



Forestry Department

Food and Agriculture Organization of the United Nations

PROCEEDINGS

TRAINING WORKSHOP ON BROADENING, HARMONIZATION AND CROSS-SECTORAL INTEGRATION OF NATIONAL FOREST INVENTORIES IN ASIA PACIFIC REGION

BEIJING, CHINA, 26-31 MARCH 2007

19 APRIL 2007, ROME



Strengthening Monitoring, Assessment and Reporting (MAR) on Sustainable Forest Management (SFM) in Asia (GCP/INT/988/JPN)

FAO initiated the project "Strengthening Monitoring, Assessment and Reporting on Sustainable Forest Management in Asia" (GCP/INT/988/JPN) in January 2006. The five-year project is funded by the Government of Japan.

The main objective of this project is to facilitate development of harmonized forest related national monitoring, assessment and reporting (MAR) systems in the Asia-Pacific region to contribute directly to the improvement of sustainable forest management (SFM) regimes. An allied objective of the project is to enhance the use of the MAR information in national decision-making, formulation of effective forest policies, and sustainable forest management and planning.

The project accomplishes its objectives in two phases. The first two years, the Development Phase, the project would focus on: (a) international activities like the establishment of linkages with forest-related processes; (b) facilitating development of a globally harmonized framework, guidelines and database structure, including pilot testing in some countries; (c) use of MAR information in forest planning and development of forest policies at the national level; (d) establishment of a country-level network of national focal points to various forest-related processes; and (e) initiate a set of national activities that facilitate the implementation of the harmonized MAR.

The Implementation Phase spreads over the remaining three years of the project period and focuses on the implementation of the harmonized MAR, including facilitation in the establishment of database at the national level in selected project countries within the Asia-Pacific region through studies, reviews, training, workshops and expert consultations. The detailed design of this phase will be finalized on the basis of a review of the activities and the outputs of the first phase.

All countries in the Asia-Pacific region can participate in the project, although the actual level and intensity of their involvement may vary among them. Forestry departments in respective countries have been requested to nominate their national focal points for this project.

The project is organized under the Forest Resources Development Service (FORM) in the Forest Resources Division (FOR) of FAO Forestry Department. The contact persons are:

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The MAR-SFM Working Paper Series provides an important forum for the rapid release of preliminary findings needed for validation and to facilitate the final development of official quality-controlled publications. Should users find any errors in the documents or have comments for improving their quality they should contact Kailash.Govil@fao.org.

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PROCEEDINGS of the
Training Workshop on Broadening, Harmonization and Cross-Sectoral Integration of
National Forest Inventories in Asia Pacific Region
Beijing, People's Republic of China, 26-31 March 2007

Strengthening Monitoring, Assessment and Reporting (MAR) on
Sustainable Forest Management (SFM) in Asia (GCP/INT/988/JPN)

Food and Agriculture Organization of the United Nations - FAO

State Forestry Administration, P.R. China - SFA

International Network on Bamboo and Rattan - INBAR

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The organizers would also like to recognize the active engagement, important contributions and insights of all the participating countries (Australia, the Kingdom of Bhutan, Brunei Darussalam, the Kingdom of Cambodia, the People's Republic of China, the Republic of India, the Republic of Indonesia, Japan, the Republic of Korea, the Lao People's Democratic Republic, Malaysia, Mongolia, the Union of Myanmar, Nepal, the Islamic Republic of Pakistan, the Republic of the Philippines, the Democratic Socialist Republic of Sri Lanka, the Kingdom of Thailand, and the Socialist Republic of Viet Nam). Their intense engagement in collaborating for the preparation of the background documentation, their interest and active participation at the workshop discussions together with their effective chairing and facilitating were crucial for the success of the workshop.

List of acronyms

AAC	Annual Allowable Cut
AP	Asia-Pacific
DBH	Diameter at Breast Height
EEAF	Environmental and Economic Accounts for Forestry
FAO	Food and Agriculture Organization of the United Nations
GPS	Global Positioning System
INBAR	International Network on Bamboo and Rattan
MAR	Monitoring, Assessment, and Reporting
NFI	National Forest Inventory
NWFP	Non-Wood Forest Product
PDA	Personal Digital Assistant
PSP	Permanent sample plots
RSNFI	Rapid Survey National Forest Inventory
RSS	Remote Sensing Survey
SFA	State Forestry Administration
SFM	Sustainable Forest Management
UNFCCC	United Nations Framework Convention on Climate Change

Executive summary

The training workshop on *Broadening, Harmonization and Cross-Sectoral Integration of National Forest Inventories in Asia Pacific region* was organized by FAO in collaboration with the State Forestry Administration (SFA), P. R. China and the International Network on Bamboo and Rattan (INBAR) in the framework of the FAO/Japan project “Strengthening Monitoring, Assessment, and Reporting (MAR) on Sustainable Forest Management (SFM) in Asia” (GCP/INT/988/JPN). The workshop was held from 26 to 31 March 2007 in Beijing, P.R. China.

The main objective of the workshop was to strengthen national monitoring assessment and reporting systems in Asia Pacific countries with the overall goal of main streaming forestry at the national level. The workshop also aimed at enhancing inter-country communication to facilitate exchange, transfer and share of knowledge as well capacity building through South – South Cooperation among AP countries.

A total of 58 professionals, including government representatives from 19 AP countries (Australia, the Kingdom of Bhutan, Brunei Darussalam, the Kingdom of Cambodia, the People's Republic of China, the Republic of India, the Republic of Indonesia, Japan, the Republic of Korea, the Lao People's Democratic Republic, Malaysia, Mongolia, the Union of Myanmar, Nepal, the Islamic Republic of Pakistan, the Republic of the Philippines, the Democratic Socialist Republic of Sri Lanka, the Kingdom of Thailand, and the Socialist Republic of Viet Nam), official representatives, staff and a team of resource persons from SFA, INBAR and FAO actively deliberated in the workshop. A full list of participants and resource persons is included in Annex 3.

A *Rapid Survey on NFI* in AP countries was launched about three months before the workshop and this had kept all the nominated participants deeply engaged in the process that was finally summed up in the technical sessions of the workshop. In addition, countries nominated participants were requested to summarise the sampling designs of their NFIs in the pre-formatted Power-point country presentations. This provided brief but deep insights into their NFIS designs. This technical engagement over a period of three months greatly enriched the quality and deliberation in the workshop. Itg also motivated country participants to resolve to setup an expert group of experts on NFI in Asia Pacific countries.

In addition, subjects like statistical methods, biomass and carbon estimation, scenario development, and environmental accounting were also introduced and intensively deliberated during the workshop. Further, the workshop also dealt with two very important related issues first data management of the information generated from NFI and second the mobilization of funding to implement regular and timely implementation of NFIs.

All participants highly appreciated the topics included in the agenda and agreed that the workshop provided a relevant opportunity to share information on national capacities and to increase regional collaboration. The workshop discussions and deliberations highlighted similarities, differences, strengths and weaknesses in the NFIs, as well as indicated gaps of information and provided alternative sampling designs; the need of harmonization, broadening and cross-sectoral integration was agreed with interest and commitment.

The discussions indicated that even though some relevant NFI data exist, only few countries are using these data in policy formulation and planning, but only in limited extent. The need of capacity building for data analysis and reporting was stressed by the countries, with request to FAO to take lead on this issue.

In addition to the common decline in financial resources to implement NFI, the participants, highlighted the growing shortage of technical man-power for the ground inventory and the Arial photo-interpretation as new generation is becoming less and less interested in taking up such high stress assignments.

The workshop took a very forward looking long term measure to continue the technical dialogue (broadening, harmonization and cross-sectoral integration of NFIs) initiated at the workshop by institutionalizing the process through establishment of a “Asia Pacific Network of experts on NFI” which includes both the ground and remote sensing experts. The network will organize virtual thematic meetings and annual workshops to enhance cooperation among countries, increase exchange of information and continue the dialogue on harmonization, broadening and cross-sectoral integration of NFI.

Introduction

This following presents the brief description of the deliberations in various sessions of the workshop. The Annex 1 provides the implemented schedule of the sessions including information on the presentations made in the sessions. The digital copies of all the power point presentations made during the workshop were recorded on a CD and distributed to all the participants on the last day of the workshop and will soon be uploaded on the MAR website (www.fao.org/forestry/mar).

Opening session

Mr Su Chunyu (SFA) chaired the opening session. The distinguished representatives from SFA (Mr Qu Guilin and Mr Xiao Xingwei), INBAR (Ms Coosje Hoogendoorn) and FAO China (Mr Chong Guang LIAO, on behalf of Ms Victoria Sekitoleko) delivered their welcoming speeches (Annex 2). Mr Su Chunyu (SFA) thanked the speakers, welcomed the participants and the eminent guests and declared the workshop open. Mr Xia Chaozong (SFA) briefed the participants with information on the logistic arrangements of the workshop for the benefit of all participants and international resource persons. The format of the workshop (all technical presentation to be followed by plenary discussions by the participants) was explained to the participants.

Technical Sessions

Mr Kailash Govil (FAO) initiated the technical deliberations of the workshop by introducing the participants and the guests with the conceptual framework of the workshop. Mr Masahiro Otsuka (FAO) elaborated it further through his presentation on the technical framework of the workshop and of the Monitoring Assessment and Reporting (MAR) project. Ms Fortuna (FAO) prepared the floor for more intensive discussions on NFI contents, main purposes and applications by presenting the summary of the *Rapid Survey on NFI (RSNFI)*. The *RSNFI* was developed in FAO Hq about three months prior to the workshop with the aim of collecting and sharing information on NFI contents, data management, users and methodologies. Eighteen out of the 19 participating countries reported on the *RSNFI* prior to the workshop, providing relevant background information. The analysis of the data collected helped in identifying the strengths of the NFIs in AP countries, as well as the current gaps in information. The discussions undertaken in this technical session were crucial for better understanding of the national submission on *RSNFI*. The participants were informed that the discussions between FAO and the participating countries will be followed up during the following months to assure the reliability and the correct representation of the information and for continued dialogue on the subject. The final results of the *RSNFI*, once finalized, will be distributed to all the participants and will be posted on the website MAR website at www.fao.org/forestry/mar. The engagement of the participants and the review of this information offered important food for thoughts for potential improvement and harmonization of NFIs. Detailed overview on each one of the NFI information field reviewed through the *RSNFI* was reported in three further sessions on Tuesday and Wednesday.

The technical session was complemented and highly enriched by the country presentations on the sampling designs of their NFIs. These presentations were developed by each participant prepared prior to the workshop to have focused and intensive discussion on the subject. Information on availability of manuals/guidelines for the implementation of NFI in the

country, on the use of remote sensing technology, and detailed description of NFI statistical designs (simple random, systematic, stratified and cluster samplings) were reported. The country presentations also reported on biomass estimation, economic and social surveys.

All sessions were plenary in nature so that all countries can participate on each topic. The technical sessions have identified similarities and differences in NFI contents, data storage, use and reporting, sampling designs and statistical methods among participating countries. This has created opportunities to transfer knowledge from one country to another and to lay out the basis for the harmonization, broadening and cross-sectoral integration of NFIs in the region. The intensive deliberation also highlighted gaps in data collection and analysis (e.g. aggregation and estimation of biomass and carbon) currently existing in some of the AP countries and the limited use of NFI data in national policy formulation and planning.

Deliberations on Sampling Methods

The format of the discussion in the sessions was presentation of the issues by resource persons followed by deliberation by the country participants. The chairmanship of sessions was rotated among the country participants such that each country chairs one session. The country-wise information is contained in rapid survey and in the country presentations (provided to participants in form of the CD and available on the FAO website (www.fao.org/forestry/mar))

1. Remote sensing for designing ground inventories

The remote sensing survey (RSS) is being used in majority of the Asian countries to design NFI as well as to detect changes, classify forest types, delineate forest boundaries and stratification to improve efficiency of sampling designs of ground based NFI. The participants were unanimous in that ground inventory and ground truthing is essential for generating reliable data. The participants also focused on the relative advantage of aerial photographs and remote sensing. Some countries are utilizing the aerial photographs for assessment of forests and measuring variables such as volume to develop NFI. Low-resolution remote sensing was not effective in this regard.. These countries considered that aerial photography is a better tool than RSS to provide more detailed information but high costs and decline in numbers of skilled technicians for analysing aerial photographs is driving them towards increasing use of satellite imageries since the high-resolution satellite imageries compete well with aerial photographs. The RSS was considered better and essential for monitoring of degradation, fragmentation of forests and change in land use including trees outside forests, especially when this information is required for reporting to UNFCCC or IPCC.

2. Simple random sampling (SRS) design

The deliberations indicated that countries recognise that SRS is simple, versatile and robust but has many limitations. The SRS, when implemented without stratification and clustering, is useful very little information is available and target population is quite big or thinly distributed over very large areas, . Further that its implementation might be difficult in terms of accuracy and biases, especially in natural forests with low accessibility.. The discussions indicated that few countries use this method in natural forests and that currently it is more frequently used in plantations and trees outside forests or in conjunction with stratification or clustering.

3. Systematic sampling

The systematic sampling is very versatile and robust and most of the AP countries use it for their NFI. In addition it allows use of spatial devices, tools and methods. In , with different grids and with the support of GIS data, is used by all countries for long-term monitoring of forests. The implementation of this methodology is easier than the random sampling and it provides a relatively good accuracy. However, establishment of a high number of plots imply high costs. Sampling intensity would depend on objectives, areas, forest types (diversity), human resources, and available time of surveys. Square plots are easier to form in the field than other forms of plots. The size of the plots depends on size, condition and location of trees. It has been discussed that despite its advantage, the systematic sampling may be inefficient for homogeneous forests.

4. Stratified sampling

Stratified sampling divides the sampling frame into non-overlapping groups or strata of homogenous attributes for more reliable inventory with accurately representative samples. Nine out of 19 participating countries have applied this method (with two to 40 strata). This method improves the efficiency of sampling and accuracy of data (e.g. growing stock) in natural and artificial forests. However, it may not be easy to determine forest strata manually. Certain statistical methods can help find the best sampling design upon varied conditions of forests, population concerned, available resources, and manpower.

5. Cluster sampling

With the use of this methodology the population is divided into selected clusters of proximate attributes close to each other, some of which are randomly chosen. Within each cluster sampled units are chosen randomly or systematically. The clusters should be dissimilar so that the sample is as representative of the population as possible. Six countries have applied this technique. Numbers, shapes, and layout of clusters are varied upon objectives, forest types, and available resources. The Philippines indicated that the FAO NFA approach (rectangular clusters of 250 m x 20 m) is used in their NFI. Clustering can reduce the number of plots for cost-effective sampling. However, inappropriate design of clusters could affect the representation of the population. There was confusion among the participants over clustering vis-à-vis purely systematic sampling or stratification. A wide range of variations were observed in participants' understanding of definitions of cluster sampling under different conditions and processes in their countries.

Relative advantage of these sampling methods will depend on objectives of sampling and conditions of forests. It is necessary to harmonize technical terms of sampling among national staff with capacity building on sampling techniques.

Roundtable discussion on Statistical Methods

1. Tree measurement and sample plots

The discussions highlighted that all countries use systematic sampling for tree measurement. All or selected living tree species with diameter more than 5 - 10 cm are measured, but dead trees or saplings, when considered, are checked without any measurement. Some countries geo-referenced the measured trees, while others did not. The countries measure total tree height or commercial stem height depending on their objectives. Many of them measure trees mainly for timber production, while some others collect this information for monitoring of

tree conditions and habitat diversity. Bamboo culms are counted but not measured. Increasing variables derived from diverse international demand bring heavy burdens on field tree measurement and increase of survey costs. Change of forest status from production forests to conservation forests leads to the end of tree measurement in some countries. Needs for forest measurement are diversified from commercial tree measurement to biomass/carbon estimation, biodiversity (tree species), CITES, etc., requiring new guidelines.

2. Estimation/forecast

Countries estimate timber volume or growing stock with DBH and total height using volume equation or volume tables, and assess total tree volume from measured trees in sample plots and target areas. However, their different methods need to be harmonized. Difficulties in maintenance of permanent sample plots (PSP) also impede stable estimation and forecast of forest resource potentials. It is extremely difficult to determine volume equations for each tree species, but differentiate them by genera (e.g., Dipterocarps and non-Dipterocarps) or value (e.g., commercial or non-commercial). Some countries changed their forest policy into conservation of natural forests, halting such forestry estimation. Assessment of biomass and carbon gets important in accordance with international policy orientation. FAO is expected to support capacity building to the countries in data analysis for precise estimation and forecast.

3. Growing stock, growth rate, and biomass/carbon estimation

It has been indicated that countries calculate growing stock mostly for important tree species using plot surveys and/or available models (e.g. volume equation). Classification of trees in commercial and non-commercial species (either marketed species or potentially marketable species) resulted to be different country by country. Some of the AP countries banned or reduced commercial logging, which further complicates this classification. Assessment of growing stock of bamboo or other non-wood forest products (NWFPs) was agreed to be important. Very few countries assess biomass or carbon in their NFI. A few countries collected data on carbon stock with different methods, but they cannot yet avoid uncertainties of analysis. Estimation of non-tree biomass is another challenge.

4. Wood removal and Annual Allowable Cut

Where logging of trees has not been banned, countries have determined appropriate AAC for commercial logging, based on inventories and models. Cutting cycles, species and size of logged trees, forest types, and post-harvest assessment varies among countries. It has been commonly agreed that AAC should not exceed annual increment of commercial timber volume. AAC for natural forests tend to decrease nowadays in many countries, because of national and international pressure on forest protection as well as decrease of forest areas. Utilization of plantation forests is getting more importance, but their commercial use is restricted in some countries. AAC should be revised with updated information. Viable methods should be explored for estimation of unrecorded wood removal.

5. Socio-economic variables

Community-based forest management programmes have been well developed in some countries, where socio-economic indicators are important in terms of rural poverty reduction. However, in many countries the integration of socio-economic variables in NFI is still a challenging issue; only general variables are collected, but it is still difficult to assess the value of social and economic services in forest management. These socio-economic data are often collected by other agencies outside NFI, and collaboration with them is crucial for effective data compilation. A few countries noted the importance of estimation of biomass

and NWFPs for the welfare of rural communities, but its viable methods are not yet developed.

The countries require capacity building and sharing of expertise especially on carbon and biomass estimation. They suggested FAO, through the MAR-SFM project, to help developing guidelines and support capacity building for data analysis.

Scenario Development

Mr Kailash Govil (FAO) introduced the topic providing general information on scenario development, their purpose, needs and constraints. Scenarios in the forest sector are used as a tool for decision making on sustainable forest management and they are developed by using prediction, projection, or forecasting basing on collected data from NFI and other national and international sectors.

A case study on China (The Forestry outlook for 2020) was presented by Mr Lu De (SFA) which raised the interest of all the participants and was intensively discussed. This forestry outlook include four main scenarios: steady economic growth with investment in the forestry sector; raising awareness of environment; economic and institutional reform revitalizing forestry; and growing demand for forest products and services.

NFI data are essential for the development of reliable scenarios, which are based on predictions and forecasting. The more precise and reliable data are available and reported in the country, the more accurate and realistic will be the scenario. This also highlights the important regular updates of NFI and their cross-sectoral integration as well as the regional and international collaboration; scenarios are influenced by all national, and often regional and international through importing and exporting for example, sectors.

Field trip

A field trip to a NFI ground sampling plot in the Beijing area was organized by SFA. The plot consisted of a mono-specific (poplars) stand of 25.82 m x 25.82 m (0.067 ha). SFA inventory experts introduced the methodology and the tools used to collect forest resources variables included in the national inventory in China. Field demonstrations of the use of Global Positioning System (GPS), Personal Digital Assistant (PDA), compass, hypsometer, etc. were provided for the benefits of all participants. All trees in the plot are enumerated and marked at breast height. The participants suggested improvement of measurement of DBH (above or below bumps or branches, etc.) and tree marking with more durable materials. The day field trip was complemented by a cultural visit to the Beijing section of the Great Wall of China.

Environmental accounting and its data needs

The framework for discussion on Environmental accounting was set by Mr Kailash Govil (FAO) through his presentation on “Reducing Emissions from Deforestation in Developing Countries (RED-DC)” and by Ms Dai Guangcui (SFA) who reported on the *Manual for Environmental and Economic Accounts for Forestry* and its applications in China and also presented detailed information on a case study Fengman district and Jiaohe of Jilin City, Jilin Province, China. The case study indicated that the EEAF provides strong support for researches and coordination of cross-sectoral policies, reflecting contributions of forests to environmental preservation and socio-economic development. Lessons learned from the case study showed that increased capacity building and statistical data are needed for carrying out reliable EEAF. The floor showed to be very interested in the topic and an intensive discussion followed the presentations.

FAO National Forest Assessment (NFA) and its Database

The lack of knowledge on the status, trends, uses and benefits of forest resources remains a limiting factor for decision-making in most countries, especially in the developing world. To help strengthen national capacity and facilitate knowledge-based policy dialogue, FAO works with member countries and other partners to enhance national forest and land use monitoring, assessment and reporting through National Forest Assessments (NFA). Mr Dan Altrell (FAO) provided an introduction on the FAO National Forest Assessment approach and support to the countries. The FAO support to national forest inventories aims at helping countries in developing or strengthening their capacities for continued national inventories. It also aims at broadening the knowledge base of the countries on forests and tree resources at the national level based on reliable field data collected at a moderate cost on a wide range of biophysical and on management and uses parameters. Detailed information on the NFA objectives, approach and country projects are available on the www.fao.org/forestry/site/nfa/en.

The structure and use of the FAO NFA database was also presented by Mr Altrell, the participants recognized that the FAO NFA approach could be used as initial conceptual guideline to make further progress in the harmonization, broadening and cross-sectoral integration of NFI in AP countries.

Incentives to Reduce emissions from Deforestation (RED) under UNFCCC

The discussions indicated that in many AP countries the estimation of carbon stock is still a challenging task. The participants also highlighted that capacity building is also needed through transfer of technology from organizations or countries (e.g. Australia has already developed a “National carbon accounting system” toolbox and could share this knowledge with interested countries).

Australian initiative

The Australian “Global Initiative on Forests and Climate” (full text available in Annex 5) was presented to the participants by Mr Kailash Govil (FAO) and intensively discussed by the floor. The participants considered the proposal as one of the potential extra-budgetary support for the implementation of NFIs and agreed to follow up on the progress of the Initiative.

Voluntary country presentations

The time allocated for voluntary presentations was highly appreciated by the participants and 10 among them (representatives from Australia, the People's Republic of China, the Republic of India, Japan, the Republic of Korea, Mongolia, the Union of Myanmar, Nepal, the Republic of the Philippines, and the Socialist Republic of Viet Nam) provided complementary information on NFIs and related issues.

Institutionalization of the process for harmonization, broadening and cross-sectoral integration of NFI.

The process of broadening, harmonization and cross-sectoral integration of NFIs in AP region has been institutionalized with the establishment of the *Asia Pacific Network for NFI*, which includes ground and remote sensing experts and will organize virtual thematic meetings and annual workshops to enhance cooperation among countries, increase exchange of information and continue the dialogue on harmonization, broadening and cross-sectoral integration of NFI.

Mr Tariq Nazir Chaudhry (Pakistan) served as chairman of the first official meeting of network where the name, terms of reference, members and arrangements for future meetings

were discussed. During this meeting the countries selected Indonesia to serve as the chairman of the network for the following year and asked FAO, through the MAR project, to act as secretariat. INBAR showed its interest in supporting the being part of the network. Each country could organize a team of experts so that one of them would always participate in the network while sharing information among them. Back-to-back meetings were also suggested with other related meetings (e.g., UNFCCC, APFC, etc.) for efficient organization of the network meetings. Viable activities and resource inputs for the network would have to be further deliberated at later meetings.

Conclusions and Way ahead recommendations

After six days of intensive deliberation countries resolved the following to continue to broaden, harmonize and cross-sectorally integrate their National Forest Inventories among Asia and Pacific countries.

Broadening

The countries well appreciated the broadening of the scope of NFI, including bamboo resources assessments by FAO under its “Support to NFA program” and agreed to take it as initial conceptual guideline to make further progress in this field. They requested that the MAR project should provide more information from NFA and other countries for their further considerations and continue the technical dialogue through the regional network over Internet.

Harmonization

The workshop brought out the similarities and differences in sampling designs and statistical methods among participating countries. The discussions were very useful for countries to learn about experiences and methodologies used in other Asia Pacific countries. The countries requested that the MAR project provide support for continued deliberation among them through the regional network of national experts on NFI. Further that the NFA framework may be considered as the starting point to initiate the discussion over the Internet.

Cross-sectoral integration

The countries agreed to move forward to enhance cross sectoral integration of NFI with development and other related sectors. Further that the NFA approach in this regard was well appreciated and accepted as a starting point for continuing progress in this field. The countries requested that the MAR project provide support for continued deliberation among them through the regional network of national experts on NFI.

Way forward and implementation

- To implement the above recommendation it was agreed that MAR project should provide more information from NFA and other countries for further consideration and continue the technical dialogue over the internet and annual meetings of the regional network.
- Regional network
 - The participating countries established the Asia Pacific network of experts on NFI including ground and remote sensing experts. FAO will serve as its secretariat and will develop and maintain its web-site. Pakistan served as the first Chairman of the network. The countries selected Indonesia to serve as the Chairman of the network for one year. They resolved that,
 - FAO should further develop resources to sustain the regional network
 - The regional network should provide a website to share information and experiences on NFI like inventory manuals, sampling designs, statistical methods, reports, special studies and other relevant documentation
 - The regional network should organize virtual and annual workshops
- Capacity building

The MAR project should develop resources and facilitate the process of capacity building with regards to the above, especially in respect of biomass and carbon estimation, analysis of NFI information and reporting.

Mobilize financial resources

The countries requested MAR project to provide technical advice, support (common format, guidelines, training workshops, etc.) and facilitation to secure financial resources through a range of sources including Australian Global Initiative on forest and climate for strengthening of MAR system including NFIs.

Actions by countries

The countries agreed to organize their internal meetings like National Network of national focal points (where established) to continue deliberation on the broadening, harmonization and cross-sectoral integration of NFI and to actively participate and contribute to the virtual deliberations over the internet organized through the regional network.

Further that they will start compiling including translating into English, their technical documents and submit it to FAO for distribution and posting on the regional network website, so that the other fellow countries in the region can take advantage of their experiences and knowledge.

Closing ceremony

The workshop was closed after delivery of participation certificates to all the presents.

Annex 1. Workshop itinerary

Monday 26 March 2007

- 08:30 - 09:00 **Registration**
- 09:00 - 09:40 **Welcome addresses**
09:00 *Mr Qu Guilin, State Forestry Administration (SFA), P.R. China*
09:10 *Mr Xiao Xingwei, Department of Forest Resources Management, SFA, P.R. China*
09:20 *Ms Coosje Hoogendoorn DG / Mr. Wu Zhimin, DDG International Network for Bamboo and Rattan (INBAR)*
09:30 *Food and Agriculture Organization (FAO)*
- 09:40 - 09:50 **Introduction to workshop and agenda**
(Mr Su Chunyu, Department of Forest Resources Management, SFA)
- 09:50 - 10:00 **Conceptual framework of the workshop**
(Mr Kailash Govil, Forestry Department, FAO)
- 10:00 - 10:10 **Group Photo**
- 10:10 - 10:30 Coffee break
- 10:30 - 10:40 **Information on logistic arrangements**
(Mr Xia Chaozong, Academy of Forest Inventory and Planning, SFA)
- 10:40 - 10:50 **Technical framework of the workshop**
(Mr Masahiro Otsuka, Regional Office for Asia and the Pacific, FAO)
- 10:50 - 11:30 **Overview of the contents of National Forest Inventories**
(Ms Serena Fortuna, Forestry Department, FAO)
Preliminary results of Rapid Survey (30 minutes presentation, 10 minute discussion)
- 11:30 - 12:15 **Sampling Designs in NFI - Country presentations - 1**
10 minutes presentations and 5 minutes discussion per country - 3 countries
Butan, Cambodia, China
- 12:15 - 13:30 Lunch
- 13:30 - 15:00 **Sampling Designs in NFI - Country presentations - 2**
10 minutes presentations and 5 minutes discussion per country - 6 countries
Indonesia Japan, Korea Laos, Malaysia, Mongolia
- 15:00 - 15:30 Coffee break
- 15:30 - 17:30 **Sampling Designs in NFI - Country presentations - 3**
10 minutes presentations and 5 minutes discussion per country - 9 countries
Nepal, Pakistan, Philippines, Sri Lanka, Thailand, Viet Nam, Brunei, Myanmar, India, Australia

Tuesday 27 March 2007

- 08:30 - 09:15 **Preliminary results of Rapid Survey of NFI - Fields 3.1 to 3.5**
30 minutes presentation and 15 minute discussion
- 09:15 - 10:00 Roundtable discussion on Sampling Methods in Asia - 1
Remote Sensing for designing Ground Inventories
10 minutes summary and 35 minutes discussion
- 10:00 - 10:30 Coffee break
- 10:30 - 11:15 Roundtable discussion on Sampling Methods in Asia - 2
Simple Random Sampling Design
10 minutes summary and 35 minutes discussion
- 11:15 - 12:00 Roundtable discussion on Sampling Methods in Asia - 3
Systematic Sampling Design
10 minutes summary and 35 minutes discussion
- 12:00 - 13:30 Lunch
- 13:30 - 14:15 Roundtable discussion on Sampling Methods in Asia - 4
Stratified Sampling Design
10 minutes summary and 35 minutes discussion
- 14:15 - 15:00 Roundtable discussion on Sampling Methods in Asia - 5
Cluster Sampling Design
10 minutes summary and 35 minutes discussion
- 15:00 - 15:30 Coffee break
- 15:30 - 16:15 Roundtable discussion on Statistical Methods in Asia - 1
Tree Measurement and Sample Plots
10 minutes summary and 35 minutes discussion
- 16:15 - 17:00 Roundtable discussion on Statistical Methods in Asia - 2
Estimation and Forecasting
10 minutes presentation and 35 minutes discussion
- 17:00 - 17:30 **Preliminary results of Rapid Survey of NFI - Fields 3.6 to 3.10**
20 minutes presentation and 10 minutes discussion
- 19:00 **Reception dinner**
Venue and time to be confirmed

Wednesday 28 March 2007

- 08:30 - 09:00 **Preliminary results of Rapid Survey of NFI - Fields 3.11 to 3.14**
20 minutes presentation and 10 minute discussion
- 09:00 - 10:00 Roundtable discussion on Sampling Methods in Asia - 6
Recapitulation and conclusions
20 minutes presentation and 40 minutes discussion
- 10:00 - 10:30 Coffee break
- 10:30 - 11:15 Roundtable discussion on Statistical Methods in Asia - 3
Scenario Development and its data needs
Mr Kailash Govil, Forestry Department, FAO
20 minutes presentation and 25 minutes roundtable discussion
- 11:15 - 12:00 Pilot Study - Scenario Development
Scenario Development - China in Asia Outlook Study 2020
Mr Lu De, Department of International Cooperation, SFA
30 minutes introduction and 15 minutes discussion
- 12:00 - 13:30 Lunch
- 13:30 - 14:15 Roundtable discussion on Statistical Methods in Asia - 4
Growing Stock and Growth rates
10 minutes presentation and 35 minutes discussion
- 14:15 - 15:00 Roundtable discussion on Statistical Methods in Asia - 5
Biomass (Wood densities, Biomass Expansion Factor) and Carbon Estimation
10 minutes summary and 35 minutes discussion
- 15:00 - 15:30 Coffee break
- 15:30 - 16:00 Roundtable discussion on Statistical Methods in Asia - 6
Annual Removals and Allowable Cuts
10 minutes presentation and 20 minutes discussion
- 16:00 - 16:30 Roundtable discussion on Statistical Methods in Asia - 7
Economic and Social Data
10 minutes summary and 35 minutes discussion
- 16:30 - 17:00 Roundtable discussion on Statistical Methods in Asia - 8
Recapitulation and conclusions
10 minutes presentation and 20 minutes discussion
- 17:00 - 17:10 **Introduction to field trip**

Thursday 29 March 2007

08:30 - 18:00 **Field trip**
NFI in China

Friday 30 March 2007

08:30 - 10:00 Environmental Accounting and its data needs
Environmental Accounting
Mr Kailash Govil, FAO & Ms Dai Guangcui, Center of Economic Research, SFA
Introduction, Pilot Study and Discussion

10:00 - 10:30 Coffee break

10:30 - 12:00 **FAO National Forest Assessment (NFA) and its Database**
Mr Dan Olof Altrell, Forestry Department, FAO
Introduction, Pilot Study and Discussion

12:00 - 13:30 Lunch

13:30 - 14:15 **Demonstration on NFA Database**
Demonstration with help on a pilot study

14:15-15:00 **Spatial Data Management and Analysis**
Mr Dan Olof Altrell, Forestry Department, FAO
Introduction and Case Studies

15:00 - 15:30 Coffee break

15:30 - 16:45 **Spatial Data Management and Analysis (continued)**
Mr Dan Olof Altrell, Forestry Department, FAO
Case Studies and Discussion

16:45 - 17:30 **Incentives to Reduce Emissions from Deforestation (RED) under UNFCCC**
Mr Kailash Govil, Forestry Department, FAO
Introduction and Discussion

18:00 **Farewell dinner**
IBRT restaurant

Saturday 31 March 2007

08:30 – 9:00 **Complimentary Presentations**
Australia, China (Bamboo), India, Viet Nam

09:00 – 10:00 **NFI Presentations**
China, Korea, Mongolia, Myanmar, Nepal, Philippines

10:00 - 10:30 Coffee break

10:30 – 11:00 **Regional Network on NFI**
First meeting

11:00 - 12:00 **Way ahead recommendations**
Draft, discussion and finalization

12:00 - 12:30 **Closing ceremony**

13:00 Lunch

Annex 2.

Welcoming addresses

The workshop was inaugurated with the welcoming addresses by SFA, INBAR and FAO.

The full speeches are reported in the following pages in the order in which they have been delivered during the workshop.

***Mr Qu Guilin,
State Forestry Administration, P.R. China***

Mr. Chairperson, Mr. Kailash, Ms. Coosje, Mr. Xiao, Distinguished Participants, Ladies and Gentlemen,

Good Morning.

I am very glad to address at the opening ceremony of this training workshop. On behalf of the State Forestry Administration (SFA), I would like to extend my congratulations on the convocation of this workshop and my warmest welcome to all participants from various countries and FAO officers.

FAO and SFA have had long-term cooperation ties in forestry since late 1970s and a total of 31 projects in various fields of forestry were implemented in cooperation with FAO in China. All these projects have significantly enhanced the development of forestry in China in last two decades.

FAO has played a pivotal role in promoting sustainable management of global forests. As we all know, FAO Forest Resources Assessment (FRA) 2005 was successfully completed and Chinese forest resources experts were actively involved in FRA 2005. FAO has started to make preparations for FRA 2010. Chinese government appreciates the efforts made by FAO in FRAs and is very supportive to such activities. In Asia Pacific Region, the implementation of the regional project “Strengthening Monitoring, Assessment and Reporting on Sustainable Forest Management in Asia” will help Asian countries including China to build capacity in monitoring, assessment and reporting on sustainable forest management. SFA fully supports this regional project, and hopes that the sustainable forest management in China can be further enhanced through participating in this project.

As an important activity of this regional project, this training workshop will provide all the participants with a good opportunity to share information and experiences in practicing national and sub-national forest inventories. You will discuss topics like sampling design, use of permanent plot for trend analysis and statistical integration with social, economic surveys and integrated database management. This workshop will also deal with broadening and strengthening of national forest inventories (NFI) to support environmental accounting, assessment of water resources, the protected areas and local communities and people. In addition, this workshop will provide alternative methods to enhance robustness of NFI and promote its role in policy and programme development.

I am sure that this workshop will help to improve the technical cooperation between SFA and FAO, Chinese forest resources institutes and national institutes of other countries in Asia Pacific Region in sustainable forest management.

Sustainable management of forests is an issue rather high on the agenda of the global forest fora. UNFF7 Meeting to be held this April will discuss and adopt an international instrument on forest, which will further promote forest profile in the global sustainable development. Regional cooperation is very critical to successful implementation of such instrument. So I hope that through this workshop, the regional cooperation in Asia and Pacific will be improved in forest resources management.

I wish this workshop a great success and all distinguished participants a pleasant and fruitful stay in China.

Thank you all.

Mr Xiao Xingwei
Department of Forest Resources Management, SFA, P.R. China

Respected Mr. Chairman, respected Mr. Kailash, Respected Ms.Coosje, respected Director General Qu Guilin, all the participants, ladies and gentlemen:

Good morning.

I'm delighted to attend this meeting. I would like to take this opportunity to wish the success of the workshop, and welcome the officials from FAO and all the experts from different countries as well as the best wishes to all experts who are engaged in forest resources monitoring.

Department of Forest Resource Management is the functional department of the State Forestry Administration (SFA), P. R. China. We are mainly responsible for forest resources survey, supervision and management of forest resources. Forest resources survey division in our department is initiated to conduct this pursuit. Furthermore, under the lead of SFA, four academies of forestry inventory and planning are founded to concentrate their main efforts on national forest inventory and monitoring, and provide technical support.

Since 1950s, China forest resource inventory has continuously developed with the development of China forestry. Up to now, forest resource inventory system has established at different levels, including national forest inventory defined province as population, inventory for forest planning and operation design at forest management level, and special inspection of forest resources. Among them, national forest inventory is built up to monitor macroscopical change of forest resources at national and provincial levels. Its output is a fundamental base to scientifically identify development trend of national forestry, and work out practical forestry policies. It is key data for development of China forestry in a sustainable way.

Since 1970s, China has carried out the national forest inventory (NFI) system at an interval of 5 years on the basis of sample theory, taken province as population. 6 NFIs have been conducted. Now the 7th NFI is under way. After 30 years development, we have worked out a good system of forest resources inventory in China. The system has been gradually perfected from forest resource survey to monitoring and evaluations focused on multi-resources, targets and integrated profits of forest resources. Inventory factors cover land use & cover, forest resources, forest ecology, forest health, bio-diversity and land degradation, etc. High-technologies such as RS, GIS and GPS are being widely applied in our inventory work.

This training workshop is not only promoting global forest resources monitoring, and also provides a good opportunity for China to learn available experiences from other countries. I believe the workshop will further promote the development of forest resource inventory and monitoring in Asia Pacific region, and even at global level.

Finally, I highly appreciate the valuable contribution of FAO and all the participants who are present today. I wish a full success of the training workshop and all participants a pleasant and fruitful stay in China.

***Ms Coosje Hoogendoorn
INBAR, Director General***

Ladies and gentlemen, I would like to welcome all of you very warmly to this important workshop on Broadening, Harmonization and Cross-Sectoral Integration of National Forest Inventories in Asia Pacific Region which INBAR has the honor to co-organize.

I would also like to take this opportunity to express my sincere thanks to our co-organizers, FAO and the China State Forestry Administration, for making this event possible and their invaluable contribution to its success;

In this meeting you will discuss national forestry inventories in its widest sense. However, I would like to take this opportunity to draw your attention to bamboo.

This is very appropriate at this meeting here in Beijing, because bamboo has been extensively utilized in China since ancient times and is deeply rooted in the Chinese culture. No other plant in China's history has had such great influence on human civilization as bamboo did in China. The Chinese bamboo industry is probably the most developed in the world.

Bamboo forests are highly valued ecosystems in China, not only because of their beauty, but also because of their biodiversity, such as the giant panda, and because of their commercial value for rural livelihoods.

Bamboo is of course also very important in other countries around the world. In particular in your region: Asia and the Pacific, but also in Latin America and in Africa. We estimate that worldwide around 1 billion people depend on bamboo, and that the present value of the export market is about 2.5 to 3 bln dollar.

One issue which however is less clear is how much actual and potential resources are and will be available in the future. To be able to make the very best use of bamboo, we need to have a much better idea of our stocks. But that isn't easy.

An important step forward was taken when it was decided to include bamboo as a thematic study in the FAO forest inventory of 2005. Obviously INBAR was one of the key facilitators and supporters of this study.

Let me remind you of some of the activities in that framework, although I am sure that quite a few of you participated in those events:

- FAO/ITTO/INBAR joint meeting in Yokohama, May 2004
- FAO/INBAR training Workshop in Bangkok for the FAO FRA national focal points in Asia, Nov 2004
- FAO/INBAR joint workshop on GBRA in China, May 2005

- Training in Beijing of national experts from Lao and Vietnam, Sept 2006

Next steps, together with you, FAO, UNEP and other stakeholders, are amongst others:

- To publish the BTS report
- To create and update the bamboo resource database
- To produce remote sensing and on-the ground bamboo assessment manuals
- To encourage more countries to include bamboo in their national inventories
- To provide FAO National Correspondents necessary training and technical support

Therefore we are very pleased with this international workshop that can include your thoughts on these matters, and we are very pleased to have so many participants from so many countries.

Let me now give you a short update on INBAR, the International Network for Bamboo and Rattan. INBAR started as a secretariat of IDRC, and was transformed into an intergovernmental organization in 1997, so we are celebrating our 10th anniversary this year.

We have our headquarters here in Beijing, and offices around the world, in Ecuador, Ghana and India. If you have time, you are very welcome to visit our showroom.

We have recently finalized our new strategy: In partnership for a better world. For the next decade we have developed 4 strategic goals:

- An expanded, highly effective stakeholder network.
- Better ways and means of livelihood development.
- Increased and effective protection of the environment and of biodiversity
- A better and more innovative market environment.
- The work you will be discussing the next coming days, links to our goal of an increased and effective protection of the environment and of biodiversity, as well as ensuring the availability of resources.

The title of our Strategy is ‘In partnership for a better world’. Our INBAR modus operandi is net working. This workshop is an excellent opportunity to network with our colleagues from Asia and the Pacific to exchange knowledge and views on what has been learned about how to manage forests even better for the benefit of poor people and the environment.

I very much look forward to the discussions and the presentations and expect that we will make important steps forward.

I wish you and the workshop great success. Thank you very much for your participation.

Mr Chong Guang LIAO
on behalf of Ms Victoria Sekitoleko, FAO Representative China

FAO in partnership with a number of countries has taken the lead to help streamlining and harmonization of forest related reporting at the national level through initiation of a project aiming at “Strengthening Monitoring, Assessment and Reporting (MAR) on Sustainable Forest Management (SFM) in Asia” (GCP/INT/988/JPN). It is a five year project which is funded by the Government of Japan and technically implemented by FAO. The processes, methods, and technical material developed during implementation of the project have the potential for replication in other regions of the world.

This six day training workshop "Mainstreaming of Forestry - Broadening, Harmonization and Cross-sectoral Integration of National Forest Inventories (NFI)" for Asia Pacific Region from 26 to 31 March 2007 in Beijing, China has been organised by FAO under the umbrella of the project in collaboration with State Forestry Administration (SFA), China and the International Network of Bamboo and Rattan (INBAR). The scope of the workshop is to review the contents of National Forest Inventories and their statistical methods to generate forest information. The workshop also spans new demands on information to address emerging issues like avoided deforestation, carbon accounting, and environmental accounting.

This initiative shares the ambition of the Collaborative Partnership on Forests (CPF) on United Nations Forum on Forests (UNFF) about simple, harmonised, efficient and action oriented MAR systems both at international and national levels and thus provides a response to some of the key recommendations made by the CPF task force on streamlining the reporting on forests with particular focus on national capacity building. It aims to catalyze national discussions, analyses, policy actions and planning that promote national SFM regimes besides clarifying the contribution of forests to global environment and to human well-being.

The concept, design, achievements made by the project in the last few months has motivated many donors, organizations, processes to collaborate with FAO. The governments of Italy, Netherlands, Norway and France (through an APO) are also supporting some selected activities. The ITTO and INBAR are also making contributions to selected activities of the project. The CBD secretariat is actively participating in all the technical developments. UNEP and USGS are also providing financial, technical and other support to some of project activities. The Republic of Korea, with acceptance of Japan, has signed a MOU on 13 March 2007 during the meeting of Committee on Forests (COFO) at FAO to make substantial contribution to the project.

This workshop builds on the earlier four workshops that focussed on linkages with Asia Pacific Forestry Commission (April 2006), integration with Criteria and Indicator processes (July 2006), development of regional umbrella plan of action –RUPA (October 2006) and harmonization of remote sensing based forest classifications (December 2006). The participants from all eighteen Asian and Pacific countries present here have worked very hard during last two months on rapid survey of their inventories and sampling designs for making very productive contributions to this workshop.

Annex 3. Participants list

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Annex 4.
List of presentations

DAY	TITLE	PRESENTER
26	Conceptual framework of the workshop	Mr Kailash Govil (FAO)
26	Technical framework of the workshop	Mr Masahiro Otsuka (FAO)
26	Overview of the contents of National Forest Inventories	Ms Serena Fortuna (FAO)
26	Sampling Designs in NFI	Country presentations – all participants
27	National Forest Inventories in Japan	Mr Tatsuo Inamoto (Japan)
27	Preliminary results of Rapid Survey of NFI - Fields 3.1 to 3.5	Mr Dan Altrell (FAO)
27	Preliminary results of Rapid Survey of NFI - Fields 3.6 to 3.12	Ms Serena Fortuna (FAO)
28	Scenario Development and its data needs	Mr Kailash Govil (FAO)
28	Scenario Development - China in Asia Outlook Study 2020	Mr Lu De (SFA)
30	Environmental Accounting	Mr Kailash Govil (FAO)
30	FAO National Forest Assessment (NFA) and its Database	Mr Dan Altrell (FAO)
30	Incentives to Reduce Emissions from Deforestation (RED) under UNFCCC	Mr Kailash Govil (FAO)
31	Bamboo resources inventory and assessment	Mr Xia Chaozong (SFA)
31	Application of Remote Sensing technology in forest resources monitoring	Ms Han Aihui (SFA)
31	How do we tell... What's happening in Australia's forests - Why we need a national forest monitoring system	Mr Adam Gerrand (Australia)
31	National Assessment of Trees Outside Forests (TOF) in India	Mr J.K. Rawat (India)
31	National Forest Inventory in Korea.	Mr Sung-Ho Kim (Korea)
31	Forest Inventory in Mongolia	Mr Ulziibayar Dagdandorj (Mongolia)
31	National Forest Inventory in Myanmar	Mr Myint Swe (Myanmar)
31	NFI in Nepal	Mr Shree Gopal Jha (Nepal)
31	Forest resources assessment	Mr Arvie Tirso G. Caancaan (Philippines)
31	National Forest Inventories in Japan	Mr Tatsuo Inamoto
31	NFI Database – software	Mr Dinh Huu Khanh (Viet Nam)

The above cited presentations are available in the workshop CD and will soon be uploaded on the MAR website (www.mars.org). Interested persons may request additional copies to Mr Kailash Govil at kailash.govil@fao.org

A list of topics presented is reported in Annex 4 of these proceedings and all the power point presentations are available in the workshop CD distributed to all the participants and will be uploaded on the MAR website at www.fao.org/forestry/mar.

Annex 5.

Summary of the Australian Global Initiative On Forests And Climate

The Australian Government will invest \$200 million in a world leading *Global Initiative on Forests and Climate* that will make a significant and material impact on our efforts to reduce global greenhouse gas emissions, through:

- reducing destruction of the world's remaining great forests;
- increasing new forest planting; and
- promoting sustainable forest management practices worldwide.

Funding through the Initiative will be committed to working with developing countries to:

- build technical capacity to assess and monitor forest resources, and to develop national forest management plans;
- establish effective regulatory and law enforcement arrangements to protect forests, including through preventing illegal logging;
- promote the sustainable use of forest resources and diversify the economic base of forest-dependent communities;
- support practical research into the drivers of deforestation; and
- encourage reforestation of degraded forest areas.

The funding will also support:

- positive incentives for sustainable forest practices in developing countries and reducing net forest loss;
- the development and deployment of the technology and systems needed to help developing countries monitor and produce robust assessments of their forest resources;
- piloting approaches to providing incentives to countries and communities to encourage sustainable use of forests and reduce destruction of forests;
- collaboration with the Global Forest Alliance of the World Bank and the International Tropical Timber Organisation on deforestation projects; and
- cooperation with governments and businesses in other developed countries to build support for and expand the reach of the Initiative.

This Initiative has the potential to make a large contribution to reducing greenhouse gas emissions worldwide. Almost 20 per cent of global emissions currently come from clearing the world's forests – second only to the emissions produced from burning fossil fuels to produce electricity, and more than all of the world's emissions from transport.

Reducing deforestation, combined with planting new forests and encouraging sustainable forest management practices, is one of the best ways to reduce global emissions now. And it can be done while we continue to develop and deploy the low emissions energy technologies needed to achieve future deep cuts in greenhouse emissions.

There are few frameworks internationally that address emissions from deforestation. The Kyoto Protocol provides no incentive for developing countries to reduce deforestation.

Through the Global Initiative on Forests and Climate, Australia is pressing for the urgent global action needed in this area.

If we could even halve the current rate of global deforestation, this Initiative could lead to reductions in annual global greenhouse gas emissions of 3 billion tonnes a year – or around 10%.

This would lead to global emission reductions five times greater than Australia's total annual emissions and almost 10 times as large as those aimed to be achieved under the first commitment period of the Kyoto Protocol, which will only reduce annual emissions by 1% by 2010.

Through this initiative we will work with like-minded countries, such as the United Kingdom, United States, Germany, Indonesia, and international organisations including the World Bank, and businesses to reduce emissions from deforestation and to sustainably manage the world's forests.

Through working together – with developed and developing countries across the world – we can harness the collective effort and resources to make a big difference for world forests and the climate.

(Information extracted from <http://www.greenhouse.gov.au/international/forests/about.html>)