Public Disclosure Authorized

Public Disclosure Authorized

Document of
The World Bank

FOR OFFICIAL USE ONLY

Report No. 71445 - IN

PROGRAM DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT

US$100 MILLION

TO THE REPUBLIC OF INDIA

FOR A

DEVELOPMENT POLICY LOAN (DPL) TO PROMOTE INCLUSIVE GREEN GROWTH AND SUSTAINABLE DEVELOPMENT IN HIMACHAL PRADESH

August 6, 2012

Sustainable Development Department
Environment and Water Resources Unit
South Asia Region

This document has a restricted distribution and may be used by recipients only in the performance of their official duties. Its contents may not otherwise be disclosed without World Bank authorization.

CURRENCY EQUIVALENTS

(Exchange Rate Effective)

Currency Unit = Indian Rupees (INR)

INR 50 = US$1

FISCAL YEAR

April 1 - March 31

ABBREVIATIONS AND ACRONYMS

BPL	Below Poverty Line
BPS	Basis Points
CAAA	Controller of Aid, Accounts & Audit
CAS	Country Assistance Strategy
CAT	Catchment Area Treatment
CDM	Clean Development Mechanism
CEIA	Cumulative Environment Impact Assessment
CFL	Compact Florescent Lamp
CTF	Clean Technology Fund
DEST	Department of Environment, Science and Technology
DPL	Development Policy Loan
EIA	Environmental Impact Assessment
EMP	Environnemental Management Plan
EU	European Union
FRBM	Fiscal Responsibility and Budget Management
FDI	Foreign Direct Investment
FII	Foreign Institutional Investment
GDP	Gross Domestic Product
GFC	Global Financial Crisis
GHG	Greenhouse Gas
GIS	Geographic Information Systems
GOHP	Government of Himachal Pradesh
GOI	Government of India
GP	Gram Panchayat
GSDP	Gross State Domestic Product
HP	Himachal Pradesh
HP IGG DPL	Development Policy Loan to Promote Inclusive Green Growth and Sustainable Development in Himachal Pradesh
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IHR	Indian Himalayan Region
LADF	Local Area Development Fund
M&E	Monitoring and Evaluation
MDGs	Millennium Development Goals
MOEF	Ministry of Environment and Forests
MTFP	Medium Term Fiscal Policy
OECD	Organization for Economic Cooperation and Development
PAT	Perform, Achieve and Trade

PFM	Public Financial Management
PSIA	Poverty and Social Impact Assessment
RBI	Reserve Bank of India
REC	Renewable Energy Certificate
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SEA	Strategic Environmental Analysis
SEEA	System of Environment and Economic Accounts
UNSC	United Nations Statistical Commission
US	United States

Vice President:	Isabel M. Guerrero
Country Director:	N. Roberto Zagha and Onno Ruhl
Sector Director:	John Henry Stein
Sector Manager:	Herbert Acquay
Task Team Leader :	Charles J. Cormier

INDIA
Development Policy Loan (DPL) to Promote Inclusive Green Growth and Sustainable Development in Himachal Pradesh

TABLE OF CONTENTS

ANNEXES

The HP Development Policy Loan was prepared by an IBRD team consisting of:
SASDI: Charles Cormier (TTL), Ernesto Sanchez-Triana, Pyush Dogra (co-TTL), Lakshmi Narayanan and Poonam Rohatgi
ENV: Yewande Aramide Awe and Urvashi Narain
LCSEN: Richard Damania
LEGEN: Kishor Uprety and Juan Carlos Alvarez
PREM: Mohan Nagarajan
SASDS: I.U.B. Reddy
SASDE: Rohit Mittal and Ashish Khanna
SASDA: Paul Singh Sidhu, Ranjan Samantaray and Severin Kodderitzsch
SASEP: Ulrich Bartsch
SASSD: Dan Biller
SARFM: Tanuj Mathur
SAREXT: Sona Thakur
SDV: Maitreyi Das and Emcet Oktay Tas

Peer reviewers: Kulsum Ahmed (MNSEN), Juan C. Belausteguigoitia (LCSEN) and Adriana Damianova (ECSS3)

PROGRAM SUMMARY

INDIA

DEVELOPMENT POLICY LOAN TO PROMOTE INCLUSIVE GREEN GROWTH AND SUSTAINABLE DEVELOPMENT IN HIMACHAL PRADESH

<table>
<tr><td>Borrower</td><td>Republic of India</td></tr>
<tr><td>Implementing Agency</td><td>Department of Environment, Science and Technology of the Government of Himachal Pradesh (GoHP)</td></tr>
<tr><td>Financing Data</td><td>IBRD
Amount: US$100 million.</td></tr>
<tr><td>Operation Type</td><td>Single-tranche programmatic development policy operation; first of a series of two operations.</td></tr>
<tr><td>Main Policy Areas</td><td>The program is centered on GoHP’s objective to promote inclusive green growth and sustainable development, which will be supported by an ambitious effort towards sustainability across the key engines of economic growth, namely energy, watershed management industry and tourism.</td></tr>
<tr><td>Key Outcome Indicators</td><td>
<table>
<tr><th>Progress Indicator</th><th>End of Series Outcome</th></tr>
<tr><td>Preparation and public disclosure of the State’s comprehensive Action Plan on Climate Change that identifies co-benefits in mitigation and adaptation, in particular with regard to rural livelihoods improvements

Avoided thermal generation of 11,300,000 MWh by FY2014 against a 2011 baseline</td><td>Policy and institutional framework in place to contribute to sustainable development including the reduction of GHG emissions intensity consistent with GOI objectives</td></tr>
<tr><td>Design, adoption and implementation of policy for web-based real-time monitoring of hydropower project milestones, including those relating to environment and social parameters, and environmental flows</td><td>Compliance with environmental flow requirements and completion of cumulative environmental impact assessment for one river basin</td></tr>
<tr><td>Cabinet approval and public notification of an amendment to the Local Area Development Fund (2009) to include a long-term benefit sharing policy to provide annuities to affected communities</td><td>Implementation of benefit sharing policy as illustrated by issuance of cash transfers in one hydropower project and commissioning of works mandated by community based</td></tr>
</table>
</td></tr>
</table>

	during the lifetime of hydropower projects	program
	Preparation and adoption of 77 integrated micro-watershed development plans by a multi-disciplinary team under the leadership of the Rural Development Department.	Statewide adoption of community based integrated watershed management approach at the block level to improve water pondage, crop diversification, productivity, water efficiency in at least one Gram Panchayat per block, and establishment of agri-business groups to link products to markets
	Cabinet decision and public disclosure of amendment to Industrial Policy (2004) to promote sound environmental management and cleaner production	Establishment of economic instruments to promote cleaner sources of growth and to reduce pollution from existing industrial plants
	Amendment of Tourism Policy, 2005 to incorporate environmental sustainability including the possible use of economic instruments to internalize environmental externalities of tourism	Establishment of system and practices which promote sustainable and inclusive tourism development in the State
	Establishment of Aryabhatta Geo-Informatics and Space Application Centre (AGiSAC) to promote integrated GIS mapping and decision making	All departments to integrate decision based Geographic Information Systems (GIS) mapping for sustainable development and inclusive growth
Program Development Objective (PDO) and Contribution to Country Assistance Strategy (CAS)	The PDO is to support Himachal Pradesh in the improved management of its natural resources across growth engines of the economy and to promote inclusive green growth and sustainable development The PDO supports the CAS provisions where sustainable management of natural resources, climate change, and inclusive growth are well reflected. The India CAS, 2009-12, recognizes that while India needs to grow to reduce poverty and create employment, it also has an opportunity to do so in a way that is sustainable and preserves the country's natural heritage.	
Risks and Risk Mitigation	The main risks that need to be mitigated are: • **Implementation Risks:** The program to promote inclusive green growth is ambitious and requires a sustained effort. The implementation risks are mitigated through (i) a rigorous program of Bank-financed technical assistance to follow through on reform measures supported by the proposed operation (ii) the operation is being designed in a series of two DPLs which will promote a long term engagement that complements a host of other related Bank activities and (iii) prior actions that commits the GoHP to build the capacities of the Department of Environment and Energy for effective coordination, monitoring and verification. • **Reputational Risks:** The harnessing of the state's large	

	hydropower potential represents perhaps the only opportunity to promote clean energy at scale, and, in the government's estimation, is a critical way to contribute to India's growing energy demand, in particular for peak energy demand. Thus there is little doubt hydropower expansion would proceed *irrespective of the Bank's involvement* as this is very much a part of GoHP's own development and fiscal agenda. The aim of the Bank's support is to facilitate actions that would make the state's hydropower development plans more environmentally and socially sustainable, building on the Bank's long-term engagement in the Satluj River Basin and with one of its key hydropower developers, SJVNL, since 1989 , and to pilot best practice in India. The operation does not attempt to support an expansion of hydropower but seeks to catalyze a fundamental paradigm shift towards a river basin management approach, with sustainability as the core objective, and will only support actions that address environmental risks. In addition, GoHP intends to promote the proactive involvement of local communities at the policy stage, and the implementation of novel benefit sharing mechanisms for affected communities to ensure improved livelihood outcomes during the operational life of hydropower projects. The proposed benefit sharing scheme that involves paying annuities directly to households is a first of its kind in India. It bears mentioning that the GoHP will call for an independent review by a Panel of Experts of the State's compliance with the environmental and social framework supported by this program – which bolsters the strictly environment-and-people-focused actions of the program. • **Institutional Risks:** While the State has traditionally had weak environmental monitoring and evaluation systems to promote sustainability in key growth sectors, this risk has been largely mitigated by (i) the notification and formation of a high level committee headed by the Chief Secretary (highest ranking official of state administration) to monitor and implement agreed DPL policy actions; and (ii) a strong multi-sectoral approach with the Department of Environment, Science and Technology (DEST) with a key coordinating role. • **Political Economy Risks:** Himachal Pradesh faces assembly elections in late 2012 or early 2013. In order to ensure broad ownership, GoHP has undertaken consultations with stakeholders to align this operation with State plans and priorities. Careful consideration has been given to political economy factors in the design of the policy reforms and sequencing of DPLs. Moreover, there is multi-party support among the major parties to promote inclusive economic growth and sustainable development that is universally beneficial for the State which would enhance the economic self-interest of its population. The risk of policy reversal therefore seems low.
Operation ID	P124041

PROGRAM DOCUMENT FOR A
PROPOSED DEVELOPMENT POLICY LOAN TO PROMOTE INCLUSIVE GREEN GROWTH AND SUSTAINABLE DEVELOPMENT IN HIMACHAL PRADESH

I. STRATEGIC CONTEXT

A. Country and Sector Issues

1. **This Program proposes policy-based budget support to assist the GoHP promote inclusive green growth and sustainable development and undertake a paradigm shift towards the sustainability of the main engines of growth.** Himachal Pradesh (HP) is richly endowed with natural resources and this program is designed to unleash its comparative advantage of generating growth through improved stewardship of its natural assets. The program will assist GoHP in its efforts towards inclusive green growth, with transformative actions across the key engines of economic growth - energy, watershed management, industry and tourism. This proposed operation will provide budgetary support to the GoHP in two phases in a programmatic DPL operation, which will enable support in the key sectors over a sustained period of time.

2. **With this Program, HP will be the first state to make a tangible contribution to the Government of India's (GoI) objective on GHG emissions intensity.** This goal was adopted by GoI as a run-up to the climate change negotiations held at Copenhagen in December 2009 and endeavors to contribute to global efforts to combat climate change, while recognizing India's imperative to strive for high rates of economic growth, and inclusiveness, and the need for equity in the global climate regime.

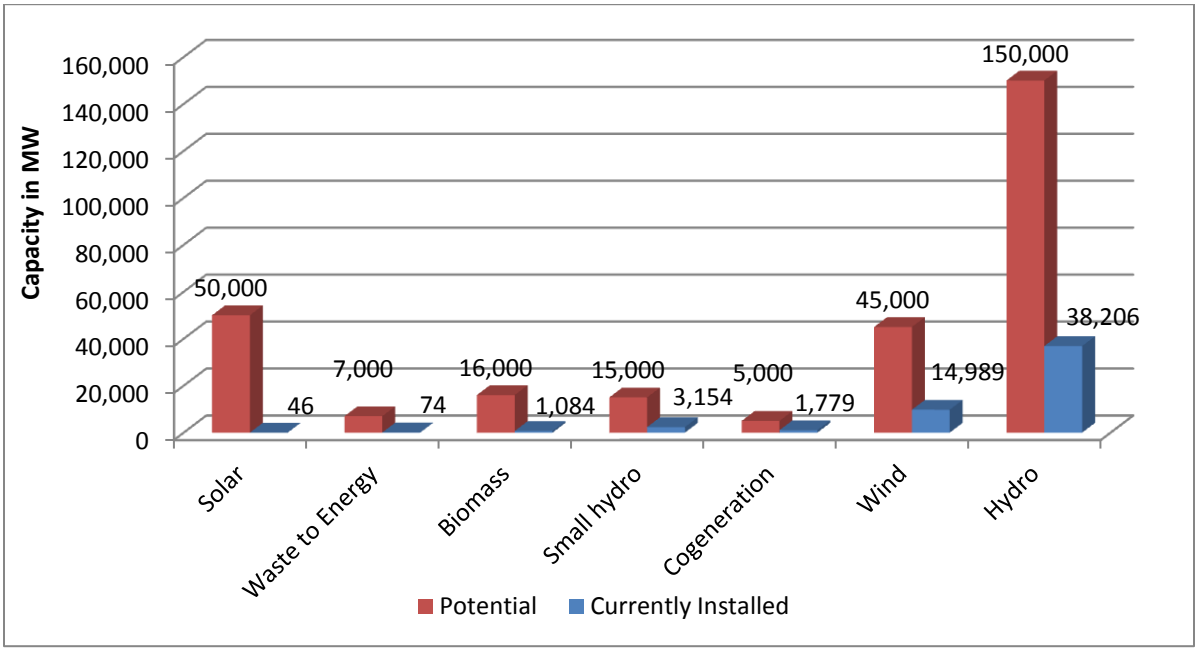
3. **India's per capita energy consumption levels are low, but are expected to grow substantially in the coming decades**. Economic growth, increasing prosperity and urbanization and a rise in per capita consumption are factors that are contributing to a substantial increase in the total demand for energy. The GoI promotes universal access to energy and aims to achieve an annual minimum consumption of 1000 kWh for all its citizens by 2012. However, supply has not kept pace with the increasing demand, and the energy deficit is in the order of 8.5 percent[1] (FY2011-12) with a peak deficit approaching 11.1[2] percent (FY2011-12), and growing in severity.

4. **Rising energy demands have far reaching implications for the country's greenhouse gas (GHG) emissions trajectory.** Projections indicate that the largest share of greenhouse gas emissions in India will continue to be from the power sector until 2032[3]. For instance, the Expert Group on Inclusive green growth Strategies for Inclusive Growth (chaired by the Planning Commission) indicates that should India wish to sustain 9 percent economic growth until 2020, it will need to more than double its installed capacity (from 172 GW to 377 GW). As a result emission from the power sector would escalate to 1452 - 1620 million tonnes of CO2 equivalent by 2020 (from the current base of 719 million tones of CO2 equivalent). Coal is expected to continue to supply the majority of India's energy needs, followed by all sources of alternative cleaner energy.

[1] Central Electricity Authority, 2012
[2] Central Electricity Authority, 2012
[3] Integrated Energy Policy, 2006

5. **Hydropower potential in India is substantial and remains one of the few immediate options to address energy shortages and reduce the emissions intensity of the power sector at scale.** Coal has been the mainstay of India's power generation and continues to be the primary fuel source, as India lacks sufficient alternate sources of domestic energy (see Figure 1). India's current grid-connected generation capacity is about 65 percent thermal; 22 percent hydro and 13 percent other. The share of hydropower in India's installed capacity has been steadily declining over the past decades. From 44 percent in 1970, to 22 percent today, with consequences for meeting peak load requirements. Hydropower's share of actual energy generated, as opposed to installed capacity, is even smaller, at 14 percent (2011), reflecting hydrological challenges.

Figure 1: Renewable Energy Installed Capacity (August 2011) Compared to Potential in India



Source: Ministry of New and Renewable Energy, GoI (2011)

6. **India is now at a critical juncture where an opportunity exists for a paradigm shift towards cleaner energy to meet a significant part of its growing power demand.** A recent study Energy Intensive Sectors of the Indian Economy: Path for Low Carbon Development[4] notes that India could simultaneously meet its targets on energy access and addressing the energy deficit as outlined in the 11th Five-Year Plan and Integrated Energy Policy, as well as its voluntary target to improve emissions intensity of GDP (of 20 to 25 percent by 2020 against the 2005 baseline).

7. **However, achieving these goals will require an order-of-magnitude increase in renewable energy growth in the next decade.** By the end of the 13th Five-Year Plan (2017-2022), India has ambitious targets to add 40 to 55 GW of additional renewable energy capacity. By 2032, GoI intends to harness the full potential of hydropower, with interim targets of a 53 percent increase of 20 GW in the 12th Five-year Plan. If successfully

[4] http://www.esmap.org/esmap/node/1297

implemented, with due care for social and environmental impacts, the planned hydropower expansion could alter the baseline trajectory for emissions from the power sector, because it offers the sole economically feasible clean alternative to both base load and peaking fossil-based power generation plants. If this expansion were to fall short, India would most likely be compelled to further expand its coal-based generation capacity.

8. **To support its clean energy objectives, GoI presented an Investment Plan to the Trust Fund Committee of the Clean Technology Fund (CTF)[5], which was endorsed by the Committee on November 4, 2011.** India's Investment Plan was cited for its innovation and transformative potential, as it seeks to build enabling frameworks for renewable energy and energy efficiency at cost and at scale. GoI's priorities under the Investment Plan include this Program as well as support to the Jawaharlal Nehru National Solar Mission and support to the National Mission on Enhanced Energy Efficiency. In the Investment Plan, GoI successfully argued that hydropower, solar and energy efficiency have a significant role to play to achieve its low carbon growth objectives.

9. **GoI seeks US$100 million from IBRD resources to finance the first in a series of two DPLs, and will seek an additional US$ 100 million of CTF resources for the second DPL in the series.** This is consistent with the practice to leverage CTF resources with funds from multilateral agencies. Through this Program, GoHP will promote inclusive green growth and the environmental and social sustainability of hydropower in Himachal Pradesh, which is consistent with the objectives of the CTF. This operation will also promote the public disclosure of the State's comprehensive Action Plan on Climate Change and support the introduction of **a** novel scheme to the benefit sharing policy that would provide an annuity payment to affected households during the lifetime of hydropower projects, as well as other forms of compensation (noted below). To address the environmental challenges of hydropower, there is a commitment to adopt a river basin approach to risk assessment and management, address cumulative impacts and establish transparent and publicly verifiable mechanisms to assure adequate ecological (environmental) river flows. At the end of the series, a policy and institutional framework will be in place to contribute to achieving the objective of reducing GHG emissions intensity; to ensure compliance with environmental flow requirements including measures to address any issues of non-compliance; the completion of cumulative impact assessment for at least one river basin; and the implementation of a benefit sharing mechanism as illustrated by the issuance of cash transfers in one hydropower project and commissioning of works mandated by community based program. Together these represent a far reaching policy transformation in the way in which hydropower projects are implemented in Himachal Pradesh and have potential for broader application and replication.

[5] The Clean Technology Fund (CTF), one of two Climate Investment Funds, promotes scaled-up financing for demonstration, deployment and transfer of low-carbon technologies with significant potential for long-term greenhouse gas emissions savings. The CTF Trust Fund Committee, which consists of an equal number of representatives from developed and developing countries, is mandated among other things, to approve programming priorities, and consider Investment Plans submitted by potential recipient countries.

B. Development Challenges in Himachal Pradesh

10. **HP is distinguished by its geography which brings both challenges and opportunities for development.** With altitudes ranging from 400 meters to almost 7000 meters above sea level, much of the state is inaccessible and uninhabitable. Rugged terrain, and high levels of forest cover contribute to low availability of land for agriculture, and net sown area is only about 15 percent. Several rivers that sustain economic livelihoods and industry in the plains below meander through the state and have bestowed an enormous endowment of hydropower potential. By the standards of India, HP is sparsely populated. With 6.8 million people, the state's population density—at around 110 per sq. km.—is significantly lower than the national average of 320 per sq. km. Recognizing the geographic impediments to growth, the GoI has classified the state as a "special category" jurisdiction, which gives GoHP access to special grants from the Central government and other incentives that have been instrumental to its development.

11. **Despite its structural disadvantages, HP has performed admirably on many measures of human development.** The state has some of the best indicators for development in India and is on track to meet the majority of its Millennium Development Goals.[6] From its inception in 1971, it has had a higher per capita income and better social indicators than much of the country. A shift from infrastructure to social investments has contributed to the state's impressive achievements. This has also been made possible by supportive government policies, a transparent and accessible administration, an implicit social compact and cohesion, and high levels of investment in human capital. But challenges do remain – notably that of promoting inclusive development for disadvantaged groups in remote areas.

12. **HP is richly endowed with natural resources that provide economically valuable environmental services for much of the country.** The state is home to three major river basins, and it serves as a watershed that is critical to the livelihoods of more than 200 million people in Haryana, Punjab, Uttar Pradesh, and Rajasthan. It has one of the main sources of clean energy – hydropower - for the country that can help address both the energy and peak shortages of the Northern Region. The watersheds of HP also act as an important carbon sink for greenhouse gases. Altitudinal variation has generated habitats that host immense numbers of species, which demonstrate a high degree of endemism – that is species only found in these ecosystems. Parts of the region are classified as a global biodiversity hotspot –signaling scientific concern for the unrelenting pressures on the Himalayan ecosystem. There is also considerable potential for attracting higher value added tourists in the state, with a unique combination of attractions that includes natural assets, historic architecture (Shimla) and cultural and religious attractions. Recognizing that states such as HP provide valuable environmental services for the rest of the country, the 11th Finance Commission recommended the establishment of a Rs. 1,000 cores fund to compensate states such as HP for retaining their forest cover. It was the first acknowledgement of what forests do to

[6] According to Census 2011, the literacy rate in HP is 83.8%, which is nearly 9 points higher than the national average of 74 percent. The life expectancy of 65.9 years in HP is higher than the national average of 62.5 years. Public health spending in the state is higher than in most other states of India. The spending on anti-poverty programmes from the state's own resources has been fairly stable at low levels in recent years, at just over 0.5 percent of GSDP.

preserve soil and water for the entire country.[7] How such transfers can take place in a fair and transparent manner remains an area of debate and interest among stakeholders.

13. **However, the past pattern of development in HP raises concerns about the efficiency of natural resource use, and the sustainability of development.** Following the development template used in the rest of the country, the hill states have attempted to attract industries that are at times highly polluting and resource intensive (such as cement, chemicals, and pharmaceuticals), through a variety of tax concessions and subsidies. Much of the manufacturing sector is concentrated in an enclave in the border districts near Punjab and Haryana. The ability to further diversify the economy is limited by topography and poor market access, which render large scale industrialization costlier and more difficult than elsewhere in India.

14. **The economic benefits of the current growth strategy – one that is dependent on public spending, financed by borrowing and central assistance – may have reached its limits.** A reliance on subsidies to attract industries that are at times highly polluting and resource intensive raises concerns about the economic and ecological sustainability of promoting growth through tacit and visible forms of assistance. Anecdotal experience and recent statistical evidence suggests that mountain economies suffer a comparative disadvantage in some economic activities – notably in industries with a *low value to bulk ratio*, all else being equal. This is not surprising since mountain economies must endure higher transport costs and those that seek a path of heavy industrialization must find often costly ways of overcoming this comparative *dis*advantage. In contrast, the success stories among the mountain economies are countries such as Costa Rica, Switzerland, Bhutan and Austria that have built upon their comparative advantage and have used their natural assets to sustain robust growth in sectors such as high-end sustainable tourism, horticulture and niche high value added manufacturing or services.

15. **Recognizing the scope for fueling growth through its natural assets, GoHP has introduced a host of initiatives designed to enhance environmental stewardship and to build a new platform for sustainable growth.** Important examples of the new policies include**:** (i) creation of the DEST promoted under the first fiscal DPL, with additional earmarked resources (ii) adoption of an Environment Master Plan (EMP), which promotes a regional approach based on vulnerability assessments and identification of ecologically fragile zones to guide development plans (iii) establishment of the Centre for Climate Change and Disaster Management and a State Resource Information Centre to serve as a central repository for all databases on environment, natural resources and climate change (iv) introduction of a program to promote the use of compact fluorescent lamps (CFLs) for energy conservation; (v) introduction of environmental studies in the school curricula[8]; (vi) enactment of a ban on polythene carry bags and use of plastic waste, which has been implemented throughout the state; (vii) establishment of the Himachal Pradesh Environment Fund as a voluntary fund for environment protection, conservation and restoration; (viii) implementation of the mountain-ecosystem advocacy initiative[9] to provide a platform for

[7] Source: http://www.indianexpress.com/story/294727.html

[8] A nine point "Environment Protection Code" for school children to inculcate environmental values, considering school children are the building blocks of society.

[9] An important outcome has been the decision for the provision of a "Green Bonus" to be provided by GOI / MOEF as payment for ecological services to be given by the Centre to all Hill States, ending the long standing debate on compensating hill states for conserving forest resources that benefit the entire country.

discussions amongst Himalayan states; (ix) requirement of mandatory rain water harvesting in all newly constructed buildings; and (x) enactment of a ban on the use of coal, and fossil fuels for space heating that has increased the need to rely on electric heating. The next stage is to build on these various initiatives to promote a new and more sustainable growth paradigm.

16. **The development objective of the proposed Development Policy Loan to Promote Inclusive Green Growth and Sustainable Development (HP IGG DPL) is to support HP in the improved management of its natural resources across growth engines of the economy and to promote inclusive green growth and sustainable development.** The focus of this program is firmly directed at promoting climate change adaptation and mitigation, inclusive green growth has well as environmental sustainability, which will be supported by an ambitious effort towards climate smart development across the key engines of economic growth, namely sustainable energy, integrated watershed management sustainable industry and sustainable tourism.

17. **In the energy sector, the GoHP has ambitious plans to develop a comprehensive policy and institutional framework that would facilitate the development of 10 GW of hydropower over the next ten years.** As HP has a full potential of about 21 GW of hydropower, this would usher an increase in hydropower capacity from the current 31 percent to 75 percent of technical capacity within a brief ten year period. Challenges abound – technical, economic, social and environmental - and a key objective of this program is to address environmental and social concerns. The aim of this operation is not to support an expansion of hydropower, but to promote the environmental and social sustainability of hydropower. Success by HP would bring added benefits and serve as template not only for mid-Himalayan states in India, but for other countries in the region (such as Bhutan and Nepal), since most of the developers in the State are active regionally in those countries and would export their experience and expertise globally.

18. **The broader expected outcomes of this DPL are ambitious.** The emphasis is on laying the policy and knowledge foundations that would enable HP to embark upon the *short term path to longer term inclusive green growth and sustainability*. The expected outcomes of this DPL Program include the following: (a) the state would contribute to GoI's objective to reduce GHG emissions intensity on a pro-rata basis (b) the demonstration of environmentally sound management of hydropower development in one state with significant hydropower potential and the enhancement of the capacity of the State to effectively regulate public and private developers on these aspects; (c) a first-of-kind implementation of long-term benefit sharing policy to affected households in an industry dependent on natural resources in India (d) statewide adoption of community based integrated watershed management approach to improve water pondage, crop diversification, productivity water efficiency and to link products to markets in one Gram Panchayat per block (e) the establishment of economic instruments to promote cleaner sources of growth and to reduce pollution (f) the establishment of system and practices which promote sustainable and inclusive tourism development in the state and (g) all departments to integrate decision based GIS mapping for sustainable development and inclusive growth.

19. **The proposed HP IGG DPL program extends the Bank's long standing and multi-sectoral involvement in HP over the last 10 years.** The Bank has engaged in multiple sectors in HP with the full range of available lending and knowledge instruments. This DPL

is the culmination of several recent activities that have highlighted the economic importance of sustaining HP's natural resource base. Support has included projects and budget support for policy improvements, as well as a technical assistance. Investment projects most often emphasized specific interventions aimed at addressing sectoral bottlenecks, or improving infrastructure, or addressing particular challenges (such as land degradation). In hydropower, this operation builds upon the experiences from the earlier lending engagement of the Bank in the State through the Nathpa Jhakri and Rampur hydropower project as well as the fiscal DPL to support the environment framework that the State is now enhancing. This operation is a natural successor to the fiscal DPL that supported the creation of the DEST in recognition of the centrality of natural resources as the engines of growth in HP, and which strongly emphasized the economic dimensions of environmental stewardship.

20. **A further distinguishing feature of the HP IGG DPL is its pioneering use of as budget support.** On May 3, 2012, the CTF Trust Fund Committee provided a nominal allocation of US$263 million to the GoI, following additional contributions received. It also confirmed that Development Policy Loans (DPL) are eligible for CTF funding, and informally indicated that it will begin discussions by the end of calendar year 2012 on any requirements for such operations. Hence it is proposed that resources from the International Bank for Reconstruction and Development (IBRD) be used to finance the first operation in the program, and that the CTF would finance the second operation in the programmatic series. In the second operation, there will be some progress towards meeting the end of series outcomes, which would go a long way to address some of the questions that may arise from the CTF Trust Fund Committee about attribution, and relationship between prior actions, triggers and outcomes. The (HP IGG DPL had been identified in India's Investment Plan for the CTF as the top priority to receive CTF funding.

II. RECENT ECONOMIC DEVELOPMENTS IN INDIA

A. SHARP SLOWDOWN IN THE SECOND HALF OF FY2011-12

21. **India's GDP growth slowed to 6.5 percent in FY2011-12 from 8.4 percent during the two previous years.** The slowdown was led by lower investment which reached 5.5 percent in FY2011-12 compared to 7.5 percent in the previous year. On a quarterly basis, growth fell to 5.3 percent in Q4 of FY2011-12. Investment growth was negative in the third quarter, but recovered to 3.6 percent growth in Q4.

22. **Notwithstanding strong export growth, the current account deficit is estimated to have reached 4 percent of GDP in FY2011-12.** Merchandise exports growth was strong during 2011, and although decelerating during the first quarter of 2012 reached 21 percent in FY2011-12. However, import growth was also high, and the trade deficit expanded to $178bn for the 12 months to March 2012, about 48 percent higher than for the previous fiscal year. The current account deficit is estimated to have reached $70bn, or 4 percent of GDP.

23. **Lower capital inflows reflected the heightened uncertainty in international financial markets.** Portfolio investments nearly ceased, while FDI inflows were higher during April-December 2011 as compared with the same period of FY2010-11. Loans remained strong, and inflows of banking capital added $14bn to the total despite the worsening international

environment. The capital account surplus decreased to $47bn, as compared with $52bn in the previous year.

24. **The Indian rupee depreciated sharply against the US dollar in the face of a high current account deficit and waning capital inflows.** It depreciated over 19 percent in the second half of 2011, and following a brief recovery in 2012, it again started losing value in FY2012-13. Overall, the rupee has depreciated by 25 percent against the US dollar since July 2011. The RBI intervened in the foreign exchange market, and reduced its international reserves holdings to $254 billion,[10] a reduction by $32 billion between August 2011 and May 2012. It also tightened foreign exchange derivatives trading rules to clamp down on speculation, and re-instituted export proceeds surrender requirements.

25. **Inflation slowed markedly since September 2011, after sustained inflationary pressures over the last two years.** Inflation remained around 7 percent (WPI, y-o-y) during the first quarter of 2012, an important deceleration from earlier months, when it hovered between 9.5-10 percent.[11] While core inflation continued to fall, food inflation re-accelerated after a low in December and January. Energy price rises moderated with the delayed pass through of international price increases.

26. **The RBI lowered monetary policy rates in April 2012 after significant rate increases in the last two years.** To alleviate a liquidity shortage in the banking system, the RBI also reduced the Cash Reserve Requirement 4.75 percent. In Q3 of FY2011-12, credit growth slowed to around 15 percent, lower than the 17 percent RBI indicative growth rate. And while reserve money growth declined steeply, an increasing money multiplier kept broad money growth relatively stable. The money multiplier increased with a large increase in deposits in the banking system related to the liberalization of interest rates on savings accounts earlier in the year.

27. **While monetary policy was aimed at cooling aggregate demand growth, the RBI injected large amounts of liquidity into the banking system through its overnight borrowing facility.** Liquidity injections amounted to Rs.1-1.5 trillion during the second half of 2011, equivalent to $20-30bn. The banking system has been borrowing from RBI since the beginning of FY2011-12.

28. **The Union Budget FY2012-13 targets an overall fiscal deficit of 5.8 percent of GDP, against an estimated realization of 6 percent of GDP for FY2011-12.**[12] The deficit target for FY2011-12 is estimated to have been missed by about 1 percent of GDP because of lower revenue and higher than expected subsidy payments (mostly on fuel). The target for FY2012-13 implies almost no correction of the slippages from FY2011-12.

---

[10] Foreign reserves without gold, special drawing rights and IMF reserve position.

[11] A new nationwide consumer price index was introduced in January 2011; in January 2012 it showed the first y-o-y inflation indicator of 7.7 percent.

[12] The numbers presented here follow the Bank's and the IMF's definition of the deficit with disinvestment receipts and revenue from 2G telecom license auctions counted as financing items; the government of India counts them as non-tax revenue "above the line". In the Government's definition, the deficit target for FY2012-13 is 5.1 percent against realization of 5.9 percent and budget target of 4.6 percent in FY2011-12.

B. MACROECONOMIC OUTLOOK AND DEBT SUSTAINABILITY

29. **India's GDP growth is likely to remain lower than what it was before the global financial crisis (GFC) but high in international comparison.** Over the next two years, GDP is expected to stay around 7 percent. The slowdown is induced by structural bottlenecks, tighter monetary policy and low growth in the core countries from the Organisation for Economic Cooperation and Development (OECD). Key macroeconomic indicators are presented in Table 1.

30. **Fiscal consolidation and higher interest rates are also likely to have a dampening effect on aggregate demand.** The successive interest rate hikes by the RBI and recent decline in inflation have brought the real policy interest rate (nominal policy rate minus WPI y-o-y inflation) into positive territory for the first time since Q2 FY2009-10.[13] This impacts in particular some long-term investments and demand for housing and consumer durables. Domestic interest rates could have a stronger effect on domestic investment than they hitherto had, because of the lower availability of external loans in the more uncertain international environment.

31. **Disinflation is likely to continue.** However, built-up momentum (as indicated by seasonally adjusted monthly data) and continuing pressure from energy price increases (already implemented and upcoming) and increases in minimum support prices announced for the upcoming harvest will dampen the deceleration.[14] Over the medium term, the disinflation process should continue until the beginning of FY2013-14, when inflation is projected to fall to 4 percent.

32. **With the slow growth expected in core OECD countries, India's GDP growth will have to rely on domestic growth drivers.** The slowdown in investment, capital outflows, and decline in the stock market witnessed in 2011 point to deeper structural problems. Major structural reforms aimed at reducing uncertainties and improving the investment climate would strengthen domestic growth drivers.

33. **Confidence building measures would include progress on reducing macroeconomic imbalances.** Withdrawal of fiscal stimulus is hotly debated in developed countries in light of anaemic growth and a possible 'double dip' recession, with some arguing that continued public sector borrowing crowds out private investment, while others calling for continued support to aggregate demand in light of weaknesses of private demand because of deleveraging. However, the situation presents itself quite differently in India, where growth has been around 7 percent, and supply side problems contributed to high inflation. The case for rationalizing public spending, lowering borrowing, and supporting private investment through lower interest rates and structural reforms aimed at improving the business climate is strong.

[13] The real interest rate was negative in 2008 up to the onset of the global financial crisis because of rapidly increasing inflation in line with the global commodity price boom; when Indian inflation dropped rapidly in line with global commodity prices and Indian GDP, the real rate turned positive as RBI's policy rate was lowered with a lag. The medium-term average real interest rate was 1.5-2 percent.

[14] Price increases in June 2011 for diesel, LPG, and Kerosene amounted to 9, 14.8, and 19.8 percent, respectively.

Table 1: Key Macroeconomic Indicators

	2007/08	2008/09	2009/10	2010/11 Est	2011/12 Proj.	2012/13 Proj.	2013/14 Proj.
Real Income and Prices (% change)							
Real GDP (at market price)	9.8	4.9	9.1	9.5	8.4	8.7	8.7
Real GDP (at factor cost)	9.3	6.8	8.4	8.4	7.5	7.5	8.0
Agriculture	5.8	0.1	1.0	7.0	3.0	3.0	3.0
Industry	9.7	4.4	8.4	7.2	7.5	7.5	8.0
Of which Manufacturing	10.3	4.2	9.7	7.6	8.0	8.2	8.5
Services	10.3	10.1	10.5	9.3	8.6	8.6	9.1
Prices (average)							
Wholesale Price Index	4.5	8.1	3.1	9.6	6.0	5.0	4.0
Consumer Price Index	6.2	9.1	12.3	10.5	…	…	…
GDP Deflator	5.8	6.7	7.5	10.5	6.0	5.0	4.0
Consumption, Investment and Savings (% of GDP)							
Consumption	65.9	70.6	68.7	68.5	69.6	67.8	65.6
Public	10.3	11.0	12.0	11.5	12.9	12.9	14.2
Private	55.6	59.5	56.7	57.0	56.6	54.9	51.4
Investment	38.1	34.5	36.5	34.8	35.7	37.0	38.7
Public	8.9	9.5	9.2	9.5	9.5	9.1	9.5
Private	28.1	24.6	24.9	23.3	26.2	27.9	29.2
Gross National Savings	39.9	35.4	37.0	37.3	35.5	34.2	36.0
Public	5.0	0.5	2.1	1.9	4.9	4.4	5.8
Private	31.9	31.7	31.6	36.2	30.7	29.9	30.3
External Sector							
Total Exports (% change in current US)	26.6	15.0	-5.8	37.6	19.6	22.0	23.6
Goods	28.9	13.7	-3.6	37.4	20.2	22.3	23.9
Services	22.4	17.3	-9.6	37.8	18.5	21.5	23.0
Total Imports (% change in current US)	31.6	16.6	0.0	29.0	20.0	18.7	19.9
Goods	35.1	19.8	-2.6	26.7	21.2	19.5	20.8
Services	16.2	1.1	15.3	40.4	14.8	14.6	15.4
Current Account Balance (% of GDP)	-1.3	-2.3	-2.8	-2.6	-2.8	-2.8	-2.7
Foreign Investment (US billion)	43.3	5.8	51.2	37.4	55.0	60.0	62.0
Direct Investment, net	15.9	19.8	18.8	7.1	25.0	28.0	30.0
Portfolio Investment, net	27.4	-14.0	32.4	30.3	30.0	32.0	32.0
Foreign Exchange Reserves (excl. Gold) (US billion)	299.2	241.4	259.7	278.9	287.2	298.1	290.1
General Government Finances (% of GDP)							
Revenue	21.0	19.6	18.2	19.9	19.4	19.6	19.7
Expenditure	26.0	28.0	28.1	28.4	27.0	26.8	26.6
Deficit	5.0	8.5	10.0	8.5	7.6	7.2	6.9
Total Debt	76.2	75.4	73.4	67.9	59.4	59.3	59.2
Domestic	72.0	70.7	69.3	64.1	54.4	54.6	54.6
External	4.2	4.7	4.1	3.8	5.0	4.7	4.6
Monetary Sector (% change)							
Money Supply (M3)	21.2	19.1	17.1	16.0	17.2	18.9	18.6
Domestic Credit	17.7	23.4	24.5	19.9	16.4	18.6	19.5
Bank Credit to Government	8.7	42.0	29.1	18.5	17.8	16.2	15.1
Bank Credit to Commercial Sector	21.1	16.9	22.5	20.6	15.8	19.7	21.4
Velocity	1.2	1.2	1.2	1.2	1.2	1.2	1.1

Sources: Central Statistical Organization, Reserve Bank of India, and World Bank Staff Estimates.

34. **Both World Bank and IMF assessments conclude that the macroeconomic framework and growth prospects are adequate for medium-to-long term debt sustainability.** In the World Bank's assessment the country's macroeconomic policy framework is adequate. While the debt-to-GDP ratio has traditionally been high in India, it is projected to decline over the next few years. India has never faced debt distress despite high debt compared to its peers. This is partly the external public debt is only about 5 percent of GDP and high statutory reserve requirements provide a captive market for government securities. The medium-term consolidation path, as recommended by the 13th Finance Commission, targets an explicit debt ceiling of 68 percent of GDP by FY2014-15, a level that had already been reached in FY2011-12.

C. FISCAL SITUATION OF HIMACHAL PRADESH

35. **HP's fiscal deficit widened significantly in FY2008-09 and FY2009-10 because of external shocks and the implementation of the 6th Pay Commission's recommendations.** The 6th Pay Commission's recommendations implemented by the GoI and most state governments substantially affected the GoHP's capacity to limit expenditure on salaries and pensions.[15] Additional fiscal stress arose out of policy reactions to external shocks. Rising prices led to higher subsidies and cost of living indexed wage payments to civil servants and the economic slowdown that was a fall-out from the Global Financial Crisis (GFC) led to fiscal stimulus measures comprising tax reductions, higher spending, and higher borrowing limits for states. In FY2008-09 and FY2009-10, the fiscal deficit expanded to 5.4 percent and 5.8 percent of GSDP, respectively, from 1.8 percent in FY2007-08 and the current deficit expanded to 1.2 percent in FY2009-10 from 0.3 percent in FY2008-09.

36. **GoHP managed to contain its fiscal deficit to 3.5 percent in FY2010-11 and less than 3 percent in FY2011-12**. Aided by a non-debt receipt of Rs. 645 cores (compensation from the Himachal Pradesh Infrastructure Development Board for its equity investment funded by Government in state generation and transmission companies), and 41 percent own tax revenue growth, the gross fiscal deficit was 3.5 percent of GSDP for FY2010-11. Without the upfront receipt of Rs. 645 cores the fiscal deficit would be 4.7 percent of GSDP.[16] Because of the fiscal pressure, capital outlay is estimated to have been squeezed to 12 percent of total expenditure in FY2010-11 and 1.5 percent in FY2011-12 from 18% in FY2008-09. Non-wage O&M expenditure's share in total expenditure also fell. These two heads more or less bore the brunt of the fiscal adjustment arising from rising salary and pension expenditure that together increased nearly 35 percent in FY2010-11 though these have increased by only 6.6 percent during financial year 2011-12 as per previous estimates.

37. **Widening of the deficit would likely have been worse without revenue improvement and stringent expenditure control measures.** Revenue reforms comprising of increased use of IT in tax administration. This is due to online facilities such as e-returns, and e-registration which have helped to curb tax evasion and to broaden the tax base. Better

[15] GoHP follows the Punjab Pay Award. The total impact from the increase in pay and pension for the period 2010-11 to 2014-15 was projected at Rs. 59.29 bn, with an arrears component of Rs. 27.62 bn (as the revised pay and pension are effective from January 1, 2006)—making for total additional liabilities of Rs. 86.91 bn.

[16] Pre accounts for FY2010-11 show the non-debt capital receipt to be Rs. 645 cores. The overall fiscal deficit is -3.5 percent of GSDP and revenue deficit of 1 percent of GSDP. The Government's view is that revenue from the grid and transmission companies will be used to service past borrowings, if any, by the Himachal Pradesh Infrastructure Development Board to finance this investment.

management of the inter-state barriers can also be attributed to the on-line e-declaration facility that has been made available to the traders, so that entry at check post is smooth and less time consuming. This has contributed to an increase in the tax-to-GSDP ratio since FY2008-09 (from 5.3 percent in FY2008-09 to 7percent in FY2010-11). Tariffs have been raised where necessary to reduce subsidy or budget support for provision of public services. For instance, public transport bus fares were raised 33 percent in 2010 and power tariffs by 30 percent in 2010 and 9 percent in 2011. Water rates have been raised in Shimla by 10 percent and water rates for irrigation raised by 10 percent every year. The main expenditure containment measures were: (a) a general ban on appointments without state Cabinet approval and creation of a surplus pool; (b) approved new appointments made on contract basis against vacant functional posts or by transfer from the surplus pool; (c) outsourcing of services; (d) reduction in budgetary support to Public Sector Undertakings along with disinvestment and closure[17]; (e) the freezing of food subsidies and subsidies to the Himachal Road Transport Corporation and the Himachal Pradesh State Electricity Board at an overall level of Rs.425 cores; and (f) a moderate increase in the state plan size. The GoHP has paid all the arrears of the sixth pay commission.

38. **The state has amended its Fiscal Responsibility and Budget Management (FRBM) legislation in line** with the fiscal targets set by the Thirteenth Finance Commission showing its intent to meet them. The medium term fiscal policy (MTFP) statement of the GoHP provides indications of the fiscal targets going up to FY2013-14. They follow the targets set by the Thirteenth Finance Commission. The fiscal deficit target is set at 3% of GSDP to be achieved by FY2012-13 (which will be achieved in 2011-12 itself) as against 3.5 percent achieved in FY2010-11. Total outstanding debt to GSDP is projected to decline to 39 percent by FY2013-14 from 44 percent in FY2011-12. GoHP's guarantees were quite steady at 8 percent of GSDP at the end of FY2009-10. However, it would need tight fiscal management and own revenue growth to attain these targets in the outer years going to FY2014-15 as centrally devolved Finance Commission grants taper off from Rs. 20.5 bn in FY2010-11 to Rs. 4.06 bn in FY2014-15.[18] The 13th Finance Commission awarded relatively smaller grants to HP, as compared to its predecessors, in exchange for higher tax devolution.[19] In fact, while HP's share in central taxes was expected to increase by 1.4 percentage points of GSDP in FY2011-12 relative to FY2009-10, central grants are slated to fall by 2 percentage points of GSDP. While GoHP is pursuing aggressive increase in its own tax revenue, non-tax revenue is generated mainly from royalty proceeds from private hydro projects in the form of free electricity for sale by the Government. The revenue from this source is dependent on the supply of free energy from hydro projects, and the market price. Projects over 2000 MW capacity are expected to come on stream and the state is relying on revenue from these as well to plug the gap from tapering central revenue deficit grants.

[17] The latest PSU to be wound down is the Himachal Pradesh Small Scale Industry and Export Corporation. Its employees have been placed in the surplus pool along with others to be relocated to other functions in Government. It may be noted that a number of staff of different corporations has been placed under surplus pool, but HPFC has not been wound down so far.

[18] Central devolution to states is performed through two channels: (i) the Finance Commission's award and (ii) the Planning Commission in support of the five-year plan. The former is largely untied while the later supports the implementation of plan schemes both state and central. Compared to past awards there has been a sharp drop in devolution to the state through the thirteenth Finance Commission. As against an average share of 1.77 percent in central transfers under past Finance Commission awards, the thirteenth Finance Commission award projects a share of 1.27 percent over the FY2010-15 period. The GoHP pointed out that the 13th Finance Commission failed to take into account the state's salary and pension arrears arising from the 6th Pay Commission recommendations allowing for only a 2 percent per annum average increase in salary expenditure during FY2010-15.

[19] Himachal Pradesh share in central tax devolution was raised to 0.781 from 0.52. The non-plan (current deficit) grant was reduced to Rs. 78.89 bn over 2010-2015 from Rs. 102.02 bn over 2005-10. In real terms the cut is even sharper.

Primary expenditure adjustment is envisaged from cut in capital expenditure and non-wage operations and maintenance expenditure. Capital expenditure is estimated to decline to 3 percent of GSDP in FY2011-12 from 4.5 percent in FY2009-10 and non-wage operations and maintenance expenditure to 2.5 percent in FY2011-12 from 3.2 percent in FY2009-10. . The Budget for FY2012-13 proposes a continuation of the stabilization process. Both revenue and expenditure are budgeted to grow by about 13 percent. Revenue is supported by a targeted 18 percent growth in own revenue. Fiscal Deficit is targeted at 2.88 percent of GSDP and the Revenue Surplus at 0.56 percent of GSDP in 2012-13. Debt to GSDP is targeted at 42 percent of GSDP. Fiscal outcomes are shown in Table 2.

39. **The statement on compliance with the state's FRBM Act, 2005** tabled in the state legislature provides the state's medium-term fiscal policy strategy. This strategy is as follows:

(a) Ensure continued buoyancy in state's own tax and non-tax receipts.
(b) Faster implementation of hydropower projects in HP to attract additional hydropower royalty.
(c) Nonfunctional (less critical to service delivery) posts shall not be created or allowed to be filled up.
(d) Non-merit subsidies to be targeted for elimination.
(e) User costs for services provided by the Governmental agencies shall be introduced in a progressive manner.

Most of these measures will have an impact over the longer term, if followed through. The changeover to goods and services tax (GST) and its impact on the fiscal position will be a significant event. The state recently received a favorable judgment on its claim for a share of power generated by the multi-state Bhakra-Beas projects that it can choose to sell. The state will receive an additional 151 MW of power annually. More significantly from an immediate revenue perspective will be arrears since 1966 from two other states that could yield over Rs. 40 bn in the next two years.

Overall Assessment: Fiscal management will continue to be challenging at least until the pay commission arrears are paid out. GoHP has managed the difficult fiscal fallout from the impact of the pay commission payout and rising inflation indexed wages through a strategy of increasing own tax revenue and reduction in capital and operations and maintenance expenditure. Under the circumstances, this is the most pragmatic approach available to meet the fiscal management challenge. The FRBM targets also demonstrate Government's intent to achieve the 13th Finance Commission's medium-term fiscal targets. The inter-governmental fiscal arrangements in India are well established, transparent, sufficient and adequate. GoHP's MTFP acknowledges that the tapering centrally devolved Finance Commission grant will constrain fiscal space and the FRBM outlines the state's primary strategies to meet the challenge as outlined**Error! Reference source not found.**. Three future events will have a ignificant bearing on fiscal sustainability in the medium term: (a) commissioning of hydro projects of which 2106 MW are expected in FY2011-12; (b) receipt of arrears on account of Bhakra-Beas Projects and (c) the transition to GST. Until l such time the fiscal space improves, the options before Government are limited to managing expenditure in the short term (chiefly managed reduction in capital expenditure) and improving own revenue resources over the medium term. While this may affect investment expenditure in the short

term, service delivery in key areas is less likely to suffer as the government looks for innovative ways to maintain service levels more efficiently. This has already been part of the

Table 2: Fiscal Outcomes

(Rs in Crore)	2007-08 (Actuals)	2008-09 (Actuals)	2009-10 (Actuals)	2010-11 (Actuals)	2011-12 (BE)	2011-12 (R.E.)	2012-13 (BE)
Revenue	**9141.60**	**9308.00**	**10346.40**	**12710.61**	**14093.5**	**14424.66**	**16342.98**
State's Own Revenue	**3780.60**	**3998.70**	**4357.60**	**5337.69**	**6034.3**	**6115.06**	**7060.06**
Tax	1958.20	2242.50	2574.50	3642.38	4039.8	4280.31	5057.46
Non-Tax	1822.40	1756.20	1783.10	1695.31	1994.5	1834.75	2002.6
Central Taxes and Grants	**5361.00**	**5309.30**	**5988.80**	**7372.92**	**8059.2**	**8309.60**	**9282.92**
Shared Taxes	793.70	837.50	861.60	1715.35	2060.7	2060.67	2372.77
Grants	4567.30	4471.80	5127.20	5657.57	5998.5	6248.93	6910.15
Non-debt Capital Receipt	**0.00**	**0.00**	**0.00**	**645.85**	**0.0**	**0.00**	**0.00**
Non-Interest Expenditure	**8014.60**	**9691.66**	**10891.00**	**13239.27**	**13573.3**	**14116.66**	**16031.67**
Salaries (Including GIA for Education)	3226.60	3642.80	4267.40	5486.70	6230.4	5929.78	6688.95
Pensions & Retirement Benefits	949.30	1153.90	1348.50	2105.39	2210.0	2206.43	2784.71
Non-Wage O & M	1221.60	1338.40	1388.10	1521.85	1364.4	1483.72	1960.17
Other Revenue Expenditure	407.20	434.40	887.80	996.08	803.0	883.67	841.52
Subsidies and Transfers	784.30	975.00	1019.70	1186.29	1284.1	1392.57	1444.18
Capital Outlay	1413.50	2079.10	1943.70	1788.99	1497.9	1855.68	1970.26
Net Lending	12.10	68.06	35.80	153.97	183.5	364.81	341.88
HP Primary Surplus (+)/Deficit(-)	**1127.00**	**-383.66**	**-544.60**	**117.19**	**520.2**	**308.00**	**311.31**
Interest Payments	1702.70	1893.60	1958.90	1950.43	2150.6	2070.99	2249.67
Total Expenditure	**9717.30**	**11585.26**	**12849.90**	**15189.70**	**15723.9**	**16187.65**	**18281.34**
GoHP Revenue Surplus(+)/Deficit(-)	**849.90**	**-130.10**	**-524.00**	**-536.13**	**51.0**	**457.50**	**373.78**
GoHP Fiscal Surplus(+)/Deficit(-)	**-575.70**	**-2277.26**	**-2503.50**	**-1833.24**	**-1630.4**	**-1762.99**	**-1938.36**
Debt Stock	21241.80	23150.20	23163.70	24960.85	26376.6	26607.85	28626.85
GSDP	31974.00	42000.00	43086.00	52426.00	60290.0	60290.00	67304.00
Total Expenditure	9717.30	11585.26	12849.90	15189.70		16187.65	

Fiscal Outcomes

Percent GSDP	2007-08 (Actuals)	2008-09 (Actuals)	2009-10 (Actuals)	2010-11 (Actuals)	2011-12 (BE)	2011-12 (R.E.)	2012-13 (BE)
Revenue	**28.59**	**22.16**	**24.01**	**24.24**	**23.38**	**23.93**	**24.28**
State's Own Revenue	**11.82**	**9.52**	**10.11**	**10.18**	**10.01**	**10.14**	**10.49**
Tax	6.12	5.34	5.98	3.27	3.42	7.10	7.51
Non-Tax	5.70	4.18	4.14	6.95	6.70	3.04	2.98
Central Taxes and Grants	**16.77**	**12.64**	**13.90**	**14.06**	**13.37**	**13.78**	**13.79**
Shared Taxes	2.48	1.99	2.00	3.27	3.42	3.42	3.53
Grants	14.28	10.65	11.90	10.79	9.95	10.36	10.27
Non-debt Capital Receipt	**0.00**	**0.00**	**0.00**	**1.23**	**0.00**	**0.00**	**0.00**
Non-Interest Expenditure	**25.07**	**23.08**	**25.28**	**25.25**	**22.51**	**23.41**	**23.82**
Salaries (Including GIA for Education)	10.09	8.67	9.90	10.47	10.33	9.84	9.94
Pensions & Retirement Benefits	2.97	2.75	3.13	4.02	3.67	3.66	4.14
Non-Wage O & M	3.82	3.19	3.22	2.90	2.26	2.46	2.91
Other Revenue Expenditure	1.27	1.03	2.06	1.90	1.33	1.47	1.25
Subsidies and Transfers	2.45	2.32	2.37	2.26	2.13	2.31	2.15
Capital Outlay	4.42	4.95	4.51	3.41	2.48	3.08	2.93
Net Lending	0.04	0.16	0.08	0.29	0.30	0.61	0.51
HP Primary Surplus (+)/Deficit(-)	**3.52**	**-0.91**	**-1.26**	**0.22**	**0.86**	**0.51**	0.46
Interest Payments	5.33	4.51	4.55	3.72	3.57	3.44	3.34

GoHP Revenue Surplus(+)/Deficit(-)	**2.66**	**-0.31**	**-1.22**	**-1.02**	**0.08**	**0.76**	**0.56**
GoHP Fiscal Surplus(+)/Deficit(-)	**-1.80**	**-5.42**	**-5.81**	**-3.50**	**-2.70**	**-2.92**	**-2.88**
Debt Stock	66.43	55.12	53.76	47.61	43.75	44.13	42.53

public sector reform process for some years now, for instance, decentralizing service delivery (e.g. schools), transferring maintenance to PRIs, and Hospital Societies to Rogi Kalyan Samities (Patient Welfare Societies). Use of private e-service centers (Lok Mitra Kendras) for bill collection, supply of copy of records, etc.

III. THE GOVERNMENT'S PROGRAM ON SUSTAINABILE DEVELOPMENT AND GREEN GROWTH

40. **GoHP is developing an innovative environmental policy program, the center piece of which is the objective to promote a paradigm shift towards an environmentally sustainable model of economic growth.** This operation supports the following subset of enabling policies that are deemed catalytic and will provide the short term foundational changes that are needed to achieve this objective: (a) Promotion of Climate Change Adaptation and Mitigation (b) Development of Environmentally and Socially Sustainable Hydropower; (c) Empowering Local communities to Promote Watershed Management; (d) Environmentally Sustainable Industrial Development (e) Environmentally Sustainable Tourism and (f) Institutional Mechanism for Integration of GIS in Informed Decision Making. Each one of these is discussed below.

A. Climate Change Adaptation and Mitigation

41. **In 2010, HP announced its intention to shift towards a sustainable inclusive green growth model that takes into account climate change adaptation and mitigation and to join a number of subnational efforts in this regard.** Further to the implementation of the UN Framework Convention on Climate Change and its Kyoto Protocol, several domestic and regional low-carbon initiatives, including market mechanisms, are emerging both developed and developing economies. Across the world, dozens of individual states have crafted and implemented mitigation and adaptation plans, or instituted renewable portfolio standards and reduction targets, as have cities and municipalities. Subnational jurisdictions in federalist systems have long been recognized as laboratories of policy experimentation and reform, and this has proven to be true for climate change as well. Arguments supporting sub-national efforts actions include the ability for lower governments to tailor policies to better match their unique resources and demographics, as well as the opportunity to drive slower-moving national policy with innovative sub-national experimentation and learning[20]**.**

42. **The objective to shift towards sustainable inclusive green growth model that incorporates climate change adaptation and mitigation is both realistic and achievable for HP, and is unique among states in India.** The state of Himachal Pradesh will strive to reduce emissions across key GHG intensive sectors by promotion of cleaner production and environmentally sound management systems. In addition, HP is well endowed with hydropower potential and if successfully implemented, the proposed hydropower expansion program will help reduce GHG emissions intensity in the state. An important objective of this operation is to ensure that this occurs in ways that are environmentally benign and socially

[20] World Development Report 2010: Development and Climate Change.

beneficial. Additionally, GoHP has established a broader institutional framework to tackle other elements of the climate change challenge. It has constituted a state level *Governing Council and Executive Council on Climate Change* that is charged with overseeing and coordinating work on climate change. The State Climate Change Strategy and Action Plan currently under preparation outlines the state's response to climate change. The Plan is comprehensive in coverage and tailored to HP's specific circumstances. Recognizing the need for policy responses to be based on community support, it has established *"Community Led Assessment, Awareness, Advocacy & Action Programme for Environment Protection &Sustainable Development" (*CLAP). CLAP's primary objective is to mobilize local communities and panchayats to undertake environmental improvements – based upon community priorities and plans. It includes a comprehensive assessment of the environmental parameters of the community and provides a "bottom-up" instrument for assuring community wide participation in the inclusive green growth endeavors of the State. Representative community plans for about 316 panchayats have been prepared for the 12 districts of the State by March 2012. It is expected that about 1000 panchayats will be covered by March 2013.

43. **To support the development of its sustainability objective, the GoHP will begin to account for the environmental costs of development and reflect the use of depletable natural resources in the process of generating income, in particular in the forestry sector.** Many countries have started to recognize the need to measure whether growth is greener and more inclusive. One way to measure sustainability of growth is to start incorporating natural capital into national accounts to make better economic decisions. These accounts provide detailed statistics to help state policy makers assess, for example, trends in use and supply of forest goods, who is benefiting from the goods, and how the forest wealth of the state is changing as the state implements policies to achieve its development goals and whether growth is sustainable.

B. Development of Environmentally and Socially Sustainable Hydropower

44. **Hydropower is also a priority of the 12th Five-year Plan, which has the ambitious goal of building 20 GW of this renewable capacity over 2012-17**. Much of this goal could be achieved in HP. Developing replicable and robust mechanisms that address the social and environmental challenges of hydropower is especially important given the inevitability and criticality of hydropower expansion in India. Environmentally and socially sensitive hydropower development would also have fiscal benefits for states in the form of non-tax revenue for states that supply that power.

45. **To address environmental and social challenges of hydropower development, GoHP has developed a diverse cluster of initiatives.** The State took the first steps by formulating its own Hydropower Policy in 2006. The policy explicitly recognizes the importance of environmental management, and promotes a bidding process for allotment of new hydropower projects. Lessons from the implementation of this Policy have enabled the State to iteratively adopt appropriate policy measures to meet environmental and social objectives. To address environmental risks, the government has taken the first steps towards comprehensive river basin management. The State has also constituted a Hydropower Producers Forum, starting with the Sutlej basin, to facilitate coordination on social, environmental, water flow and catchment area treatment related issues. In addition, there is now wide recognition of the need for assuring environmental flows and HP is the only state in India to have mandated environmental flows of a minimum of 15 percent (of the average

lean flow) in all hydropower developments for eco-systems, and to provide for the riparian rights of downstream communities. To assure compliance with this Policy, the installation of real time online e-flow monitoring instruments in all new projects is being mandated. This operation supports policies to strengthen these and other related environmental monitoring initiatives.

46. **The State is moving towards a river basin approach to the development and implementation of Integrated Basin wide Catchment Area Treatment (CAT) Plans– deemed global best-practice for managing impacts.** The State has already prepared and finalized an integrated CAT Plan for the Sutlej basin (initiated under the previous DPL) and similar work is in progress for three other river basins based on high quality disaggregated baseline data on forest cover and quality, erosion intensity, and silt load. A monitoring framework has been put in place to ensure the proper disposal of muck and debris – a visible concern in previous hydropower developments.

47. **Community risks are being addressed through innovative and generous policies that seek to provide adequate compensation and restore livelihoods.** Fortunately resettlement issues usually associated with hydro power projects are minimal in the HP portfolio since most of the developments are run-of-the- river projects (RoR) requiring minimum land acquisition. Moreover, HP allows for more flexible arrangements in land acquisition compensation as demonstrated in a Bank supported hydropower project (Rampur Hydropower). Likewise, the State has recently (July 2011) adopted a Policy for "Compensation for Damage to Crops during construction of Power Projects" to recompense for loss of production or income on account of incidental damage to crops on land not acquired for project construction.

48. **Beyond this there are other innovative aspects of the wide ranging benefit sharing program aimed at assuring local support for the hydropower development program.** Among the many policies there is a scheme that involves contributions (1.5 percent) of project costs to be paid by developers to a Local Area Development Fund, 2009 (LADF) during the construction phase for undertaking local area development activities. Such a policy does not exist in any other state in India. This is accompanied by recent changes in policies/guidelines on management of LADF to facilitate rigorous monitoring, transparency and oversight of the LADF.

49. **There are however, significant gaps in the 2009 benefit sharing policy that the GoHP is now addressing**. The benefit sharing mechanism under the original LADF provides a cash transfer from project developers to a Fund based on project construction costs. Communities then had to apply to a Local Area Development Committee (LADC), headed by a District Deputy Commissioner**.** The Policy needed amendment for a number of reasons: (i) the payments based on project costs may encourage opposition to projects during construction, as beneficiaries may seek to maximize their benefits (ii) need to streamline the approval process and reduce the complaints from beneficiaries (iii) need to bring clarity on the definition of project affected area and affected zone for the allocation of funds; (iv) allow for greater participation of community representatives in LADCs (v) strengthening the arrangements for allocation of funds among the affected area as well as for implementation and monitoring of works under the LADF to allow for increased community participation in these arrangements.

C. Empowering Local Communities to Promote Integrated Watershed Management

50. **The fragile Himalayan ecosystem in HP forms the catchment of major Indian rivers such as the Sutlej, Beas, Ravi and Yamuna**. It is an important source of water that supports about 200 million people in Punjab, Haryana, Uttar Pradesh and Rajasthan. In addition, these rivers are crucial in sustaining livelihoods and assuring food and water security (for irrigation and domestic use) across much of North India. In short stewardship of HP's natural assets is critical to the well-being of a large segment of the population of India. Hence consideration of downstream impacts is critical to the State's development strategy.

51. **HP is essentially a rural state, so the fortunes of agriculture determine the well-being of its people**. There is a well-established inverse relationship between soil fertility and altitude. So it is no surprise that in HP agricultural yields (on average) decline with altitude due to fragile soils and steep slopes that are prone to erosion. Overtime the familiar suite of pressures, including fragmentation of holdings, population growth, erosion of soils, unsustainable farming practices, and overstocking of cattle, have led to declining rural productivity and stagnating incomes.

52. **To meet the dual challenges of poverty reduction and sustainable natural resource management, the GoHP has committed to increasing productivity through participatory watershed management.** Watershed development is viewed as a means of sustainably increasing the productivity of rain-fed agriculture, as well as providing forest (natural habitat) protection. It is also a vital part of building resilience to further degradation due to climate change, managing erosion, and preventing siltation and the premature obsolescence of hydropower projects. Experience in HP and elsewhere suggests that community based watershed management is an effective and replicable strategy in the ecologically fragile and erosion prone mountainous terrain. Watersheds are the focus of policy because they combine biophysical resources needed to boost productivity: soil and water, along with vegetation in the form of tress, grasses and crops. Plans based on watershed management can deal with important spatial externalities that could not be addressed if the unit of planning were the village. Additionally protecting the watersheds is essential to maintaining livelihoods beyond HP where the rivers play an important economic role in providing water for industry and agriculture.

53. **Recognizing the complexities that emerge from overlapping mandates, the agencies have agreed on a common approach on process and procedures.** There are multiple agencies involved in implementing watershed development programs. This includes the Departments of Rural Development, Forests, Agriculture and Horticulture, with different rules of engagement, as well as central government agencies. In addition, the GoHP plans to build on the successful experience of the ongoing Watershed Department schemes and the Mid-Himalayan Watershed Development Project in the Forest Department funded by the World Bank and bring about convergence under the aegis of the Department of Rural Development. Impact evaluation studies confirm the considerable success of this project in increasing productivity of watersheds and rural incomes while improving natural resource base, which is largely attributed to the participatory approach.

D. Environmentally Sustainable Industrial Development

54. **HP has witnessed exponential growth in industrial development.** Industrial growth in HP has been fueled by incentives provided by the central and state governments. In the

1980's, subsidies and concessions were introduced to promote investment, particularly by firms utilizing local raw materials and labor. Support was deemed necessary to compensate for the high costs of difficult terrain and inadequate industrial infrastructure. GoHP's 2004 Industrial Policy and its 2006 amendments provided an additional impetus to industrialization through a host of subsidies including the provision of land, cheap commercial power, local labor, roads, and information technology access. But more significant in fueling industrial growth, the state's lower areas have been the central policy of a prolonged tax holiday for this state. The subsidy driven approach is however unsustainable as the experience with infant industry support has demonstrated globally. GoHP recognizes that tax breaks and fiscal incentives have led to the creation of often uncompetitive industries. The government's role in spurring industrial development should shift from providing subsidies to shield the uncompetitive, to one that focuses on creating a competitive environment with a level playing field. The recent announcement of an effective sunset clause to the central tax holiday will aid this process.

55. **Rapid industrialization in HP has generated a number of industrial clusters where environmental quality (air and water pollution) is rapidly deteriorating causing hazardous conditions for neighboring communities.** While the State Pollution Control Board (SPCB) is mandated with regulation of environmental laws, the Industries Department which promotes industrial development is trying to identify interventions for areas which have become "pollution hot spots." To reduce the overall environmental impact of industrialization, a list of negative (energy and pollution intensive) industries has been drawn up of polluting industries. On the other hand, the thrust areas that are encouraged include the cleaner industries such as: environmentally sustainable tourism, information technology, bio-technology and fruit processing.

56. **Government agencies and the private sector have agreed to jointly review and determine policy approaches that will catalyze or accelerate cleaner production in the State.** This initiative builds on the ongoing dialogue between the Confederation of Indian Industry (CII), local industrial associations, and individual industries, GoHP, the DEST and the State Pollution Control Board (SPCB). The collaborative initiative will (i) review the existing negative list and modify it as appropriate; (ii) assess the ineffectiveness of prevailing State incentives for cleaner production/ technology, including energy efficiency; and (iii) work on development of mechanisms, instruments and specific pilots, e.g. use of waste in cement kilns, in selected industrial clusters. The Department of Industries also expressed the need for institutional revitalizing and agreed that an institutional anchor such as a Green Investment Promotion Cell would be paramount in enabling promotion of cleaner production. It is strongly felt that promoting voluntary reporting and disclosure of environmental performance could bring about a paradigm change towards sustainable growth, though global success with self regulation and reporting is at best mixed.

E. Environmentally Sustainable Tourism

57.**The tourism sector has shown remarkable resilience despite over-crowding in some areas and has the potential to become one of Himachal Pradesh's main drivers of economic growth.** In 2008, Himachal Pradesh received 9.37 million domestic tourists (1.6 percent of total domestic tourists in India) and 377 thousand international tourists (6.7 percent of total international tourists in India). Among Indian states, Himachal Pradesh was the 10th most visited by international tourists and 12th most visited by domestic tourists. Between

2001 and 2008, visits by domestic tourists grew by 8.9 percent and those of international tourists by 20.88 percent.

58. **The tourism sector's potential growth is intricately linked with environmental quality.** The State's unique and fragile hill ecosystem, including its protected areas, supports many of the State's most popular tourist activities, including trekking, skiing, angling, mountaineering, rafting, and watching of flora and fauna. Pollution from wastewater and solid wastes, as well as unplanned urban growth, not only threaten the fragile ecosystem, but also reduce the attractiveness of the natural and pristine areas that tourists travel to visit. Environmental degradation is particularly impacting tourism hotspots and has become a major impediment to HP achieving its full tourism potential. A major challenge has been lack of coordination between the Tourism Department and the Departments of Urban Development, Town and Country Planning, Environment, Irrigation and Public Health in formulating a coherent strategy for improving tourism potential. While these problems are already evident, they are set to become more severe and widespread without urgent actions and adequate planning.

59. **In addition to the environmental problems, HP's tourist industry faces the challenge of defining its product and diversifying in order to remain competitive.** Tourism studies in several countries have found that high-end international tourists are willing to pay more for, and spend more time in, destinations with greater diversity, meaning a greater variety of both in-site activities and types of natural settings that can be visited. As a biologically and culturally rich State, HP is well positioned to attract growing number of tourists. In addition, tourism in HP is characterized by significant seasonal variations (with a clear peak during the summer months) and the agglomeration of visitors in a few locations (with over 55% of tourists concentrated in Shimla, Kullu, and Kangra) has led to high levels of congestion.

60. **Recognizing the potential of the tourism sector and the challenges it faces, the GoHP established a multisectoral task force, and prepared an Integrated Master Plan, with the mission of making tourism the prime engine of economic growth.** The mission seeks to position HP as a leading global destination by the year 2020. The GoHP's target is to increase the contribution of tourism to GSDP to 15 percent by 2020. The policy's key strategic objectives also include creating ample employment opportunities, increasing private sector participation in the creation of tourism infrastructure, and increasing tourist inflow.

F. Institutional Mechanism for Integration of GIS in Informed Decision Making

61. **In support of the need for informed decision making and greater transparency, the state has decided to invest resources to promote the use of GIS in decision making, Of** particular interest is the ability of GIS systems to capture, store, analyze and manage data, and manipulate it with geo-spatial information. The state has recognized the potential of this tool to enhance decision making and improve development outcomes. In that regard, it has analyzed the successful use of such data for decision making in Gujarat and elsewhere.

IV. BANK SUPPORT TO THE GOVERNMENT'S PROGRAM

A. Objective

62. **The objective of this DPL series is to support HP in a paradigm shift towards an environmentally sustainable model of economic growth by promoting improved**

management of its natural resources and inclusive green growth. The focus will be on providing the key foundations that would define the short term measures necessary to achieve this longer term objective. This is to be achieved by promoting the sustainable use of the State's natural resources – in particular it's abundant water supplies, forests and biodiversity. The proposed operations will support specific policy measures within GoHP's overall environmental sustainability reform agenda that have been mutually agreed as critical to achieving a transformation. The following sections describe the individual actions within the broad framework that forms the legal basis for the disbursement of the proposed HP IGG DPL. The Bank and the Government have identified the triggers for follow-up operations through a process of mutual consultations.

B. Rationale

63. **Recognizing the unique challenges of developing in a sustainable manner in the fragile and rugged Himalayan region, HP is seeking policy support for a pioneering effort to promote growth through environmental stewardship.** The Bank can bring a wide spectrum of global knowledge and experience from its environmental support in other countries. Examples include: state level climate change planning and activities (Mexico); ecotourism and sustainability (Mexico, Sri Lanka, Maldives); building institutional capacity (Peru, Ghana, Brazil); fostering inter and intra institutional coordination (Morocco); strengthening enforcement and compliance (Mexico, Morocco); enhancing reform durability (Ghana); facilitating civil society outreach and partnership (Brazil, Colombia, Mexico); supporting sustainable natural resources (Cameroon, Laos, Columbia, Mexico); managing environmental risks (Peru, Morocco, Columbia); promoting regional and global public goods (Turkey, Mexico); building adaptation capacity (Indonesia, Vietnam) and promoting resilience to climate-change induced hazards through activities in every continent.

C. Link to Country Strategy (CAS)

64. **The loan aligns well with the Country Strategy for India (Report No. 46509-IN) which identifies the following priorities for engagement - sustainable management of natural resources, climate change, and the inclusive green growth and sustainable development agenda.** The India CAS, 2009-12, recognizes that while India needs to grow to reduce poverty and create employment, it has an opportunity to do so in a way that is sustainable and preserves the country's natural heritage. The CAS provides a framework to deal with the challenges of achieving rapid, inclusive growth, ensuring sustainable development, and improving service delivery, with a cross-cutting focus on improving the effectiveness of public spending and achieving monitorable results. The loan also fulfills the Bank's engagement to support the access of new and additional resources on climate finance.

65. **The Country Strategy includes support through programmatic DPLs, built on dialogue and underpinned by analytical work.** The CAS recognizes that DPLs can address systemic issues and support cross-cutting reforms in selected areas, and explicitly articulates the rationale for adopting DPL for states depending on their special needs, stages of development, and capacity for project implementation. The CAS suggests that special strategies are required for the Northeastern and Himalayan States.

66. **The CAS acknowledges that most environmental indicators in India suggest that growth is extracting an increasing toll on the country's natural resources** - water, land, forests, soils and biodiversity - and leaving a large pollution footprint. India is highly

vulnerable to climate change; cyclones, floods and droughts are happening with increasing frequency, and the Himalayan glaciers that feed India's largest rivers may be vulnerable to retreat. Indeed, climate change will impact India first and foremost through its water resources. Rising temperatures will also affect agricultural yields, forests, and marine and coastal biodiversity. India will need to better manage these resources (particularly water) and reduce the burden that environmental degradation is imposing on the population, particularly on the most vulnerable groups. The proposed HP IGG DPL in some ways breaks new ground which could have significant demonstration effects in promoting the green growth agenda.

D. Collaboration with IMF and Other Donors

67. **The Bank and the IMF consult regularly on key economic and institutional issues**. Growth projections and macroeconomic forecasts — some of which are presented in this program document — are discussed regularly between the two institutions. The Bank was informed of the IMF's Article IV assessment discussions in 2009-10. The IMF's Public Information Notice for Article IV consultations with India is attached in Annex 3.

68. **The Bank also collaborates with other development partners on environmental sustainability issues.** The Bank has been coordinating its work in HP with the Asian Development Bank which is active in tourism and water resources management and climate change areas. The Bank's work in India is also supported through dedicated DFID-India Trust Funds which promotes progress in broader areas such as environmental sustainability, climate change adaptation and mitigation.

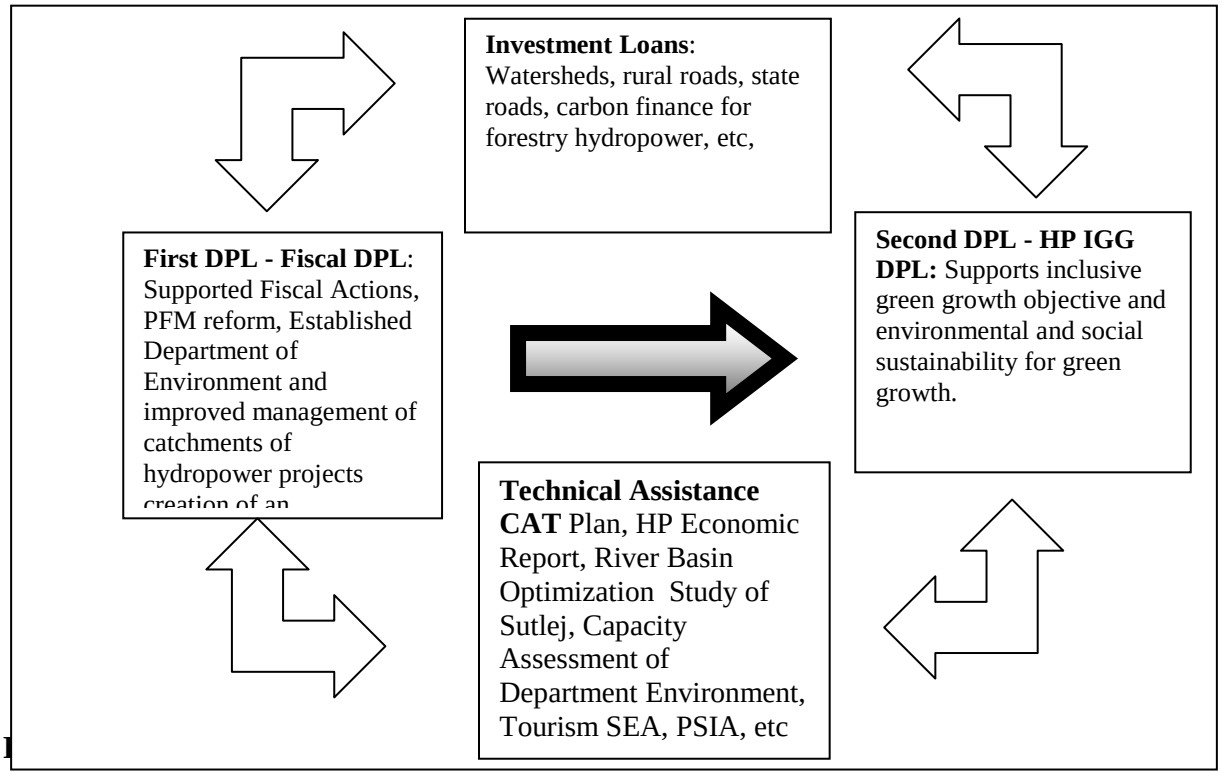
E. Relationship with Other Bank Operations

69. **This operation is part of the Bank's long standing engagement with HP.** For over a decade the Bank has had a multi-sectoral engagement in HP**.** There has been budget support for fiscal reforms as well as a host of projects in infrastructure such as the Nathpa- Jhakri and Rampur Hydropower Projects, Integrated Watershed Development Project, Mid Himalayan Watershed Project, as well as State and Rural Roads projects. This initiative is part of an evolving relationship that has graduated from specific sectoral interventions to broader strategic support for a major shift in the development paradigm. Such policy issues are most appropriately addressed through DPLs. This operation is a natural extension of the first HP DPL which focused upon fiscal matters as well as the creation of DEST in recognition of the importance of natural assets as drivers of growth. Figure 2 illustrates the evolution of the program and its synergies with other instruments and operations in the Bank portfolio.

70. **While focusing on fiscal consolidation, the fiscal HP DPL also supported the mainstreaming of environmental actions in policy, the establishment of policy implementation capacity, and the environmental sustainable path towards hydropower development (see Box 1 for results of the fiscal HP DPL).** Most notably this was perhaps the first time that a fiscal DPL addressed crucial environmental issues in India. The DEST created under the fiscal DPL operation is now a strong advocate on environmental issues in the State. The environmental master plan and sectoral guidelines under preparation will provide direction by mainstreaming environmental protection and conservation in development projects. Changes in the Forest Department have strengthened its ability to carry out these activities, including through outsourcing and third party monitoring. By institutionalizing this approach for the Sutlej basin, the operation raised the awareness and sensitivity for sustainable management of the State's hydropower resources. Under PFM

reforms, new financial and procurement rules, greater control over treasury payments, and the use of budget software will make spending more effective. Among the achievements of the program supported by the operation was a forum for collaboration between different government departments. The DPL provided a mechanism to bring together different actors and achieve changes that cut across departments.

Figure 2 Summary of the Synergistic Engagement in HP



71. **The design of the operation benefits from lessons learned from the Bank's extensive portfolio of DPLs. The following is a summary of lessons from environmental sustainability and climate change policy operations in Mexico,** Colombia, Brazil, Ghana and Indonesia (see Annex 6):

- Ensuring strong ownership at the highest levels of government as well as at the technical level is essential for increasing commitment to the project development objectives and facilitating implementation.
- Capacity can constrain reform efforts, especially when officials have other significant responsibilities.

Box 1: Results of Fiscal DPL

The ICR rated the HP Fiscal DPL operation moderately satisfactory. Good progress in achieving major development objectives in institution building and strengthening is contrasted with continuing difficulties in maintaining macroeconomic stability. Fiscal objectives regarding the overall deficit and the composition of spending were off track although important measures on revenue mobilization and expenditure compression were supported under the operation and implemented in a timely fashion to contain the slippages, without which the situation

would probably have become more precarious. GoHP identified additional corrective action that could lead them back on the path towards achieving the operation's objectives in the next few year**s.** Reforms regarding environmental management, hydropower optimization, catchment area treatments and plans, and governance and institutional reform were met.

On environment, the HP Fiscal DPL mostly met its objectives. The three relevant environmental policy actions were successful, and created demand for more improved environmental management. However, the current institutional capacity (which greatly improved in last 4 years) is still in its early stages of growth and will need to meet the challenges of rapid economic (urban-industrial) growth, and the acute need to manage natural resources appropriately.

Finally, the Fiscal DPL formulated a time bound Action Plan for managing the environmental aspects of hydropower development focusing: (i) on completion of priority catchment management activities in four large selected hydropower projects and (ii) on the preparation and implementation of river basin level Catchment Area Treatment Plans for sustainable development of one river basin.

- Progress is generally strongest where adequate capacity either already exists or can be mobilized effectively.
- Reforms work well in a programmatic framework. This allows continuity of support to a medium-term program of reforms that can leverage stronger reforms over a period of time. Using successive single tranche loans is an effective way to assist structural reform, provided it is linked to an agreed medium-term reform program with broadly defined milestones and transparent triggers per subsequent operation.
- Identifying good indicators to gauge progress can be difficult, especially in a program for institutional strengthening. Wider DPL experience shows the difficulty in finding suitable indicators of progress when attribution is difficult. Also, it can be problematic to identify outcome indicators on which data is available within the relatively short timeframe of a DPL series.
- Using a DPL to support a program where there is *strong government ownership* is key to success– as in this case. Such DPLs can be catalytic especially when combined with a range of other instruments. Experience from the Mexico climate change DPLs suggests that need for a considerable emphasis on complementary analytical work to address the myriad unknowns of climate change.

G. Analytical Underpinnings

72. **The analytical underpinnings of this work include a variety of tasks and documents that provide continuing support in areas of strategic significance to this operation.** The actions supported by the DPL build upon the Bank report HP: "*Accelerating Development and Sustaining Success in a Hill State*" which provided a comprehensive environmental diagnostic. This report recognized that sustainable growth would need to be driven through improved environmental and natural resource management and use. It recognized the need for making the State's hydropower plans more environmentally and socially beneficial. This was complemented by an Environmental Institutional Assessment to help operationalize the

newly formed DEST in a systematic and structured manner with the overall objective of facilitating environmentally sound and sustainable decisions by the GOHP. The institutional assessment emphasized the need for a uniform focus and integration of environmental concerns among sectors – an issue addressed in this operation. It also identified the need for addressing crucial knowledge and capacity gaps. An ongoing report on the cost of environmental degradation in India includes a section on mountain states. It has commissioned analytical work which examines the feasibility of using a wider range of regulatory instruments to improve incentives for sustaining watersheds and habitats following the recommendations of the Chopra Empowered Committee. It also assesses the institutional mechanisms present in the State of HP in the context of growth and sustaining it through protection of its environmental heritage. The tentative conclusions are consistent with foci of this initiative and suggest the need for improved environmental stewardship in high footprint sectors of the economy. Finally, the operation also builds on the report entitled "Energy Intensive Sectors of the Indian Economy: Path to Low Carbon Development", which identified hydropower as one of the technologies that can potentially impact the GHG trajectory in the country. Annex 5 contains fuller details of these and other analytical exercises of relevance.

73. **The GoHP has also undertaken an impressive amount of analytical work, in particular related to the hydropower sector, which informed this operation.** In February 2012, it finalized its state-level GHG inventory using guidelines issued by the Intergovernmental Panel on Climate Change, which is consistent with GoI's 2007 GHG inventory.

74. **In addition there are six new pieces of technical support designed to fill knowledge gaps and strengthen this operation.** First, recognizing the complexities of defining and monitoring environmental flows in the context of mountain ecosystems, there will be analytical work aimed at filling key knowledge gaps. This would draw on state of the art work and engage key environmental stakeholders and academics to inform and refine policy and practice. Second, the environmental sustainability agenda is being supported through the development of natural capital cost accounting targeted at the forestry sector. Third, the Bank is also supporting HP's sustainable tourism reforms with a Strategic Environmental Analysis (SEA) of HP Tourism Reforms. The SEA includes: (i) the development of scenarios of tourism sector expansion; (ii) the identification of environmental, poverty and social priorities associated with the HP tourism sector; (iii) the assessment of effectiveness of current policy instruments; (iv) an institutional capacity assessment for environmental management in tourist destinations; and (v) the identification of priority issues and design or revision of public policy and areas and regions of critical developments. Fourth, there will be a Poverty Social and Impact Assessment (PSIA) for the proposed cluster of reforms. The PSIA will serve as a monitoring tool to assess the success of livelihoods improvements and the benefit sharing schemes supported here. Fifth, there is interest for technical assistance on sustainable hydropower, beyond the technical issues, which would sharing international experience on cumulative impact assessments, benefit sharing arrangements, and strengthening project preparation assistance taking into account lessons learned and knowledge exchange with other countries embarking on sustainable hydropower development. Other topics of relevance would be dealt with through appropriate knowledge sharing initiatives, especially for the improvement of management of health and safety issues during hydropower construction. Finally, there is support for the HP sustainable industrial reforms with analytical work to identify priority industrial pollutants and economic

instruments to minimize industrial waste and increase energy efficiency. The analytical work includes: (i) the identification of industrial priority pollutants; (ii) the assessment of effectiveness of current pollution control regulatory instruments; (iii) the assessment of institutional capacity for industrial environmental management; (iv) the identification of a menu of policy options to minimize industrial waste, increase energy efficiency and enhance industrial competiveness; and (v) the design or revision of economic instruments for industrial pollution control. All of this is to be complemented with a South-South Exchange component whereby experiences from other sub national governments with climate change planning would be shared with GoHP and integrated in the design of the DPL series. As the intention is to use this program of technical assistance for effective implementation of the second DPL in this series, these studies are intended to be completed within the next 12 months.

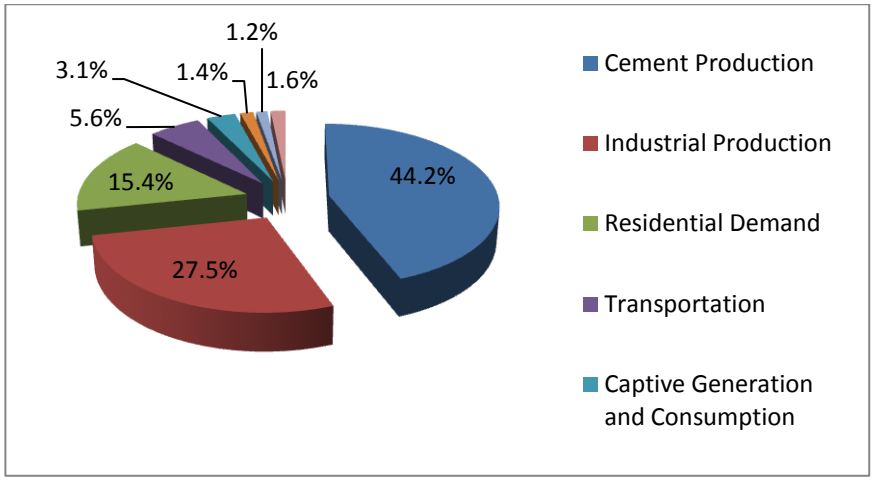
V. THE PROPOSED OPERATION

A. Policy Areas and Operation Description

75. **This proposed operation will provide budgetary support to the GoHP in a series of two DPL operations.** The program would support implementation actions over the period 2012-2014. The indicators and end-of-series outcomes are summarized in the Operational Policy Matrix given in Annex 2, whereas the Summary of the government program and Bank support, including long term outcomes is included in Annex 7. The proposed operation will support Government action in six priority areas that are part of GoHPs environmental reform agenda – to support climate change adaptation and mitigation at the state level; to promote the environmental and social sustainability of hydropower development; to adopt a statewide integrated approach to watershed management as an instrument for rural poverty reduction; to promote environmentally sustainable industrial development by promoting cleaner sources of economic growth and by reducing the pollution of existing industrial plants; to promote environmentally sound tourism and to support the establishment of an institutional mechanism for the integration of GIS in informed decision making.

76. **Climate Change Adaptation and Mitigation** inclusive green growth **According to the GHG emissions data, HP emitted 11.7 million tons of $C0_2e$ in 2010 without adjusting for land use, land use change and forestry but, as in the rest of India, its per capita emissions are far below the world average**. According to the inventory, the most important sectors in terms of GHG emissions were, (see Figure 3): cement production (44.2 percent), industrial production (27.5 percent) residential demand (15.4 percent), transportation (5.6 percent), captive generation and consumption (3.1 percent), aluminum production (1.4 percent) and rice cultivation (1.2 percent), among others. The current energy mix consists entirely of hydropower generation and captive generation (mostly diesel).

Figure 3: Sectoral Contributions to GHG Emissions (baseline year 2007)



77. **The timing is opportune for the Bank to support the development of this inclusive green growth strategy, which would be a first-of-its-kind at the state-level in India, as the state would also be proactively contributing to sustainable development and reducing GHG emissions intensity, on a pro rata basis consistent with GoI objectives.** Among other objectives, the inclusive green growth strategy for HP would articulate a cost-effective strategy for further reducing the GHG emissions intensity of the economy, consistent with national objectives. It would also identify opportunities for additional financial resources, including external finance, to support the strategy. In particular, the inclusive green growth strategy would consider any additional carbon sequestration measures in land use, land-use change and forestry, which tend to be among the lowest cost measures to reduce overall GHG emissions intensity. Additional benefits would accrue from learning and demonstration effects.

78. **As a prior action, the GoHP agreed to make an important change through a Cabinet decision to strengthen the capacity of the Departments of Environment and Energy.** This includes by November 30, 2011, an additional twelve (12) positions, and by December 31, 2011, a further ten (10) positions. The additional staff will also be adequately trained to effectively undertake all activities related to the operation, in particular on coordination, monitoring and evaluation of the sustainability and inclusive green growth objective. In the fiscal DPL in HP, a number of fiscal measures were recommended to contain expenditures, including a general ban on appointments of new positions without state Cabinet approval, and approvals of new appointments made on contract basis against vacant functional posts or by transfer from the surplus pool. The prior action for this proposed DPL creates new positions required for the implementation, monitoring and evaluation through Cabinet approval consistent with this earlier recommendation.

79. **As a trigger for the second operation, GoHP will prepare and publicly disclose its comprehensive Action Plan on Climate Change,** which identifies co-benefits in mitigation and adaptation, in particular with regard to rural livelihoods improvements. The Action Plan will identify the highly vulnerable sectors of the economy to climate change, in particular its water resources and agricultural yields, and will identify adaptation measures, which include an integrated approach to watershed management. The Action Plan will also identify the

state's contribution to lowering GHG emissions intensity, through the deployment of its vast hydropower resources.

80. **In recognition of the contribution of natural resources to economic growth, a second prior action is the ecosystems evaluation analysis and issuance of state policy on payment for environmental services based on pilots.** The analysis will begin with Forest Accounts following the methodology of the United Nations Statistical Commission's (UNSC) System of Environment and Economic Accounts (SEEA). Given the importance of a number of ecosystem services generated by forests, HP will also build on the forest accounts for material goods by implementing ecosystem accounts for its forest assets. The accounting methodology for the measurement of the flow of services from forest ecosystems, such as water flow regulation, carbon sequestration, tourism services, remains under development and the UN Committee of Experts on SEEA is expected to issue its guidelines for ecosystem accounts by early 2013. HP's efforts to implement ecosystem accounts will help contribute to the global body of knowledge on the implementation of ecosystem accounts. Moreover, compilation of ecosystem accounts will help in the development of the state's sustainable tourism policy, inform the state's efforts to achieve inclusive green growth, enable the assessment of the watershed management services provided by the state to neighboring states and inform its policy on payments for environmental services.

81. **The end of series outcome of the actions outlined under the "Climate Change Adaptation and Mitigation" objective is that a policy and institutional framework will be in place in HP to contribute to sustainable development and the objective to reduce GHG emissions intensity,** on a pro-rata basis consistent with GOI objectives. To assure compliance and track progress in the indicators for this objective, a periodic review and updating of the state's GHG emissions data would be undertaken by state agencies, which would serve as a basis to monitor a shift towards cleaner production techniques for the reduction in GHG emissions intensity, and the effectiveness of the State's climate smart growth strategy, which would include the monitoring of the CLAP program. Other indicators that will be monitored include the sustainable management of forests as per the agreed methodology under the mechanism for Reducing Emissions from Deforestation and Forest Degradation (REDD+), and improvements in energy efficiency of designated entities and consumers. The GoI objective is to reduce GHG emissions intensity by about 20 to 25 percent by 2020, from a 2005 baseline. . In short, the triggers provide the signals and identify the need for actions to ensure that emissions of GHGs remain on a plateau or on a downward trajectory to achieve the long term goals of inclusive green growth. Environmental sustainability and inclusive green growth will bring multiple dividends in the form of a reputation as a green tourism destination, revenues from sustainable hydropower development and recognition as a state focused on cleaner production, energy efficiency and sound rural development. But ultimately it is the residents of HP that would benefit most from a policy of improved stewardship of their natural assets and a growth path that embraces the tenets of sustainable and inclusive growth.

Climate Change Adaptation and Mitigation: Summary of Actions and Triggers

Prior Actions Required for the DPL:

1. GoHP Cabinet decision to enhance and operationalize the capacities in the Department of Environment and Department of Energy for effective coordination, monitoring and evaluation

Indicative Trigger for DPL2:

2. Preparation and public disclosure of State's comprehensive Action Plan on Climate Change that identifies co-benefits in mitigation and adaptation, in particular with regard to rural livelihoods improvements

3. Ecosystems evaluation analysis and issuance of policy on payment for environmental services based on pilots

Environmentally and Socially Sustainable Hydropower Development

82. **The second and related area of support under this DPL is for sustainable and equitable development of the State's hydropower potential.** The State's plans indicate that it intends to develop an additional 10 GW of hydropower by 2020, adding to the 6.7 GW already harnessed so far. Hydropower development provides additional non-tax revenue for the State and therefore remains fiscally attractive. Calculations suggest that should GoHP be successful in achieving its objective of developing hydropower resources, the revenues from the sale of royalty power together with dividends, could be more than 35 percent of HP's current revenues and could be more than 87 percent of the states non-tax revenues by FY2015-16. Hydropower also contributes to the national objectives of alleviating power shortages in the Northern Grid and reducing GHG emissions intensity. The GoHP's strategy is to implement an optimal planning mechanism for the development of the State's rivers, which would be centered on a participatory approach, supported by sound scientific assessment of cumulative risks, and management of those risks at the river basin level.

83. **The aim of the Bank's support is to enhance the environmental and social sustainability of the State's hydropower development, and to pilot best practices in India.** This operation seeks to catalyze a fundamental paradigm shift towards supporting the accelerated adoption of a river basin management approach, with sustainability as the main objective. In addition, the operation will support the implementation of novel benefit sharing mechanisms for affected communities to ensure improved livelihood outcomes during the operational life of hydropower projects.

84. **To address environmental issues the prior actions include the requirement that the Energy Directorate will institute a Cumulative Environment Impact Assessment (CEIA) at the river basin level, and initiation of the CEIA for the Sutlej Basin, which are financed through a pro-rata contribution from project developers within a river basin** (see Box 2 for a summary of Principles for Cumulative Environmental Impact Assessments). As a first step, the State, in consultation with Ministry of Environment and Forest (MOEF) has initiated a basin level carrying capacity study for the Sutlej, which will be completed in 18 months, and which will be expanded to other basins. The rationale is to harness the

hydropower potential following a comprehensive and planned evaluation of opportunities and risks that take account of the cumulative and sequential effects of expansion and that promote sustainability.

85. **Additional prior actions include the approval of an integrated Catchment Area Treatment (CAT) Plan for the Sutlej river basin, and beginning of its implementation, supplemented by initiation of integrated CAT plans for the Chenab river basin, and preparation of basin-wide digital GIS based hydropower potential maps for the state.** Together, these actions demonstrate the application of adopted policies, and will go a long way to ensure that policy reforms will lead to outcomes.

86. **As part of the State Hydro Policy 2006, GoHP is already implementing a benefit sharing mechanism through a Local Area Development Fund (LADF).** This involves support for small infrastructure facilities in the affected villages funded through a contribution of 1.5 percent of project cost paid by project developers. Based on available information, the LADF is currently being implemented in about 25 projects with an estimated Rs. 1600 Million ($33 Million) that has been either spent or deposited with Local Area Development Committees (LADC) by the developers. As part of the overall Program supported by this DPL, the guidelines for implementation and monitoring of this Fund have been strengthened. [21]

87. **The most significant innovation supported by this operation is a new revenue sharing scheme that pays annuities to the local communities living in the affected villages during the operational life of hydropower projects.** This is a bold policy where HP leads, perhaps globally (see Box 3 for Principles of Benefit Sharing and Box 4 for a description for the Key Provisions of the Revised LADF Guidelines). Under this new policy, annual revenue equivalent to 1 percent of power sales from the project will be distributed to households in the project affected area. This will be in the form of annuity payments through cash transfers made directly into bank accounts, to minimize risks of leakage. Bank accounts will be created for households who do not possess an account at an established financial institution. Funds will be given to project affected persons (PAPs) and there would be additional transfers to "Below Poverty Line" (BPL) families. The scheme involves distributing 85 percent of the available funds to all affected families (PAPs). The remaining 15 percent would be transferred as an additional supplement to BPL families. Realistic scenarios suggest that this would do much to alleviate poverty among beneficiaries. As a stylistic example a medium sized hydro development (250 MW) in an area with 1,000 affected households is expected to generate about 1,000 MUs of power per year. This would involve a transfer of about Re. 50,000 per household per year and would double the income of a BPL household thus *lifting the family out of poverty*. It is anticipated that this will create a constituency in the project areas that would support the introduction of hydropower as a reliable and sustainable source of revenue.

88. **As part of the triggers to be undertaken for the second programmatic DPL, cash transfers to households will be issued for at least one hydropower project.** This means that the list of eligible families will be disclosed for release of first year annuity payments, and local area development works for 75 percent of funds deposited to the LADF as of March 31, 2012 in the amount of 1500 million rupees (US$ 30 million) are approved by Local Area Development Committees (LADCs) by March 2013**.** In addition, cash transfers of 50 million

rupees (US$ 1 million) are transferred to project affected peoples by 2014. This will demonstrate that the policy is achieving its objectives and the impact on household income and poverty reduction will be monitored following the establishment of baseline data in the PSIA and by GoHP.

89. **As part of the triggers under the second DPL in the series, the GoHP will design, issue and adopt a policy of web-based real time monitoring of project milestones, including environment and social parameters and environmental flows.** For a web-based tool, implementation means that the tool will be available on-line supported by operational manuals for intended users. This is a critical aspect of the environmental agenda

BOX 2: Principles of Cumulative Environmental Impact Assessments

Increasingly, cumulative effects assessments are being used to evaluate the combined impacts of development activities. However, the use of cumulative effects assessments as a tool for decision making is more effective if there is clarity up front about the parameters of importance to the various parties, in particular if there is consensus. This would inform the extent and nature of the analysis required for each Valued Ecosystems Component (VEC).

It is widely recognized that the conventional, project-based approach to environmental assessment, which focuses only on site-specific issues, has its limitations when it comes to assessing regional and long-term impacts of development. Project-by-project environmental impact assessments (EIA) fail to assess the potential cumulative effects on environmental resources. For instance, the impact of a particular project on an environmental resource may be insignificant when assessed in isolation, but may be significant when evaluated in the context of the combined effect of all past, present, and reasonably foreseeable future activities that may have or have had an impact on the resources in question.

Therefore, the assessment of cumulative effects is now considered desirable in environmental assessment practice in many countries. Cumulative effects generally refer to impacts that are additive or interactive (synergistic) in nature and result from multiple activities over time, including the project being assessed.

Governments and practitioners recognize that environmental effects of primary concern in a given region or country tend to be cumulative in nature and not just simply single-project impacts. The acceptance of this basic concept is the major driver for the increased use of cumulative effects assessment internationally. There are many other drivers of the need for cumulative effects assessment: (i) many countries have established regulations and policy which requires cumulative effects to be assessed; (ii) rapid growth in many countries calls for significant investments in infrastructure, thus growth management and making room for future projects and addressing the sustainability of development become more and more important; and (iii) increasingly, civil society and NGOs have also started putting cumulative environmental impacts at the forefront of their concerns.

CEIA incorporates a wider array of tools than traditional EIA. All approaches to CEIA have in common ground the need to consider cumulative environmental impacts on relevant Valued Ecosystems Components (VEC). A *VEC is any part of the environment that is considered important by the proponent, public, scientists and government involved in the assessment process. Importance may be determined on the basis of cultural values or*

scientific concern. However, perhaps the biggest obstacle facing the public and private sectors alike in conducting CEIA is the absence of a straightforward, conventional approach that can be applied inexpensively, quickly, and consistently across different sectors. As with EIA in general, there is no one set of tools appropriate for all cumulative environmental assessments. Nevertheless, the over-reliance on quantitative tools, which is observed in many CEIA practices around the world, needs to be balanced with planning and qualitative assessment techniques.

that ecological flows are monitored and the information is in the public domain. The history of environmental regulation demonstrates that information and transparency are the most effective ways to assure compliance. It is clear that GoHP recognizes the importance of effective monitoring and evaluation of hydro project development. Web-enabled data will facilitate real time monitoring of hydropower projects and also allow resources to be committed to remedial actions where needed. The indicators for this objective will include

BOX 3: Principles of Benefit Sharing

Benefit sharing recognizes the irreversible, long-term nature of adverse impacts, as well as synergy between local development and the steps needed to improve the management of ecosystems services permanently transformed by investments - that link to reducing the threat of impoverishment and livelihood risks for local people and their children. Benefit sharing mechanisms are a relatively new approach developed during the past decade, and generally go beyond a one-time compensation payment or short-term resettlement support. They treat both displaced people and communities that host investment projects in their locality as legitimate partners in the project and first among its beneficiaries. The main types of monetary benefit sharing mechanisms are: revenue sharing, development funds, equity sharing or full ownership, taxes paid to regional or local authorities and preferential electricity rates.

While there are a number of guidance and standards available, there is no widely accepted international standard or regulatory framework for the design and implementation of local benefit sharing. In practice, approaches to community benefit sharing have the following common elements:

- A formula and standard procedure to remit a share of the revenue generated by an investment project into a project-specific revenue sharing Fund, whose cost is internalized in the finances of the project;
- Appointment of a benefit sharing council with appropriate local representation to manage a Compensatory Fund and to make other recommendations on monetary and non-monetary forms of benefit sharing to extend to the project's "host" community;
- Generally legislation on benefit sharing is regarded as an enabler or necessary pre-condition. There are multiple examples from both developed and developing countries where laws or policies provide frameworks and rules for the sharing of monetary benefits.

Himachal Pradesh, in keeping with good practice, has appropriate mechanisms for transparency, accountability and monitoring. These are incorporated in the design of the benefit sharing mechanism so as to enhance public confidence in the distribution of

payments. The annuity payments scheme, or the rules for transferring revenues into the LADF and for disbursing payments to households, is publicly disclosed in advance. Payments to households are made via bank accounts, which will reduce the scope for leakages during transfers. There is also legislative backing and an institutional structure for implementation, a simple and well publicized formula for deciding which communities and households receive how much, and a strong commitment of the state government to issues of sustainability (as demonstrated by the concurrent environmental assessment). A set of indicators will be collected for monitoring, including information on the flow of annuity payments and beneficiary characteristics. The social assessment of the benefit sharing scheme will capture the beneficiaries' perceptions on the fairness of the disbursement scheme and the administration of the LADF. This information will be used to improve the implementation of benefit sharing and inform the design of any necessary grievance mechanisms.

(Haas and Vu Tung, 2007; World Bank 2009)

the avoidance of thermal generation of 11,300,000 MWh by FY2014[22] against a 2011 baseline - the goal of inclusive green growth and verification of environmental flows through an annual audit – the key mechanism for mitigating the effects of diverted stream flows. At the end of the DPL series, a policy and institutional framework will be in place to contribute to the objective to reduce GHG emissions intensity on a pro-rata basis consistent with GoI objectives and to promote compliance with environmental flow requirements; a cumulative impact assessment for one river basin will have been completed and integrated into the Catchment Area Treatment Plan, and a benefit sharing mechanism will have been implemented.

BOX 4: Key Provisions of Revised Guidelines for Management of LADF for Hydropower Projects in Himachal Pradesh

Background and Objectives: The Hydropower Policy was adopted by GoHP in 2006 to improve basic amenities and infrastructure facilities in the project affected villages of hydropower projects. The Policy provides for a contribution by project developers to a LADF based on final construction costs. The LADF is administered by a District Level Committee called Local Area Development Committee (LADC) under the Chairmanship of Deputy Commissioner and comprising of various stakeholders.

Revised Guidelines: Based on lessons from the implementation of this policy so far, continuous feedback from the project developers and a dialogue between the Bank and GoHP as part of the ongoing engagement in the hydropower sector in the State, Revised Guidelines for the management of LADF were issued by GoHP in October, 2011. The objective of the revision is to manage the LADF activities in an objective, transparent and efficient manner and to increase local participation in benefits arising from hydropower development. The Revised Guidelines are consistent with the GOI Hydropower Policy of 2008, which called for a regular stream of revenue for income generation and welfares schemes for project affected peoples, and the creation of additional infrastructure and common facilities on a sustained and continued basis over the life of hydropower projects. Accordingly, hydro project developers in the state shall contribute towards LADF in **two stages.**

[22] Assuming a plant load factor of 45 percent, auxiliary consumption and transformation losses at 0.5 percent each and grid emission factor as 0.8033 tCO_2e/MWh

Stage 1: Prior to Project Commissioning: In accordance with the Hydropower Policy, 2006, project developers shall contribute a minimum of 1.5 percent of the final project construction costs for hydropower developments larger than 5 MW in capacity, and a minimum of 1 percent of the final project construction costs for hydropower developments less than 5 MW in five installments to the LADF. The share of funds to be allocated to each affected villages/ panchayats will be based on the extent of private land used for the project components including submergence of land, if any, the extent of land affected by underground components, the extent of land used for infrastructure, the stretch of the river stream that may be impacted, and the population of each village/Panchayat. The affected villages have to prepare a comprehensive set of schemes for the allocated amount and have it approved through a Grabha Sabha resolution for accessing the funds and undertaking works on various infrastructure facilities. The eligible schemes at the village level for which funds may be available include concrete internal paths, street lighting, sanitation, rain water harvesting, public buildings, ropeways, etc. The Revised Guidelines have further clarified the concept of project affected zone and include a provision of normative allocation of funds for schemes in the project area during construction of a project.

Stage 2: After commissioning of the project: In accordance with the Revised Guidelines of October 2011, all project developers (irrespective of project capacity) shall contribute 1 percent of free power for LADF over and above the rates of royalty to be paid to the State Government in the Implementation/Supplementary Agreement. The Nodal Agency (Energy Directorate) is then mandated to sell the free power on the open market, and transfer the proceeds from the sale of this power to the LADF in the form of a cash transfer to all families of the project affected area, every year, during the lifetime of the project in the following manner:

- 85 percent to be distributed equally among all the long term residents entered in the Family Register of the Gram Panchayats on the date of allotment of the project.
- 15 percent to all BPL families in the project affected area; this amount will be in addition to the amount received out of 85 percent of the fund.

The developer will be entitled to claim compensation for the delays and financial losses due to work stoppages on account of agitation by local people during the construction stage from this 1percent free power revenue.

Institutional Arrangements:

- Under the Revised Guidelines, there will be a state level committee headed by the Principal Secretary (Power) to monitor the operation of the LADF arrangements by the LADC, adherence to the Guidelines and timelines for deposit of the funds.
- The Directorate of Energy will be the nodal agency at State Level which will keep record of LADF activities, and manage the allocation of revenue generation from 1 percent additional free power to the concerned LADC.
- Further, under the revised arrangements, there shall be project level LADC for each project and these would be headed by the Deputy Commissioner, and consist of district level officers of concerned departments, elected members (Pradhans or other local administrative officials) of affected Panchayats, Chairman & Vice-Chairman of Zilla Parishad and Panchayat Samitis.]
- The schemes under LADF can be implemented by either Gram Panchayat, or Government department or project developer and the decision of the choice is left to the Gram Panchayat.

LADC is responsible for realization of contribution to LADF from project developers, overall management, control and administration of LADF, scrutiny and approval of the schemes and finalization of annual action plans, monitoring and supervision of implementation of approved schemes and review the progress of administrative/ statutory clearances and facilitate the execution of the schemes.

Execution and Monitoring:

- The funds for sanctioned schemes would be released by the LADC to the implementing agency in installments based on the progress/ actual utilization;
- The executing agency shall furnish accounts along with utilization certificate and completion certificates to LADC;
- The progress of financial allocation and implementation will be monitored regularly by LADC and the progress reports will be made to state committees through on line information on a web based program;
- The funds would be kept in joint account of District Administration and Project Developers and the funds would be subject to audit.
- The Member Secretary shall be responsible for maintenance of LADF accounts; and,
- The assets created under LADF shall belong to the institutions for which they are constructed or to local body as case may be.

In addition, the GoHP will develop and carry out a comprehensive communication strategy for hydropower development. A communication strategy has two purposes. First, it is designed to convey information about these innovative and new policies. Second, it is anticipated that once the policies are communicated and the benefits begin to flow, this will create a local constituency of support. A further advantage is that it acts as a "commitment device"[23] and thus promotes greater government accountability. A further aim of this prior action is to encourage stakeholder participation at all phases of policy development, while generating trust and building support among communities.

Environmentally and Socially Sustainable Hydropower Development: Summary of Actions and Triggers

Prior Actions Required for the DPL:

1. GoHP Cabinet has approved and a public notification has been issued by GoHP's Department of Power regarding the requirement to undertake Cumulative Environmental Impact Assessment (CEIA) studies for the five key river basins in the State (Sutlej, Beas, Ravi, Yamuna and Chenab), which includes review of environmental flows, and initiation of CEIA for Sutlej Basin

2. GoHP has approved an integrated Catchment Area Treatment (CAT) plan for the Sutlej river basin and started its implementation, and initiated preparations of integrated CAT plan for the Chenab river basin

3. GOHP has awarded the contract to start preparation of basin wide digital GIS based

[23] Commitment device is a term used in the mechanism design literature to indicate that reversal of the decision becomes costly once the action is undertaken. It is a way of credibly "tying one's hands" to demonstrate commitment.

hydropower potential maps for the state

4. GOHP's Cabinet has approved and a public notification has been issued by GOHP's Department of Power regarding the amendment to Local Area Development Fund (2009) to include a long-term benefit sharing policy to provide annuities to affected communities during the lifetime of hydropower projects within the state

Indicative triggers for DPL2:

5. Design, adoption and implementation, by State Directorate of Energy, of policy of web based real-time monitoring of project milestones, including those relating to environment and social parameters and environmental flows

6. Interim review of ongoing Satluj CEIA study leading to the development of concurrent action plan

7. Cash transfers for at least one hydropower project have begun

Empowering Communities for Integrated Watershed Management

90. **HP provides the watersheds for the major north Indian rivers (Sutlej, Beas, Ravi and Yamuna) that sustain life and support the agrarian economy of Northern India**. Integrated watershed management (IWM) is rooted in participatory planning and requires institutional capacity in State line departments, Gram Panchayats and local communities to manage watershed resources. Prudent watershed management brings benefits to the lives and livelihoods of over 200 million people in Haryana, Punjab, Uttar Pradesh and Rajasthan in addition to enhancing agricultural productivity and natural resource base in HP. As part of this broader strategy the GoHP intends to promote micro-water watershed conservation and development approaches that would be developed and implemented through a participatory approach at the Gram Panchayat (GP) level[24]. This would yield dual benefits in improving agricultural resilience and yields as well as benefits to other states that rely upon these rivers. The GoI has sanctioned 44 projects worth Rs. 356.47 cores (US$ 71.3million) under the Integrated Watershed Management Program (IWMP) for all districts of HP to be completed over a period of 4-7 years. The watershed development work under IWMP will be supplemented by the preparation and implementation of 77 community-led action plans on integrated watershed management and improved livelihoods (covering one Gram Panchayat per block). In addition to promoting convergence of community-led watershed development activities, GoHP plans to integrate the ongoing programs for increasing agriculture, horticulture and livestock productivity through these GP level micro-watershed development plans.

91. **A prior action for this DPL is for the Department of Rural Development to adopt strengthened Integrated Watershed Management Program (IWMP) guidelines to specify an integrated community-led integrated watershed development approach to planning by Gram Panchayats that is applicable in hilly states**. Indicative triggers for this objective consist of (i) the preparation and implementation of 77 GP level integrated micro-watershed development plans (one per block) by a multi-disciplinary team under the leadership of the Rural Development Department using strengthened IWMP guidelines to be

[24] Gram panchayats are local self-government institutions at the village or small town level in India.

monitored by AGiSAC (ii) preparation and commencement of implementation of capacity building plan for stakeholder departments and (ii) amendment of the 2005 Himachal Pradesh Water Policy for the sustainable management of water resources, which would take into account lessons learned from the implementation of micro-watershed development plans. When properly implemented, watershed management approaches provide a credible answer towards sustainably increasing the productivity of rain fed agriculture; arresting and reversing land degradation; and reducing water stress by recharging local aquifers and reducing silt accumulation downstream. It contributes to alleviating rural poverty and provides environmental benefits well beyond the local catchment area in a cost-efficient manner. The intended outcome is the assessment of the piloting, revision of guidelines if required and statewide adoption of community based integrated watershed management approach to improve water pondage, crop diversification, productivity and water efficiency in at least one Gram Panchayat per block covering the whole state.

92. **Another prior action was the adoption and issuance of the State Organic Farming Policy by the Cabinet.** The objective of the policy is to create an identifiable niche for HP products as well as to reduce the ecological footprint of agriculture. The policy commits to the implementation of an organic certification scheme which is currently under development. This is complemented with initiatives to modernize horticulture in the State.

Empowering Communities for Integrated Watershed Management: Summary of Actions and Triggers

Prior Actions Required for the DPL:

1. Adoption of strengthened Integrated Watershed Management Program (IWMP) guidelines by the Department of Rural Development to specify an integrated community-led watershed development approach to planning by Gram Panchayats that are applicable to hilly terrains

2. GoHP Cabinet approval and issuance of State Organic Farming Policy

Indicative triggers for DPL2:

3. Preparation and implementation of 77 integrated micro-watershed development plans (one per block) using strengthened IWMP guidelines by a multi-disciplinary team under the leadership of Rural Development Department and independently monitored by AGiSAC

4. Preparation and commencement of implementation of capacity building plan for stakeholder departments

5. Amendment of HP State Water Policy of 2005 for sustainable management of State water resources

Environmentally Sustainable Industrial Development

93. **Recognizing the need to control industrial effluents and waste GoHP has agreed to create a joint government-industry body to review and update industrial policy focusing on environmental sustainability and clean production.** The body will continue to make

recommendations for environmentally sound management and the promotion of cleaner production. As a first step, GoHP has created a Green Investment Promotion cell within the Industry Department that will play an important role in attracting cleaner production investments and technologies to the State. However, a vast body of empirical evidence suggests that ultimately it is public pressure that is often most effective in assuring compliance with regulations. But for this to occur there is a need for making verifiable and credible evidence available to the public.

94. **A prior action of the DPL program will amend the 2004 Industrial Policy that promotes sound environmental management and publicly disclose the amendment** that promotes sound environmental management including: (i) promotion of cleaner production and environmental management systems (ii) disincentives to industries on negative list (iii) promotion of public disclosure of pollution status at the unit and cluster levels.

95. **Managing pollution from industry and promoting cleaner forms of economic growth will be essential to meet the sustainability and inclusive green growth objectives of the State.** HP has considerable and unrealized ecotourism potential and its past emphasis on promoting polluting industries into the State undermines and weakens the potential for developing these cleaner sources of growth. A priority is to develop policies to control and mitigate pollutants from existing industries. Accordingly, the policy for use of economic instruments for addressing industrial pollution would be submitted for relevant Government approval for implementation, initially focusing on one priority pollutant (e.g. one that generates significant environmental health risks), as well as stronger penalties (such as a green cess) to units that consistently default on environmental norms. Resources collected by these instruments could be used to strengthen the State's environmental management capacity. The use of economic instruments for pollution control is novel in the country and will likely call for both experimentation and fine tuning.

Environmentally Sustainable Industrial Development: Summary of Actions and Triggers

Prior Actions Required for the DPL:

1. GoHP Cabinet decision and public disclosure of amendment to (2004) that promotes sound environmental management including (i) promotion of cleaner production and environmental management systems (ii) disincentives to industries on negative list (iii) promotion of public disclosure of pollution status at the unit and cluster level

Indicative triggers for DPL2:

1. Design and pilot by State Department of Industrial Development of economic instruments for industrial pollution control for selected priority pollutants, including if necessary a mechanism of levying green cess on industrial polluting units.

Environmentally Sustainable Tourism

96. **Following the completion of a Strategic Environmental Assessment for the sector, the state is committed as a trigger for the second operation to amend the Tourism Policy of 2005** to incorporate environmental sustainability and internalize the externalities of the

tourism industry, through the use of economic instruments. This will build sustainability elements in a sector that has shown remarkable dynamism and has the potential to become one of Himachal Pradesh's main drivers of economic growth. It will build on the work of the Task Force for Integrated Sustainable Tourism Development, and on the Strategic Environmental Assessment of sustainable tourism.

97. **In addition, the state is committed to a second trigger that includes the commencement of sustainable tourism practices,** including wastewater treatment and solid waste management, which will be monitored through the government's financial commitment to this initiative. A monitorable indicator for this pillar includes the finalization plan for three additional tourist destinations.

Environmentally Sustainable Tourism: Summary of Actions and Triggers

Indicative triggers for DPL2:

1. **Amendment of Tourism Policy, 2005 to incorporate environmental sustainability including the possible use of economic instruments to internalize environmental externalities of tourism**

2. **Commencement of sustainable tourism practices in the state**

F. Institutional Mechanism for Integration of GIS in Informed Decision Making

98. **As a prior action, the GoHP established the Aryabhatta Geo-informatics and Space Application Center (AGiSAC) to assist with generating information for monitoring the use of geo-spatial information.** AGiSAC will cover all major sectors of remote sensing applications in decentralized planning and is expected to play a significant role in monitoring of results across the DPL operation**.** This is expected to contribute to the end of series outcome that all departments will integrate decision based GIS mapping for sustainable development and inclusive growth, and will promote transparency in decision making.

99. **As a trigger for the second operation, the GoHP will issue a Government Order on operationalizing of protocols for monitoring and evaluation** by AGiSAC for infrastructure and natural resources management sector and integration of geo-informatics technology

Institutional Mechanism for Integration of GIS in Informed Decision Making: Summary of Actions and Triggers

Prior Actions Required for the DPL:

1. Establishment of Aryabhatta Geo-Informatics and Space Application Centre (AGiSAC) to promote integrated GIS mapping and decision making

Indicative triggers for DPL2:

2. Government Order on operationalizing of protocols for monitoring and evaluation by AGiSAC for infrastructure and natural resources management sector and integration of geo-informatics technology

VI. OPERATION IMPLEMENTATION

Social Aspects

100. **The proposed reforms across energy, watershed management and industrial sectors each serve a dual purpose by targeting economic outcomes (e.g. expanding State revenues, agricultural productivity and employment opportunities) while contributing to the State's objective of environmental sustainability and inclusive green growth (e.g. supporting investments in 'clean' industries).** Furthermore, the processes through which the benefits of the reforms will be shared at the local level are as innovative as the reforms themselves. In particular, the wide ranging benefit-sharing program to complement the hydropower component of the DPL, which targets social sustainability through mandatory provisions to the LADF and an equal distribution of annuity benefits to local communities over the project life, is of particular interest because it is a first for India. It is anticipated that the reforms under the DPL will have overall positive social and poverty consequences, but it is important to assess the extent to which this will happen and to provide for mid-course correction in case of unanticipated challenges.

101. **Hence, this DPL is accompanied by a detailed PSIA and analytical strategy to assess the poverty and social impacts embedded in the trajectory of the reforms that will provide regular feedback to the GoHP and monitor the impacts of the loan.** As noted earlier in this document, hydropower projects can impose social and economic costs on local populations early in the planning and construction process. On the other hand, the benefits from better or cheaper access to hydropower are spread over the long-term and subject to uncertainties. More importantly there are asymmetries in the distribution of the benefits and the costs of any infrastructure development. This DPL supports a highly innovative compensation and benefit sharing approach, the effects of which will be continuously monitored through a PSIA (further described in Annex 8. The PSIA will use both quantitative and qualitative methods and will be designed as a mechanism for monitoring the impacts of the reforms, and a mechanism for bringing the voices of the vulnerable to the policy table. A set of quantitative indicators will be collected at the sub-project level for monitoring, which will include information on the flow of annuity payments, beneficiary profile (such as poverty status and gender) and amount of cash payments made over time. In addition, successive rounds of household surveys are proposed to capture impacts of all of the proposed measures – including proportion of the payments used for consumption or productive purposes, the impact of the industrial growth schemes on local populations and watershed development schemes on incomes. The qualitative work will examine beneficiary assessments on how well the program is working, including perceptions of fairness, targeting, leakages, public disclosure of information and the overall impacts of the payments on household wellbeing. These indicators and perceptions will be used to improve the implementation of the reforms and the benefit sharing scheme.

Environmental Aspects

102. **The environmental assessment of this operation is based on work undertaken for various projects in HP as well as from the vast number of analytical documents that address environmental issues, all of which are listed and briefly summarized in Annex 9.** It is clear that the inclusive green growth objective confers an overall global environmental benefit and that a climate-smart strategy as outlined in the state Action Plan on Climate Change has no adverse impact. The support for hydropower is focused exclusively upon

addressing environmental impacts of hydropower projects and ensuring that the net environmental effects are positive. This operation does not support an expansion of HP's hydropower potential but seeks to make it more environmentally benign and socially beneficial. In short it will attempt to internalize the externalities of hydropower development. This is to be achieved by assuring scientific monitoring of environmental flows, improving basin management through the use of CAT plans and best practices. It is anticipated that these actions would contribute to mitigating the main adverse environmental impacts of hydropower developments that are common in HP. It is important to note that most of the hydropower projects in HP are run-of-river (RoR) which has modest environmental impacts. The main impacts of RoR emerge from the diversion of water into tunnels and much of the ecological impact (on habitats) can be mitigated by assuring minimum environmental (ecological) flows. While a handful of hydropower projects with reservoirs are planned in the State, these are typically in deep gorges with little submergence area. The environmental and social policy framework that has been developed in the State will apply to all hydropower projects in GoHP, which will serve to assess environmental impacts using a cumulative assessment approach, as well as social impacts, and minimize any such impact to the extent possible, through a participatory approach.

103. **Another useful component of the project is watershed management.** Watershed management generates well documented environmental benefits in the form of soil conservation, habitats for biodiversity, improved forest cover, and reduced sedimentation. Finally, monitoring and seeking incentive based (economic) policies to reduce industrial emissions will also yield clear environmental improvements. Altogether, these policies could demonstrate best practice in India and are a first in the country and perhaps the South Asia region.

Fiduciary Aspects

104. **In the area of Public Financial Management (PFM), the Bank and GoHP had engaged earlier and the same resulted in a study of the state finances and a Public Expenditure and Financial Accountability (PEFA) Assessment (Report No. 48635-IN) was issued in June 2009.** This study made an objective assessment of the PFMA system of the State, listed its strengths and weaknesses and identified areas in need of strengthening; further, it created a baseline for monitoring the impact of PFM reforms. The study has provided a background for articulating a reform strategy and prioritized implementation action plan by GoHP. The overall conclusion of the assessment was that performance issues existed in several aspects of the PFM system in HP. It was critical to effectively address these issues in a strategic and sequential manner. Some indicators on classification and comprehensiveness of the budget and public access to information showed a positive trend. GoHP publishes its annual budget immediately on its tabling in the legislature in March of each year. This is also made available on the web. The budget for 2012-13 is available at http://himachal.gov.in/finance/. On the other hand, indicators relating to budget execution i.e. accounting, reporting and audit showed a need for improvement. Based on the report findings and on its own initiatives the State government has undertaken several reform measures in the past two years. These include (a) revision of the State Financial Rules – an in-house exercise which has comprehensively revised/ integrated more than 30 year old rules and several circulars that had been issued from time to time. Among others, this has increased accountability of the Head of Department and improved internal controls; (b) issuance of a State Budget Manual – which clearly lays down the guidelines and parameters for budget

preparation and is expected to improve compliance; (c) establishment of a high level committee for monitoring of findings of audit conducted by the Comptroller and Auditor General of India; (d) revision of the Treasury Rules; and (e) integration of the Letter of Credit (LoC) system with the State Treasury and reduction in cash payments to improve internal controls. The recent and ongoing initiatives of the GoHP include rollout of a budget software across all departments which allocates budgets online and communicates with the treasury software; wage payments in the major works departments now under the control of the treasuries; E-procurement made mandatory for large works in key departments; and initiatives being undertaken in rollout of a HR database that would be integrated with the State Treasury. Overall the State continues to strengthen its PFM systems and processes. In the context of the PEFA assessment and implementation of the reform plan of the GoHP, the task team considers the fiduciary risk for this operation to be low.

105. **The Bank has reasonable assurance that the control environment for foreign exchange in the Reserve Bank of India (RBI, which is the Central Bank of India) is satisfactory for the purposes of this operation, based on the RBI audit report and the satisfactory outcomes of other operations, which have been disbursed and managed through the RBI.** The International Monetary Fund (IMF) does not carry out a Safeguard Assessment of the RBI. As part of the preparation for this operation, the RBI audit report and published annual financial statements for the Bank's Fiscal Year which ended June 30, 2011, were reviewed by the Bank. The audit report has a clean, unqualified opinion, and was conducted by firms of chartered accountants appointed by GoI. The financial statements are prepared in accordance with the RBI Act, 1934, the notifications issued there under and in the form prescribed by the RBI General Regulations 1949, and the audit has been conducted following auditing standards generally accepted in India.

Disbursement and Auditing

106. **The proposed loan will follow the Bank's disbursement procedures for development policy loans.** Upon effectiveness of the loan, and on confirmation that all the prior actions have been met, the borrower, i.e., GoI will submit a withdrawal application to the Bank. The Bank will disburse the US Dollar proceeds to the credit of GoI's account with the RBI. This account is controlled by the Office of the Controller of Aid, Accounts, and Audit (CAAA) of the Department of Economic Affairs, GoI and is part of the GoI's general foreign exchange reserves. Upon receipt of the loan proceeds, GoI will transfer the equivalent rupee amount to GoHP as per the guidelines for the transfer of external assistance to "special category" states. GoHP will confirm to the Bank within 30 days, the receipt of the tranche and its credit into the Consolidated Fund of the State. Similar disbursement arrangements have been used in other sub-national DPLs in India including the fiscal DPL to HP (P105124) and have worked satisfactorily. Disbursement of the loan proceeds would not be linked to specific purchases. The proceeds may be used for any purpose, in support of the Program, other than to finance excluded expenditures (as defined in the loan agreement). Pursuant to the legal agreements for this operation, India (in its capacity as the borrower of the loan) and HP will undertake not to use the proceeds to finance any excluded expenditures. If any amount of the loan proceeds are used to finance excluded expenditures, the legal agreements will authorize the Bank to require India or HP (through India) to refund the amount.

107. **The financing terms and conditions for the IBRD will be reflected through a legal agreement between GoI and IBRD.** The loan proceeds will be available for withdrawal in a

single disbursement. The Bank support under the loan will be based on actions already taken. These actions will be listed in the loan agreement. The same arrangement is expected for the second DPL in the series which may be financed through the CTF.

Consultations/ Disclosure

108. **GoHP has recognized the need for intensive stakeholder consultations. In an effort to improve inclusion, the GoHP sought inputs from civil society and other key stakeholders through a series of public consultations, which is also encouraged (but not required) \ under the Bank's operational policies for DPL operations.** A series of consultations were held by the GoHP between July 27 and November 30, 2011 as outlined in Annex 9. While the matrix of prior actions, triggers, monitorable indicators and expected outcomes have changed over the course of the preparation, the essence of the policy changes identified has remained fairly constant. The series of consultations show the intent to seek inputs, and the ownership of the GoHP with regard to the emerging policy framework. During the consultation, there was general support for HP's shift towards environmental sustainability and the promotion of improved management of natural resources. Local civil society and stakeholder groups recommended that consultations be considered by GoHP as a process and not a one-shot event. As well, local civil society and stakeholder groups were supportive of the shift towards assessing and managing environmental risks at the river basin level, and implementing a benefit sharing policy through annuity cash transfers for hydropower projects, but also wanted to be consulted on the implementation of the policies and application at the project level. Finally, community groups were particularly interested in the potential positive impact of community based integrated watershed management and recommend to GoHP that the benefits of the proposed operation be clearly communicated throughout the State.

109. **The GoHP has initiated and completed a number of environmentally and socially sustainable assessments.** This includes; (i) Basin –wide Catchment Area Treatment Plan for Sutlej Basin (ii) State's Draft Environmental Master Plan (iii) State's Draft Climate Change Action Plan and the (v) Panchayat level Community Led Environmental Assessments. All these initiatives involve wide consultations with communities and stakeholders, for which at least a dozen consultations sessions have been held, in an effort to promote inclusion in policy making. GoHP also envisages continuing the dialog with communities and stakeholders during the course of preparation of the second DPL.

Risks and Risk Mitigation

110. **This operation seeks to catalyze a paradigm shift in the growth engines of HP from growth in polluting industry which have high environmental footprints and that are at times subsidized, to one where growth is fueled through more environmentally benign forms of economic activity – including those that acknowledge the need for addressing global externalities.** Overall, the specific country policies supported by the operation are not likely to cause significant adverse impacts on the State's environment, forests and other natural resources. In fact it is anticipated that success in achieving the objectives of this operation would result in net environmentally beneficial outcomes.

111. **Policy support is to occur across five broad themes. To make a transition to promote environmental sustainability and inclusive green growth, it is necessary to**

harness the State's hydropower potential in ways that are sustainable, so there is support for addressing and mitigating the possible social and environmental consequences of hydropower development. Improving watershed management to promote rural development is another objective for promoting sustainability. This is accompanied by policies to mitigate pollution impacts from industry through improved monitoring, oversight and transparency in regulations, and support for sustainable tourism

112. **While overall environmental benefits are anticipated, there are also some risks that emerge from the operation**. The main risks include implementation, reputational, institutional and those associated with the political economy. The corresponding responses to mitigate risks are detailed below:

- **Implementation Risks:** The program to support a paradigm shift towards an environmentally sustainable and inclusive green growth model of economic growth is ambitious. The achievement of the objectives requires a sustained effort over time, as well as adjustments as necessary. In order to help alleviate these constraints, the Cabinet has agreed to build the capacities of the Department of Environment and the Department of Energy for effective coordination and implementation, and the Bank has proposed a rigorous program of technical assistance to follow through on reform measures supported by the proposed operation. The design of the operation also mitigates this risk in two specific ways: (i) the sequencing of reforms takes into account achievability and implementation capacity and (ii) the operation is being designed in two separate DPLs, which will promote a long term engagement

- **Reputational Risks:** The harnessing of the State's large hydropower potential represents perhaps the only way to promote clean energy at scale and, in the government's estimation, is a critical way to contribute to India's growing energy demand, in particular for peak energy demand. Thus there is little doubt that hydropower expansion would proceed *irrespective of the Bank's involvement* as this is very much a part of GoHP's own development and fiscal agenda. The aim of the Bank's support is to facilitate actions that would make the State's hydropower development plans more environmentally and socially sustainable, building on the Bank's long-term engagement in the Sutlej River Basin and with one of its key hydropower developers, SJVNL, since 1989, and to pilot best practice in India. The operation does not attempt to support an expansion of hydropower but seeks to catalyze a fundamental paradigm shift towards a river basin management approach, with sustainability as the core objective, and will only support actions that address environmental risks. This will be achieved through the support of integrated Catchment Area Treatment Plans, the assessment of cumulative risks, and the management of those risks, at the river basin level, as well as policies to monitor compliance with environmental flows. In addition, the operation will support the proactive involvement of local communities at the policy stage, and the implementation of novel benefit sharing mechanisms for affected communities to ensure improved livelihood outcomes. It bears mentioning that the GoHP will call for an independent review by a Panel of Experts of the State's compliance with the environmental and social framework supported by this program – which bolsters the strictly environment-and-people-focused actions of the program.

- **Institutional Risks:** While the State has traditionally had weak environmental monitoring and evaluation systems to promote sustainability in key growth sectors, this

risk has been largely mitigated by (i) the notification of a high level committee headed by the Chief Secretary (Highest ranking official of State administration) to monitor and implement agreed DPL policy actions; and (ii) a strong multi-sectoral approach with the Department of Environment, Science and Technology (DEST) in a key coordinating role.

- **Political Economy Risks:** H faces assembly elections in late 2012 or early 2013. In order to ensure broad ownership, GoHP has undertaken consultations with stakeholders to align this operation with State plans and priorities, in an effort to promote inclusion in policy making. Careful consideration has been given to political economy factors in the design of the policy reforms and sequencing of DPL. Moreover, there is multi-party support among the major parties and a growing consensus that a paradigm shift towards a sustainable economic growth model would be universally beneficial for the State and would enhance the economic self-interest of its population.

ANNEX 1: LETTER OF DEVELOPMENT POLICY

डा० अरविन्द मायाराम, भा.प्र.से.
सचिव
Dr. ARVIND MAYARAM, IAS
Secretary

सत्यमेव जयते

भारत सरकार
वित्त मंत्रालय
आर्थिक कार्य विभाग
नॉर्थ ब्लाक, नई दिल्ली - 110 001
Government of India
Ministry of Finance
Department of Economic Affairs
North Block, New Delhi - 110 001
Tel. : 91-11-23092611 Fax : 91-11-23094075
E-mail : arvind.mayaram001@gmail.com
secy-dea@nic.in

D.O.No.3/1/2009-FB.VIII
August 13, 2012

Dear Dr. Kim,

I am attaching a letter of Development Policy dated 20th July, 2012, from Chief Secretary, Government of Himachal Pradesh. The letter outlines the policies and related actions through which the Government of Himachal Pradesh proposes to promote inclusive green growth and sustainable development in the State of Himachal Pradesh. These are an ambitious set of policies and related actions towards sustainability across the key engines of economic growth in the State.

2. For this purpose the State Government of Himachal Pradesh has sought an assistance of US$ 200 million, of which US$100 million is proposed for financing through IBRD loan. The balance US $ 100 million has been posed for financing under the CTF.

3. Government of India supports this continued initiative and commends the proposal of US $ 100 million assistance (as a Development Policy Loan) for consideration of the World Bank.

Best wishes,

Yours sincerely,

Encl: As above

(ARVIND MAYARAM)

Dr. Jim Yong Kim
President
The World Bank
1818 H Street, NW
Washington DC 20433
USA

Sudripta Roy, IAS
Chief Secretary

Government of Himachal Pradesh Shimla-171002
Tel: (O) 0177-2621022
Fax: 0177-2621813
E-mail: cs-hp@nic.in

DO No. PS/Pr. Secy/2012-Finance
Dated: the 20th July, 2012

Subject: **Himachal Pradesh Development Policy Loan to Promote Inclusive Green Growth and Sustainable Development-reg.**

Dear Sh Gopalan,

You are aware that the Government of Himachal Pradesh has requested Development Policy Loan of US $ 200 million with the assistance of World Bank. In the above context, several rounds of discussions have been held with the World Bank team, and a list of prior actions for the loan were mutually finalized. The State Government has successfully completed the prior action points which have been identified by the World Bank as 'condition precedent' for the phase-I in the series.

The State Government is seeking this DPL to support the policy reform program of the State and to promote a paradigm shift towards a more sustainable economic development model that would gel with the State's comparative advantage and abundant natural resources. The objective of the proposed Development Policy Loan (DPL) is to support Government of Himachal Pradesh to undertake critical policy actions with monitorable results, particularly with regard to the energy sector, tourism, industrial and rural development. As requested by the Department of Economic Affairs (DEA), the DPL has been designed to able to access the IBRD and the Clean Technology Fund (CTF).

The program of reforms undertaken by the Government of Himachal Pradesh is aimed at generating growth through the improved management of its natural assets across growth engines of the economy and to promote inclusive green growth and sustainable development. It is anticipated that this DPL will further deepen the reform program, and contribute to several outcomes. In the energy sector, the reforms will enable the State to harness hydropower potential in a sustainable and environment friendly manner. Himachal Pradesh will also implement an innovative benefit sharing scheme based on annuity payments to affected communities during the lifetime of each hydropower project.

(747

The watersheds of the major north Indian rivers sustain life and support the agrarian economy of over 200 million people in Haryana, Punjab, Uttar Pradesh and Rajasthan. As part of the DPL, the GoHP intends to promote micro-water watershed conservation and development approaches that would contribute to alleviating rural poverty and improve water pondage, crop diversification, productivity and water efficiency in at least one Gram Panchayat per Block.

Managing emissions from industry and promoting cleaner forms of economic growth will be essential to meet the inclusive green growth and sustainable development goal of the State. Himachal Pradesh also has considerable unrealized ecotourism potential for developing these cleaner sources of growth. The reforms will also enable the use of economic instruments for pollution control in the State.

There is strong ownership of the proposed reforms across the departments in the State, and teams have been mobilized to implement the same. In addition, the State is committed to monitor the results and adjust the program as may be required from time to time.

Given the above context, we request that the Ministry of Finance to give us full support to pursue our policy reforms through the Development Policy Loan from the World Bank. Considering that the technical discussions have been undertaken with the Department of Economic Affairs, Ministry of Finance, Ministry of Environment & Forests, Government of India and the World Bank team, and all prior actions have been met by the State Government, I would, therefore, request you for early approval and disbursement under this DPL.

With deep regards,

Yours faithfully,

Sudripta Roy

(Sudripta Roy)

Sh. R. Gopalan, IAS
Secretary,
Department of Economic Affairs, Ministry of Finance,
North Block, New Delhi.

Endst. No. As above

Date: Shimla-2 the 20th July, 2012

Copy to Mr. N. Roberto Zagha, country Director, India for the World Bank, 70 Lodhi Estate, New Delhi-10003.

Chief Secretary to the
Government of Himachal Pradesh

2/2

ANNEX 2: OPERATION POLICY MATRIX

Objectives and Goals	DPL 1 Prior Actions	DPL 2 Trigger	Results Indicators	End of Series Outcomes
1. Promote sustainable development through climate change related adaptation and mitigation actions	GoHP Cabinet decision to enhance and operationalize the capacities in the Department of Environment and Department of Energy for effective coordination, monitoring and evaluation	Preparation and public disclosure of State's comprehensive Action Plan on Climate Change that identifies co-benefits in mitigation and adaptation, in particular with regard to rural livelihoods improvements Ecosystems evaluation analysis and issuance of state policy on payment for environmental services based on pilots	Reduction in GHG emissions intensity with respect to the state GDP, including monitoring of the CLAP program for Environment Protection and Sustainable Development Sustainable Management of forests as per agreed methodology for REDD+ Improvements in energy efficiency of designated entities and consumers	Policy and institutional framework in place to contribute to sustainable development including the reduction of GHG emissions intensity, on a pro-rata basis consistent with GOI objectives
2.1 Promote environmentally sound hydropower development	GoHP Cabinet approval and a public notification issued by the Department of Power regarding the requirement to undertake Cumulative Environmental Impact Assessment (CEIA) studies for the five key river basins in the State (Sutlej, Beas, Ravi, Yamuna and Chenab), which includes	Design, adoption and implementation by State Department of Energy of a policy of web based real-time monitoring of project milestones, including those relating to environment and social parameters and environmental flows Interim review of ongoing Satluj CIA study leading to the development of concurrent action plan	Review by Panel of Experts of State's compliance with environmental and social / economic development policies supported by this program and E.P. Act of GoI Avoided thermal generation of 11,300,000 MWh by FY2014 against a 2011 baseline Verification of environmental flows in	Compliance with environmental flow requirements and completion of cumulative environmental impact assessment for one river basin

Objectives and Goals	DPL 1 Prior Actions	DPL 2 Trigger	Results Indicators	End of Series Outcomes
	review of environmental flows and initiation of CEIA for Sutlej Basin, and initiation of CEIA for Sutlej Basin GOHP has awarded the contract to start preparation of basin wide digital GIS based hydropower potential maps for the state The GOHP has approved an integrated Catchment Area Treatment (CAT) plan for the Sutlej river basin and started its implementation, and initiated preparations of integrated CAT plan for the Chenab Basin Preparation of basin wide digital GIS based hydropower potential maps for the state		compliance with policy and regulations Demonstration of actions to address non-compliance with environmental flow requirements Implementation progress of Integrated CAT Plan in Sutlej	
2.2 Promote socially sound hydropower	Cabinet has approved and GoHP's	Cash transfers to at least one project have begun	Finalization and disclosure of list of eligible families	Implementation of benefit sharing policy

Objectives and Goals	DPL 1 Prior Actions	DPL 2 Trigger	Results Indicators	End of Series Outcomes
development	Department of Power has issued a public notification regarding the amendment to Local Area Development Fund (2009) to include a long-term benefit sharing policy to provide annuities to affected communities during the lifetime of hydropower projects within the state		for cash transfers under new LADF guidelines for the first hydro project by FY2014 illustrated through AGiSAC Local area development works for 75 percent of funds deposited to the LADF as of March 312012 in the amount of 1500 million rupees (US$ 30 million)are approved by Local Area Development Committees (LADCs) by March 2013 Cash transfers of 50 million rupees (US$ 1 million) transferred to project affected peoples by 2014	as illustrated by issuance of cash transfers in one hydropower project and commissioning of works mandated by community based program
3. Empowering local communities and stakeholders to promote integrated watershed management as an instrument for rural poverty reduction through improvements in the productivity and climate	Adoption of strengthened Integrated Watershed Management (IWMP) guidelines by the Department of Rural Development to specify an integrated community-led watershed development approach to planning by	Preparation and adoption of 77 integrated micro-watershed development plans (one per block) by a multi-disciplinary team (using IWMP guidelines) under the leadership of Rural Development Department and independently monitored by AGiSAC Preparation and commencement of	Implementation of 77 integrated micro-watershed development plans resulting in the following as compared to baseline as measured in the individual watershed plans: (i) 15 percent improvement in water pondage in 77 GPs by 2014 (ii) 5 percent increase in crop	Assessment of pilots, revision of IWMP guidelines if necessary, and statewide adoption of community based integrated watershed management approach at the block level to improve water pondage, crop diversification, productivity,

Objectives and Goals	DPL 1 Prior Actions	DPL 2 Trigger	Results Indicators	End of Series Outcomes
resilience of natural resources.	plans for Gram Panchayats applicable to hilly terrains GoHP Cabinet approval and issuance of State Organic Farming Policy	implementation of capacity building plan for stakeholder departments Amendment of HP State Water Policy of 2005 for sustainable management of State water resources	diversification in 77 GPs by 2014 (iii) 5percent increase in productivity of crops in 77 GPs by 2014, if there are no natural disasters that impair yields (iv) Water efficiency in 77 GPs increased by 10 percent by 2014 (v) 77 agribusiness groups established in association with implementation of watershed plans to link products to markets Enhanced synergy of central and state sponsored rural livelihoods, agriculture, forestry and horticulture, etc. programs and implement locally appropriate solutions to promote sustainable watershed management	water efficiency and establishment of agribusiness groups in at least one Gram Panchayat per block
4. Promote environmentally sustainable industrial development by reducing pollution of existing	Cabinet has approved and GOHP's Department of Industries has publicly disclosed the amendment to	Design and pilot by State Department of Industrial Development of economic instruments for industrial pollution control for selected	More than 10 percent reduction in growth rate of establishment (in HP) of polluting industries on negative list, compared to 2000-	Demonstration of economic instruments to promote cleaner sources of growth and to reduce pollution from existing

Objectives and Goals	DPL 1 Prior Actions	DPL 2 Trigger	Results Indicators	End of Series Outcomes
industrial plants and promoting cleaner sources of economic growth.	Industrial Policy (2004) that promotes sound environmental management including (i) promotion of cleaner production and environmental management systems (ii) disincentives to industries on negative list (iii) Promote public disclosure of pollution status at the unit and cluster level	priority pollutants, including if necessary a mechanism of levying green cess on industrial polluting units	2011 Increase of 10 percent in annual growth rate of industries that have adopted environmental management systems (e.g. ISO 14000) and/or shown transition to lesser pollution or increased cleaner production by 2014 compared to 2000-2010 annual growth rate Submission of policy for use of economic instruments for addressing industrial pollution to relevant Government body for approval Public availability of database on environmental performance of highly polluting industries	industrial plants
5. Promote environmentally sound sustainable and inclusive tourism development		Amendment of Tourism Policy, 2005 to incorporate environmental sustainability including the possible use of economic instruments to internalize environmental externalities of	Commencement of sustainable tourism intervention in one tourist destination (including wastewater treatment and solid waste management) and finalization of implementation	Establishment of system and practices which promote sustainable and inclusive tourism development in the State

Objectives and Goals	DPL 1 Prior Actions	DPL 2 Trigger	Results Indicators	End of Series Outcomes
		tourism Commencement of sustainable tourism practices in the state	plan for three additional tourist destinations with firm commitment of timely implementation and government's financial support wherever needed for actual implementation	
6. Establishment of Institutional Mechanism for scientifically based sustainable development in the state	Establishment of Aryabhatta Geo-Informatics and Space Application Centre (AGiSAC) to promote integrated GIS mapping and decision making	Government Order on operationalizing of protocols for monitoring and evaluation by AGiSAC for infrastructure and natural resources management sector and integration of geo-informatics technology	AGiSAC to develop web-based/ desk top applications for informed decision making for 18 government departments	All departments to integrate decision based GIS mapping for sustainable development and inclusive growth

ANNEX 3: FUND RELATIONS NOTE

March 9, 2012

On March 9, 2012, the Executive Board of the International Monetary Fund (IMF) concluded the 2012 Article IV consultation with India.[1]

Background

India's growth remains one of the highest in the world, but a range of factors have weighed it down. Following a rapid recovery after the global financial crisis, the economy has slowed more than most other major emerging markets, as investment has been dampened by a confluence of cyclical and global factors, as well as by concerns about structural impediments. Consumption, particularly in rural areas, and exports, with increasing geographical destination diversity and sophistication, have been the bright spots. At the same time, inflation is elevated, and its recent moderation is primarily due to base effects. While monetary policy has been tightened, the fiscal deficit remains high. The unsettled global outlook has added to policy challenges. After the boom in capital inflows in 2010/11, rising global risk aversion has reduced the flow of capital. The rupee depreciated the most among major Asian currencies in 2011, partly due to India's current account deficit. Concerns about global growth have harmed investor sentiment and advanced economies' bank deleveraging has raised the cost of external finance.

Growth is projected at about 7 percent for 2011/12 and 2012/13, with inflation forecast to remain above the RBI's comfort zone. Investment is anticipated to pick up modestly from the slump recorded in late 2011, and consumption should remain robust, but exports are expected to cool. Inflation is projected to fall in the near term, but to stay above the Reserve Bank of India's objective. The current account is projected at 2.8 percent of GDP.

Growth risks are to the downside. The main domestic risk is a further weakening of private investment if government approvals do not accelerate, reform efforts are not reinvigorated, and inflation remains high and volatile. At the same time, external risks continue to be elevated as Euro area growth could underperform and bank deleveraging could intensify even in the absence of a new full-fledged global financial crisis. Inflation risks remain, as momentum indicators are mixed.

Executive Board Assessment

Executive Directors noted that sound macroeconomic policies and fundamentals enabled India to weather well the global economic crisis. Nevertheless, economic growth has slowed below trend in the last year due to cyclical and structural factors, and while inflation has come down, it is still high. Some Directors noted that it is difficult to attribute the current slowdown to structural factors. Downside risks prevail in light of the uncertain global environment, supply constraints and elevated funding costs. A major challenge will be to bring growth back to potential and ensure its inclusiveness, while further lowering inflation. Directors underscored that this will require a reinvigoration of structural reforms and fiscal consolidation.

Directors encouraged continued vigilance against inflation. They agreed that policy rates should be kept unchanged until inflation is clearly on a downward trend, given the uncertain outlook for growth. They encouraged the Reserve Bank of India to stand ready to raise policy rates if inflation starts to rise again, while it could consider cutting rates if the inflation momentum clearly eases.

Directors stressed that fiscal consolidation is crucial to crowd in private investment and lower inflationary expectations. They supported the planned reorientation of expenditure toward infrastructure and the social sectors, and highlighted the need to rationalize fuel and fertilizer subsidies and improve public expenditure management. They encouraged tax reform, especially the introduction of the goods and services tax.

Directors considered the flexible exchange rate regime to be an important buffer against external shocks, and supported the policy of intervening in the foreign exchange market only to contain volatility and to prevent disruptive movements. They welcomed the authorities' moves toward further trade and gradual capital account liberalization.

Directors underscored the importance of structural reform to raise public and private investment and boost inclusive growth. While some progress has been made, many Directors were of the view that a more determined effort to remove structural impediments is required in several areas. On the other hand, some Directors felt that structural reforms were progressing at a measured pace. Continuing to develop infrastructure, which in turn requires facilitating land acquisition and mining, would ensure that India's growth potential remains intact. Financial sector development and reform are needed to improve access to credit and diversify funding sources. Addressing skill mismatches, increasing labor market flexibility, and improving agricultural productivity are crucial to support formal job creation and reduce poverty.

Directors welcomed the FSSA's finding that India's financial system is broadly stable, albeit with room for improvement in the regulatory and supervisory framework, and encouraged development of a prioritized action plan to implement key recommended reforms. They welcomed measures to increase the quantity and quality of bank capital, strengthen inter-regulatory cooperation, and clarify supervisory responsibilities. They encouraged close monitoring of asset quality and provisioning; continued development of domestic bond markets; a gradual reduction of credit concentration limits, with due regard to development needs for financing, and a reduction in mandatory holdings of government securities by financial institutions, while ensuring adequate liquidity buffers for financial stability.

ANNEX 4: COUNTRY AT A GLANCE

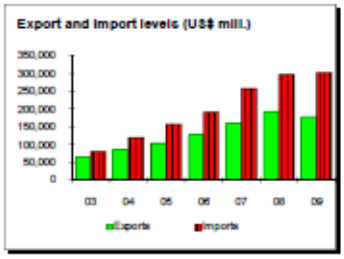
India

PRICES and GOVERNMENT FINANCE

	1989	1999	2008	2009
Domestic prices				
(% change)				
Consumer prices	4.7	3.4	9.1	12.5
Implicit GDP deflator	8.4	3.8	6.7	7.5
Government finance				
(% of GDP, includes current grants)				
Current revenue	19.2	17.3	19.9	17.4
Current budget balance	-3.6	-6.0	-7.4	-7.3
Overall surplus/deficit	..	-9.8	-8.8	-9.0

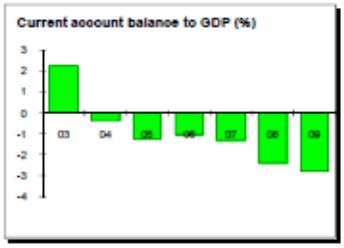
TRADE

	1989	1999	2008	2009
(US$ millions)				
Total exports (fob)	16,955	36,822	190,000	177,452
Tea	413	1,183	..	..
Iron	1,031	916	..	..
Manufactures	11,972	29,714	108,281	103,256
Total imports (cif)	24,411	55,383	296,614	303,113
Food	556	2,417	..	..
Fuel and energy	3,768	12,611	..	..
Capital goods	5,288	8,966	71,237	79,420
Export price index *(2000=100)*	..	81	161	165
Import price index *(2000=100)*	..	100	182	166
Terms of trade *(2000=100)*	..	81	89	99



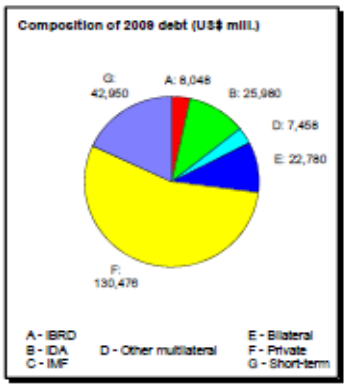
BALANCE of PAYMENTS

	1989	1999	2008	2009
(US$ millions)				
Exports of goods and services	21,201	53,251	290,679	275,955
Imports of goods and services	27,934	67,028	359,698	359,077
Resource balance	-6,733	-13,777	-69,019	-83,122
Net income	-2,928	-3,559	-4,507	-7,403
Net current transfers	2,820	12,638	44,799	52,114
Current account balance	-7,380	-5,080	-28,959	-38,469
Financing items (net)	6,640	11,222	8,880	51,910
Changes in net reserves	740	-6,142	20,079	-13,441
Memo:				
Reserves including gold *(US$ millions)*	3,962	38,036	351,259	375,970
Conversion rate *(DEC, local/US$)*	16.6	43.3	45.9	47.6



EXTERNAL DEBT and RESOURCE FLOWS

	1989	1999	2008	2009
(US$ millions)				
Total debt outstanding and disbursed	75,941	99,128	224,713	237,692
IBRD	6,615	7,815	7,429	8,048
IDA	12,568	18,930	25,365	25,980
Total debt service	6,961	10,098	30,936	16,150
IBRD	881	1,389	703	656
IDA	188	469	965	982
Composition of net resource flows				
Official grants	698	475	1,169	1,118
Official creditors	2,497	1,048	2,683	1,886
Private creditors	2,890	-1,499	11,217	10,165
Foreign direct investment (net inflows)	252	2,169	41,169	34,577
Portfolio equity (net inflows)	0	2,317	-15,030	21,111
World Bank program				
Commitments	2,987	999	1,200	6,866
Disbursements	2,011	1,460	2,083	2,378
Principal repayments	449	1,228	1,154	1,251
Net flows	1,562	232	928	1,127
Interest payments	619	630	513	386
Net transfers	942	-398	415	740



Note: This table was produced from the Development Economics LDB database. 2/25/11

ANNEX 5: ANALYTICAL UNDERPINNINGS

Himachal Pradesh Economic Report "Accelerating Development and Sustaining Success in a Hill State" 2007

This Economic Report[25] is the first by the World Bank on the economy of HP, and the first on a hill state in India. The study was prepared to enhance the Bank's understanding of the development priorities and key constraints for HP.

The study documents, first, the remarkable success that the State has achieved in terms of sustained growth and human development, and the underlying reasons in terms of supportive policies and social cohesion. In this respect, HP makes an important contribution to lessons of success for the other nine Himalayan hill states in India. The Report provides a forward-looking view, and describes how it might be possible to build on the past success that HP has achieved, and, simultaneously, address some crucial economic and social transitions that will be essential for the State to firmly secure its future: (i) a sustained increase in income levels along with an enabling environment for the private sector; (ii) the creation of suitable jobs based on enhanced productivity and skills of its young labor force that can shift from public to private sector employment; and (iii) the wise and optimal utilization of natural resources like hydropower, forests, and water resources.

However, the sustainability of HP's success for the future will depend on addressing three major transitions that the State faces. The first important transition is to shift the **growth strategy** in HP from one that is still far too heavily dependent on public expenditures and debt, to an increasing focus on the broad-based contribution from other sources of growth, with an enabling environment for the private sector. The second crucial transition is to create the **productive employment opportunities** for HP's young and increasingly educated labor force, so that reliance on the public sector as an employer of last resort goes down. The third critical transition that HP will need to make is to better manage its **environment and natural resources**. This must take several key directions. The potential for hydropower development, which is being realized at an accelerating pace, has to be judiciously and prudently managed to support the desired fiscal outturns and to invest in the future of the State. At the same time, the downside effects of hydropower development on the environment, especially reduced water for downstream uses, will require much improved attention to ensure that society as a whole benefits, and that development is sustainable. Furthermore, a broader environmentally sustainable strategy will be essential, for forestry development, community projects, urban management, and water supply. Failure to take action against environmental degradation in a society dependent on its natural resource base could ultimately threaten future growth prospects. It is critical to address these challenges before they start to impact on the State's successful socio-economic performance.

The **institutional approach** to environment management should be improved, particularly by: (i) promoting *inter-departmental coordination* to ensure convergence of environmental objectives and minimize inter-sectoral conflicts; (ii) strengthening the *Environment Department*, which is currently at a very nascent stage with insufficient capacity and powers, in order to capitalize on the State's comparative advantages and use environmental resources as growth drivers; (iii) improving the *information database*, at least in key sectors which have wide environmental consequences; and (iv) preparing an *Environment Policy* supporting

[25] http://go.worldbank.org/1BMQ44M1Q0

development goals, and providing a holistic view of the growth-generating potential of natural resources, as well as the limits and carrying capacity of key resources.

However, beyond organizational structures, there is a greater need for more innovative reforms in **environment management**. For example, an *area based environment management approach*, could provide one way of clustering the pollution footprint of industries, and could be a valuable tool for a fragile hill economy like HP. Expanding *public participation*—for example, by encouraging community involvement in the context of specific development projects, and building the capacity of government agencies for more effective public consultation—is another avenue that GoHP must explore, since public participation in environmental decision making is typically low in the State. Environment management is particularly important in the context of development of *hydropower resources*

The report recognizes that meeting these three transition challenges will not be easy. Difficult choices in public policies will be needed, that mark some break from HP's past development strategies. The role of the State, in particular, must change increasingly from a direct provider of services and jobs to being an enabler of HP's human and natural resource development potential, and one where the core functions will need to be strengthened and its key institutions revamped towards a modern developmental State. If these three transitions are achieved successfully, HP could become the first hill state in India that is able to achieve sustainable and accelerated growth with broadly-based social development.

Institutional Assessment of the Environment Sector

An Institutional Assessment was done to help operationalize the newly formed Department of Environment, Science and technology (DEST) in a systematic and structured manner with the overall objective of facilitating environmentally sound and sustainable decisions by GOHP.

The institutional assessment makes the following overall conclusions vis-à-vis the ongoing environmental management initiatives: (i) environmental management initiatives in the State are not commensurate with institutional requirements, with needs being significantly higher than the current provisions; (ii) apart from environmental management initiatives being few, these are not integrated with each other. There is no prioritization of sectors with high environmental relevance, and no integration between various initiatives; (iii) there is no integration between initiatives related to policy, nor organizational resources or activities / practices. Therefore, the limited technical, financial and manpower resources that have been made available for environmental management initiatives have been dispersed with limited tangible outcomes; (iv) given that environmental management was first developed as a regulated area, there is a mindset that adherence to regulation or managing regulatory enforcement will suffice. This is particularly prevalent within those sectors that are causing adverse environmental impacts. As the enforcement of environmental law is weak, this prevailing mindset has resulted in a sub-optimal level of environmental performance. This has resulted in constant environmental deterioration, showing that just regulation and its enforcement (gradually improving over time) has not sufficed; (v) from the gap analysis of the Priority 1[26] and 2[27] sectors, it is clear that Priority 1sectors receive less attention than the

[26] Priority 1 sectors include – hydropower, urban, road / building construction, industry, tourism, disaster management, education and finance. Of the Priority 1 sectors the first five are those causing the major environmental impacts. Disaster management is a sector that will also remain as a priority given the potential for environmental disasters in HP. Education and Finance are top priority because of the action that they need to take in order to ensure better environmental management

Priority 2 sectors, and Priority 1 sectors are not receiving attention that is commensurate with their needs. Due to regulations (or the lack of it) and other disintegrated initiatives that exist, the present institutional efforts are rather unevenly distributed and inappropriate.

However, it is most important to note that there is an extraordinary sense of political commitment to addressing environmental issues, which is required and will definitely provide the necessary support to addressing the gaps in the policy, organizational resource and activities/practices.

Overall conclusions on the needs and requirements

The institutional assessment makes the following overall conclusions vis-à-vis the needs and requirements: (i) Environmental management needs more human, technical, and financial resources to arrest the ongoing environmental deterioration; (ii) the nature, scale and magnitude of the environmental problem is such that prioritization is required in order to optimize allocated resources; (iii) optimization of allocated resources will be more effective with an integrated approach; (iv) environmental management should not be regarded as solely a regulated area; (v) regulation and enforcement of regulation need to be seen as a tool. It will take time, if at all, for enforcement capacity to catch-up with the pace of development. As the environmental deterioration is rapid, regulatory initiatives need to be supported by voluntary and institutional initiatives. The sectors contributing to the greatest environmental damage, e.g. hydropower, roads and industry, need to take a leadership role in arresting environmental degradation and enhancing environmental conditions respectively; (vi) various sectors require different actions over varying timeframes. There is no single methodology that is applicable across all sectors, and no "one-shoe-fits-all" approach. Each sector requires a unique methodology that will work within itself and will also integrate with other sectors.

Recommendations and guiding principles

The following are the guiding principles, envisaged as a backdrop to the various recommendations emerging from this assessment, in no order of priority: (i) set and manage short, medium and long-term environmental objectives distinctly; (ii) prioritize sectors and integrate efforts; (iii) mainstream decision making on environmental matters; (iv) look for opportunities in environmental risks; (v) go beyond polluter pays to "polluter internalizes principle"; (v) consider land as an environmental issue; (vi) transform organizations from an output-based to a results-based mindset ; (vii) involve stakeholders in participatory processes; (viii) enhance guidelines, internal systems and mechanisms concurrently ; (ix) ensure that environmental management is everyone's responsibility and not just that of DEST; (x) involve more non-environmental professionals in the development process ; (xi) raise new financial resources; (xii) demonstrate environmental management's contribution to GDP and employment.

---

in the state. For instance, all activity plans & programs will be rendered useless if there is no mechanism to finance them on an ongoing, continued basis. Forests are classified as a Priority 2 sector. While forest conservation in HP is most important, this is not viewed as an environmental issue in the way that GOHP is structured. Only activities such as ecotourism are seen as those done by the Forest Department in the context of environmental management. In each of the sectors, a gap analysis was done across various topics - policy gap analysis, organizational resource gap analysis (includes the existence of the organizational structure and manpower) and activities / practices gap analysis

[27] Priority 2 sectors include – forests (primarily eco-tourism), rural development, agriculture, horticulture, health, and vehicular transport emissions.

All of these guiding principles need to be integrated with sector specific recommendations. The Institutional Assessment Report also provided specific recommendations for each department, covering priority and other sectors.

Task Force Report on Mountain Eco-Systems

The task force constituted by the Planning Commission of India in April, 2008, underscoring the slow pace of development of the Indian Himalayan Region (IHR) when compared to rest of the country. At the same time, its fragile nature and difficulty of taking up conventional development initiatives has not been appreciated. The Honorable Prime Minister of India, therefore, expressed the need for a fresh analysis of the problems of the hill states and hill areas of the country in a manner that suggests that these areas do not suffer in any way on account of their peculiarities. The task force resolved to recommend only such policies and programs that would help strike a balance between the four key natural treasures of the IHR i.e., snow, water, forests, and soil, with the developmental aspirations of its people.

The report presents arguments recommending re-shaping of policies to integrate the "mountain perspective" for the IHR, in national planning. Emphasis has also been laid on developing norms for good governance and for harnessing social capital at the grassroots. Recommendations cover issues such as: (i) resource and environment, emphasizing zoning and delineation of activity and non-activity zones; (ii) human capital and skill development, emphasizing alternate strategies for livelihood generation, beyond agriculture, horticulture and animal husbandry – additionally emphasizing human capital to be enabled to tap technology to increase the output of traditional production, provide specialized services and high scientific research into bio sciences, energy, materials and information technology; (iii) fiscal issues, emphasizing, reward and compensation mechanisms to be put in place at the national level for acknowledging and maintaining the flow of life supporting ecosystem services from the IHR to the rest of the country; and (iv) developmental issues, emphasizing reliable and efficient road, rail and air connectivity networks in the IHR, with parallel alternatives even at the cost of redundancy, especially along sensitive and strategic areas. The report reflects on climate change as a cross cutting issue with its challenges transcending sectors. It recommends strategies to minimize the anticipated adverse impacts to be designed "right away", in association with the Central Government. The task force recommends the need for a "Convergence Mission" in the form of a Himalayan Sustainable Development Forum, as was recommended by the Declaration following the Himalayan Chief Ministers' Conclave convened on October 30, 2009 in Shimla.

Recommendations can be summed up as follows: IHR States should invest in agro-horticulture-forestry skill and technology development, to focus on increasing output per ha, and productivity per person in terms of service capability; and increase access to markets for producers and skilled persons to enable selling surplus and opportunities to offer their skills. Therefore, States need to invest in improving connectivity and marketing arrangements including IT enabled service infrastructure; develop incentives so that wealth generated can be ploughed back on land as well as on education/ training. Therefore IHR States should encourage special investment opportunities with high rate of return; and enable educational institutes to improve production technology as well as human capital.

Comprehensive Catchment Area Treatment Plan for Sutlej

GoHP initiated a study for preparing river basin development optimization strategies for the Sutlej Basin. The study demonstrated the methodology for optimization of hydro-development in the Sutlej basin with the goal of facilitating coordinated and sustainable development by private and public sector developers, with due consideration for the environmental and social impact of river-basin-wide development. This covered environmental and social implications of multi-project development, including, but not limited to: (i) implications for water resource management; (ii) catchment area treatment plans; (iii) potential cumulative impact on natural forests and other protected areas; (iv) social impacts arising from multiple projects; and (v) communication and public outreach issues.

Following this study the, HP Forest department undertook a comprehensive Catchment Area Treatment (CAT) study with the objectives to : check soil erosion and land degradation by taking up adequate and effective soil conservation measures, both engineering and biological, in erosion prone areas (mainly under very severe and severe erosion intensity categories); rehabilitate degraded forest areas through afforestation and facilitate natural regeneration; rehabilitate degraded slopes and landslide prone areas ; improve land capability and moisture regime in the watersheds; promote land use to match land capability of the sub water-sheds; prevent soil loss from the catchments to reduce siltation of reservoirs; prevent soil erosion from down-stream areas so as to reduce the siltation of streams, path roads and agricultural fields; promote people's involvement in the preparation of micro-plan implementation and management of the catchment; up-grade skills in planning and execution of land development; improve pasture land by introducing improved palatable grasses; plant wild fruits species and creation of water resources for wildlife management.

The study has delivered, based on remote sensing and GIS interventions, a comprehensive Base Map; basin-wide catchment area protection plan, including implementation arrangements, financing plan, and monitoring, evaluation and review plan and a documentation of stakeholder concerns which can to be factored in the decision making process.

Diagnostic Assessment of the Costs of Environmental Degradation

As a follow-up to CEIA (2007), the Bank launched a Diagnostic Assessment of the Costs of Environmental Degradation which contributes to the broader debate on the implications of rapid economic growth on environmental sustainability and the need to rethink institutional arrangements necessary for promoting long-term environmentally sustainable development. The primary objectives of the study were:

- Identify the key environmental challenges, opportunities and constraints to growth that will emerge in India over the next few decades and suggest policy responses;
- Focus on developing strategies to harmonize the twin objectives of growth and environmental sustainability in urban and ecologically fragile areas;
- Assess and provide best practice analysis of institutions for addressing environmental challenges of rapid growth.

To specifically examine the unique environmental challenges facing hill states and to assess trade-offs between growth and environmental sustainability, a case study for HP was undertaken with a view to:

- Assess the costs of the environmental degradation and biodiversity loss and analyze the viability of sustainable development scenarios to retard future degradation.
- Identify coping strategies and people-led, community-based strategies that assure environmental sustainability and the role of social capital in sustainable resource use.
- Provide recommendations for improving compliance, planning and coordination.
- Examine the feasibility of using a wider range of regulatory instruments to improve incentives for sustaining watersheds and habitats following the recommendations of both NEP and the Chopra Empowered Committee.
- Examine the institutional mechanisms present in the State of HP in the context of growth and sustaining it through protection of its environmental heritage, recommending possible solutions for sustainable decision making in the State.

The summary findings of HP case study are provided in Box5. It basically shows the importance of taking into account the ecological limitations and as well as the opportunities created by the natural capital that such a state possesses. HP needs industrial development but such development has to be mindful of the environmental costs it imposes. Likewise there is potential for hydel, but it need not be at the cost of protected areas. Agriculture can be a source of inclusive growth and employment but it needs to be practiced sustainably. Allowing for all these factors we can generate a sustainable growth scenario that is inclusive and environmentally sustainable. The main beneficiaries from the institutional changes envisaged to enable Green Growth scenario to be carried out are:

- Agricultural land owners and laborers mainly in the upper altitudes;
- Forest dependent communities from ecosystem services: these could be downstream urban and rural communities too;

Box 5: Key Findings of HP Case Study in the Diagnostic Review on the Costs of Environmental Degradation

The analysis was based on a background paper prepared by Kanchan Chopra, which looked at a range of different development paths for HP and evaluated them with respect to their economic, social and environmental impacts, which together define the sustainability of the different scenarios.

The scenarios considered are the following:

- Business as Usual (BAU) Scenario, where State Gross Domestic Product (GSDP) is extrapolated based on past growth rates.
- REFSEN scenario, which incorporates the impacts of changes in policy already planned by the government. These policy changes are described further below and result in a shift from agriculture to industry and construction, and electricity, gas and water services.
- REFSENCOR scenario, where some policies are introduced to correct for the negative effects of the REFSEN policies in areas such as dense forests, soil and water quality.
- Green Growth scenario (referred in the background paper as SUSDEVSEN scenario)

which, in a somewhat different vein, examines the four leading sectors in depth for possible environmental effects and their costs and benefits. Inter-linkages between the industry, power, and agriculture sectors are studied for identifying output effects of interventions targeted at environmental sustainability.

The above scenarios were developed, based on a detailed analysis for the key sectors of the State's economy.

The findings suggest that by 2030 State GDP is 30 percent higher under the REFSEN scenario than it is under the BAU. Correcting for the environmental impacts (REFSENCOR), however, reduces the measured GDP by about 5 percent in 2030. The largest environmental costs are those of water, followed by siltation and forests. The Green Growth scenario, which accounts for the environmental damages in the same way as REFSENCOR does, generates an increase in GDP of about 1.8 percent in 2030 in the environmentally corrected measures of GSDP. While these changes may appear small, they are important in representing a move to a more sustainable path and moreover one that will sustain less damage to the natural capital over a long period of time.

Energy Intensive Sectors of the India Economy: Options for Low Carbon Development

Initiated in 2005, this study was requested by the Government of India to: (a) develop the analytical capacity required to help identify low-carbon growth opportunities, up to the end of the 15th Five-year Plan (March 2032), in major sectors of the economy; and (b) facilitate informed decision-making by improving the knowledge base and raising national and international awareness of India's efforts to address global climate change. The final report issued in 2011 uses an innovative bottom-up engineering-style model to examine CO_2 emissions for different scenarios—or potential "carbon futures" for India—which look at how total emissions might evolve under different assumptions about energy supply and demand drivers, in different sectors of the economy.

ANNEX 6: EXPERIENCES FROM THE BANK'S DPL OPERATIONS

The text below summarizes experiences from the Bank's DPL operations with environment objectives and content with relevance to the proposed HP IGG DPL.

(i) Building Capacity. DPL supported reforms in some countries have supported the creation of Ministries/departments of Environment (as in Peru, Ghana, including Himachal Pradesh, India), addressing weak environment management capacities. These have also aided governments in setting up public selection and recruitment processes (such as in the Brazil DPL), and implementing training programs (such as in the Mexico DPL). In Brazil, for example, DPLs have aided the government in establishing a public career category of environmental specialists. Further it has also assisted in setting up public selection and recruitment processes for the hiring of 300 new staff for the Ministry of Environment and 610 staff for the Brazilian Institute for Environment and Renewable Natural Resources with the objective of improving institutional effectiveness (the DPL supported the reorganization of the Ministry of Environment and the Brazilian Institute for Environment and Renewable Natural Resources). For strengthening otherwise weak public financial management (PFM) capacity, the environment DPLs in three African countries (Ghana, Gabon and Cameroon) chose to employ sector budget systems which could directly impact the financial capacity of forestry and natural resources sectors through the environment DPLs. Traditionally, PFM may fall outside the gamut of "capacity building" however, in these cases, a common objective of these countries through the DPL program has been to strengthen financial capacity by generating greater transparency of financial flows relevant to natural resources and environment sectors, with more efficient and effective use of available funds, and an increased level of budget allocation and revenue collection in forestry and mining.

(ii) Fostering Inter- and Intra-Institutional Coordination. DPLs have assisted governments in clarifying environmental management mandates by strengthening inter (among agencies) and intra (between agencies at national, state and municipal level) institutional coordination. DPL supported reforms related to the consolidation of Morocco's fragmented water sector institution - the Water Sector DPL focused on consolidating the country's fragmented water sector institutions by "delimiting" the institutional mandates across the three lead sector ministries for each of the following: integrated water resources management to be led by Ministry of Regional Planning, Water and Environment, irrigation to be led by Ministry of Agriculture, Rural Development and Fisheries, and water supply and sanitation to be led by Ministry of Interior. The DPL also supported Morocco in undertaking a study to reorganize the water sector with a view to clarify policy making and implementation functions at the sub sector planning level; reconciliation of overlapping mandates in the National Forestry Commission in Gabon; creation of effective inter-ministerial coordination of policies and programs in the MSW sector in Morocco; and inter-ministerial working groups for sustainable development of Amazon as well as in sanitation in Brazil.

(iii) Strengthening Enforcement and Compliance. DPLs supported appropriate mechanisms ranging from strengthening of EIA procedures (Mexico, Morocco, for example), establishing environmental standards and monitoring and implementing economic instruments. (Despite having an environmental policy framework, countries often lack a clear set of regulations to help enforce policies and improve environmental compliance). In **Mexico**, the Second Programmatic Environment DPL included activities aimed at improving the country's environmental management effectiveness, including the improvement of the

EIA and permitting process, and enhancement of public participation and transparency. Regarding environmental permitting, SEMARNAT (Ministry of Environment - Secretaría de Medio Ambiente y Recursos Naturales***)*** streamlined administrative procedures, reducing procedural time lag, and created an Integrated Service Center that decreases the probability of corruption. These improvements have considerably reduced discretionary application of requirements by public officials and provided strong incentives for the regulated community to follow all the appropriate procedures, as is exemplified by the rising number of projects that are subjected to EIA.

(iv) Enhancing Reform Durability[28]. DPLs have also played an important role in supporting sustainable financing mechanisms (in Ghana, Gabon). Durability of reforms requires governments' sustained efforts (or credible commitment) towards, and creating mechanisms to finance, environmental protection. Creating and then legalizing environmental policies, with appropriate levels of judicial or congressional approval are a critical step towards the enforcement of these policies, given the absence of any pre-existing water policies, the DPLs for Colombia and Peru have helped both countries develop detailed laws on water quality to be submitted to Congress for approval. Given the importance of forest resources to the Brazil and Mexico economy, their respective DPLs have assisted these countries in enacting laws for undertaking sustainable forestry practices. In the same token, Ghana was able to adopt a moratorium on the allocation of new logging permits which allows them to extend these permits over a three year rolling period. In **Morocco**, solid waste management has been decentralized to municipalities. However, arrangements for financing municipal solid waste services are very poor, with limited knowledge of the true costs of service provision, and there are no provisions for cost recovery. The DPL supported government reforms that provide budget allocation to support the additional costs of upgrading municipal solid waste systems, encourage additional sources of revenues generated through CDM mechanism, and facilitate new solid waste user fees in place to support sector cost recovery.

(v) Facilitating Civil Society Outreach and Partnership. DPL addressed reforms have supported several countries in developing their public disclosure policies to promote greater transparency and accountability relating to environmental issues. Many client countries fall short in creating opportunities for public participation in environmental decision-making, improving transparency in environmental assessments and integrating views of all affected stakeholders. The Mexico DPL supported a pilot public disclosure scheme to promote competition between tourist facilities based on good environmental governance performance. In the case of Brazil, the PRL included a set of policy and institutional reforms aimed at increasing transparency and social control on the country's environmental management system, including a law to allow public tracking of the licensing process. The Government of Brazil implemented an integrated web portal where all information regarding licensing procedures in the federal and state levels are available to the public.

(vi) Supporting Sustainable Natural Resources through sectoral policy reforms which are key for supporting sustainable natural-resource based growth. DPLs in Gabon, Cameroon and Laos have supported reforms relating to the sustainable management of forest resources. For water resources, the Colombia DPL series supports government efforts at strengthening

[28] Durability of reforms requires governments' sustained efforts (or credible commitment) towards, and creating mechanisms, to finance environmental protection. Often countries are lacking in comprehensive policies to protect the environment. Creating and then legalizing such environmental policies, with appropriate levels of judicial or congressional approval are a critical step towards the enforcement of these policies.

integrated management of water resources; while the Brazil DPL supports the development and approval of the National Water Resources Plan.

(vii) Managing Environmental Risks*:* By supporting several policy reforms in mining, urban transport, sanitation, energy, and solid waste sectors are helping to manage these environmental risks to growth. In Peru and Morocco, DPL-supported energy policy reforms aim to reduce sulfur content and eliminate lead in diesel; while the Colombia DPL supports the approval of a national policy for air pollution control. In Brazil, reforms include a new Federal Law on Guidelines for Environmental Sanitation for implementing standards in sanitation. In Peru and Gabon, supported mining sector reforms support the remediation of mining environmental legacies.

(viii) Promoting Regional and Global Public Goods*:* through support to policy reforms to cope with the adverse effects of climate change through mainstreaming climate change in public and private sector investments (Brazil DPL); and supporting the country's National Climate Change Strategy (Turkey and Mexico DPLs). Policy reforms in the energy, water, and urban transport sectors (such as in the Mexico Green Growth DPL – requested by the Mexican Government requested the first exclusively Climate Change DPL from the Bank) also can provide the necessary impetus and trigger for countries to appropriately transform to low-carbon growth paths. In biodiversity conservation, policy reforms have included strengthening institutions for management and administration of parks, protected areas, and wildlife (Peru DPL), and planning and zoning of protected areas (Cameroon DPL). The objective of this single operation DPL was to recognize and support the government's efforts under its National Climate Change Strategy to mainstream climate change considerations in public policy. Other DPLs have also supported country efforts at preparing and implementing national climate change strategies. In Turkey, the ESES 2 DPL supported government approval of a National Climate Change Strategy; while in Ghana, the NREG DPL supported the government's preparation of a draft national climate change adaptation strategy.

Annex 7: SUMMARY OF GOVERNMENT PROGRAM AND BANK SUPPORT, INCLUDING TECHNICAL ASSISTANCE AND LONG TERM OUTCOMES

Objectives and Goals	DPL 1 Prior Actions	DPL 2 Trigger	Results Indicators	Technical Assistance	Long Term Outcomes
1. Promote sustainable development through climate change related adaptation and mitigation actions	**GoHP Cabinet decision to enhance and operationalize the capacities in the Department of Environment and Department of Energy for effective coordination, monitoring and evaluation and initiation of CEIA for Sutlej Basin** GOHP has awarded the contract to start preparation of basin wide digital GIS based hydropower potential maps for the state Adoption of operational strategy for the Community Led Assessment, Awareness, Advocacy and Action Program (CLAP) for Environment Protection and Sustainable Development in the State	**Preparation and public disclosure of State's comprehensive Action Plan on Climate Change that identifies co-benefits in mitigation and adaptation, in particular with regard to rural livelihoods improvements** **Ecosystems evaluation analysis and issuance of state policy on payment for environmental services based on pilots**	Reduction in GHG emissions intensity with respect to the state GDP, including monitoring of the CLAP program for Environment Protection and Sustainable Development Sustainable Management of forests as per agreed methodology for REDD+ Improvements in energy efficiency of designated entities and consumers	Natural capital cost accounting targeted at the forestry sector South –South Exchange on subnational environmental and climate change management	

Objectives and Goals	DPL 1 Prior Actions	DPL 2 Trigger	Results Indicators	Technical Assistance	Long Term Outcomes
2. 1 Promote environmentally sound hydropower development	**GoHP Cabinet approval and a public notification has been issued by the Department of Power regarding the requirement to undertake Cumulative Environmental Impact Assessment (CEIA) studies for the five key river basins in the State (Sutlej, Beas, Ravi, Yamuna and Chenab), which includes review of environmental flows and initiation of CEIA for Sutlej Basin** **The GOHP has approved an integrated Catchment Area Treatment (CAT) plan for the Sutlej river basin and started its implementation, and initiated preparations of integrated CAT plan for Chenab River Basin Preparation of basin wide digital GIS based hydropower potential maps**	**Design, adoption and implementation by State Department of Energy of a policy of web based real-time monitoring of project milestones, including those relating to environment and social parameters and environmental flows** **Interim review of ongoing Satluj CIA study leading to the development of concurrent action plan** Adoption and implementation of comprehensive communication strategy for environmentally and socially sound hydropower development Finalization of integrated CAT plan for second river basin	Review by Panel of Experts of State's compliance with environmental and social / economic development policies supported by this program and E.P. Act of GoI Avoided thermal generation of 11,300,000 MWh by FY2014 against a 2011 baseline Verification of environmental flows in compliance with policy and regulations Demonstration of actions to address non-compliance with environmental flow requirements Implementation progress of	Analysis of monitoring and institutional mechanisms for appropriate in-stream flows, sharing of international experience on good practices for cumulative environmental impact assessment	10% reduction in the lead time required from start of bidding to commissioning of hydropower project by 5 years Increased contribution of hydropower generation by 10 GW by 2023 contributing to the fiscal health of the state

Objectives and Goals	DPL 1 Prior Actions	DPL 2 Trigger	Results Indicators	Technical Assistance	Long Term Outcomes
	for the state **GOHP has awarded the contract to start preparation of basin wide digital GIS based hydropower potential maps for the state** Bidding process for allotment of new hydro projects streamlined		Integrated CAT Plan in Sutlej		
2.2 Promote socially sound hydropower development	**Cabinet has approved and GoHP's Department of Power has issued a public notification of amendment to Local Area Development Fund (2009) to include a long-term benefit sharing policy to provide annuities to affected communities during the lifetime of hydropower projects within the state**	Cash transfers for at least one hydropower project have begun	Finalization and disclosure of list of eligible families for cash transfers under new LADF guidelines for the first hydro project by FY2014 illustrated through AGiSAC Local area development works for 75 percent of funds deposited to the LADF as of March 312012 in the amount of 1500 million rupees (US$	Poverty and social impact analysis / monitor and evaluate innovations in benefit sharing	

Objectives and Goals	DPL 1 Prior Actions	DPL 2 Trigger	Results Indicators	Technical Assistance	Long Term Outcomes
			30 million)are approved by Local Area Development Committees (LADCs) by March 2013 Cash transfers of 50 million rupees (US$ 1 million) transferred to project affected peoples by 2014		
3. Empowering local communities and stakeholders to promote integrated watershed management as an instrument for rural poverty reduction through improvements in the productivity and climate resilience of natural resources.	**Adoption of strengthened Integrated Watershed Management (IWMP) guidelines by the Department of Rural Development to specify an integrated community-led watershed development approach to planning by plans for Gram Panchayats applicable to hilly terrains** **GoHP Cabinet approval and issuance of State Organic Farming Policy**	**Preparation and adoption of 77 integrated micro-watershed development plans (one per block) by a multi-disciplinary team (using IWMP guidelines) under the leadership of Rural Development Department and independently monitored by AGiSAC** **Preparation and commencement of implementation of capacity building plan for stakeholder departments** **Amendment of HP State Water Policy of 2005 for sustainable management of**	Implementation of 77 integrated micro-watershed development plans resulting in the following as compared to baseline as measured in the individual watershed plans: (i) 15 percent improvement in water pondage in 77 GPs by 2014 (ii) 5 percent increase in crop diversification in 77 GPs by 2014	Sharing of international experience on water policy	30 % increase in area coverage under organic farming over the current base by 2020 30 % increase in area adopting integrated pest management by 2020

Objectives and Goals	DPL 1 Prior Actions	DPL 2 Trigger	Results Indicators	Technical Assistance	Long Term Outcomes
		State water resources Review of effectiveness of multilevel institutional structure to promote integrated watershed management and rural livelihoods and carry out amendments as required Preparation of a strategy on diversification of farming systems. Certification protocol for organic farming in the State	(iii) 5 percent increase in productivity of crops in 77 GPs by 2014, if there are no natural disasters that impair yields (iv) Water efficiency in 77 GPs increased by 10 percent by 2014 (v) 77 agribusiness groups established in association with implementation of watershed plans to link products to markets Enhanced synergy of central and state sponsored rural livelihoods, agriculture, forestry and horticulture, etc. programs and implement locally appropriate solutions to promote sustainable		

Objectives and Goals	DPL 1 Prior Actions	DPL 2 Trigger	Results Indicators	Technical Assistance	Long Term Outcomes
			watershed management		
4. Promote environmentally sustainable industrial development by reducing pollution of existing industrial plants and promoting cleaner sources of economic growth.	**GoHP Cabinet decision and public disclosure of amendment to Industrial Policy (2004) that promotes sound environmental management including (i) promotion of cleaner production and environmental management systems ((ii) disincentives to industries on negative list (iii) Promote public disclosure of pollution status at the unit and cluster level**	**Design and pilot by State Department of Industrial Development of economic instruments for industrial pollution control for selected priority pollutants, including a mechanism of levying green cess on industrial polluting units.** Design of economic instruments to address of one priority pollutant and incentives for cleaner production based on economic efficiency criteria	More than 10 percent reduction in growth rate of establishment (in HP) of polluting industries on negative list, compared to 2000-2011 Increase of 10 percent in annual growth rate of industries that have adopted environmental management systems (e.g. ISO 14000) and/or shown transition to lesser pollution or increased cleaner production by 2014 compared to 2000-2010 annual growth rate Submission of policy for use of economic instruments for addressing industrial pollution to relevant Government	Assessment of economic instruments to promote cleaner sources of growth and to reduce pollution from existing industrial plants	50 % of medium and large industries have adopted cleaner production and environmental management systems within 10 years

Objectives and Goals	DPL 1 Prior Actions	DPL 2 Trigger	Results Indicators	Technical Assistance	Long Term Outcomes
			body for approval Public availability of database on environmental performance of highly polluting industries Submission of policy for use of economic instruments for addressing industrial pollution to relevant Government body for approval		
5. Promote environmentally sound sustainable and inclusive tourism development	Establishment of a multi-sectoral task force to facilitate tourism development Preparation of an integrated Master Plan for tourism development, which promotes environmental sustainability.	**Amendment of Tourism Policy 2005 to incorporate environmental sustainability including the use of economic instruments to internalize environmental externalities of tourism** **Commencement of sustainable tourism practices in the state**	Commencement of sustainable tourism intervention in one tourist destination (including wastewater treatment and solid waste management) and finalization of implementation plan for three additional tourist destinations with firm commitment	Strategic Environment Assessment of Sustainable Tourism Practices	increase the contribution of tourism to GSDP to 15 percent by 2020

Objectives and Goals	DPL 1 Prior Actions	DPL 2 Trigger	Results Indicators	Technical Assistance	Long Term Outcomes
			of timely implementation and government's financial support wherever needed for actual implementation		
6. Establishment of Institutional Mechanism for scientifically based sustainable development in the state	**Establishment of Aryabhatta Geo-Informatics and Space Application Centre (AGiSAC) to promote integrated GIS mapping and decision making**	**Government Order on operationalizing of protocols for monitoring and evaluation by AGiSAC for infrastructure and natural resources management sector and integration of geo-informatics technology**	AGiSAC to develop web-based/ desk top applications for informed decision making for 18 government departments		The entire state to be mapped at 1:10 000 or larger scale by 2020 and this is to be used for integrating decision making for sustainable development

ANNEX 8: POVERTY AND SOCIAL IMPACT ANALYSIS

1. Background

The Himachal Pradesh Development Policy Loan to Promote Inclusive Green Growth and Sustainable Development in Himachal Pradesh(HP IGG DPL) proposes innovative reforms that support the long-term commitment of Government of Himachal Pradesh (GoHP) to make a paradigm shift toward a socially and environmentally sustainable economic growth model. The proposed reforms across the energy, rural development and industrial sectors each serve a dual purpose by targeting economic outcomes (e.g. expanding state revenues, agricultural productivity and employment opportunities) while contributing to the State's objective to promote inclusive green growth (e.g. supporting investments in 'clean' industries). The processes through which the benefits of the reforms will be shared at the local level are as innovative as the reforms themselves. In particular, the wide ranging benefit-sharing program to complement the hydropower component of the DPL, which targets social sustainability through mandatory provisions to a Local Area Development Fund (LADF) and an equal distribution of annuity benefits to local communities, is of particular interest because it is a first for India. The reform process also entails policy reform to raise rural incomes.

2. Scope for a Poverty & Social Impact Analysis

It is anticipated that the reforms under the DPL will have overall positive social and poverty consequences, but it is important to assess the extent to which this will happen, and to provide feedback in case of hiccups and recommendations for course correction in implementation. Since the program constitutes the first 'green growth' model for India, it will likely reflect certain complementarities and tensions between economic growth and social and environmental sustainability. In the wake of Rio+20 and the accelerating global shift toward 'green growth' policies as a tool for improving welfare, a concurrent and ex post understanding of the impacts will facilitate policy dialogue and help mitigate negative impacts in future implementations. Furthermore, because the policy implementation of the thrust of a DPL takes place over time, during which complex welfare impacts unfold continuously, studying these during and before the policies are enacted will inform ex ante policy design. The incorporation of the evolving multidimensional welfare impacts in policy will ultimately increase the effectiveness and sustainability of the reforms set out in the DPL.

3. Analytical Thrust

An analytical strategy to assess the poverty and social impacts embedded in the trajectory of the reforms will both provide regular feedback to GoHP and monitor the impacts of the loan. Hydropower projects can impose social and economic costs on local populations early in the planning and construction process. These can include loss of land, other assets (such as houses, wells, etc.) and livelihoods due to land acquisition, physical relocation of communities, stress on ecosystems, possible migration of workers and exposure of crops (and people) to construction waste. On the other hand, the benefits from better or cheaper access to hydropower are spread over the long-term and subject to uncertainties stemming from the physical challenges in power distribution in mountainous regions or

simultaneous growth in the supply of and the industrial demand for energy. Providing feedback on the impacts of the benefit-sharing mechanisms that will be put in place to mitigate such negative impacts will inform policies for course correction and facilitate long-term sustainability of the project. It is also important to assess how the benefit-sharing mechanisms will be perceived by the affected communities in regards to their fairness, transparency and sensitivity to cultural norms and rights. Lessons drawn from this experimentation will be useful, not only for hydropower, but also any future infrastructure or livelihood projects that come with a benefit-sharing scheme.

In addition to the above, an environmentally sustainable growth model that targets rural development along with a major structural transformation will likely produce mixed distributional impacts. Some of the mixed results may well be because resources may be reallocated across industries and because the social and economic impacts will unfold over a period of time. While it is not possible to anticipate all the impacts, a few examples illustrate the potentially complex nature of the transformation that is envisaged. For example, rural livelihood initiatives will need infrastructure that facilitates connectivity and market access for farmers. On the other hand, infrastructure development and industrial growth may deplete natural resources and pose hazards to certain established forms of livelihoods. Connectivity issues can also limit the outreach of the new employment opportunities in tourism and other industries given that the majority of the population lives in rural areas. Aside from connectivity issues, matching the skills of a primarily rural labor force with new jobs in services and the industrial sectors often requires an extensive adjustment period and skills training. New jobs typically favor certain skills and social groups in a transformative society, thereby reinforcing preexisting inequalities based on gender, ethnicity or education. Social exclusion issues arise during community consultations and benefit sharing mechanisms, where the voices of traditionally excluded groups may not be heard or interests of private firms who make investments come into conflict with those of local populations.

4. Design of the PSIA

Based on the above, this PSIA proposes an analytical strategy that can assess and monitor the evolving multidimensional welfare impacts of the reforms. This would be ex ante in the sense of informing future policy for GoHP and for other states that may want to follow suit, and ex post in the sense of providing inputs into implementation and monitoring. The PSIA will use **both quantitative and qualitative methods** and will be designed as:

i. a mechanism for monitoring the impacts of the reforms,
ii. a mechanism for bringing to the policy table voices of the poorest and the most vulnerable.

Surveys are proposed to sample households in those project areas affected by the proposed reforms, both before the reforms are implemented, as well as soon after they take effect. The surveys will assess the extent to which household welfare and community prosperity will change in response to new employment opportunities, benefit-sharing mechanisms and other positive or negative spillovers from a socially and environmentally sustainable economic growth model. The primary focus will be on identifying the unintended social and economic consequences of the reforms on household wellbeing, possible behavioral responses to reform processes and the overall quality of life in the affected

communities. In addition to household surveys, **a qualitative impact analysis will be undertaken through participatory methods in communities affected by the reforms.** This will give local populations an opportunity to voice their experiences with the reform process and spearhead a form of community monitoring. The issues to be discussed will include, inter alia, trends in access to agricultural and labor markets, fairness and transparency of the hydro benefit sharing scheme, externalities of the implemented policies, how the cultural norms and rights interact with the reform process, and perceptions of inequality and social exclusion based on gender, ethnicity and other social characteristics. These discussions will provide descriptive richness and insights on those dimensions of the reforms that cannot be captured in quantitative format. Results will be shared with a wide ranging group of actors so as to disseminate both the impact of the reform and to seek feedback into the ongoing process of monitoring through the PSIA.

ANNEX 9: ENVIRONMENT AND SOCIAL ASSESSMENT

Background

The State of HP forms central part of Indian Himalayan Region. About 17 percent area of the State is under permanent snow cover and glaciers and about 30-40 percent of the area is under seasonal snow cover forming unique water reservoir. With a geographical area of 55,673 square kilometers and population of 6.6 million, HP accounts for 1.6 percent of the national geographical area and about 0.6 percent of India's population. Of the population of about 6.6 million, 90 percent still reside in rural areas. It is also geographically different from most Indian states located in the plains. HP is largely mountainous, but exhibits extraordinary biological diversity. Except for a few pockets bordering Punjab and Haryana, altitudes span from 400 meters to almost 7000 meters above sea level. Of the aggregate geographical area, almost two-third is officially classified as forests, although actual forest cover is lower. The hilly terrain and forest cover contribute to low availability of land for traditional agriculture, and net sown area is only about 15 percent of the total. The population density in the State (at around 110 per sq. km.) is lower than the national figure of 320 per sq. km., largely due to relatively low and scattered population in the hill and forest areas.

The Himalayan ecosystem is highly vulnerable due to its ecological and geological sensitivities coupled with increasing population load and exploitation of natural resources. These effects are likely to be exacerbated due to the region's reliance on monsoons and snow fed rivers which could be affected by climate change variations induced by factors such as increased temperature, altered precipitation and extreme flood or drought conditions. The Indian Himalayan region is home for 45 percent of India's population and is pivotal to the development of the region and livelihoods of people.

A major portion of the watersheds of some of the major Himalayan Rivers such as Sutlej, Yamuna, Beas, Ravi and Chenab, transcends from western Himalayas and passes through HP. The ecological criticality of the watersheds formed by these rivers transcends the territorial limits of the State with the neighboring states. Every year, about 1,200,000 million cubic meters flows through these Himalayan Rivers, which in turn provide water for drinking, irrigation, and hydropower generation in the State. Owing to the presence of the five perennial rivers, the State possesses a huge untapped hydropower potential which is the major source of economic and social development. Realizing this potential, the GoHP has put a high priority on judicious exploitation of the unrealized hydropower potential in an efficient manner, which is important, not just as a source of renewable and low carbon "green energy" but also as a critical source of revenue for the State. While it is estimated that the State has a total hydro potential of 20,000 MW (representing about 13 percent of the total hydropower potential estimated for India), only about one third of this potential has been harnessed, so far.

Bank's Engagement in the State on Environmental and Social Management. The Bank is already working in the State of Himachal Pradesh through its engagement with State Roads and Rural roads projects, Watersheds and bio-Carbon projects, Hydro Projects through State and GoI supported SJVN Limited (SJVNL) in the implementation of 412 MW Rampur Hydropower Project (RHP). Separate Environmental Assessments have been prepared for these projects to address environmental management and social development

risks at the project and sectoral levels. Through this engagement, the Bank has provided advice on project specific environmental and social safeguards, as well as on overarching sectoral and inter-sectoral issues. For example, muck and debris disposal sites have been identified for infrastructure projects including in the transportation sector, while their monitoring has been overseen by the State environmental regulatory bodies. Through its engagement in the rural development sector, the Bank has contributed to improved water and soil conservation practices and to enhanced social equity and inclusiveness. The State has sought to scale up successful models beyond the immediate investment projects.

Environmental and Social Management and its Evolution in the State: HP's rich and varied natural heritage provides both opportunities and risks to its development strategy. Natural resources are a critical, if underutilized, engine for accelerating growth and poverty reduction. Sustainability of economic growth in HP is contingent upon sustainability of its environmental heritage. HP's key growth and revenue drivers in the medium term are critically dependent on the State's natural resource base. At the same time, resource dependence renders the economy highly vulnerable to the consequences of environmental degradation. While some environmental degradation inevitably accompanies growth, inaction or failure to balance the environmental costs of development with the benefits will have particularly serious consequences for the State – whose opportunities lie in sectors like hydropower and industrial development which are highly dependent on the health of natural resources. Given HP's unique geographic situation and small resource base, protecting rich natural resources assume greater importance than in other states. The State, therefore, recognizes the need to sustain its environmental resources.

Low levels of development, poor accessibility, poverty, and land degradation characterize the Watershed in mid Himalayan areas. Land holdings are small (average 1.2 ha), and farming systems are largely rainfed and dependent on traditional cropping practices. This socio-economic scenario occurs within the context of fragile ecosystems with steep topography, poor soils, and periods of intense rainfall. A high degree o f human dependence on natural resources has led to overall degradation of environment and natural resource base. However project activities under mid Himalayan projects reverse this process and subprojects are unlikely to exert any significant negative impact on the social and physical environment. On the contrary, the principle aim of the watershed development component is to enhance the natural resource base. In watershed development no significant adverse or irreversible impacts are envisaged, and impacts are manageable within the existing institutional and technical framework of the state.

Watershed activities to be undertaken include prevention of soil erosion, reducing run-off, promoting proper water resource management, development of arable and non-arable lands, and restoration of pastures. If not implemented properly, such activities could have adverse impacts on the soil and hydrologic regime of the area, such as changes in surface flow, moderation of peak flow, impact on water quality, slope instability etc. Assessment and mitigation measures are already in place in the watershed projects under implementation. Integrated watershed development will promote afforestation; enhance the environmental contribution of forest areas, while at the same time encouraging economic development of forest areas, which comprises most of the state. Activities that would entail significant conversion, loss or degradation of natural habitats (directly or indirectly) have not been encouraged under watershed development. However, silvi-pasture based activities, management of grasslands, and the chance introduction of exotic species to augment fodder

sources may have implications for native species, many of which are already threatened or endangered. This will have to be mitigated through the review of integrated watershed management plans by the Department of Rural Development.

The State is also embarking on a program to sustain industrial growth while reducing pollution from industries. The Industry Department has a two pronged approach to sustainable industrial growth: applying corrective action policy for existing industries and promoting / planning environmentally conducive industries for the future, based on a comparative and geographical advantage. In this regard the Department expressed interest in stimulating future industrial growth in the areas of electronics and herbal medicine. The latter is compatible with growth in agriculture and horticulture sectors. With respect to reducing pollution and improving environment performance, the State Pollution Control Board has taken the initiative of promoting of clean technologies and is in a dialogue with the Confederation of Indian Industries (CII) in this regard. Various industries in the state have undertaken several development and welfare schemes as part of their Corporate Social Responsibility (CSR) and efforts are ongoing to document these practices and look for opportunities to strengthen the mechanism for dissemination of such activities through annual reports and disclosure though websites. As regards land acquisition, the industries usually acquire land either through willing seller –willing buyer basis or obtain, on lease basis, from the Land Banks maintained by the Department of Industries. Further, improving public disclosure schemes would add to improved environment performance

The State has been accelerating the pace of hydropower development through the active involvement of both the public and private sectors. Hydropower development essentially focused on run of river hydro projects either in series or in cascade. The nature and scale of hydropower development have the potential for important environmental impacts, in particular taking into account the richness of the Mid-Himalayan ecosystems. In response, the GoHP has endorsed a number of risk mitigating tools, ranging from cumulative impact assessments, the maintenance of minimum environmental flows in the river basin, the assessment of hydrological variability and its impact on power generation, the integrated protection of catchment areas, vulnerability assessments from natural hazards like earthquakes, landslide, flash floods and glacial outbursts, etc.

Through its engagement in the HP IGG DPL, and based on its developmental needs, the GoHP has undertaken key initiatives to address environmental challenges. For instance, the GoHP (i) established a separate Environment Department (ii) issued a specific regulation on maintaining minimum environmental flows in the downstream of a diversion structure (not less than 15percent of the minimum flow observed in the lean season) (iii) established a basin level hydropower developer's forum for the Sutlej basin (iv) endorsed the development of integrated catchment area treatment plans for Sutlej and other river basins (v) mandated the preparation of draft state environmental master plan for the State, (vi) and established a Local area Development Fund targeted at affected communities.

More recently, the GoHP initiated a study for the assessment of the Cumulative Environmental Impact Assessment (CEIA) of hydropower development in the Sutlej basin, in consultation with the Ministry of Environment and Forests, and intends to pro-actively address related challenges environmental and social management.

Environmental and Social Assessment of Current DPL. The proposed HP IGG DPL will support the Government of India (GoI) and GoHP in a paradigm shift towards an environmentally sustainable model of economic growth by promoting improved management of its natural resources, sustainability and inclusive green growth. The GoHP has expressed interest to adopt and continue reforms in key areas, in building its knowledge base and institutional capacity and in promoting sustainability in its growth agenda.

Taking this into account, the team's assessment of the environmental and social impacts of the proposed operation is as follows:

1. Specific country policies supported by the operation are not likely to cause significant adverse effects on the country's environment, forests, and other natural resources. In fact, environmentally beneficial outcomes are expected from this operation, since enhancing the environmental sustainability of growth is an overarching objective.

2. HP's environmental institutions and regulations build upon a comprehensive national level policy framework for environmental and forest management, which set out elaborate regulations and procedures that cover all aspects of environmental and natural resource management. Implementation of these is left to state level institutions. However, the environmental regulatory capacity in HP is in its nascent stage and needs substantial strengthening. The principal gaps include a ubiquitous shortage of expertise, a lack of clear definition of roles arising from fragmented environmental management roles, inadequate coordination among departments, and weak compliance incentives.

3. It is in this context that this operation seeks to strengthen and enhance environmental and social management through key sectors of the State, in particular hydropower development, where key policy changes that are expected to achieve improved environmental outcomes are as follows:

    i. the adoption and implementation of a Benefit Sharing Mechanism which will complement the Local Area Development Fund for affected – which will provide annuities as direct cash transfers during the operational life of hydropower projects,

    ii. the implementation of real time monitoring of environmental flows which will be available to third parties

    iii. the implementation of monitoring tools for environmental and social compliance defined in project implementation agreements of hydro projects, and

    iv. a comprehensive communication strategy for the environmentally and socially sound hydropower development.

In the case of industrial development, key policy changes that will contribute to improved environmental outcomes are as follows:

    v. the establishment of a joint government-industry body to review and update industrial policy focusing on environmental sustainability and clean production,

vi. the establishment of a framework for public pollution disclosure mechanism will be developed and environmental performance of select industrial clusters will be made public.

vii. On environment, the key contributors to improved environmental outcomes include the establishment of the Aryabhatta Geo-informatics and Space Application Center (AGiSAC) to transform development decision-making by pioneering the use of geo-spatial information, and

viii. the development of a methodology for green accounting.

.

4. Other reforms supported by this operation are expected to have no direct environmental impacts. However, the majority of policy initiatives are improving environmental mainstreaming and integrating environmental management in key growth sectors. The agriculture, horticulture and rural development are to follow integrated watershed development which practices interventions of soil and water conservation, integrated pest management, social equity inclusion and livelihoods improvement. Throughout these sectors, the State intends to deepen the engagement with host communities and stakeholders, and move towards a participatory approach to developmental planning.

5. A Poverty Social and Impact Assessment for the proposed reforms will be conducted to monitor ex-post the success of these reforms. The lessons learned from the PSIA are expected to enhance environmental and social management in key growth sectors of the State.

6. **GoHP has recognized the need for intensive stakeholder consultations**. In an effort to improve inclusion, GoHP sought inputs from civil society and other key stakeholder, which is also encouraged (but not required) \ under the Bank's operational policies for DPL operations. A series of consultations were held by the GoHP between July 27 and November 30, 2011 as per table below.

Table 3: Calendar of Consultations

Date	Venue	Target Audience
July 27,2011	SERT, District Solan	NGOs and Community Based Organizations(CBOs)
July 28,2011	HP Agriculture University, Palampur, District Kangra	Government Officials of stakeholder departments
July 28,2011	Community Centre, Sujanpur, District Hamirpur	Community members and public representatives at Block and Panchayat levels
July 28/29,2011	Basal (Solan Block) and Srinagar (Kandaghat Block) Panchayats of District Solan	NGOs, CBOs and community
July 29,2011	Office of Deputy Commissioner-cum- District Magistrate,	Government Officials of stakeholder departments

	Dharmshala District, Kangra	
July 30,2011	Office of Deputy Commissioner-cum- District Magistrate, Hamirpur District, Hamirpur	Government Officials of stakeholder departments
August 3,2011	Office of Deputy Commissioner-cum- District Magistrate, Una District, Una	Government Officials of stakeholder departments
August 8,2011	HP Secretariat, Shimla District, Shimla	Senior Government Officials
November 14, 2011	Shimla - The Peterhof Hotel	Members of the State Climate Change Centre, Scientists, Academics. The World Bank participated in part of this event.
November 29, 2011	Conference Hall of the Directorate of Health, Parimahal, Shimla	Hosted by the World Wildlife Fund of India. This was attended by stakeholder departments representing Agriculture, Horticulture, Industry, Tourism, and Energy, as well as representatives of hydropower producers, NGO and members of eco-clubs.
November 30, 2011	State Educational Reaearch & Training (SERT) Institute, Solan	Hosted by the World Wildlife Fund of India. The audience consisted of Government Officials, stakeholder departments, NGOs, CBOs, teachers, members of eco-club and representatives of industry associations. The World Bank also participated in these proceedings.

Annex 10: LITERATURE REVIEW: ENHANCING DEVELOPMENT BENEFITS TO LOCAL COMMUNITIES FROM HYDROPOWER PROJECTS

In 2009, the World Bank began a three-year pilot initiative to develop a framework for enhancing development benefits to local communities in hydropower projects, with a view to design and test a framework of enhancing development benefits that can be applied to hydropower projects and that can be tailored, at the same time, to the particular circumstances and characteristics of individual projects.

As an initial activity of the World Bank initiative on enhancing development benefits to local communities in hydropower projects, this document presents a review of the available literature documenting mechanisms for benefit sharing in hydropower projects.

SUMMARY

The key findings on what is known and not known can be summarized as follows:

- **Making Benefits-Sharing Operational:** While the concept of benefits-sharing is often referred to, there is no widely accepted international standard, or regulatory framework, for the design and implementation of local benefit sharing. However, there is some substantial literature on the conditions required to facilitate benefit sharing, and the mechanisms most appropriate for achieving it. **Benefits-Sharing Mechanisms:** There is systematic classification and documented examples on mechanisms for transferring monetary benefits, with a substantial quantity of examples in developed countries. However, there is little systematic information on mechanisms for transferring non-monetary benefits **except for community investment** programs.
- **Legislation:** Generally legislation on benefit sharing is regarded as an enabler or necessary pre-condition. There are multiple examples from both developed and developing countries where laws or policies provide frameworks and rules for the sharing of monetary benefits. In most cases, they are fairly recent and the literature describes relatively well how they work, but with scarce information on monitoring or evaluation of the benefit sharing results from a stakeholder or beneficiary point of view.
- **Additionality:** Benefit sharing mobilizes additional resources above and beyond what is required for traditional compensation and mitigation budgets. In particular, large projects can produce significant economic rent that provides real opportunities for enhancing development benefits to local communities.
- **Involuntary Resettlement as a Development Opportunity:** Seen through a benefit enhancement lens, resettlement can provide a development opportunity to improve the conditions of displaced persons, especially in developing countries and remote areas. A wide range of both monetary and non-monetary benefit sharing mechanisms to communities can be implemented that reach beyond mitigation and compensation to enhance incomes and livelihoods of people adversely affected.
- **Monitoring and Evaluation:** While monitoring and evaluation of benefits and transfer mechanisms may be taking place at the project level to meet country or donor requirements or for corporate responsibility reporting, it is scarcely documented, dependent on management interests, and generally not systematic. It is not clear what is being monitored or how the information is being used. This renders difficult

comparing efficiencies and effectiveness of benefit sharing mechanisms among hydropower investment projects. Better documented and accessible monitoring and evaluation of schemes would greatly contribute to increasing operational knowledge of benefit sharing mechanisms.

BENEFIT SHARING IN HYDROPOWER PROJECTS

The concept of benefits in relation to HEP has been continually evolving. Initially the main focus was on employment and infrastructure for GDP growth; this was followed by a risk and resettlement focus whereby mitigation and compensation were the main approaches used to address social and environmental impacts of HEP. More recently the focus is increasingly on a benefits enhancement and sharing approach that seeks to optimize and provide more equitable distribution of benefits. This may be achieved through a wide range of means and mechanisms such as targeting entitlements of local stakeholders or multi-purpose uses integrated into the project cycle so sustainable development outcomes are enhanced.

Key questions that should be addressed before project design and implementation are related to economic considerations, ethical considerations, role of government, compensation of environmental and social costs and development considerations.

Table 2.1: Égré et al (2008)'s Criteria to Evaluate Benefit Sharing Mechanisms

Categories	Criteria
Economic rationale	1. Existence of an economic rent (prerequisite).
Ethical considerations	2. Benefits shared commensurate with the entitlements and needs of each category of PAPs. 3. Involvement of PAPs in use of benefits.
Development considerations	4. Involvement of the state in defining benefit sharing mechanism. 5. Contribution of benefit sharing mechanism to development on a sustainable basis on project affected area.
Administration considerations	6. Efficiency of transfer mechanism. 7. Accountability of implementing agencies

Establishing partnership agreements between developers and local communities is considered to be among the most innovative forms of monetary benefit sharing. These partnerships are hailed as a win-win form of benefit sharing, contributing greatly to project acceptance by local communities by recognizing the entitlement of affected people to a share of the economic rents generated by a dam and their right to participate in the management of local water resources.

A Current Example of Benefit Sharing and Project Enhancement

A current attempt to consider non-monetary benefits, equitable redistribution, and empowerment of local communities is represented in recent work conducted by the Electricity Regulatory Authority of Vietnam to prepare and test guidelines to introduce benefit sharing mechanisms in their hydropower projects. Reporting on this work at the end of 2007, Lawrence Haas, Dang Vu Tang, and their colleagues (Haas, Tung and IES, 2007) explain that

academic researchers and development practitioners have begun to refine the commonly practiced definition of benefit sharing. Their approach goes beyond the conventional top-down allocation of economic rents.

The notion of benefit sharing goes beyond one-time compensation payment and short-term resettlement support for displaced people. It treats both displaced people and communities that host the hydropower project in their locality as legitimate partners in the project and first among its beneficiaries (p.8). The study report presents a menu of benefit sharing or redistributive mechanisms for practical application in the form of a set of guidelines and draft regulatory decree for Vietnam. The guidelines categorize benefit sharing mechanisms under three areas: (i) Equitable sharing of electricity access and services (for example mechanisms such as mandatory electrification of resettled areas); (ii) Entitlements for enhancing resource access (for example mechanisms such as grass roots; (iii) People's Committees with policy making power); (iv) Revenue sharing (for example mechanisms such as central reserve funds to facilitate financial transfers).

The Vietnam benefit sharing report notes, as many previous studies have, that livelihood restoration is often the weakest part of resettlement planning; most attention is often placed on direct cash compensation. In order to address this in the Son La Hydropower Project, the ADB has established a technical assistance fund to build local capacity for livelihood restoration activities. The fund was used to increase the capacity of both resettlement authorities and PAPs. Capacity building and training focused on three major areas: (i) Training government staff to use Geographic Information Systems to assess potential resettlement sites, how to assess soil types and availability of natural resources and how to plan and implement livelihood activities; (ii) Training PAPs on harvest improvement; (iii) Training PAPs on livestock management.

What are the enabling conditions for channeling benefits to local communities? This topic is addressed by Mokorosi and van der Zaag in a set of detailed articles published in 2007. Drawing upon experience in southern Africa's Orange Senqu River Basin, they observe that benefits are rarely equitably shared. When local PAPs receive benefits, these are generally only indirect or secondary benefits, such as community services, access to construction jobs, or skills training, whereas non-local and non-affected stakeholders, for example off-takers and urban citizens, receive the direct or primary benefits, such as urban water supply, electricity provision and cash royalties. To remedy this situation, and make benefit sharing a practical reality for local communities, the authors identify three enabling conditions to facilitate the effective application of specific mechanisms: (i) National legislation must support the concept of local PAPs being the primary beneficiaries; (ii) Mechanisms must be defined at the outset of the project planning stage; (iii) Local authorities must have sufficient capacity. Mokorosi and van der Zaag assert that the political environment, as reflected in the national legal and institutional framework, plays a major role in protecting or marginalizing PAPs. Therefore, their rights and entitlements must be protected in national legislation. The authors suggest that one of the key mechanisms for translating monetary benefits into sustainable development outcomes for local communities is the use of community investment programs (CIPs).

In hydropower projects, ideas and activities must go "above and beyond" a company's obligation to fully mitigate any negative environmental or social impact that they cause. They should comply with all in-country regulations related to the environment, social protection, health and safety, and worker's rights.

Table 2.2: Community Investment Program Activities for Hydropower Projects identified by IADB's 2006 CIP Report

Hydropower Generation	Hydro Transmission & Distribution	Water Resource Management
Development in fisheries, tourism, recreational, and other uses of the reservoir. Research and educational efforts related to fisheries, fauna, and flora in the reservoir. Ecological research programs, such as meteorological stations, microclimate monitoring, geological, and archeological research programs. Educational programs on business and residential energy efficiency. Educational programs on reduction of GHG emissions Local health programs, such as hygiene, public health, HIV/AIDS, disease-carrying vectors.	Provide free or reduced rates for special users, including schools, libraries, and community centers in impoverished communities. Sponsor educational programs for schoolchildren and local community organizations to prevent accidents involving contact with electric lines and electrical substations, and tower climbing (e.g., to retrieve kites). Sponsor energy conservation programs. Distribute low-energy-consumption light bulbs in low-income communities. Provide special rates and assistance on connection for disadvantaged residential customers. Provide technical and financial assistance to community centers, libraries, sport fields, and schools for lighting systems, electrical transformers, and other equipment. Sponsor community awareness programs on the health and safety risks related to electromagnetic radiation near high-voltage lines.	Promote water conservation and reuse programs. Provide access to potable water for disadvantaged persons not connected to water systems. Sponsor programs for watershed protection and management. Support water quality monitoring in lakes, streams, and rivers. Provide special rates and assistance to disadvantaged residential customers. Sponsor research and educational activities related to potable water supply. Sponsor research on environment-friendly water supply and wastewater treatment. Sponsor water quality programs involving local schoolchildren and youth. Promote reuse of effluents to conserve water resources. Support reuse of sludge to fertilize marginal soils or non-food agricultural fields (e.g., flowers). Provide assistance to install rural, waste-water treatment systems. Support watershed and water resource cleanup and remediation programs. Promote environmental education programs for schoolchildren and community groups.

Colombia: Benefit-Sharing of Hydropower Projects through Royalty Transfers

From as early as 1986, Colombia began allocating a percentage of benefits from hydropower plants (>10 MW) to the development of the areas into which the displaced reservoir populations were relocated. In 1993 Colombia enacted a legal framework for benefit transfers, National Law No. 99, which was followed by a number of decrees.

In accordance with Colombian law, revenues of hydropower projects are to be shared with local communities in the following manner:

- 3percent of revenues are shared with Regional Autonomous Corporations (under the auspices of municipalities), whose jurisdiction covers the watershed and reservoir where the hydropower project is to be located, for the purpose of watershed management and long term sustainability. The types of eligible investments include water irrigation and water savings. In the event where the project is hosted by a

number of Regional Autonomous Corporations, the 3 percent allocation is shared in proportion to the each Corporation's jurisdiction.

- Another 3 percent of revenues are shared with host municipalities and districts in the watershed, distributed as follows: (i) half for the municipalities bordering the reservoir, and (ii) half for municipalities upstream of the reservoir, within the watershed. In the event that the project is hosted by several municipalities, the 1.5 percent benefit is shared in proportion to each of the municipalities' jurisdiction.

These resources are to be used by municipalities to support the Municipal Development Plans, with priority for projects related to sanitation and environmental improvement, including public works consisting of urban and rural aqueducts, sewers, water treatment and management and disposal liquid and solid waste. The law includes penalties for non-payment or delayed payments, identifies the responsible parties for monitoring and verification, and for the approval of municipal plans, and requires transparent disclosure of transfers.

Brazil: Benefit Sharing through Royalties Distribution

"Massive investments in hydropower are a pillar of Brazil's transition from an underdeveloped country to a middle income country. Enormously rich in natural resources, the country needs vast electrical power for the industries created to process natural resources, industries that in turn provide employment for its large population. This is why the country has embarked over the last 30 years on one of the world's largest hydropower programs, comparable to that of China and India.

From the outset, hydropower development involved significant resettlement of affected peoples in Brazil. In the early years, many of the affected peoples were displaced, often in urban and peri-urban slums, and became impoverished. In response, the Government of Brazil revised its constitution in 1988 to include the principle of re-investing a percentage of royalties from hydropower in the resettlement areas, and followed with the adoption of a series of laws to translate the new principle into practice by defining entitlements and specific amounts of transferable royalties, together with procedures for assuring a regular timetable for such allocations. Moreover, since Brazil is a federation of states, the laws were adopted at the federal level, to be binding for all of Brazil's states.

From the outset, the policy decision was to direct the lion's share of resources – roughly 90percent of all royalties from public hydropower plants – to the states and municipalities and only 10percent to federal agencies. For instance, the laws of 1989 and 1990 specified a distribution of 45percent to the overall budgets of affected states, another 45percent to the directly affected municipalities within those states, 8percent to the how the funds should be further divided: 40percent for the maintenance of electrical services, 35percent for water resources management and data gathering and no less than 25percent for environmental federal electrical regulatory agency and 2percent to the Brazil Ministry of Science and Technology. Significantly – in order to ensure proper resource management consistent with the objectives of this special legislation – the laws also mandated protection. Royalties are to be paid throughout the power plants' lifetime, to help provide for the long-term "economic sustainability of affected communities" (Gomide 2004; Egre et al. 2008). Subsequent laws, in 1997 and 2000, took the previous legislation further, nationally regulating water resource use

and introducing payment for the use of reservoir waters. Although the compensation is set as a very small fraction per MWh of generated power, the aggregate amount becomes significant." (Cernea, 2008)

IMPACTS OF HYDROPOWER PROJECTS ON COMMUNITIES

The most obvious and direct benefits of HEP projects to society are the provision of electricity, provision of water supply, creation of construction jobs, and the provision of replacement housing and community infrastructure for PAPs. HEP projects can also provide a wide range of other types of benefits that go beyond strict compliance with compensation and mitigation approaches. It is fairly common for HEP projects to consider community development initiatives concerning issues of health, poverty, economic development and gender.

A micro hydropower example documented by the United Nations Development Programme/Global Environment Facility (UNDP/GEF, 2003) is the 18kW Tungu-Kabiri Community Micro Hydropower Project in Kenya implemented by a local NGO in partnership with the community. This project yielded a range of direct and spin-off social benefits for the local community, for example: a health clinic is now able to use electricity to refrigerate medicines; lighting instead of kerosene burners is used, thereby reducing the risk of respiratory and eye problems; lighting in houses at night is enabling children to study; women and children do not have to collect as much firewood so they have more time; and there are improved local opportunities for use by neighboring villagers such as a new social hall and community development office, as well as other service shops with an energy supply. The key mechanism for attaining these benefits was grass roots capacity building. Just like empowerment of individuals, institutional capacity building is considered a mechanism to maximize a whole range of specific benefits. The Tungu-Kabiri project built the capacity of the local community to construct, maintain and repair the electrical system. It also established their capacity to manage and operate a power scheme. The implementing NGO is still providing advice and support as the community decides upon tariffs for the use of power and rent for the use of stalls in the micro enterprise centre.

Watershed management can improve power generation potential by extending the ability to generate dry-season power and by delaying reservoir siltation. In addition, watershed management can be used as a tool to improve livelihoods within communities upstream of the reservoir.

Two of the articles reviewed were hydropower case studies with a focus on improving the health of upstream catchments. A Venezuelan case study (IADB) briefly outlined the Integrated Watershed Management Plan set up in 2003 to support sustainable use of the watershed to maintain hydropower potential using the following mechanisms: water and soil conservation, revision and improvement of the relevant legislation, environmental education, implementation of research studies, and monitoring and enforcement. A second case study from the Philippines (Watershed Management Department of the Philippines) outlined practices currently in place to effectively manage forestry and agricultural activities of watersheds and improve livelihoods. It included reforestation, vegetative erosion control measures, agro-forestry, and non-timber forest management to rehabilitate and stabilize sparsely vegetated and critically degraded areas of watersheds. Livelihood training, seedling

and animal dispersion, formation of people's organizations and technical assistance are amongst the enhancement measures that were used to improve livelihoods. Other mechanisms included the enforcement of forestry laws and military assistance in the apprehension and confiscation of illegally gathered forest products.

Provision of employment is often cited as one of the primary social benefits of HEP projects; however, it must be recognized that most of the employment is often construction related and therefore temporary. The literature recognizes that one should not overstate the contribution of HEP employment creation.

Not all employment generation is a direct benefit related to construction of the HEP; livelihoods can also be indirectly enhanced through spin-offs and related socio-economic development such as tourism.

An example of tourism benefits can be seen in the 14 GW Itaipu HEP project on the border of Paraguay and Brazil, which supplied 93 percent of the energy consumed by the former and 20 percent of that consumed by the latter as of 2005. The Itaipu site has become a major tourism attraction. The project created the "Bela Vista Sanctuary" for displaced animals, which included an eco-museum, and the Museum of Guarani Land, which retraces the ten thousand years of Guarani life and culture in Paraguay. The dam also provides a light show and the Tatí Yupí Sanctuary, which is an environmental protection unit created and maintained by Itaipu in Paraguay that is open to visitors. There is a local zoo where Itaipu preserves the wealth of animal life found on the Paraguayan side of the Paraná River, and a nursery where seedlings are grown for the reforestation of woods and forests degraded by human activity. As well as creating jobs, these initiatives attract tourists who spend money in the local communities.

Table 2.4: World Bank Community Development Carbon Fund (CDCF) Hydropower Projects

Country/ Project Name	Project Description	Community Benefits	CDCF Contracted ERs (tCO2e)
China: Guangrun Hydropower Development	Construct and operate three hydropower plants with total capacity of 28MW (10, 10 and 8 MW) on the Guangrun River.	20% of carbon revenue will be earmarked for a county government poverty alleviation fund which will provide increased water supply, upgraded flood control, and water for 1,000 hectares of irrigated farmland.	485,000
Georgia: Small Hydro Rehabilitation	15MW additional power through rehabilitation and construction of small hydropower stations.	A potable water supply system that will benefit 45 households and the village primary and secondary school; rehabilitation of 3 small bridges, the current condition of which inhibits mobility and access to services; construction of a social and cultural center for the entire village.	
Kenya: Optimization of Kiambere Hydro	Expansion of a hydropower station by upgrading the turbines, which would increase the output by 20MW.	The community benefit plan, which is intertwined with the Kenya Olkaria II Geothermal project and the Redevelopment of Tana Power Station through an overarching community benefits scheme, includes: Clean water (construction of water lines and storage tanks); educational benefits (construction and equipping of classrooms, administration blocks, and boarding facilities); health benefits (construction and equipping of health centers); livestock improvements (rehabilitation and construction of cattle dips); and improved access to markets and educational and health facilities (upgrading of rural roads).	215,000
Kenya: Redevelopment of Tana Power Station	Expansion of hydropower station by constructing 2 x 4.3 MW and 2 x 5.5 MW run of river dams.	As above.	226,000
Nepal: Village Micro-hydro	Development and installation of micro-hydropower plants ranging from 5 to 500kW with a cumulative capacity up to 15MW.	Reduction in diesel consumption by replacing diesel power with electric agro-processing mills (the schemes to be financed will replace manual milling with machine grinding, reduce cereal losses and increase yields in the case of oil expellers) and provision of household lighting (142,00 households would benefit).	191,000

CONSTRAINTS TO BENEFITS IN HYDROPOWER PROJECTS

Enhancing development benefits is related to social and environmental issues that many in the hydropower industry are still addressing through mitigation and compensation programs. Moving beyond mitigation and compensation approaches towards an increased use of benefit sharing and enhancement approaches that complement mitigation and compensation measures will require further changes in the way in which policy makers and practitioners plan or carry out their work. Several authors identify some key constraints, which are summarized below.

- Confusion between compensation and benefits sharing
- Corruption
- Lack of local planning

- Lack of government presence
- Lack of consultation with different stakeholders
- Access and trust in conflict areas
- Political will
- Lack of community organization
- Implementation capacity of sponsor, government and communities
- Capacity to invest resources effectively
- Lack of clarity in roles between government, communities and developers
- Using evaluation at end instead of throughout
- Legislation
- Uncertainty over who pays

A key question that is hardly addressed in the literature is: how much of the monetary benefits should be shared. This question raises both an equity issue and an absorptive capacity issue. The number of beneficiaries and stakeholders among whom benefits are to be shared may affect the value of benefits as well as the rate of return of the investment for the project proponent. For example, when communities are very small, royalties have more value per capita. Negotiations related to sharing benefits will also be influenced by assumptions regarding the sharing of risks. As per water basin benefits, riparians that were previously unable to agree on volume allocations will not be able to agree on benefits just by swapping the concepts. Introducing benefits in the dialogue can create a two tier step whereby riparians calculate benefits back into volume allocations or possibly another quantifiable unit to ensure they are getting their perceived appropriate portion of the resource benefits.