- The abundance, scarcity, and distribution of living organisms
- Patterns of economic (subsistence and commercial) utilisation of living resources
- Efforts to regulate uses of living resources or to conserve them, both by government agencies and local communities
- Development aspirations of local communities and how these relate to local biodiversity
- Divergences and agreements among the various local groups concerning the management of natural resources
- Emerging options for managing the natural resources of the study site, with particular focus on biodiversity conservation

Source: Gadgil (nd)

Box 7: Local community traditional knowledge documentation initiatives in Kerala, India

In Pattuvam village, in Kerala, training was given to school teachers and community people in surveying and documenting traditional knowledge and in register preparation. A Village Biodiversity Register was prepared and handed over in a symbolic ceremony by an elderly citizen to a youth. The youth then handed the Register to the village Sarpanch (village head) to safeguard and protect the interests of the community for future generations.

The village issued a declaration, placing controls over identified genetic resource cultivars growing within the village boundaries. There was an exhibition of important native species and farmers were honoured for conserving the resources. In this way the community declared its intellectual property rights (IPRs) over the resources.

Traditional knowledge documentation

Documentation of the traditional knowledge related to genetic resources (biodiversity) is complementary to the documentation of the genetic resources themselves. It provides valuable information for advancing the understanding of the value of genetic resources and serves as a welcome reference and guide for academic and commercial research. It also helps to establish effective commercial links between bioprospectors and traditional knowledge holders. It gives local communities pride in their heritage. The knowledge found in remote areas held by indigenous communities can be transformed into a valuable commodity from which the community can benefit. For this reason, many communities and national governments are documenting the traditional knowledge within their jurisdiction, in accordance with the legal provisions of their countries.

Session 13

Review of Sample Formats for Traditional Knowledge Documentation

Time: 60 minutes

Objectives

To review and practice a sample traditional knowledge documentation format.

- ▶ To know about and understand various traditional knowledge documentation formats
- ▶ To acquaint participants with a sample traditional knowledge documentation format

Suggestions for the trainer

Dedicate this session to reviewing various traditional knowledge documentation formats and a sample biodiversity register. Tell participants that a sample format for documenting traditional knowledge, including processes, has been developed and used for traditional knowledge documentation, distribute the format, and ask participants to review it. Discuss and clarify any specific points raised. This session is technical and the trainer should have an understanding of the sample traditional knowledge documentation format and experience of using it in the field. The trainer should know each component of the format, and the reason for each component.

Participants may come from different places. Note that the format can be adapted for use in their area.

Activities

Activity 1: Review of traditional knowledge documentation formats

Three different sample formats are distributed to participants for review and then discussed. Trainees should agree which format to adopt for the field exercise.

Session 13 Resource Materials

Traditional Knowledge Documentation Sample Formats

Sample Format A: Traditional knowledge documentation format package developed and practised by the Government of Nepal

Biodiversity and traditional knowledge documentation Prior informed consent information letter

_____ have realised the need to recognise and promote grassroots innovations and traditional knowledge of individuals/communities. To this effort, an initiative to document the biodiversity is necessary. Therefore, this is a step to document biological resources and associated traditional knowledge. This will help in reducing the erosion of knowledge, and will preserve and protect the knowledge of the community.

Information on traditional knowledge holders

Local committee representatives

<u>Name</u>	<u>Address</u>	<u>Signature</u>
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Community representatives

<u>Name</u>	<u>Address</u>	<u>Signature</u>
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Supporting organisations for documentation:

Local resource persons:

Names of supporting individuals:

District officials

District Development Officer

District Forest Officer

Signature: _____

Signature: _____

Name:

Name:

District:

District:

Date:

Date:

Part I: Community biodiversity documentation

Details of the community

Village/Name of the community:

District/Province:

State:

Country:

Total population:

Male:

Female:

Senior citizens:

Male:

Female:

Total agricultural land:

Total forest area:

Major biodiversity areas:

Area under agriculture:

Area under forests:

Protected areas:

Grazing land:

Wetland area:

Major agricultural systems:

Major food crops:

Major livestock:

Forest types:

Major biological resources found in forests and their types:

Major wild animals:

Major birds:

Name and types of daily use plants:

Name and types of daily use animals:

Name and types of daily use microorganisms:

Map of the community

Part II: Community biodiversity documentation

Village: Ward No: VDC/ Municipal area: District: Date:

Name of Bio-resource	Local Name and Local Language(s)	Type	Unique Characteristics	Location and Habitat	Since When in Use
1	2	3	4	5	6

Source of Seed Gene	Part and Products Used	For What it is Used	
		Uses (e.g., Rituals, Economic, Social, Cultural, Medicinal)	Properties
7	8	9	

Processing	Methods of Use	Involvement in Terms of Gender, Caste, Person, Religion, Occupation		
Since When in Use	Source of Seed Gene	Preservation	Processing	Consumption and Use
10	11	12		

Economic Value; Nature of Marketing, Credit (How Much, Where, Who)		Status of Sources		
Local level	Outside VDC	Sufficient	Central	Scarce
13		14		

Involvement in Terms of Gender, Caste, Person, Religion, Occupation			Resource Person and Group
Increasing	Stable		Decreasing
15			16

Part III: Traditional knowledge, skill, technology, products

SN	Name of the Traditional Knowledge, Skill, Product	Why to Make or Use	How to Make or Use	What, Where, and Who Involved	Market Conditions	Resource Person

Sample Format B: Format for data collection under People's Biodiversity Register project (Ernakulum District, Kerala, India)

Kerela sashtra sahitya parishad

Millets

Sl.No	Crop	Variety/local name	Scientific name	Special features	Using or extinct	Seeds available or not	Other information

Oilseeds

Sl.No	Crop	Variety/local name	Scientific name	Special features	Using or extinct	Seeds available or not	Other information

Commercial crops/cash crops

Sl.No	Crop	Variety/local name	Scientific name	Special features	Using or extinct	Seeds available or not	Other information

Tuber crops

Sl.No	Crop	Variety/local name	Scientific name	Special features	Using or extinct	Seeds available or not	Other information

Vegetable crops

Sl.No	Crop	Variety/local name	Scientific name	Special features	Using or extinct	Seeds available or not	Other information

Legumes

Sl.No	Crop	Variety/local name	Scientific name	Special features	Using or extinct	Seeds available or not	Other information

Fruit

Sl.No	Crop	Variety/local name	Scientific name	Special features	Using or extinct	Seeds available or not	Other information

Medicinal plants

Sl.No	Crop	Scientific name	Local use	Cultivating or not	Using for medicinal industry	Local availability	Other information

Aromatic plants

Sl.No	Crop	Variety/ Local name	Scientific name	Special features	Using or extinct	Seeds available or not	Other information

Grasses/fodder plants

Sl.No	Name	Scientific name	Main uses	Using part	Other uses	Availability	Extinct

Wild relatives of domesticated plants

Sl.No	Name	Scientific name	Main uses	Using part	Other uses	Availability	Extinct

Garden/ornamental plants

Sl.No	Local name	Scientific name	Special features	Cultivating for commercial purposes	Commercial consumption	Other information

Chewing crops

Sl.No	Crop	Variety/ Local name	Scientific name	Special features	Using or extinct	Seeds available or not	Other information

Plants collected from forest areas

Sl.No	Name	Scientific name	Special features	Cultivating for commercial purposes	Commercial consumption	Other information

Timber

Sl.No	Name	Scientific name	Main uses	Using part	Marketing or own use	Other information

Livestock/birds

Sl.No	Name	Scientific name	Special features	Cultivating for commercial purposes	Commercial consumption	Other information

Medicinal fauna

Sl.No	Local name	Scientific name	Local use	Cultivating or not	Using for medicinal purposes	Local availability	Other information

Fish

Sl.No	Variety/Local name	Scientific name	Special features	Using or not	Availability	Other information

Insects/pests

Sl.No	Crop	Variety/local name	Scientific name	Special Features	Season of occurrence	Management practices	Other information

Weeds

Sl.No	Name	Scientific name	Main crop infested	Uses	Season of occurrence	Management practices

Traditional labour class

Sl.No	Class name	Occupation	Using plants or animal	Problems facing	Management practices

Knowledge holders

Sl.No	Name	Address	Age	Occupation	Management practices

Traditional skilled persons

Sl.No	Area of knowledge	Person	Features	Other information

Source: IUCN 2005

Sample Format C: Format for documentation of herbal practices

National Innovation Foundation

Guidelines for preliminary documentation of herbal practices

Part 1

Name of the knowledge holder:	
Name of the community leader (if community knowledge)	
Name of the scout	
Address and contact no. of the scout	
Address of the knowledge holder	
Village/bazaar/ town	
Locality	
Post office	
District	
PIN	
State	
Phone no. (if any)	
Nearest town or important place	
Name of the road to the innovator place	
Date of birth	
Gender (male/female)	
Education Primary Secondary	
Occupation	
Experience	

* Brief note on the knowledge holder:

Part 2

1. Herbal practice (human health/animal health/bio-pesticide/any other – please specify)
2. Use of the practice/name of the ailment/disease
3. Symptoms of the situation/ailment/disease
4. Plants used

Sl No.	Name			Parts used	Amount used
	Local	English	Botanical		
1					
2					

5. Other ingredients

Sl no.	Name			Form used	Amount used
	Local	English			
1					
2					

6. Method of preparation:

7. In case of herbal medicine

Method of administration (Orally/external application)	
Dosage (How much, how many times a day, how many days, before food/after food etc.)	
No. of patients treated	
Method of application	
Dosage/Time of	

8. Precautions to be taken (if any)
9. Whether the practice is (a) traditional knowledge, (b) his own new innovation, or (c) improvement by the innovator on already existing practice.

*Dried samples/herbarium/photographs of plants used in the practice are required to be submitted for authentication

Session 14

Process of Traditional Knowledge Documentation

Time: 60 minutes

Objectives

To review and understand the traditional knowledge documentation process and discuss the requirements for fulfilling it.

- ▶ To know about the methods of traditional knowledge documentation
- ▶ To understand about preparation for traditional knowledge documentation
- ▶ To outline the steps in the traditional knowledge documentation process
- ▶ To allow participants to practise documentation using the format

Methodology

The person who presents the session can choose to do a verbal presentation, use a media tool such as PowerPoint, or come up with his/her own innovative methodology. If a media presentation is chosen, prepare it in advance and set up the equipment before the session starts.

Suggestions for the trainer

Start by reviewing the methods of traditional knowledge documentation (Resource Materials for Session 12). Discuss the importance of advance planning and preparation for traditional knowledge documentation and what preparation has to be done, such as identifying the site, collecting background information, and committee formation. Mention that the resource materials outline the preparation in detail.

Following this, the participants should discuss in detail the steps that are actually carried out in traditional knowledge documentation. Mention that the method chosen for the documentation of traditional knowledge will influence the steps. Tell participants that the steps provided in the resource materials can be followed for either multidisciplinary or participatory documentation. Discuss the after-documentation initiatives for safeguarding the document registry through additional documents that mention the committee, the terms and conditions, and ethics related to confidentiality, personal benefits, accountability of committee members, and the custodian

(continued on next page)

Suggestions for the trainer (continued)

responsible for the safe deposit of documents. In addition, explain the clauses containing the terms and conditions of access and use of documented genetic resources and traditional knowledge adopted in Kerala as a safeguarding measure. It is important to mention that there will be a role play on traditional knowledge documentation in the next session, which will help clarify any problem areas for the participants. Remind participants that the resource materials for the session are provided in the manual.

Attention!

This session is purely technical and the trainer should have an in depth knowledge of the content. If the trainer is not fully equipped to deal with the content, a resource person(s) can be invited to conduct the session.

Do participants need an energiser?

Activities

Activity 1: Presentation on process of traditional knowledge documentation.

Activity 2: Discussion on steps in traditional knowledge documentation.

Session 14 Resource Materials

Methods of Traditional Knowledge Documentation

Types of documentation

Multidisciplinary documentation

The documentation team should be multidisciplinary and preferably include, but not be limited to:

- a community leader,
- community experts (as a source of traditional knowledge),
- an outside expert,
- a legal expert (to provide guidance on the issue of protecting community intellectual property rights),
- a natural resource management specialist(s), and
- an anthropologist (to provide facilitation and packaging of various knowledge products).

Participatory documentation

The documentation activities should be based on consensus and converging interests between the involved organisations and the indigenous communities/knowledge holders. The documentation should not be extractive, rather there should be two-way information sharing. This will help the community to register their ownership of the knowledge.

Community-initiated documentation

Sometimes communities themselves may take the initiative to document their knowledge. This involves community-based groups or committees who have acquired the knowledge and skills to carry out the process themselves without external intervention.

Documentation initiated by government institutions

The ABS legislation in many countries provides for a biodiversity management committee at the local level, which is legally sanctioned to undertake documentation tasks within their jurisdiction. Similarly, in India, local level government functionaries such as the panchayat can conduct traditional knowledge documentation.

Preparation for documentation

Identification of the site and collection of demographic data

The site where the traditional knowledge documentation will be carried out should be chosen. The basic demographic data of the community where the traditional knowledge documentation will be done should be gathered, such as:

- Name of the community
- Location/address
- Total area
- Total number of households
- Total population of the village
- Ethnic groups at the site
- Major occupations
- Education status
- Health facilities

Identification of resources

An inventory registry listing all the important genetic resources and associated traditional knowledge in the jurisdiction of the community should be prepared first. This will give an idea of the richness of biodiversity in the area. Important agricultural resources such as food crops, birds, forest types, types of horticultural plant varieties, the main livestock used in that community, and others should be gathered.

Identification of knowledge holders

Knowledge holders are critical to the process as they are the key informants of genetic resources and associated traditional knowledge. In a community, the knowledge existing in individuals may vary with age, gender, occupation, location, and so forth. It is possible that older people in the village, traditional healers, herbal practitioners, or others may have a higher level of knowledge than others. Therefore, it is important to identify them for the traditional knowledge documentation process.

Language of the traditional knowledge document or registry

The traditional knowledge can be documented by the community in their own language or other existing local languages in their area of jurisdiction. However, if any learned person whom the community trusts within the community agrees to provide a translation into the national language or into English, this can be done.

Preparation and steps for traditional knowledge documentation

Traditional knowledge documentation steps

The following steps should be taken when documenting traditional knowledge:

- Identify and select the area of jurisdiction (e.g., settlement, village, ward, or district) where the traditional knowledge documentation is to be carried out.
- Identify the genetic resources and traditional knowledge in that jurisdiction.
- Identify important traditional knowledge holders who are key informants.
- Gather the community representatives of the jurisdiction where traditional knowledge documentation is to be carried out for a preliminary discussion on the traditional knowledge documentation initiatives. During this discussion, they should be made aware of the need for, and purpose of, documentation and the consent of the community representatives to the documentation should be obtained.
- The consent of key informants who have a higher level of knowledge on genetic resources and associated traditional knowledge and who are vital to the process, such as the traditional healers,

older people, herbal practitioners, local health tradition representatives, and lead farmers, should be obtained by organising a special training where awareness is generated and at which they can agree to be part of the process. Note: These key informants may have a protectionist perspective because they hold the 'trade secrets'. Hence, icebreaking and trust building is necessary.

- A likeminded representative committee consisting of community-based, non-government and government organisations should be formed for the traditional knowledge documentation, or the community themselves can form a representative committee including likeminded community members for their traditional knowledge documentation.
- Where the area is very diverse, representatives or key resources persons working in the field of agriculture, forest and soil conservation, botany, livestock, mycology, geology, zoology, taxonomy, anthropology, social sciences, and so forth, can be included in the committee. Community representatives should include community forest user group members, women, dalits, indigenous groups, older people, traditional health practitioners, and so forth. The committee should be formed in such a way that it is representative of the community and contains likeminded individuals who are aware of, and understand the need for, traditional knowledge documentation.
- Review the necessary statutory and customary laws for traditional knowledge protection. If there is no national legislation that covers the protection of traditional knowledge, then existing customary laws can be used or modified to cover traditional knowledge protection, and its access and benefit sharing.
- Prepare and finalise the format to be used for the documentation. Documentation should cover the following:
 - A map of the community and the traditional knowledge documentation site, date of collection, collection team, and details of collaborating organisations
 - The name of the biological resources, local name, varieties, where they are found (e.g., altitude, type of land), special characteristics, parts used, properties, methods of harvesting, processing, and final preparation for consumption, dosage, and so forth
 - Associated traditional knowledge related to the genetic resources, skills and knowledge (which does what)
 - The names of the traditional knowledge holders related to genetic resources and associated traditional knowledge
- Select the method to be used for traditional knowledge documentation
 - A format given to the community team who then document the traditional knowledge themselves
 - Individual interviews or discussions with key informants in the jurisdiction carried out by the documentation committee
- After the method is selected, planning and preparation activities should be completed, such as rapport building, pre-training of the committee members, pre-documentation training, and other necessary activities.
- The documentation exercise should be started as soon as the planning is over. Documentation can take anywhere from a few days to months depending upon the area to be covered, the pace at which it is carried out, and the smoothness of the process. traditional knowledge documentation is an ongoing process.
- After the documentation exercise, the format(s) should be compiled and gathered at one place into a registry document.
- A final gathering of community representatives and committee members should prepare a cover evidence document to safeguard the biodiversity traditional knowledge register. This should contain a memorandum of understanding between the community and the documentation committee containing

clauses dealing with the process and protection of the document including terms and conditions on confidentiality, disclosure of information by committee members, names and signature, along with the photographs of the members to ensure future accountability and custodianship.

- The community members and committee team should agree on the terms and conditions of access, use, and benefit sharing in relation to the genetic resources and associated traditional knowledge documented in the registry. An example can be drawn from the state of Kerala in India where the community, after documenting their traditional knowledge in the form of a biodiversity registry, declared a deed agreement to protect the traditional knowledge contained in the registry, and laid out conditions and terms for access and use of their resources. This deed is known as the People's Biodiversity Charter and its clauses are given below for reference.

Clauses of the People's Biodiversity Charter from Kerala

- No patent or other forms of monopoly claim made in the past on life forms or any resultant future claim based on these past patents or monopolies shall have the recognition or sanction of the people coming within the territory of this Registry.
- Henceforth, life forms, their seeds, cells, genes or properties of life forms existing within the territory of this Registry regardless of whether all these life forms are known to us by their names or not, whether we are using them through our direct knowledge or not, shall under no circumstances be subjected to patents or other monopoly rights.
- Any collectors, whether individuals or institutions, the world over holding specimens of life forms indigenous to this territory are bound by this declaration to reveal their collection, and if any of these life forms are facing decimation or are extinct in this territory, collectors holding such specimens shall return them to us.
- Henceforth, no specimen of life forms shall be taken out of this territory, if studies on any life forms existing here become necessary, such studies shall be done within this territory with the informed consent of the people of this territory.
- Henceforth, any experiments on life forms collected in the past, indigenous to this territory shall be done only with the informed consent of the people of this territory.
- Any experiments in the field of genetic engineering using genetic specimens of life forms indigenous to this territory shall be done only with the complete knowledge and informed consent of the people of this territory and all information regarding such experiments shall be given to us and no secrecy shall be maintained.
- Considering the grave threat genetically modified organisms (GMOs) pose to an ecosystem, any such introduction of GMOs shall be done only after giving us the complete information regarding such organisms and after obtaining the informed consent of the people of this territory. Any act of introduction of GMOs without our consent shall be treated as an act of violence and war on the biodiversity of this region.
- Considering the role-played by the link between wild ecosystems and human habitats in the healthy growth and evolution of biodiversity, any intervention in such wild ecosystems adjacent to this territory shall be done only with the knowledge and consent of this territory.
- Life forms collected from this locality, or the cells, genes or properties of such life forms in their natural form or genetically engineered forms under any circumstances shall not be used for military purposes.

Source: Navdanya no date

Session 15

Community Selection, Group Formation and Field Assignments

Time: 60 minutes

Objectives

To select a community and assign participants to groups for the practical documentation exercise.

- ▶ To select a community or individuals for the field traditional knowledge documentation exercise
- ▶ To assign participants to groups
- ▶ To prepare groups for the field exercise

Methodology

The methodology used in this session depends on the trainer who may choose to do a verbal presentation or use other innovative methodology.

Suggestions for the trainer

This session is dedicated to preparation for the field visits the next day. Advance preparation by all is very important.

Selection of field location

Based on where the training takes place, you should make prior enquiries and contact either partner organisations or use their contacts to select the village/ward for the field visits. Choose a location that is rich in biodiversity and traditional knowledge. The location is best chosen prior to the training. If no location has been selected, select a field location during the training with the help of the training participants.

Activities

Activity 1: Exercise – Field visit groups and assignment

During the session, participants are divided into groups for the field visits for traditional knowledge documentation on the following day.

Steps

- Step 1** Split the participants into three groups (or more if appropriate for the situation) by allocating each person a number from one to three (or facilitate formation of volunteer groups, if appropriate)
- Step 2** Introduce the aim of the group formation.
- Step 3** Brief the groups about the field visit.
- Step 4** Ask each group to nominate a group leader who will coordinate the group during the field visit.
- Step 5** Brief them about the assignment and their roles and responsibilities during the field assignment.
- Step 6** Make them aware of ethics, prior informed consent, and cultural sensitivity for field assignments.
- Step 7** Answer any questions participants may have and clear up any confusion.
- Step 8** After all the groups are clear on their roles and the field visit, move to the theme.

Documentation practise

Depending on the experience of participants, they may wish to practise documentation before the field visit. This practice session can be carried out on request of the participants and/or if the trainer considers that it will be useful. The trainer should choose between the two different exercises provided: a role play exercise for a group discussion (Exercise 2a) and a role play exercise for an individual interview (Exercise 2b). The trainer can play the part of a traditional knowledge documenting representative in the role play. This will help to ensure that important aspects are covered.

Aim of Exercise

To help participants understand the traditional knowledge documentation process and the ethics, roles, and responsibilities involved in the interview process, and to give them an opportunity to practise the format.

Materials required

Traditional knowledge format, pens, flip chart

Activity 2: Exercise a – Traditional knowledge documentation role play: Group discussion

Time: Minimum 20 minutes

Method

Group discussion role play

Steps

- Step 1** Ask two groups to volunteer for the group discussion role play, and the remainder to be the audience.
- Step 2** Introduce the aim of the exercise.
- Step 3** Distribute the roles among the groups.
- First group: Community representatives
 - Second group: traditional knowledge documenting representatives
- Step 4** Each group should be briefed on the role that they will be playing.
- Step 5** Mentor each group on their roles and functions.
- Step 6** Spend time with each group to help them prepare for the role play. Allow at least 5 minutes for the participants to prepare for the role play.
- Step 7** When the groups are ready, start the role playing exercise.
- Step 8** The trainer and audience should observe the role play carefully.
- Step 9** After the role play is finished, open the floor for discussion.
- Step 10** Use a flipchart to record the participants' role play outcomes.
- Step 11** Use the outcome of the role play as a pointer to explain the traditional knowledge documentation process, principles, roles, and responsibilities in detail.
- Step 12** Discussion and clarification should be carried out until it is time to end the session.

Exercise b – Traditional knowledge documentation role play: Individual interview

Time: Minimum 20 minutes

Method

Individual Interview role play

Steps

- Step 1** Ask one participant and one group to volunteer for the role play, and the remainder to be the audience.
- Step 2** Introduce the aim of the exercise.
- Step 3** Distribute the roles among the volunteers.
- Individual participant: traditional knowledge holder
Group: traditional knowledge documenting representatives
- Step 4** The individual and group should be briefed on the roles that they will be playing.
- Step 5** Mentor the volunteers on their role and functions.
- Step 6** Allow at least 5 minutes for the participants to prepare for the role play.
- Step 7** When they are ready, initiate the role playing exercise.
- Step 8** The trainer and the audience should observe the role play carefully.
- Step 9** After the role play is finished, open the floor for discussion.
- Step 10** Use a flipchart to record the participants' role play outcome.
- Step 11** Use the outcome of the role play as a pointer to explain the traditional knowledge documentation process, principles, roles, and responsibilities in detail.
- Step 12** Discussion and clarification should be carried out until it is time to end the session.

Day Four

Session 16
Field Visits



जैविक जडीबुटीहरूको
 आयुर्वेदिक औषधीय
जडीबुटी
 क्षेत्र जय बहादुर
 से
 सकारण यही विभिन्न प्रकारका महत्त्वपूर्ण
 जडीबुटीहरूको समिश्रण
 वास्तविक तथा अन्य धेरै
 ला-वर्ड

Session 16

Field Visits

Time: Whole day

Objectives

Field exercise to familiarise participants with the traditional knowledge documentation process.

- ▶ To give participants an opportunity to visit communities/individuals to practise traditional knowledge documentation
- ▶ To acquaint participants with the traditional knowledge documentation process
- ▶ To understand ground issues related to traditional knowledge documentation and its process

Suggestions for the trainer

This session is dedicated to field visits, during which participants will practise traditional knowledge documentation. This is a group exercise, so prior planning is essential. Note that participants will carry out the exercise in the groups arranged on the previous day.

Help participants to plan their field visit based on whether a community or an individual traditional knowledge holder is selected for the documentation exercise. If a community is selected, a group discussion is a viable option. Invite a representative from each household to the discussion; this should be arranged in advance and can be done by you or with the help of a participant from the community. If an individual traditional knowledge holder is selected, then the meeting with him/her should be arranged in advance, again by you or with the help of a participant from the community. Groups will then visit the community or individuals at the location chosen for the field visit to carry out the documentation exercise as practised in the classroom session. As far as possible, visit groups in turn to give help and guidance. Remind the teams that 'prior informed consent' must be taken from the person or community during the entire process of traditional knowledge documentation.

Activities

Activity: Field visit for documentation of traditional knowledge.

Day Five

Session 17
Review of Field Visits and Group Presentation

Session 18
Way Forward

Session 19
Final Appraisal of Training Expectations

Session 20
Evaluation and Closing



Session 17

Review of Field Visits and Group Presentation

Time: 2 hours

Objective

To review and appraise participants' experience of traditional knowledge documentation in the field.

- ▶ To find out about participants' experience in traditional knowledge documentation in the field
- ▶ To find out from participants the key issues and opportunities identified during the process of traditional knowledge documentation in the field
- ▶ To get feedback from the participants on any relevant issues related to traditional knowledge documentation

Suggestions for the trainer

After the field exercise is over, ask the groups to discuss their experiences among themselves and document their learning using the guiding questions. Read these questions out to the participants before they start the discussion.

After the discussion, ask each group to prepare a presentation for all of the participants. Each group can choose a group leader to present the outcome of the field visit traditional knowledge documentation exercise. Distribute brown paper and markers for the groups to prepare the presentation. After all the groups have presented, open the floor for discussion. After any questions have been answered and clarifications made, move to the next session.

Activities

Activity 1: Discussion of learning

Each group from the field visit should discuss their experience using the following questions as a guide. The discussion summaries are then presented to the whole group for further discussion.

Questions

- Is the format adequate for traditional knowledge documentation?
- What difficulties were encountered in the process?
- Was the community/individual willing to provide information?
- Was the community/individual defensive?

- What helped you and your group to carry out the exercise?
- What did not help you?
- How did you help the community or individual?
- What do you recommend to ensure success?
- Any other comments?

Session 18

Way Forward

Time: 45 minutes

Objective

To discuss future action plans and key areas of consideration for the successful implementation of the ABS regime.

- ▶ To prepare a future action plan for the improved implementation of the ABS regime
- ▶ To list key areas of consideration for moving forward

Suggestions for the trainer

The crucial point to be considered in this session is recognition of how the participants can contribute to the successful implementation of the ABS regime. This session is important to consolidate the participants' learning so far, and to help ensure that this learning is used to further the implementation of the ABS regime, while remembering that implementation of the ABS regime requires continuous dialogue and discussion.

The trainer can also use this session as a platform for the participants to contribute their knowledge, skills, and ideas to enrich the training, as well as make recommendations in relation to ABS policy discourse at the local, national, and international levels. The ABS regime under the CBD contains many complexities and loopholes, which pose a challenge to successful implementation. This session can be used as an opportunity to generate more knowledge on ABS, its implementation process, policies, and challenges and opportunities by capturing the voices of the participants who represent the diversity of professionals working in the field. Use a flipchart to record the feedback from participants.

Activities

Activity 1: Preparation of an action plan for improving implementation of the ABS region.

The concept of an action plan should be introduced and discussed briefly. Participants should make suggestions for components that could be included in the plan. Collect suggestions and organize into a logical 'plan' that participants can adopt directly or adapt for their personal use. Some typical components of an action plan are listed below to support the discussion.

Typical components of an action plan

- Planning for training to raise awareness
- Identification of key stakeholders for training

- Liaising with the concerned government authorities on training events
- Decisions on training venues
- Promoting participation of indigeneous local people and women in the training
- Traditional knowledge documentation
- Using the resource manual for training
- Evaluating the efficacy of the training.
- Formation of an ad hoc biodiversity management committee at the local level

Activity 2: List of key areas of consideration for way forward.

The concept of the 'way forward' should be introduced and discussed briefly. Participants should make suggestions for components that could be included in the outline. Collect suggestions and organise into a logical order that participants can adopt directly or adapt for their personal use. Some typical components of a way forward are listed below to support the discussion.

Typical key areas for a way forward

- Specific measures to be taken by communities for the documentation and protection of traditional knowledge
- Resources and measures required to achieve traditional knowledge documentation and protection
- Identification of the ownership of resources/and of rightful owners for entering into an ABS agreement
- How users rights under an agreement with one provider community/district/province/individual affect the interests of other providers and holders of the same resource
- Participation of indigeneous and local communities in benefit sharing
- The role of local level biodiversity management committees
- Traditional knowledge documentation and its protection

Session 19

Final Appraisal of Training Expectations

Time: 45 minutes

Objectives

To record the met and unmet expectations of the participants from the training.

- ▶ To appraise the final training expectations of the participants
- ▶ To correlate final day expectations with first day expectations
- ▶ To seek feedback from the participants on how the training could be improved (e.g. the theme, process, and so forth)

Suggestions for the trainer

The learning outcome of the training has great relevance to the participants who will correlate it with their expectations at the start of the training. After the 'Way Forward', carry out this final appraisal of the training.

First summarise the entire training for the participants. Then ask the participants to give feedback about what they learned during the training. Ask them to refer to the expectations that they expressed at the start of the training as recorded on the flipchart/meta cards on the first day, to prompt reflection. This comparison should give a picture of the extent to which the participants have gained a comprehensive, strategic overview of ABS.

Following the training appraisal, open the floor for discussion to gain feedback on the overall training content and training process, and to seek recommendations on how to make the training more useful and engaging. Record the feedback on a flipchart and assure participants that the feedback will be used to improve the training in the future. Finally, thank the participants for their feedback.

Activities

Activity 1: Appraisal of training expectations

Using the expectations recorded on the first day, prepare a list of met and unmet expectations in the following format.

Expectations met	Expectations not met

Session 20

Evaluation and Closing

Time: 90 minutes

Objectives

To evaluate the training using a standard evaluation form.

- ▶ For participants to complete the evaluation form
- ▶ To receive informal feedback from the participants
- ▶ To formally close the training workshop

Materials required

Evaluation form, training certificates

Suggestions for the trainer

The evaluation is an informal session that aims to evaluate the participants' perceptions of the training at the end of the workshop. The purpose is to find out whether or not the participants' training needs were met, their learning was enhanced, they found the sessions useful, and whether or not the methodology of the workshop made any difference to their ability to absorb the information. The evaluation can be done in a participatory discussion, using a semi-structured evaluation form designed for this purpose, or through a combination of both. If a form is used, prepare it in the language most easily understood by the participants and distribute it to the participants at the beginning of the session. Collect the completed forms for analysis.

An evaluation form may not capture participants' perceptions about the training in a holistic manner. Therefore, it is suggested that you hold an open feedback session with the participants after they have completed the form. This is a participatory session where participants can share what they learned in the training, give constructive feedback and recommendations, and share any frustrations about the training. The feedback can be positive, negative, or both depending on the context, but you should create an environment in which this is taken in good spirit and as a positive challenge for future improvement. Record the feedback on a flipchart.

Following the feedback session, you can organise a formal thanking ceremony. If you wish, and if appropriate for the context, arrange for a chief guest to be present. It is ideal to conclude the training by distributing certificates. Prepare the certificate in advance.

Activities

Activity 1: Training evaluation

If appropriate, distribute evaluation questionnaires, and collect after completion by participants. Discuss participants overall evaluation of the training and capture the main points on a flip chart.

Activity 2: Presentation of certificates

The chief guest, if present, or the trainer should say a few words and distribute the certificates.

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This programme was made possible through special support from

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ISBN 978 92 9115 115 8