



One Day Training

Access And Benefit Sharing (ABS) Issues for Biodiversity Management Committees and Village Botanist- Phase 1

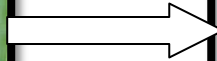
Under

**Strengthening the Implementation of the Biological Diversity Act and Rules with Focus on its Access and Benefit Sharing Provisions
(UNEP-GEF-MoEF-ABS PROJECT)**

On

05.12.2014

Forest conference Hall, Deorali



Organized By

**SIKKIM BIODIVERSITY BOARD
Forest Environment and wildlife Management Department
Government of Sikkim**

With the Support from

**NATIONAL BIODIVERSITY AUTHORITY
Chennai**

ONE DAY CAPACITY BUILDING TRAINING ON ABS ISSUES

On 5th December, 2014 the Sikkim State Biodiversity Board, FEWMD, Govt. of Sikkim organised “One Day Training on ABS issues for Biodiversity Management Committees and Village Botanists - Phase I” at Seminar Hall, Forest Department (Programme Schedule enclosed in Appendix 1). Apart from the BMC members and village botanists, academicians and researchers, bio-resources based industrial representatives, traders, forest officials, and NGO representatives were presented in the workshop. Around 80 members participated in the event .



The master of ceremony of the training programme was carried out by Ms. Peggyla Tshering Venchungpa, ACF(T).

The meeting started with a welcome address by Mrs. Usha Lachungpa, Additional Director and State Project Coordinator, Sikkim Biodiversity Board. In her address, she highlighted the purpose of the workshop and field visit with emphasis on need for identification of bio-resources for economic valuation and TK documentation.



She also highlighted the importance of UNEP-GEF-MoEF ABS Project, and its progress in Sikkim.



After the welcome address, Shri Y. P. Gurung, Member Secretary, Sikkim Biodiversity Board, gave a special address where he once again welcomed all the participants and highlighted the significance of biodiversity management, with respect to Sikkim state. He also explained about the on-going UNEP-GEF-MoEF ABS Project in

Sikkim.

Subsequently, Dr. Bharat Kumar Pradhan, Technical Assistant, Sikkim SBB addressed the audience and highlighted the following issues/points related to BMCs and PBR.

- Roles & responsibilities of Biodiversity Management Committee's (BMCs)
- Importance of Local Biodiversity Fund (LBF)
- Need of People's Biodiversity Registers (PBRs)
- Fund raising at the local level by BMCs
- Progress of BMCs formation under the UNEP- GEF Project.
- Protection of Biodiversity Heritage Sites (BHSs) - development & action plan
- Need for capacity building on sustainable use of bio-resources to the BMC members and community.
- Registration under Geographical Indications (GI) Act.



After the inaugural session, tea was served to the participants.

TECHNICAL SESSION

In the technical session four papers were presented by experts from Sikkim and NBA.

1. Dr. Sonam Rinchen

The first presentation was on “Traditional Knowledge and its need for conservation - for Access and Benefit Sharing”, presented by, Dr. Sonam Rinchen, Department of Science and Technology & Climate Change, Gangtok. He started his presentation with a phrase/quote of Conway (1997) “Given enough time, everything that is old will become new again”. According to him TK is a cumulative knowledge system (know-how) acquired by peoples with extended histories of interaction with the natural environment. These sophisticated sets of understandings, interpretations and meaning are part and parcel of a cultural complex that encompasses language,



naming and classification systems, resource use practices, ritual, spirituality and worldview”.

Regarding nature of TK, Dr. Sonam Rinchen said TK is held by indigenous people, spiritual way of life of the people in tune with nature, detailed understanding of the natural world, based on thousand years of observation and experiments, constantly revised by the recent experiences, minimizing risks rather than maximizing profits and Holistic and sensitive to cumulative effect.



Dr. Sonam Rinchen highlighted the following advantages of TK:

- Complement scientific knowledge and decision making
- Empowering indigenous and non-indigenous people
- Markedly increases the available knowledge base
- Reduces time and complexity in dealing with indigenous communities
- Help to avoid poor decisions and legal action in developmental projects
- Acknowledges that government policies and practices are increasingly including traditional knowledge

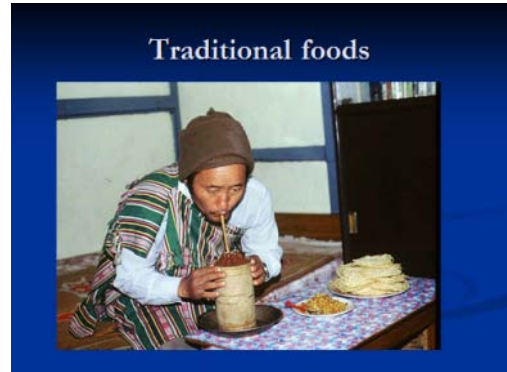
He highlighted the uses of TK: it help us to distinguish one community from another (community's interest and its past), to improve livelihood of TK holder & communities, support primary health care in rural areas (70% of Indian population), to benefit national economy, increasing interest in it by academicians, and policymakers (World Bank, International Labour Office, UNESCO and FAO), to conserve the environment and to prevent bio-piracy & protection of Intellectual Property Right (IPR).

He mentioned following issues under IPR & TK,

- Rationale for indigenous traditional knowledge protection
- Encroachment, infringement, Bio-piracy (Inadequacy legal System on TK)
- Western science versus indigenous knowledge for IK's ownership

- Traditional Knowledge Digital Library (TKDL) – an Indian digital database on TK containing 34 million pages of 2,260,000 formulations, 36 patent applicants used Indian TK)

Dr. Sonam Rinchen also covered, recognition given to TK in international legislations like Rio Declaration & UNDRIP. He said indigenous communities of Sikkim have special knowledge in disaster management and conservation of biodiversity. He explained following points under



disaster management: traditional prediction and early warning system, traditional belief and prevention, traditional preparedness and mitigation, and traditional response. Regarding conservation of biodiversity, he mentioned following points

1. Sacred groves (mostly concentrated on religious places)
 2. Domestication of wild plants
 3. Ritual of offering to mountains, rivers, lakes etc.
 4. Non-sharing of information of indigenous knowledge (IK)
- Conservation and promotion TK through recognizing traditional healers such as *Vaidyas, Jhakris, Phedangma, Bongthing* etc. (with Honorarium and Assistance)
 - Establishment of State Patent Information Centre (DST, GOI) and
 - Identification of potential items for Geographical Indicators (GI) Registration under Intellectual Property Right Act such as Lepcha traditional hat, Sikkim mandarin orange, Sikkim tea, Dzongu golsay (variety of Large ardamom) for GI registration
 - Biodiversity Conservation (State Forest department)

Under TK Systems & Lepcha Tribals he furnished following points.

1. Forest and wildlife management: Concept of Sacred grooves, *Muutrumfaat* (Offering of deity (resource) wildlife, *Sukyu Rumfaat* and *Lee rumfaat*;
2. Farming / Agriculture: Dry farming / shifting agriculture, Self-sustenance / protection of genetic diversity and Primitive agricultural practices;
3. Disaster management: *Lho Rumfaat* /

Churumfaat / Cheerum, Traditional house (earthquake resistant), Offering to different deities by *Bonthing* and *Mun* (faith healer-practitioners).

2. Livestock management:

- Cattle rearing for self-sustenance, healthy, productive cattle are protected in the name of “*Jamphala*”

3. Food resources:

- 80% of plants are edible
- *Pashyen, Khuri, Mongchi, Tonglubuk chee, Khuru khu*
- *Pukjik arok, Sungtuk arok, Kuchung jo (kyaplo), Punjok buk –tsuknyuk.*

4. Lepchas and alternative medicine:

- Traditional medicine (more than 200 sp, of herbal medicine, 80 formulations of 200 ethno-veterinary useful plants,

5. Traditional artifacts:

- Relationship with cane & Bamboo, traditional bridges, Lepcha’s house, household artifacts, *Sumok thyaktuk, Tsong Sali.*



Dr. Sonam Rinchen also mentioned that the indigenous communities are having knowledge in identification and classification of plants. According to that, *Kung* = tree, *Muuk* = herbs, *Rik* = Climbers. The classification of Bamboos is with the suffix “*Po*”. Cane with “*Ru*”. The vegetable are classified with suffix “*bee*”. All the tubers are with suffix “*buuk*”. In Lepcha language the majority of wild animals names are initiated by the word “*sa*” or “*so*” e.g *Suthong* = Tiger, *Suna* = bear. Interestingly, the name of most of the rivers of Sikkim, Darjeeling & few eastern parts of Nepal are initiated with letter “*R*” “*Ru*” or “*Ro*” or “*Re*”. All the mushrooms are named with suffix “*dorb*”. All the birds are identified with the suffix “*Fo*”.

The presenter put forth expected role of TK in Sikkim at present and in future, which includes reorganization of prevailing TK system, IPR and patent system, role of TK in

Organic farming, in management of Environment (Eco-system), in management of natural disasters, and TK and livelihood sustainability, etc.

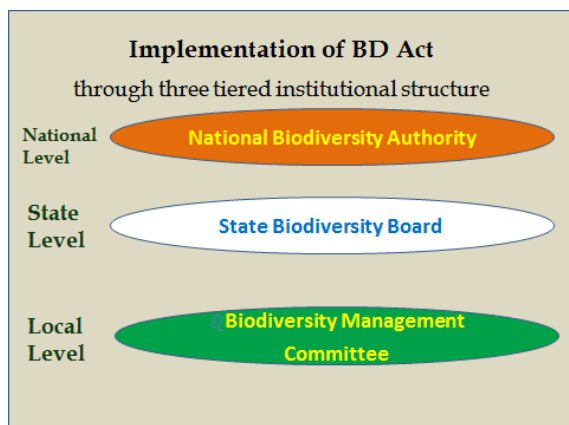
He highlighted traditionally made food items (like *Kinema*) and its unique ability in supplementing nutrition, Lepcha traditional hat (*sumok thyaktuk*), *Tendong Iho rummfaat*, bio-resources like *Brul*, *Ru-Kyel*, *Ru-Bong*, *Ru-Yang*, *Ru-yang & Rim*.

2.Dr. Ghanashyam Sharma

After the first presentation, Dr. Ghanashyam Sharma, The Mountain Institute (TMI), India presented a paper on “Access and Benefit Sharing (ABS) Mechanism”. The presentation highlighted the following broader issues:

Implementation of Biological Diversity Act; Where he indicated the three tier institutional structure (NBA at National, SBB at State level and BMC at regional level).

ABS procedures in bio-prospecting; Dr. Ghanashyam Sharma explains the bioprospecting and ABS issues in the following manner (see the box - 2):



Box - 2

“Bioprospectors” who represent companies are aware of the availability of the valuable genetic resources and associated knowledge in village **X** of country **Y**. They express their interest in “bioprospecting” and seek prior approval from competent authority in country **Y**.

The Bioprospectors obtain and complete the appropriate Prior Informed Consent (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 legally specified time.

The competent authority announces the decision, which is either **acceptance** or **rejection**. In case of rejection the bioprospector 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.

The legislation of country **Y** requires bioprospector to obtain PIC from the communities/traditional knowledge holders of village **X**, SBB and BMC. Details of their bioprospecting plan (*what resource 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 ask the bioprospector questions about the proposal, the community announces their decision. Then the next step is the ABS laws of the country **Y**. On rejection, the bioprospectors may look to the ABS laws to see if they have any option.

Once the bioprospector gets green PIC signal from village **X**, they conduct preliminary research on the resource and associated TK, EIA (to see impact on ecosystem and local community). The legislation of country **Y** directs whether or not, and in what situation this assessment is needed. The bioprospecting team completes its preliminary research in the village. Based on results, they prepare detail proposal with a research and resource use and benefit sharing plan and submit to the national authority of country **Y**. The competent authority reviews the proposal, they will either accept or reject.

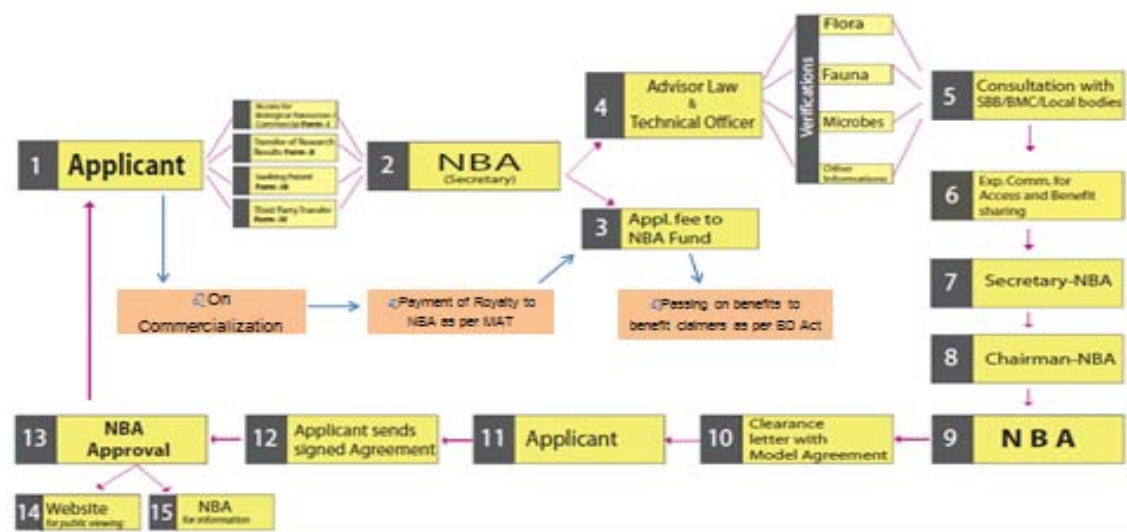
The competent authority (providing party) and bioprospecting team (accessing party) base their ABS agreement on MAT (terms and conditions that both parties agree upon). When the competent authority is satisfied with the MAT, it accepts the proposal.

The bioprospecting team conducts detailed research, they collect samples of resources and document TK in village **X** of country **Y**. The samples are sent to a laboratory of country **Y** or abroad for detailed investigation of the chemical properties and to verify the properties indicated by TK.

Based on the findings of the detailed investigation of samples or TK, the company draws a plan for the kind of products (medicine, food, cosmetics, etc.) it can develop from the resource. They then design a business plan for the products they are going to manufacture from the resources, the product are then marketed and profits generated by the country.

The bioprospecting team (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, the benefits in the form of money, royalties, upfront payments, resource sharing, and technology may be shared by the bioprospectors with the country and community from where the resource were accessed.

Access and Benefit Sharing (ABS) mechanism



Biodiversity Registers: Under this head Dr. Ghanashyam highlighted, Model of register (Database format), Community biodiversity register, Community Seed Bank managed by farmers in Bara district, possible system for the management of biodiversity information, in particular the information recorded through the PBR exercises, Biodiversity Information System, maize diversity

Community biodiversity register (CBR)



Various ABS related events involved by Dr. Ghanashyam:

- Awareness programmes at Lingee and Khamdong
- Workshop cum awareness programme on biodiversity and its importance with reference to Sikkim
- Awareness and training programme on ABS at Dhankuta, Nepal
- Documentation of TK/Genetic resources at the village households and TK holder at Dhankuta.

Different Steps in PBR Preparation Process

Step 1: Formation of Biodiversity Management Committee (BMC).

Step 2: Sensitization of the public about the study, survey and possible management

Step 3: Training of members in identification and collection of data on biological resources and traditional knowledge.

Step 4: Collection of data. Data collections includes review of literature on the natural resources of the districts, Participatory Rural Appraisal (PRAs) at village level, household interviews, individual interviews with village leaders and knowledgeable individuals, household heads, key actors of the Panchayat Raj institutions and NGOs and direct field observations.

Step 5: Analysis and validation of data in consultation with technical support group and BMC.

Step 6: Preparation of People's Biodiversity Register (PBR).

Step 7: Computerization of information and resources.

Finally, Dr. Ghanashyam explained about the Biodiversity Register successfully initiated in Duga BMC few years ago.

3.Dr. Prakash Nelliyat

After Dr. Ghanashyam's presentation, Dr. Prakash Nelliyat, Project Associate, National Biodiversity Authority, Chennai made his presentation on "Economic Valuation of Bio-resources for operationalizing the ABS". The presentation highlighted the following issues:

Biodiversity Management: The speaker indicated the major challenges faced by humanity, which include: Population growth, Development and Consumerism. These challenges' impact on

Ecosystem/Biodiversity are huge particularly through the loss of species and ecosystem (45-250 species loss per day!). Hence there is a major need for stopping



biodiversity/ecosystem loss. In this respect, biodiversity management become a major environmental policy and global agenda.

The formation of CBD (1993) is a major land mark and its objectives include: (a) fair and equitable sharing of benefits arise from the commercial utilization of genetic (biological) resources, (b) conservation and (c) sustainable use of biodiversity.

ABS mechanisms: For ABS mechanisms and the need for economic valuation of bio-resources, he stated that: ABS is an innovative approach and an incentive mechanism in biodiversity conservation and sustainable use of biodiversity. It provides a formal guidance for the way in which biological or genetic resources are accessed, and the way benefits are shared between users and providers. ABS is a philosophy, which proposes that providers of bio-resources (BR) are entitled to receive fair benefits from the users. Or it balances the rights of users and providers in BR exchange. However, negotiation must be based on the actual value of the resources.

ABS Process in India and the UNEP GEF MoEF - ABS Project: He explained about the status of biodiversity in India, Biological Diversity Act (2002) and Rules (2004), Institutional Structure - NBA, SBBs, BMCs, Four categories of ABS agreements under the Act, agreements signed so far by NBA and the benefit sharing criterion. Dr. Prakash explained about the on-going UNEP GEF MoEF - ABS Project in NBA and its operation in five states and three Ecosystems (Forest, Wetland and Agriculture).



Bio-resources and their Significance: the speaker highlighted the following issues under this head:

- Bio-resources: their nature and characteristics and the value of products derived from bio-prospecting.
- Linkages between Biodiversity and Bio-resources.

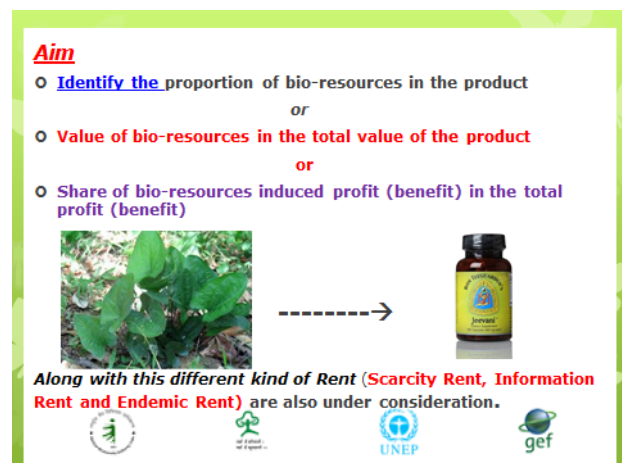


- Bio-resources and Property Rights Issues (with emphasis on private and public resources).
- Commercial Importance of bio or genetic resources: bio-resources as source material for developing new drugs, botanical medicines, new seed varieties, ornamental and horticultural products, crop protection products, biotechnologies in fields other than healthcare and agriculture, personal care and cosmetic products.



Methodology for bio-resources valuation: In the methodology development, the major process includes - Discussions with Experts, Literature Collection and Review, Industrial Visits and Discussions. Dr. Prakash Nellyat proposed different possible approaches for bio-resources valuation (which was explained in detail). These approaches include:

1. Value Chain Analysis
2. The “Maximum Willingness to Pay” Approach (users)
3. Application of the Appropriate Economic Instruments: (tax, cess, charges, royalty etc.)
4. Minimum Support Price for Bio-resources
5. Collectors’ Willingness to Accept and
6. Minimum Livelihood Approach.



He stated that the aim of bio-resources valuation for ABS is to identify the proportion of bio-resources in the product or value of bio-resources in the total value of the product or to find out the share of bio-resources induced profit (benefit) in the total profit (benefit). In this regard different kinds of rent (Scarcity Rent, Information Rent and Endemic Rent) also need to be considered seriously.

He also linked the ABS issues with the other objective of CBD – Conservation and sustainable use of biodiversity. The presentation concluded with a slide which emphasises the pre-requests for valuation: where he stated that “valuation results should be accurate since it is for an important policy option; that is operationalizing the ABS. Something for ‘Fair and Equitable Distribution of Benefits’ should not be unfair! It should be fair”.



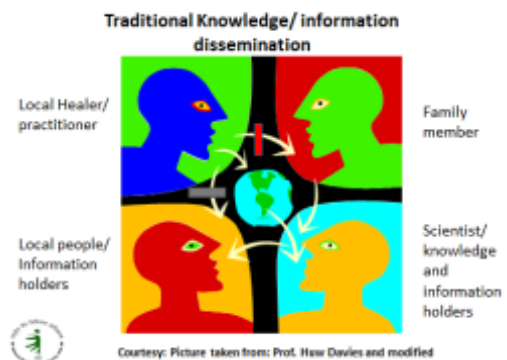
4. Dr. B. Andrews

After the presentation of Dr. Prakash Nellyat, Dr. B. Andrews, Project Consultant, NBA made a presentation on the topic “Documentation of Traditional Knowledge (TK) /Information associated with Biological Resources and its importance”. In his presentation, he explained the terms of TK and indigenous knowledge (IK) associated with bio-resources. He mentioned that if the knowledge of indigenous and local communities is commercialized by the companies then the benefit has to go to the concerned TK/information holders.

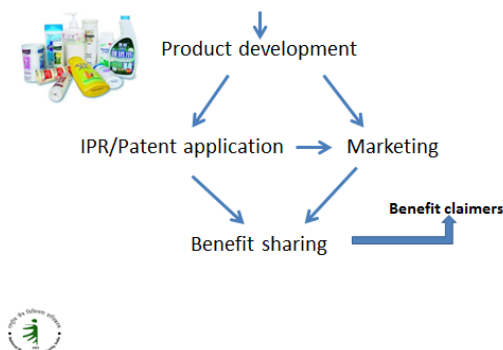


Dr. Andrews highlighted some of the Articles/Sections pertinent to traditional knowledge of local communities in the international and national legislations (Article 8(j) of CBD; Article 7 of Nagoya Protocol and Sections 36(5) & 41(1) of Biological Diversity Act).

In his presentation, he emphasised on how traditional knowledge/information of the local healers/practitioners is being disseminated among different sections of people including scientists who validate the TK/information scientifically.



Further, he explained the role of TK based information in the discovery of new drugs / bioprospecting. Further he showed the flow chart covering general steps/process of bioprospecting which include: Collection and acquisition of bio-resources based on the gathered TK based information (through Prior Informed Consent or PIC, Mutually Agreed Terms or MAT & Material Transfer Agreement or MTA), Screening of bioactive compounds (either through random/lead based screening), isolation and characterization of bioactive compounds and their structure elucidation, clinical trials and tests (including absorption (A), distribution (D), metabolism (M), elimination/excretion (E) & Toxicity), product development, patenting and/or marketing and sharing of benefits with benefit claimers (knowledge providers).



In the presentation Dr. Andrews emphasised the need for TK documentation under the present ABS project. He stressed Component 2 and Activity 2.3 of the project document which covers IPR protection and TK documentation. He also stressed on the importance of National Dialogue on TK & ABS held on 29th & 30th November, 2013 at Hyderabad which provided wider understanding on various issues related to TK/information.

Dr. Andrews explained the format to understand 'who holds what kind of TK' which includes ethno-medicinal, ethno-veterinary, nutritional/agricultural practices and how it can be documented at preliminary stage. The draft format/questionnaire was explained. He further explained that the process of TK documentation helps in PBR preparation and updating periodically through continuous monitoring of local biodiversity. He put forth following challenges related to TK documentation i.e.,

- Identification of bio-resources and /or TK for documentation.
- Trusting people.
- Refusal to share TK/information associated with bio-resources: remain as Secret TK.
- Remote location of indigenous communities: new TK practices
- TK/Information vs. Scientific Validation: institutional linkages.

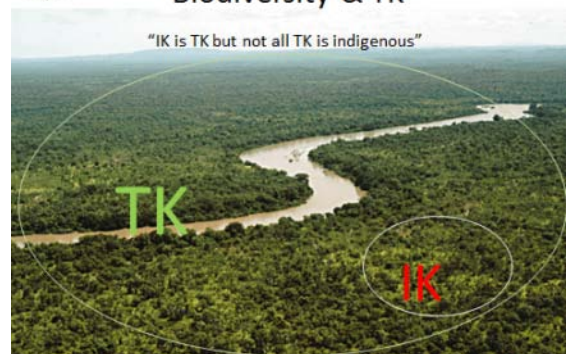
- PBR making in BMCs and documenting associated TK in it.
- Misappropriation and Unlawful patenting of TK: IPR protection

He proposed following points as way forward.

- Awareness to BMCs on TK and developing negotiation skills
- Respecting, Protecting and Promoting TK / information associated with bio-resources
- TK documentation for incorporation in PBRs
- Form III – Section 6 of BD Act; section 3(p) of the Patent Act
- Database development for non-PBR documents (TK related research outputs)
- Community protocols under Nagoya Protocol
- Case study on TK and ABS based on existing data.



Biodiversity & TK



In order to stress the importance of TK documentation and its protection, the presenter highlighted some of the words spoken by the *San tribe or Bushman* (holders of *Hoodia* plant knowledge) about their knowledge. These people are indigenous hunter-gatherers of Southern Africa. According to the tribe,

- Our (Bushman) knowledge on *Hoodia* was stolen
- Now we are fighting about who sold the knowledge to whom!
- They are stealing plant in large bundles
- They have removed it, you don't get it anymore
- It also made the plant powerless
- I feel it is Science and biology that has stolen our plant and our knowledge

After highlighting above points of San tribe, he emphasised the need for protecting and promoting TK/information of local communities.

After the technical presentations, vote of thanks was extended to all the participants by Shri Monee Ram Rai, Joint Director, SBB.



The meeting concluded with a 'group photo' session.



After the technical session, lunch was served to all participants.

