

**Mainstreaming Pakistan for Reducing  
Emissions from Deforestation and Forest  
Degradation Plus (REDD+): The way  
forward to Readiness Phase**

Kanwar Muhammad Javed Iqbal and Maqsood Ahmad

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## List of Acronyms

AJK	Azad Jammu and Kashmir
AWG/LCA	Adhoc Working Group on long-term Cooperative Action
AWG-KP	Ad Hoc Working Group-Kyoto Protocol
CBFM	Community Based Forest Management
CCB	Climate, Community and Biodiversity
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
COP	Conference of Parties
COP/MOP	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
DRC	Democratic Republic of Congo
EFDB	Emission Factor Database
FAO	Food and Agriculture Organization
FATA/FANA	Federally Administered Tribal Areas/Federally Administered Northern Areas
FIP	Forest Investment Program
GB	Gilgit Baltistan
GHG	Green House Gases
ICIMOD	International Center for Integrated Mountain Development
ICN	International Carbon Network
INGOs	International Non-Governmental Organizations
IPCCC	Intergovernmental Panel on Climate Change
IRR	Initial Requirement Review
IUCN	International Union for Conservation of Nature
IYF	International Year of Forests
JFM	Joint Forest Management
JFMCs	Joint Forest Management Committees
MACDS	Mountain Area Conservation and Development Services
mha	million hectare
MoE	Ministry of Environment
MoUs	Memorandum of Understandings
MRV	Monitoring, Reporting and Verification
NAFOBEDA	National Forest Database
NAMAs	National Measurement and Accreditation Services
NGOs	Non-Governmental Organizations

OIGF	Office of Inspector General of Forests
PCI	Pakistan Carbon Initiative
PFI	Pakistan Forest Institute
REDD	Reducing Emissions from Deforestation and forest Degradation
REDD-Plus	Reducing Emissions from Deforestation and forest Degradation and Enhancing Carbon Stock
SBI	Subsidiary Body for Implementation
SBSTA	Subsidiary Body for Scientific and Technological Advice
SDPI	Sustainable Development Policy Institute
SFM	Sustainable Forest Management
TGC	Terra Global Capital, USA
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UN-FAO	United Nations- Food and Agriculture Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organization
UN-REDD	United Nations Reducing Emissions from Deforestation and forest Degradation
USA	United States of America
US\$	United States Dollar
WWF-P	Worldwide Fund for Nature – Pakistan

# **Mainstreaming Pakistan for Reducing Emissions from Deforestation and Forest Degradation Plus (REDD+): The way forward to Readiness Phase**

Kanwar Muhammad Javed Iqbal\* and Maqsood Ahmad

## **Abstract**

United Nations Framework Convention on Climate Change (UNFCCC) has provided a platform to the international community to negotiate and take measures for climate change mitigation. REDD+ is emerged as an incentive based mitigation mechanism to address the potential role of forestry up to 17 - 25 % reported share towards GHG emissions reduction.

Pakistan is a low forest cover country but has a significant potential for REDD+ for which it has a long list of endeavors to enter into the global mainstream in order to bring future REDD+ into its practice and for the benefit of local community together with global contribution towards mitigation response. This paper analyzes the global dynamics, existing national and international policies and local governance setup, and aims at providing policy recommendations through a framework of actions to meet all requirements of REDD+, especially for the setting up of good governance model moving from Readiness (2011-2012) to Mainstreaming phase from 2013 onward.

## **1. Background and Purpose of the Paper**

The concept of Reducing Emissions from Deforestation and forest Degradation Plus (REDD+) was developed, as an incentive based mitigation response, for Montreal climate change negotiations (COP 11) in 2005 to address 17-25% reported share from deforestation and forests degradation of global greenhouse gas emissions.

Two years later, in 2007, Bali Action Plan agreed at the Conference of the Parties to the UNFCCC in Bali (COP-13) came as a commitment toward forest conservation, sustainable forest management and the enhancement of carbon stocks in an effort to reduce the share of GHG emissions from Deforestation and forest Degradation.<sup>1</sup> REDD+ calls for the activities that reduce emissions from deforestation and forest degradation that may have serious implications for local communities, indigenous people and forests. Therefore this will involve enhancing existing forests and increasing forest cover. To meet these objectives, policies need to address enhancement of carbon stocks by providing funding and investments in these areas.

In 2009, at COP-15 in Copenhagen, the Copenhagen Accord of 18 December 2009 was reached, noting in section 6 the recognition of the crucial role of REDD and REDD-plus and the need to provide positive incentives for such actions by enabling the mobilization of

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1 [http://cmsdata.iucn.org/downloads/investing\\_in\\_redd\\_plus\\_en\\_executive\\_summary.pdf](http://cmsdata.iucn.org/downloads/investing_in_redd_plus_en_executive_summary.pdf)

financial resources from developed countries<sup>2</sup> The Accord said the collective commitment by developed countries for new and additional resources, including forestry and investments through international institutions, will approach USD 30 billion for the period 2010 – 2012.

Since Bali Action Plan 2007 to the Copenhagen Accord 2009, academic discourses continue to focus on provision of financial compensation and value system for standing forests and benefit sharing as a result of REDD+. It remained under negotiations until the Conference of the Parties to the UNFCCC (COP-16) in Cancun, Mexico in 2010 where it was finally supported and agreed upon as part of Cancun agreements with little supplementary work in the text of Bali Action Plan. The final outcome of mechanisms such as Clean Development Mechanism (CDM) is still not clear but the developing nations are requested to evolve and present a system for REDD mechanism by the year 2012, the period termed as REDD readiness phase (Phase-I), which may include a national action plan for deforestation and forest degradation along-with proper monitoring, reporting and a verification (MRV) system.

The Intergovernmental Panel on Climate Change (IPCC) estimates that approximately 17 percent of global greenhouse gas emissions are resulted from deforestation and use of forestry land for other than forestation. Some 13 million hectares of forest area, the size of England is destroyed annually. Therefore, efforts towards reducing emissions from deforestation and forest degradation (REDD+) have become crucial.

Though with less forest cover, Pakistan can benefit from carbon trading under REDD+ mechanism by properly protecting and maintaining the existing forests and increasing forest cover thus enhancing its capacity from the existing carbon stock to added level. This will help Pakistan earn revenue from carbon market and mitigate climate change. In accordance with the Certified Emission Reduction (CER) scale, the existing price of per ton carbon is calculated as US \$ 13-14. As estimated, on an average, four billion tons of carbon is traded globally in the market.

The REDD+ mechanism calls upon developing countries to keep their forests intact rather dense in volume to remove whatever carbon dioxide is released in the air from the developed industrial countries at a per ton carbon cost to be paid to them by the emitters. More the forests cover, increased the tons of carbon stored/stocked and carbon dioxide removed from the air as climate a change mitigation response.

COP 16 gave a deadline until 2012 to the developing countries to prepare for benefiting from the carbon market and help reduce carbon emissions from Deforestation and forest Degradation by encouraging trees to stand and not cut. And as a result the Cancun provides certain safeguards to the developing countries while protecting and developing their forests lands. This process is called as Readiness Phase of REDD+. Earlier, developing countries were required to promote a Clean Development Mechanism (CDM).

Though progress on CDM in Pakistan has been very dismal as compared to China and India in the neighborhood and the country could not meet some basic requirement of REDD+, Forestry Policy 2011 encompasses REDD+ mechanism and one can hope that Pakistan can move ahead in the Readiness phase to deliver what is mandated.

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2 [http://unfccc.int/files/meetings/cop\\_15/application/pdf/cop15\\_cph\\_auv.pdf](http://unfccc.int/files/meetings/cop_15/application/pdf/cop15_cph_auv.pdf)



Since REDD+ mechanism is now part of the Forest Policy 2011 and actions are to be taken in 2012 in the Readiness phase, this paper aims at providing policy recommendations through a framework of actions to meet all requirements of REDD+, especially for the setting up of good governance model moving from Readiness to Mainstreaming phase from 2013 onward.

## **2. Nexus of Climate Change and Forest Carbon Credits**

Climate change is taking place amid growing global warming due to greenhouse gases emissions and trees consume carbon dioxides from the air and hence clean it from carbon dioxide gas and moreover almost 50% of biomass of tree exists in form of carbon and hence it has natural capacity to stock carbon and clean air.

The developed countries emitting GHG, produce carbon; and the developing countries being non-emitters, as they do not have heavy industry that produce carbon, have forests that can stock excessive carbon in the air. Under REDD+ mechanism, the emitters want to trade their carbon to be consumed/stocked by forests in the developing countries at per ton cost to be calculated as per CER. This process builds a nexus between climate change and forest carbon credits.

Sub-standard industrial operations generate excessive carbon, toxic to health, polluting the environment and ultimately causing global warming. Industries manage their emissions through Cap and Trade provision which is now available only in developed countries while in the developing world, it would be applicable after 4-5 years. Forest degradation leads to reduction in the capacity of forests to store carbon. Through improved forest management and keeping in consideration issues related to climate change, Community and Biodiversity (CCB), a strategy for solutions can be developed. For this purpose, it is necessary to develop a methodology within the context of Pakistan's situation for developing a project. The Deodar and Chir species have the capacity to store carbon for even 400 to 500 years. In Pakistan, there exist many types of forests so the most current inventory and data base would have to be prepared initially.

Forests are important in carbon mitigation strategies in two ways: they can act as sinks for the capture and storage of carbon and; they can also be sources of GHG emissions. Globally, forests store an estimated 638 Gega tons of Carbon, much more than the quantity currently found in the atmosphere. However, about 5.8 Gega tons of CO<sub>2</sub> equivalent per year are being released due to deforestation. Stopping forest degradation and deforestation is one of the governments' priorities in their strategies for reducing GHG emissions: the target for reducing emissions from forests. Tropical forests cover about 15% of the world's land surface and contain about 25% of the carbon in the terrestrial biosphere. But, they are being rapidly degraded and deforested resulting in the emission of heat-trapping carbon dioxide to the atmosphere.

As green beds, forests provide links to our livelihoods and insurance against the climate challenge. The year 2011 is the International Year of Forests (IYF), which provides an opportunity to evolve work on sustainable forestry. Initiatives like REDD+ are critical as a mitigation response to climate change in order to address global deforestation and degradation and multi-in-one providing multi benefits in terms of green economic uplift

through carbon credits, better environmental conditions, conservation, and improved livelihoods as compared to CDM mechanism. REDD is presented as an offset scheme of the carbon markets and thus, will produce carbon credits. The carbon credits generated by these projects can be used by industrialized governments and corporations to meet their targets and/or to be traded within the carbon markets. It is predicted that financial flows for greenhouse gas emission reductions from REDD+ could reach up to US\$ 30 billion a year. This significant North-South flow of funds could reward a meaningful reduction of carbon emissions and could also support new, pro-poor development, help conserve biodiversity and secure vital ecosystem services.

### **3. Chronology of Negotiations/Events/Agreements Resulting in REDD Plus**

Major and action oriented negotiation on ‘Reducing Emissions from Deforestation (RED)’ in developing countries started at COP 11 in Montreal in 2005 and got high level importance at COP 13 in Bali, Indonesia in 2007 in Bali Plan of Action and the scope of the RED was raised to Reduction of Emission from Deforestation and forest Degradation (REDD) in COP 14 in Poznan in 2008, COP 15 in Copenhagen in 2009 reached a consensus under Copenhagen Accord that was further established in terms of REDD+ commitments and mechanism until COP 16 in Cancun, Mexico in 2010.

The Copenhagen Accord recognizes ‘crucial role of reducing emission from deforestation and forest degradation and calls for enhancing removals of greenhouse gas emission through forests’. It also urges need to establish a mechanism (including REDD plus) to mobilize financial resources from developed countries. The negotiating group in Copenhagen also reached a consensus on "plus" with proper advice on methodological guidance for REDD+ and effective engagement of indigenous people and local communities. This plus is based on the principles and safeguards provided in Bali in 2007 to ensure that the developing countries meet their commitments while taking care of their biodiversity and other benefits.

The Cancun agreements, referred to as an outcome of COP-16 in Cancun 2010, came up at the end of two week long climate negotiations. The negotiators decided to meet again for COP-17 in Durban to finalize the key decisions postponed on the REDD text included as part of the Cancun agreements. REDD is described in paragraph 70 of the outcome of Adhoc Working Group on long-term Cooperative Action (AWG/LCA).

*It "encourages developing country Parties to contribute to mitigation actions in the forest sector by undertaking the following activities, as deemed appropriate by each Party and in accordance with their respective capabilities and national circumstances":*

- (a) Reducing emissions from deforestation;*
- (b) Reducing emissions from forest degradation;*
- (c) Conservation of forest carbon stocks;*
- (d) Sustainable management of forest and*
- (e) Enhancement of forest carbon stocks.*

While analyzing the text of REDD in the UNFCCC document, one finds that the word ‘Plus’ has been categorically added in the text. However looking at the above mentioned five mitigation activities, one finds that the activities ‘a’ and ‘b’ together refer to REDD; whereas

activities ‘c’, ‘d’ and ‘e’ refer to Plus part of the mechanism. So, while reading the paragraph above in total, it gives clear conceptual ideas of REDD+.

The following activities have been advised in the Cancun agreements to widen the scope of REDD+ requirements:

- (1) Design a national strategy or action plan;
- (2) Establish a national forest reference emission level and/or forest reference level or, if appropriate, as an interim measure, sub-national forest reference emission levels and/or forest reference levels,
- (3) Design a robust and transparent national forest monitoring system for the monitoring and reporting of the activities
- (4) Design a system for providing information on how the agreed safeguards referred are being addressed and respected.

As follow up of the Cancun, the Adhoc Working groups met twice in its 13<sup>th</sup> session in Bangkok, Thailand and in the 14<sup>th</sup> session in Bonn, Germany during 2011. The Bangkok session had intense debates on procedural matters relating to the Cancun agenda and agreed to it. In June 2011, Bonn session focused on a second commitment period under the Kyoto Protocol, after the first commitment period expires at the end of 2012. The Parties concentrated on outstanding political issues and conditionalities set by various Annex I countries for taking on new commitments during a second commitment period.

#### **4. The REDD Plus Mechanism**

The voluntary carbon markets are the current credit options for the REDD+, as CDM only allows credits from afforestation and reforestation (EcoSecurities, 2007). The direction for national level preparatory work by 2012 in Cancun agreements (COP-16) is an indication for REDD+ regime under compliance / regulatory market in post-2012 climate agreements. Under the Kyoto Protocol, the *compliance markets* have three mechanisms including the flow of Carbon Credits between Annex-I governments, Joint Implementation system of Annex-I countries, and the CDM through which Annex-I (developed) countries can buy credits from projects that reduce emissions in non-Annex I (developing) countries, thus can generate carbon revenue for developing nations.

The regulatory markets are the targets oriented where the demand is driven by certain required carbon credits worldwide. The *voluntary* carbon markets are smaller in comparison with the compliance markets and use project-based crediting mechanisms such as CDM, but its scope and operations cover beyond / or outside international agreements. Public / or private companies, individuals, and other firms having no such mandatory emissions reduction objectives / or targets and are mostly taken care of by corporate social responsibility and environmental / or green concerns, can offset some or all of their emissions in these voluntary markets.

The operational mechanism for REDD plus is not clear and there are several aspects which would be driving the architectural design of REDD mechanism. Assumptions may include:

- 1) The development of a reference scenario and crediting mechanism on a national level under compliance market in which REDD carbon credits would be issued to central governments. This approach may have certain benefits of mass scale financial flows with improved accounting system for leakage but limitations could be foreseen in the form of poor governance.
- 2) The development of project credit system under compliance market similar to CDM in which accounting and crediting would be at project level and could include provincial / or other sub-national levels.
- 3) The open ended system with voluntary carbon markets only if no post-2012 REDD plus agreement is reached under UNFCCC.

The components of the agreed REDD mechanism include:

- 1) to reduce emissions by reducing deforestation and degradation in developing countries,
- 2) sustainable forest management,
- 3) enhancement of carbon stocks.

The phase wise approach with different timeline has been given for different stages of REDD development, implementation and crediting.

Phase 1 for Readiness: This is basically aimed to build National level REDD+ strategies and develop capacity building programmes. This can further be strengthened through development of demonstration / pilot sites.

Phase 2 for Policies and Measures: for implementation of REDD+ strategies and potential reforms through initial project developments.

Phase 3 for Full implementation: This timeline would allow the following:

- Implementation of REDD activities
- Verified payments over reduction emissions

Interim REDD+ Partnerships are being advised through Voluntary framework for collaborative efforts outside official process and intend to be replaced later with the compliance framework. France and Norway initiated “fast start” funding with a commitment of US\$ 4.5 billion. The World Bank Forest Investment Program (FIP) is also a potential source of funding for REDD-plus related initiatives, designed to support activities related to the second phase of REDD i.e. enabling policies and measure. The selected countries include: Brazil, Burkina Faso, Democratic Republic of Congo, Ghana, Indonesia, Laos, Mexico and Peru.

The UN REDD Programme by FAO, UNDP and UNEP also meant to support REDD Readiness phase in which initially 9 countries were chosen and more than 15 enrolled as observers among which Pakistan is recently admitted to receive UN REDD Programme support.

The UN-REDD Global Programme work is divided in the following seven work areas:

- 1) Measurement, reporting and verification (MRV) and monitoring
- 2) Engagement of Indigenous People, civil society and other stakeholders
- 3) Multiple benefits
- 4) Knowledge management, coordination and communication
- 5) National REDD+ governance
- 6) Equitable benefit sharing systems
- 7) Sectoral transformation

Considering the UNFCCC development on REDD+, the originated set of procedures are sufficiently required to immediately draft and create the national REDD+ Mechanism addressing in parallel the sub national levels to timely implement a required work plan. Facilitation for matching the needs and support for national and sub national REDD+ programs by the governments in creation of certain REDD Plus Frameworks; harmonizing and nesting the baselines, reference levels, MRV and avoidance of double counting for a transparent and smooth actions as well as procedures for the required support as the pre-requisite in current phase is to be proclaimed.

Parallel to the technical developments, the coordination on REDD Plus issues within the governments, an outside liaison with IPCC Emission Factor Database (EFDB), COP, COP/MOP, AWG-LCA, AWGKP, SBSTA and SBI under the guidance of COP is equally important to share the information and resources among the partners. The updated registry is required to be formed in coherence with the financial and other support requirements to validate and verify REDD Plus emission reduction and; regular posting of REDD Plus developments to related NAMAs will be required to bring out concrete ventures.

Regarding Nested REDD plus, if there exists some livelihood, population or some infrastructure before formation of any project, certain “Drivers” have to be identified for which, the baselines are to be developed before starting the project. The government will also have to develop and adopt a policy regarding the drivers. Depending upon the institutional and administrative systems and set ups. Different baselines for different provinces will be established and; on the basis of these provincial baselines, a national baseline will be developed and; if it differs then will further be distributed among provinces. The monitoring of REDD projects will also be at both national and provincial levels and the %age of accuracy will be proportionate to the credits.

For REDD project development under voluntary standard, a suitable standard level is 15000 hectares with 30% forest cover and for IRR projects, there is no minimum area limit but more cover stands more than the forest definition. For the feasibility study, premium market rate is considered. Provinces can trade carbon internally at the rate of 6-10 \$ per ton of carbon per year. The Time span for the REDD projects is 1-30 years. In initial years, the reward will be less against the expenses so; the calculations after 30 years would be feasible. For social mobilization on REDD, support from NGOs and INGOs or other donors can be obtained while for upfront cost for REDD project preparations, government’s bilateral or multilateral support is available.

## **5. Dynamics of REDD+ at National and Global Levels**

A number of funds have been established to support REDD+ activities, such as the Australian Forest and Climate Initiative and the Norwegian government's fund; the World Bank has also initiated its Forest Carbon Partnership Facility in June 2008; and a number of developing countries have announced initiatives to address emissions from deforestation. At the same time, conservation organizations, project developers and governments are beginning to implement REDD+ pilot activities in developing countries. The broad range of stakeholders' interests and involvement in REDD+ have very different levels of understanding and knowledge on REDD+ processes, practices and outcomes. So, the dialogue, debate and training on practical and realistic activities will create ground rules for required national and project led developments surrounding REDD+.

The REDD Programme of the United Nations works both at national as well as international levels. Within countries, the programme supports processes for REDD Plus readiness and contribute to the development of national REDD Plus strategies. It promotes REDD Plus financing as an opportunity to develop low carbon growth and helps countries access financial and technical support. So far, the formulation process of UN-REDD national programmes has proved quick and efficient, allowed the approval of certain national programmes in developing countries. Considering the move on REDD in developing countries, UN-REDD Programme seeks to build consensus and knowledge about REDD Plus and raise awareness on importance of REDD Plus mechanism in post 2012 climate change agreements.

After REDD implementation, the Democratic Republic of Congo (DRC) has been emphasizing the nature of forests as a public good, highlighting importance of the rule of law, transparency and public participation in managing natural resources. It highlights the multiplicity of claims on forests; calls for multipurpose participatory land-use planning; and emphasizes the need to secure traditional user rights. Beyond the risks, the return of peace to the DRC also offers a unique opportunities for REDD to take a fresh look at the second largest rainforest in the world, and to implement innovative strategies that give priority to the environment and to local people.

The common initiatives of REDD are at pace in *Ghana as well*. Likewise the developing economies of the underdeveloped world, the major real causes of deforestation and degradation are found out mainly on the part of prevailing and governing forestry public sector to which; the REDD mechanism will mainly be restrained. REDD in Ghana has initiated as a result of considerations by the existing economic preferences duly supported by the political will giving priority to economic development over forest conservation to financially benefit from resource conservation. This seems evident that the forest conserving policy reforms due to REDD are quite dubious to develop.

Focusing *Bhutan*, the REDD+ pilot activities are still working as a try to accomplish the REDD+ development. However, equally it reflects that to some extent, the piloted activities have paced to a bit less dependent and correlated with the UNFCCC negotiations by the government. On the other hand, the progress on REDD+ issues are consistently accompanied by the progress on mitigation targets in the country. Besides, REDD+ pilot initiatives are advancing, independently, and it is likely that they will continue. While, the donor and the host country have agreed upon initiating REDD+ project.

In *Nepal*, the proposed REDD mechanism is evidently providing compensation to reduce deforestation, and potentially benefitting the indigenous communities and biodiversity. The success of REDD implementation can be determined by domestic institutional conditions as those have not yet been well reformed accordingly. Many of the institutional requirements and developments for REDD are currently under way to be consistent at national level while; at the local level, the existence of ongoing conservation execution has strengthened the institutional framework within which, REDD could be implemented.

*Tanzania* is one of nine pilot countries for the United Nations REDD Programme where it illustrates real-world challenges in a developing country. Tanzania is well quoted and supported for REDD where the REDD readiness process has been initiated and gained momentum with very good support from the government through development partners such as the Royal Norwegian Embassy, the World Bank and FAO. The REDD momentum in Tanzania could be concluded in a way which ensure its readiness for post 2012. The core readiness activities in Tanzania include: the introduction of Joint Forest Management (JFM) and Community Based Forest Management (CBFM) approaches, a National Forest Database (NAFOBEDA) has been established to district levels for Forest monitoring and implementation, capacity development work, actions towards the development and establishment of a National REDD Strategy (to provide a common framework for effective coordination and implementation) and programme, and strategic planning for the establishment of REDD demonstration / pilot projects.

While, here in Pakistan since after endorsing the agreement with UNFCCC, a very slow and marginal pace on development for REDD is underway. Pakistan is quite late among all other players of REDD plus across the globe. Some awareness raising and training activities were started during the last quarter of year 2010 whereas a comprehensive state of the art 6-day training of trainers was successfully delivered in February 2011 on Forest Carbon Stock Assessment for REDD in Pakistan which produced 36 REDD Fellows with their network of association.

Sustainable Development Policy Institute (SDPI) in collaboration with Ministry of Environment initiated pioneering work on REDD, and on the basis of recommendations made through the outcome of 6-day long training, is in a process to establish a full-flag dedicated programme "*Pakistan Carbon Initiative (PCI)*" to support futuristic momentum of REDD in Pakistan. Like JFM in Tanzania, the JFM is already in place in Pakistan but needs to be improved in the context of REDD. Other than this, there is a lot more need to be done to evolve the whole system on priority basis as Pakistan is far behind Tanzania.

Despite any regret, an extensive homework in parallel to the strategic developments within and globally is lacking which is the actual need of this very point of time. Certain activities have yet to be started at national as well as sub national/provincial levels like uniformity in legalities, baseline development, awareness and capacity building of the stakeholders including the community and civil society organizations along with potential sites identification and piloted activities. A diversified role play by the governments can edge the implementations for which an active, devoted and committed mindset is required.

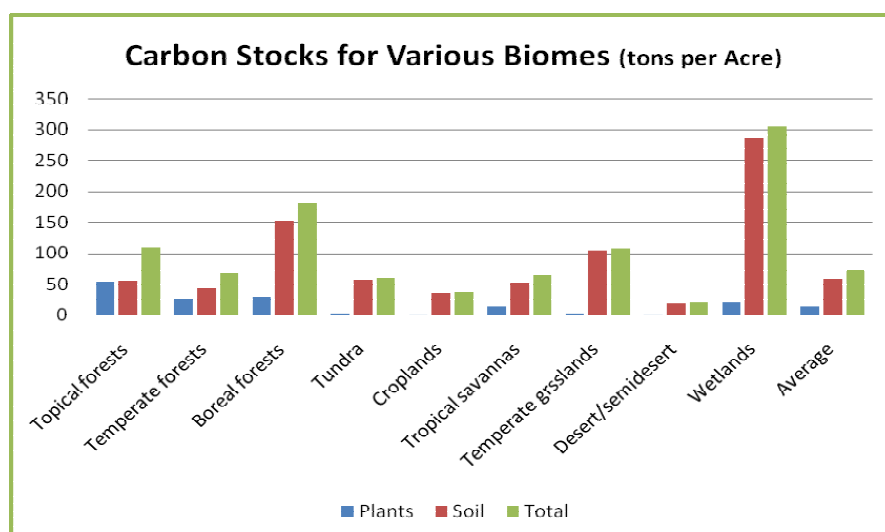
## **6. REDD Potential and Pakistan**

According to FAO's The Global Forest Resources Assessment (FRA) 2010, Asia is ranked 5<sup>th</sup> for its trends in carbon stocks in forest biomass from 1990–2010, touching the figure of 38 Gega tons (Gt) as compare to top ranked South America for 100+ Gt. Whereas Asia has the leading figure of 122 million hectare (mha) if comparison done on trends in area of planted forests from 1990–2010. The management of forests for social and cultural functions is increasing, but the area is difficult to quantify.

The only sub regions and regions with fairly good data on the designation of forests for recreation, tourism, education or conservation of cultural and spiritual heritage are East Asia and Europe, where provision of such social services was reported as the primary management objective for 2 or 3 percent of the total forest area, respectively. Brazil has designated more than one-fifth of its forest area for protection of culture and way of life of forest-dependent people. Globally, 4 percent of the world's forests are designated for the provision of social services.

Figures 1 and 2 depict biome wise and country wise Carbon potential respectively.

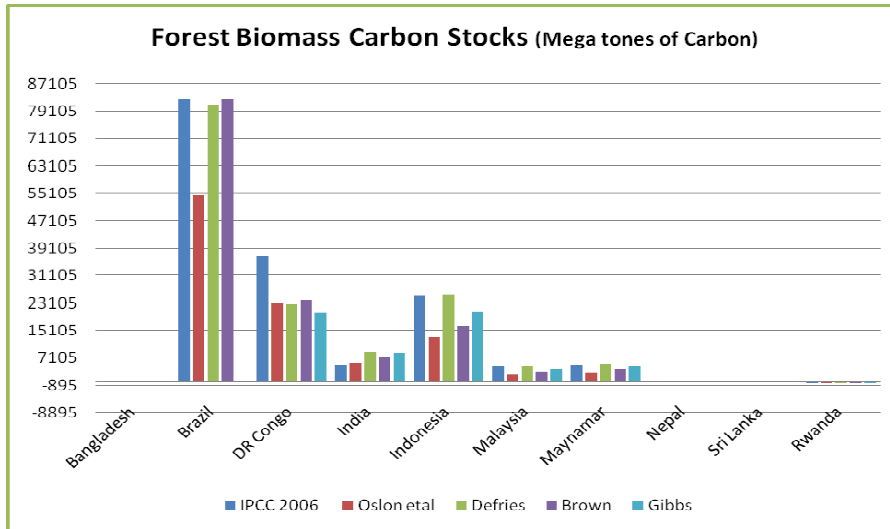
**Figure 1: Carbon Potential in Different Biomes**



Data Source for Graph: IPCC Global carbon stocks in vegetation & carbon pools down to depth of 1 m

**Figure 2: Forest Biomass Carbon Stocks in Different Countries**

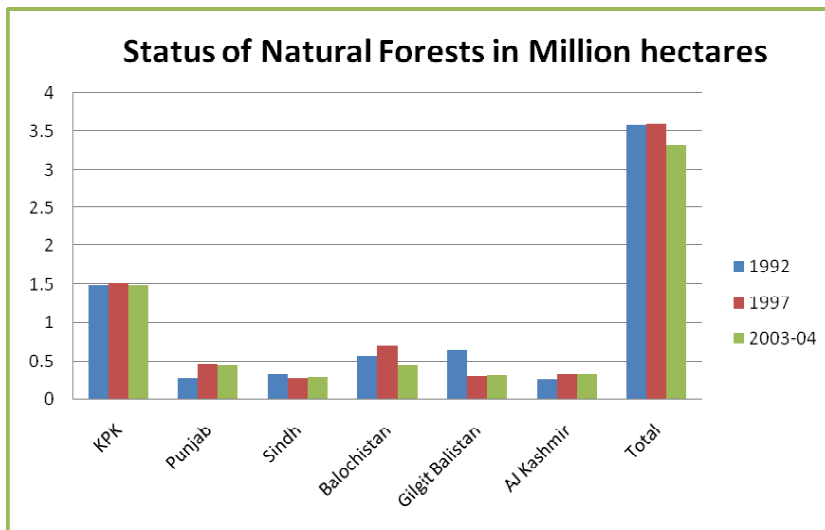




Data Source for Graph: H.K. Gibbs et al 2007 "Monitoring & estimating tropical forest carbon stocks: making REDD a reality"

Pakistan has a low forest cover with diversified forest types from coastal mangrove and riverine ecosystem to alpine Chir Pine forests with in place diversified community and different types of legislative structures. The latest available data depicts variable periodic trends on the status of natural forests in Pakistan, as shown in figure 3. There is a decline in overall country forests picture, which needs to be taken into account to get maximum benefits from REDD plus.

**Figure 3: Periodic Trends of Natural Forests in Pakistan**



Data Source for Graph: MACDS Report, 2010

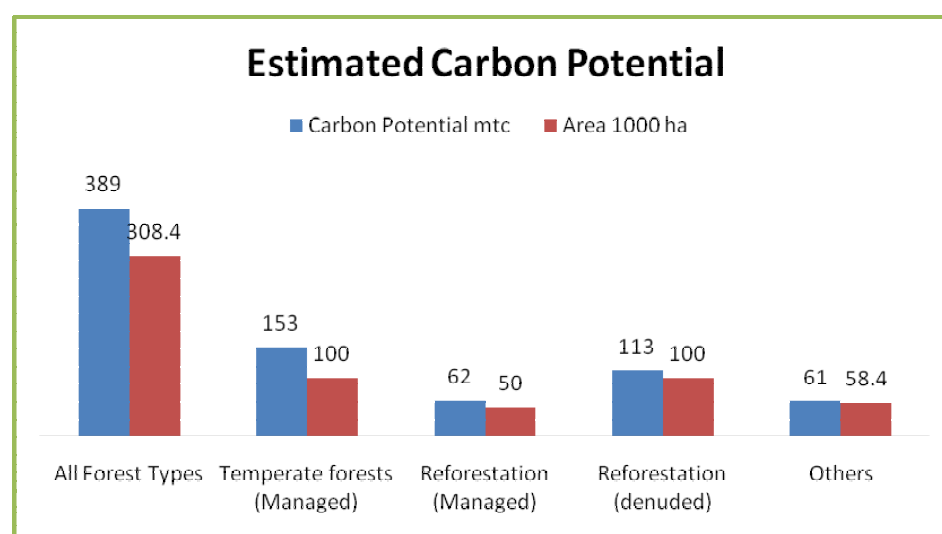
The latest available research based data and secondary information on status of forests in Pakistan do not provide ample knowledge on the actual yearly figures of natural and farmland plantations with eco-based yearly rate of deforestation and annual growth rate upon which the exact potential of REDD could be evaluated while careful review of authentic research report on National Forest and Range Resources Study conducted in the year 2004 and the latest report by Mountain Area Conservation and Development Services (MACDS, June 2010) on "Compensation Mechanisms to Owners, Right Holders and Forest Users in Lieu of Ban on Commercial Harvesting" also conclude the same. The available information could only

suggest potential sites where the actual potential for REDD+ could be determined by employing scoping exercise to be carried out on priority keeping in view the timeline for REDD+ readiness phase.

The assumed annual growth rate is only provided through ALGAS Pakistan Report, 1998. The assumptions in ALGAS suggest that there is drastic degradation in crown cover density in the ranges of 25 to 50 % especially in the case of conifers in Pakistan which is reflecting and endorsing the facts of other studies conducted by Ministry of Environment, Pakistan Forest Institute (PFI), Inter-cooperation, Worldwide Fund for Nature – Pakistan (WWF-P), UN-FAO and others.

The total carbon stock of conifer forests could be estimated as 58 mega tons on the basis of biomass estimations by ALGAS. On per unit area basis, it comes out to be 0.42 tons (or 420 kg) of carbon per ha per year. For converting it to CO<sub>2</sub> equivalent, we multiply it by 3.66 (44 wt of CO<sub>2</sub> / 12 wt of C) to get 1540 kg of CO<sub>2</sub> or 1.540 tons of CO<sub>2</sub> equivalent or 1.54 CERs per ha per year. On the bases of FAO Deforestation data 1990-2005 and ALGAS, 389 mega tones of Carbon potential could be estimated for all types of forests in Pakistan, as shown in figure 4, with an estimated annual return of US\$ 54 million at a rate of US\$ 15 t<sup>-1</sup> Carbon Credits.

**Figure 4: Carbon Potential in Pakistan**



Data Source for Graph: FAO Deforestation Data 1990-2005 & MACDS Report 2010

## 7. National Challenges and Obstacles in Readiness Phase

One can realize that the Cancun agreements have shown the path to be followed for REDD in the coming years and if Pakistan has to benefit from carbon finance pledged in Cancun then it has to develop national level scenarios and not merely provincial ones. Though provincial scenarios and projects can be developed but will have to synchronize them with the national ones if the objective is to enter a sustainable supply of REDD money for the communities to uplift livelihood practices in the context of sustainable development.

As a matter of fact, we all know, there is an urgent need of actions to meet the requirement of REDD+ readiness phase in Pakistan for which new challenges needs to be addressed which

includes national approach vs. provincial subject as a result of implementation of the 18<sup>th</sup> amendment in the Constitution of Pakistan that devolves most of the powers of the federal government to the provincial governments, revisions in the forest laws to accept forest carbon as commodity, natural resources governance and benefits sharing mechanism. It is the right time to chip in the REDD mechanism by starting parallel activities actively e.g. Institutional measures with the development of National strategy for REDD+, trainings and a Pilot Study, which is the only solution to coup with and meet the global requirement and its timeline as we are already late as usual such as we did in the past in case of Clean Development Mechanism (CDM).

a) **National Approach Vs. Provincial Subject**

Strengthening forest governance is unavoidable to achieve significant and lasting carbon credits and sustainability from REDD+. The National REDD+ strategy needs to be in coherence with provincial action plans keeping in view the implications of the 18<sup>th</sup> amendment in the constitution of Pakistan and the advice in Cancun Agreements. The national strategy is critical to address drivers, leakages and measures to strengthen law enforcement capacity and clarifying forest tenure, and potentially other forest governance reforms at both national and provincial levels right from REDD Readiness Phase, onwards. The piloted activities management at provincial level in collaborative, coordinated, transparent and effective fashion can only lead to sustainability and address the proper ways for compliance as well as voluntary markets.

b) **Revisions needed in the Forest Laws**

Although, in most of the provinces, forest laws have been revisited recently but the element of Carbon as commodity is not well taken into the legislation. The legal experts of forestry legislation have different opinion for this requirement. Some people suggest having supported rules and regulations while majority of others have different perspective as they recommend to add it into the basic law as a new amendment for benefit sharing to all partners through Carbon claim as commodity.

c) **Governance Challenges**

The Joint Forest Management (JFM) approach is in place in Pakistan where identification of roles at stakeholder levels in the REDD Plus scenario is still a challenging job keeping in view the relative experiences and lessons learnt whereby certain improvements suggested by stakeholders in existing JFM structure. Furthermore, the consideration of community participation and setting their shares is also important. The stakeholders are apparently not happy with the existing quota and royalty system. In addition, legalities are involved for the settlement of Land Tenures which is also required for REDD+ strategy whereby access to Carbon credits and ownership of carbon is also required to be addressed. These are the critical challenges if we analyze the types of forests, different legislations and provincial subjects, the different types of livelihoods associated with.

d) **Methodological Challenges**

The reference scenario and MRV system are critically important to be worked out right from the readiness for piloted activities at sub national/ provincial levels. Measurement with quantifiable attributes, such as volume, mass, distance, area, time, and temperature be characterized and determined very precisely leading to accurate reporting of the

factual thus verification by the approved segments will remain a challenge which needs to be settled down through strong interaction between national and provincial focal points.

e) **Leakage and Permanence**

Critical drivers negate REDD at all levels. Deforestation drivers can be divided into 'immediate' and 'underpinning' drivers. The underpinning drivers of an increased pressure on forests area include:

- Demographic factors, such as population growth, population density and migration;
- Economic factors, such as market growth, economic structures, commodity booms;
- Technological factors, such as agro-technical change;
- Policy and institutional factors, such as conservation, climate and development policies, tenure rights, corruption, mismanagement, access to credit; and
- Cultural factors, such as public values, household behavior.

Actual cutting of the trees is due to the so-called 'immediate' deforestation drivers. Agriculture expansion is the most important immediate deforestation driver. Infrastructure development and wood extraction also contribute to deforestation but not to the same extent. All these drivers are, however, closely interlinked. To get over on all these threats in terms of leakages in REDD systems, a solidified permanence in the standards for maintaining both the canopy cover and the biomass existence is a threat in the prevailing socio-cultural environment of relevant community.

## **8. REDD+ Preparation In Pakistan (2008-11)**

To combat with the climate change regime is not new concept in Pakistan context and the efforts for the reality of REDD Plus are underway at the level of technical people in all relevant departments, organizations including SDPI and other stakeholders. Certain policy and institutional developments as well as international lobbying have been started prior to strengthening the Office of the Inspector General of Forests for policy, coordination, and leadership role, accessing and providing funds and expertise to the provincial forest departments, interaction with donors, networking and partnering with international and regional organizations and secretariats, inter- and intra-ministry liaison, coordination with civil society organizations, access to and making new forest-related technologies available to the provincial forest departments. Knowledge management, accessing to technology and capacity building are relevant in this context. Some of the most relevant regional organizations in forestry include RECOFTC, ICIMOD, and other trans-boundary interaction with neighboring countries including; collaboration with FAO, IUCN, WWF, UNIDO and UNEP have made. National Forest Programme (NFP) facility is in progress through Ministry of Environment for development of new approaches and technologies for SFM.

According to the information collected from MoE, mentioning the considerable developments, Pakistan attained membership of REDD Plus after acquiring status in FCPF. A Steering Committee and the national Focal Point on REDD Plus have been established in Ministry of Environment and the REDD has been included in new version of Forest Policy to be approved. The basic capacity building of different but limited stakeholders has been done in the end of 2010 and, once in the beginning of 2011 for which, an international coordination

set up in the form of Pakistan Carbon Initiatives (PCI) under Sustainable Development Policy Institute (SDPI) was recommended to take on board the local partners in parallel to international ones. This development signifies the realization of the issue of proper way adoption for existing forests conservation for REDD Plus.

Likewise, public awareness campaign at national and provincial levels needs to be launched on priority. Joint Forest Management Committees (JFMCs) and Community Based Organizations were already in place which are active in forest protection and conservation but having some issues need to be resolved with improvement in the system based on lessons learnt so far. Besides all this, Pakistan still is in preparatory phase of REDD Plus and a lot more is still to be done equally tackling with certain hindrances like Development of National Strategy for REDD Plus, Federal vs Provincial context of forest laws, Laws and Ecotypes vs Variety of Community, national capacity mapping followed by capacity building, scoping exercise followed by development of Pilot sites, lack of proper capacity in terms of human as well as technical, unavailability of properly allocated / donor funds, pressure of the population and indigenous community, lack of awareness about REDD Plus at all levels and; poverty and unemployment.

## **9. Conclusion**

Pakistan is quite late for REDD+ initiative and the level of activities so far done can only suggest the parallel activities to be done on priority basis in order to achieve the global wavelength and meet the basic requirement of REDD+ readiness. In addition to other challenges, the legal situation is also critical in deciding national vs provincial contexts keeping in view the 18<sup>th</sup> amendment in the national constitution, devolution of federal environmental ministry and the certain advice in Cancun Agreements for national level strategy / scenarios.

The national and provincial segments must be developed in coherence with each other especially for the compliance market. The year 2011 is the International Year of Forests (IYF) which is good omen for Pakistan to use IYF insignia and to show commitment to the principles adopted in the global commitments under Rio Forestry Principles and Agenda 21, and develop REDD+ system by addressing the need for compliance as well as voluntary market in line with the recommendations of this paper.

## **10. The Way Forward for REDD+ Implementation In Pakistan**

The following framework of actions is being recommended as way forward, on the basis of the post 18<sup>th</sup> amendment scenario in provincial context and the advice in Cancun Agreements for the preparation of national level strategy during the REDD+ readiness phase (2011 to 2012).

The following actions are necessary to address and meet the requirements of REDD Readiness Phase in Pakistan.

- (1) There is an urgent need of parallel activities for which a national REDD+ Strategy and its programme of activities must be designed and implemented for Pakistan. It must be in consultation and coherence with provincial design features so as to overcome the difficulty

arisen due to the 18<sup>th</sup> amendment and the advice in Cancun agreements. The objective should be to provide a national level focal point for the support of provincial scenarios especially for futuristic compliance market. This is critically important to allow Pakistan to access the emerging compliance REDD markets internationally. The institutions that will be involved in the development of the national REDD programme for Pakistan, and the necessary technical support for carbon accounting and MRV, must be identified. Broad scope of work includes:

- a) Training and capacity building to relevant stakeholders at national level to support readiness, policy design and institutional requirements for nested REDD+.
  - b) Identification, prioritizing and developing REDD+ pilot projects in all provinces.
  - c) Creation of a national level financial architecture necessary for REDD+.
  - d) Establishment of robust GHG accounting and MRV systems to support national as well as provincial REDD program as well as for AFOLU projects.
- (2) There is an urgent need to take initiatives by relevant authorities for introducing relevant legislative measures (amendments) in all forest related laws in Pakistan to accept forest carbon as commodity.
- (3) There is an urgent need for the nominations of Provincial Focal Points for REDD+ in all provinces (including AJK and GB) of Pakistan. In the provincial contexts, following action plan is required in coherence with the national programme / strategy.
- a) There is a need to establish Provincial REDD+ / Carbon Cell by all provinces with the provision of financial resources. The Cell would serve as Focal Point for the development and implementation of provincial action plan / strategy in line with national strategy especially for compliance market.
  - b) Keeping in view the timeline, parallel activities are required to be carried out by taking care of provincial and national contexts.
  - c) Provincial REDD+ Strategy / action plan should be development and implemented keeping in view the need for both Compliance and Voluntary Market.
  - d) There is a need to examine the existing Forest laws in order to find out and remove gaps to support benefit sharing mechanism from Carbon as commodity
  - e) Establish robust GHG accounting and MRV systems to support Provincial REDD program / in coherence with National action plan.
  - f) Capacity Mapping for capacity building programme to support readiness, policy design and institutional requirements for nested REDD / REDD+.
  - g) Carry out scoping Exercise / Feasibility Studies /Identify, prioritize and develop REDD+ pilot projects on priority basis.
  - h) Create Financial Architecture necessary for REDD+. The participation of stakeholder during pilot studies would be helpful for it.
- (4) Partial Scoping Exercise for REDD+ was completed as part of the National Training Workshop on Forest Carbon Stock Assessment (February 13-18, 2011), during the session of Project Design Exercise. Potential project sites were identified for the launch of REDD Pilot / Demonstration Projects at different levels. These potential project sites must be prioritized and stakeholders relevant to each must be identified and integrated into the

development of pilot REDD projects. There is an immediate need of trainings, development of projects and stakeholder consultation in these areas.

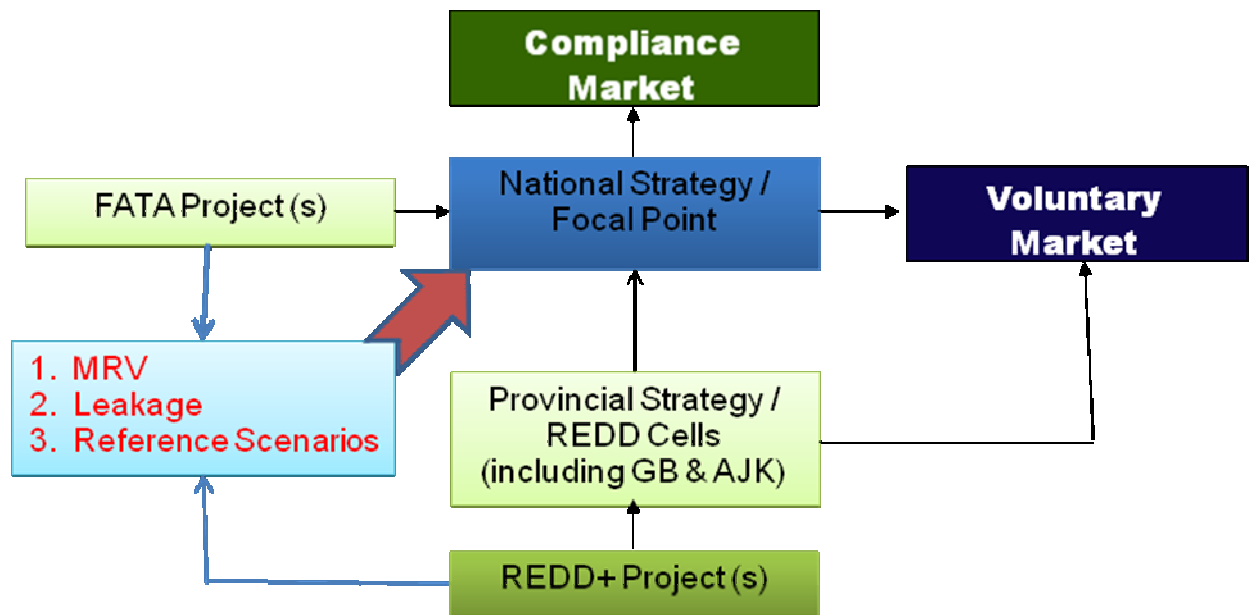
The potential pilot sites include:

- e) Punjab: Guzara Forest Division
  - f) Khyber Pakhtunkhawa: Hazara Forest Circle including Siran and Kaghan valleys and Galliat
  - g) Sindh: Mangroves, irrigated and riverine forests
  - h) AJK: Scrub and Chir Forests
  - i) Gilgit Baltistan: Darel Tangir and Chilas
  - j) Balochistan: Juniper Forests
- (5) There is an urgent need of completion of Scoping Exercise for REDD Readiness in Pakistan. It was initially recommended to be completed by May 2011 but could not be materialized due to financial constraints. There will be a positive sign for Pakistan in global community if it is completed by December 2011. The scoping exercise will determine the existing expertise and experience within Pakistan that can be leveraged to develop project and national-level REDD activities, and identify the gaps in capacity that will need to be addressed. For this, it will be necessary to identify all institutions within Pakistan that will be relevant to REDD, and to understand how these institutions will interact and engage in a project and national-level REDD activities.
- (6) There is a need to identify funding sources and to allocate handsome funds accordingly for above activities to make REDD+ a reality in Pakistan. Funds must be identified for the assessment of Pakistan's REDD readiness phase, capacity building at national and provincial level, identification and implementation of pilot REDD projects, the design of a national-level REDD programme in Pakistan, and all technical support and assistance necessary to accomplish these goals.
- (7) The provision of donor funding for National Forest Programme may be requested to revisit its amount and scope of work in order to remove limitations in its allocation for pilot studies and REDD programme implementation purpose at provincial level for which the concept of public-private partnership may also be employed.
- (8) In case, if provinces remain unable to carry out capacity mapping exercise on priority then it may be conducted at national level. There should be a series of trainings at the district and provincial level by the trained REDD Fellows who have been equipped with ample knowledge and adequate skills to act as local trainers.
- (9) SDPI has established Pakistan Carbon Initiative (PCI) as a forum with its systematic International Carbon Network (ICN) of strategic partners, experts and all other stakeholders. Government, NGOs, and private sector stakeholders should all be integral members of the PCI, SDPI. The initial structural and programmatic work has been done by SDPI along-with signing MoUs with International Organizations for technical assistance towards REDD+ in Pakistan, while the funding should be explored by all partners in order to make it fully functional and take technical assistance for making REDD+ a reality in Pakistan.

- (10) The conservation of mangrove ecosystems in Pakistan has been challenging and there is potential for bringing carbon finance to tackle mangrove conservation issues. Terra Global Capital (TGC), USA, is presently exploring potential mangrove based carbon projects worldwide and can be instrumental in realizing such a project in Pakistan. The Sindh Forest Department may take advantage of it through PCI.
- (11) The emerging need for both compliance and voluntary markets can be addressed with the application of following model while finalizing the strategies at National and Provincial levels keeping in view the requirements under 18<sup>th</sup> amendment and Cancun agreements.



Figure 5: Iqbal & Ahmad Model for National VS Provincial Segments (Post 18<sup>th</sup> amendment)



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