



The International Network for Bamboo and Rattan

### **INBAR's Views Regarding Adopting a Decision on Issues Related to Agriculture during COP18**

Herewith the International Network for Bamboo and Rattan (INBAR) would like to follow the invitation to share its views on adopting a decision on issues related to agriculture during COP18. INBAR is an intergovernmental organization dedicated to improving the social, economic and environmental benefits of bamboo and rattan. INBAR connects a global network of partners from the government, private, and non-profit sectors in over 50 countries to define and implement a global agenda for sustainable development through bamboo and rattan. Since 2009 INBAR is an accredited observer organization of the UNFCCC COPs.

Bamboos offer a wide range of potential solutions to address the problems and hardships that may come with climate change. Bamboos can be integrated into land use based climate change mitigation activities, such as afforestation / reforestation or avoided deforestation. Bamboos are amongst the fastest growing plants in the world. Studies showed that appropriately managed and regularly harvested bamboo stands can sequester more carbon than if left in their natural state, and moreover, can sequester more carbon than fast-growing tropical and sub-tropical trees in comparable conditions. Due to its renewability, bamboo can take pressure of other forest resources and contribute to avoided deforestation.

Bamboos unique potential contribution to mitigation relies on the fact that it can combine continued biomass production with regular selective harvesting, thus leaving a standing carbon stock and a living ecosystem that will continue to grow. Moreover, when bamboos are used to substitute for energy intensive products, their growing stock can represent an increasing carbon sink. Longer lifespans of modern bamboo products will help ensure that more carbon remains sequestered.

Increasing the cultivation and use of bamboos is likely to contribute to improving the resilience of rural and urban populations to the impacts of climate change. Bamboos are relatively easy to grow and maintain and can provide additional food, energy and income security to the rural poor, as well as a range of environmental services and uses in their growing and harvested forms. Bamboo products, such as houses and charcoal, can contribute to the livelihood resilience of rural and urban dwellers.

INBAR appreciates the opportunity to share thoughts and views on the highly relevant and interesting issues related to agriculture. INBAR is in favor of adopting a decision on issues for agriculture during COP18. Agriculture can play an important role in climate change mitigation. Such a decision will increase the available land-use options for combating climate change and recognize the specific characteristics of agricultural land uses. The existing work on "climate-smart agriculture" demonstrates that agricultural systems have a large potential in combating climate change – through avoiding emissions from agricultural production and through carbon sequestration within agricultural land uses. Moreover, agriculture can and will play a significant role for rural communities to adapt to climate change.



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Bamboo can be defined as part of forestry, but also as part of agriculture. Bamboo's potential contribution to mitigating climate change is probably the most effective when it is grown in agroforestry systems or as managed plantations – these land-use systems have a lot in common with agriculture. These symbiotic systems are, for example, an integral part of rural India and Bangladesh. A decision and a resulting agricultural work programme would allow an inclusion of these ecosystems and recognize their unique potential in sequestering and storing carbon. By growing bamboo, farmers can reduce risks through an increased resilience against climatic events and diversified income options. Studies have also shown that – besides providing a useable material – agricultural rotations with bamboo can improve soil characteristics, increase yields and support livelihoods. This demonstrates that bamboo is also an effective tool for climate change adaptation.

Especially bamboo which is grown for edible shoots share a lot of characteristics with perennial agricultural crops: it is harvested regularly and a large share of the biomass and carbon (standing culms, below-ground and soil) remains within the ecosystem as only a part of the bamboo biomass is harvested. The remaining parts of the plant survive and will subsequently re-grow. Like most agricultural crops in developing countries, bamboo is commonly grown by smallholders.

Therefore a decision on issues related to agriculture offers the chance for global bamboo stakeholders to actively contribute to coping with climate change. Bamboo, after all, is one of the fastest growing plants in the world – with high carbon sequestration rates.

Agricultural systems will be impacted from changing climate. Therefore it is of utmost importance that farmers around the world can apply appropriate adaptation strategies in order to ensure livelihoods and to ensure food security. Therefore a decision on issues related to agriculture should put equal emphasis on climate change mitigation and adaptation.

However, INBAR also identified several challenges with regard to the inclusion of agricultural issues:

- The development of respective methodologies will be a complex task: agricultural land is managed differently than forests, also carbon cycles and storage differ strongly from forestry.
- Monitoring of carbon pools in agriculture can be more complex and costly than in forestry: soil and below-ground biomass play a relevant role in agriculture.
- Agricultural lands are usually harvested regularly – which results in a regular removal of (above-ground) carbon pools. Unlike harvested wood products (HWPs) which can store carbon for a long time in durable products, agricultural harvests are usually consumed within a short time. This means that a large part of removed biomass will be (re-)emitted within a short time (in the form of food or bio-energy). This creates challenges for monitoring and carbon accounting.
- Compared to forestry, agriculture can be more input intensive – which means that a larger amount of emissions can be created. Agricultural systems can be a significant source of GHGs (for example many animal husbandry systems are major sources of GHG emissions).



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- Agricultural products are traded around the world, until a final product reaches a consumer it might contain inputs from several countries and might have been processed at several places – this raises questions of accountability for agricultural products. Also inputs for agricultural production are traded globally. Therefore it can be complex to assign, locate and assess the impacts of agricultural operations on climate change. This raises challenges in defining project boundaries; which system will be evaluated: the farm, the region or the country?

As the listed challenges demonstrate, the inclusion of agriculture is a complex and demanding task. Therefore INBAR recommends increasing related research activities in order to facilitate related processes. In order to ensure the effectiveness and to facilitate the development of methodologies and mechanisms related to agriculture, INBAR also recommends considering lessons-learned and experiences from forestry. The conversion of natural forests to farmland can represent a major driver of climate change, therefore INBAR recommends that a decision on agriculture develops and supports mechanisms to control and halt these processes. Agriculture in many developing countries is dominated by smallholder farmers, who can only benefit from a decision on agriculture if the mechanisms are targeted to their situation, resources and needs. Therefore, also in order to exploit possible impacts on reducing poverty, INBAR recommends that mechanisms related to agriculture should facilitate the inclusion of smallholder farmers (e.g. by limiting project-related demand of resources).

The inclusion of agricultural activities would widen the available options for policy makers and global stakeholders to actively contribute to coping with climate change. The inclusion of agricultural systems would represent an integrative approach; by including agriculture a wide range of stakeholders can be reached – this also means the possible inclusion of millions of people to fight climate change. Many of the global poor live in rural areas of developing countries. Therefore an adopted decision on issues related to agriculture could contribute to reducing poverty by increasing the value of these systems and their services, as well as by ensuring that these systems are appropriately adapted to cope with climate change.

If there are any questions, INBAR would be happy to provide further support, clarification or additional information. INBAR thanks UNFCCC for the excellent work over the past years and strongly appreciates the opportunity to contribute to this important challenge.

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