

Analysis of Benefit Sharing Schemes by Hydropower Projects in Sikkim and Arunachal Pradesh

PROJECT REPORT



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ICIMOD

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ABBREVIATIONS AND ACRONYMS

ABS	Access and Benefit sharing
BMC	Biodiversity Management Committee
BOO	Build Own Operate
BOOT	Build Own Operate Transfer
CAG	comptroller and Auditor General
CAMPA	Compensatory Afforestation Fund Management and Planning
CBD	Convention on Biological Diversity
CEA	Central Electricity Act
CSR	Corporate Social Responsibility
DMF	District Management Fund
EIAs	Environmental Impact Assessments
EMP	Environment Management Plan
EPA	Environment Protection Act
FEWM	Forest, Environment, Wildlife and Management
GDP	Gross Domestic Product
GoI	Government of India
HEP	Hydro electric Project
IEA	International Energy Agency
IHA	International Hydropower Association
IIED	International Institute for Environment and Development
JFMC	Joint Management Committee
LAA	Land Acquisition Act
LADF	Local Area Development Fund
MCA	Ministry of Corporate Affairs
MoEF	Ministry of Environment and Forest
MoEF	Ministry of Environment and Forest
MoUs	Memorandum of Understandings
MW	Mega Watt
NBA	National Biodiversity Authority
NCEPC	National Committee on Environment Planning and Coordination
NEEPCO	North Eastern Electric Power Corporation
NHPC	National Hydroelectric Power Corporation
PMKKKY	Pradhan Mantri Khanij Kshetra Kalyan Yojana
R&R	Rehabilitation and Resettlement
RGVY	Rajiv Gandhi Grameen Vidyutikaran Yojana
SBB	State Biodiversity Board
SHGs	Self-Help Group
SWECO	Swedish Consultants
UNCHE	United Nation Conference on the Human Environment
UNEP	United Nation Environment Programmes
WHO	World Commission on Dams

1. INTRODUCTION

1.1 WHAT IS BENEFIT SHARING IN HYDROPOWER DEVELOPMENT?

The World Commission on Dams (WCD) report, *Dams and Development: A new framework for decision-making*, published in 2000, played a significant role in the paradigm shift for benefit sharing in hydropower development. There are seven strategic priorities recommended in the report, the no.5 priority is “Recognizing Entitlements and Sharing Benefits” among project affected communities. Not only does the report critique the negative social and environment impacts of hydropower development, but also it recognizes the considerable benefits of hydropower. After the WCD report, several international studies were carried out in pursuit of sustainable hydropower development. These studies further clarified the concepts and mechanisms of benefit sharing in hydropower development. In this introduction section of the report, firstly we draw on international research regarding benefit sharing to review the various models used for the definitions and classifications of hydropower benefits. Secondly, we consider the ways in which evolving international paradigms of hydropower development and benefit sharing practices. Finally, we present the emergence of benefit sharing concept in India.

1.2 BENEFIT SHARING: BEYOND COMPENSATION AND MITIGATION

What is ‘benefit sharing’? In defining ‘benefit sharing’, it is equally important to define what is *not* ‘benefit sharing’. But even this is difficult to do. Wang (2012) says in practice, it is difficult to draw a clear line between mitigation and benefit sharing because some benefit sharing programs can be an extension of mitigation measures. One major point of confusion in our research on benefit sharing in Nepal (Shrestha et al., 2016) concerns whether practices designed to mitigate the negative impacts or costs of hydropower development, such as compensation payments or resettlement should be considered benefit sharing.

Some scientific experts and organizations state that benefit sharing is distinct from compensation. In an address to compensation in hydropower power projects, Cernea (2008) argues that compensation alone cannot in and of itself restore and improve the lives of people who are dispossessed and displaced. By its nature, as defined in economics, compensation is neither a “benefit” to displaced ousters nor an “investment” in their development (as it is often falsely claimed to be): it is only an (incomplete) restitution for what is taken away from those displaced (ibid). The International Hydropower Association

(IHA) (2010) also supports this stance and states that benefit sharing is distinct from one-time compensation payments or resettlement supports.

However, others disagree, and argue that compensation falls within the bounds of benefit sharing. Men et al. (2014) said that compensation and resettlement was a common form of benefit sharing in the Mekong basin of Cambodia. Until recently, people in Sikkim state of India were only aware about compensation for the loss of their livelihoods and assets and nothing more (Rao, 2014).

After examining 10 case studies, the SWECO (2011) report for the World Bank noted that the distinction between compensation and benefit sharing may be project specific and then identified compensation and mitigation as originating from Environmental Impact Assessments (EIAs) or license processes, and identified benefit-sharing as originating from more developmentally-oriented goals rather than mitigating impacts. IIED (2014) states the key difference between compensation/enhancement measures and benefit sharing, as observed by the WCD is that the former is usually financed by the project investment budget, while the later are typically financed by other measures, including the operating income of a hydropower project.

In a recent research report, Shrestha et al. (2016) state that compensation and mitigation efforts are zero-sum activities, whereas benefit sharing is increasingly defined as going beyond the mitigation of project impacts and beyond compliance. Here, in this report, we adopt this definition, that benefit sharing is not compensation and mitigation, but in addition to these efforts.

1.3 EVOLVING PARADIGM ON BENEFIT SHARING CONCEPT AND MECHANISMS

The concept of benefit sharing in relation to hydroelectric power (HEP) has been continually evolving (Skinner et al. 2009, McDonald 2009, Wang 2012). Skinner et al. (2009) describes the evolution of benefit sharing paradigms from simply notify and compensate prior to the 1980s to all-inclusive partnership approaches with long-term benefit sharing with local communities in the post 2000s. Similarly, McDonald (2009) says the focus initially was on employment and infrastructure for gross domestic product (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. Wang (2012) says benefit sharing concept evolves over time and that the current thinking of benefit sharing has evolved beyond compensation and mitigation. In reviewing the literature, the focus is increasingly on a benefits enhancement and sharing approach that seeks to optimize and provide more equitable distribution of benefits.

During the last 18 years since the WCD (2000) report, many in the international community have worked to expand the benefit sharing concept as well as mechanisms for implementation for hydropower development. Although the WCD (2000) report, did not explicitly give a definition of benefit sharing, it has clearly defined beneficiaries and classified types of benefits associated with hydropower development. For example, the six broad types of benefits associated with hydropower development are: (1) project revenue related; (2) project benefit related; (3) project construction and operation related; (4) resource related; (5) community service related; and (6) household-related. Furthermore, the WCD report emphasizes the importance of properly identifying affected people and including them in the “identification, selection, distribution and delivery of benefits”. Then, through a multi-stakeholder committee, the report promotes that parties “assess and agree on the level of benefits” for each project. The report states that the level of benefits should be sufficient to induce demonstrable improvements in the standard of living of the affected people. While this report brought benefit sharing into the spotlight for hydropower, it doesn’t discuss the mechanism to target those benefits (IIED, 2014).

Since the WCD (2000) report, subsequent research studies have tried to clarify the concept and mechanisms of benefit sharing in hydropower development. The 2007 United Nations Environment Programme (UNEP) compendium defines benefit sharing as a mechanism that is one of the most important means required for complementing cash compensation and other measures conceived within the framework of compensation policies. The UNEP compendium drew from WCD’s focus on sources of benefits and moved towards different arrangements to administer them and to ensure they reached affected populations (IIED, 2014). After a detailed study of 12 international projects, UNEP (2007) classified benefits into two major types namely monetary and non-monetary. Furthermore, the UNEP compendium classified monetary benefit sharing into: revenue sharing; development funds; equity sharing; property taxes; and preferential electricity. And classified non-monetary benefits as: livelihood restoration and enhancement; community development; and catchment development. It is interesting to note that preferential electricity is classified as monetary because there are usually no direct electricity disbursements to communities or individuals. Instead it seems fit to have preferential electricity under non-monetary benefit sharing as electricity rates are typically reduced (IIED, 2014).

Unlike previous studies, Skinner et al. (2009) says, “Benefit sharing is fundamentally a social contract between the main consumers of electricity and water services in towns, cities, commerce and industry with the local communities, who give up land or resource access for the project, facilitated by government regulation”. Skinner et al. (2009) further states that benefit sharing should not be viewed as a negotiation between the local community and hydropower owners, which could reduce the nation’s

ability to attract hydropower project financing or lead to inconsistent arrangements between projects in the country, and spawn new controversy. However, current benefit sharing practices do indeed reflect a long struggled negotiation between local communities and power developers in India (Rao 2014), in Nepal (Shrestha et al. 2016) and in many other developing nations. Skinner et al. (2009) present three types of benefits in hydropower development namely: equitable sharing of project services; non-monetary forms of benefit sharing; and revenue sharing.

A decade after the WCD (2000) report, the SWECO report for the World Bank (2011) said it is imperative to move from vision and literature studies into action, making benefit sharing initiatives more operational and practical for practitioners. SWECO (2011) defines benefit sharing as “A framework for governments and project proponents to maximize and distribute benefits across stakeholders, through relevant spatial and temporal scales by use of various mechanisms, and consistent with the principles of sustainability”. SWECO (2011) report proposes five categories of benefits sharing: project design and operation; ancillary investment outside core infrastructure such as roads, bridges, and schools or/and health facilities; direct disbursement, i.e. royalties, taxes, revenues or development funds; institutional and capacity building; and policies and regulatory frameworks such as legally binding mechanisms for distributing benefits across stakeholder groups.

Furthermore, in another World Bank report titled, *The Guide for Local Benefit Sharing in Hydropower Projects*, Wang (2012) defines benefit sharing as the systematic effort by project proponents to sustainably benefit communities affected by hydropower investments. Wang (2012) also says benefit sharing can provide equitable development, sustainability, and smooth project implementation for hydropower development. Wang (2012) categorizes two major types of benefit sharing mechanisms: a) monetary and b) non-monetary. According to Wang (2012), commonly used monetary benefit sharing mechanisms are: direct payment/ revenue sharing; preferential electricity rates; payment for environmental or ecosystem services; a community development fund; and equity sharing. Similarly, Wang (2012) categorizes non-monetary benefit sharing as: improved community infrastructure; support for health and education programs; improved access to fisheries and forests; and legal title to land employment. In addition to the categorization of monetary and non-monetary benefit sharing, Wang (2012) says for any benefit sharing mechanism to work, there are three key enablers: (1) government policies and supportive legal and regulatory framework; (2) corporate social responsibility strategies of development companies; and (3) the capacity of the local communities to ??? or what kind of capacity?.

IIED (2014) proposes a simple four-fold characterization of the different benefit sharing measures: compensation, enhancement, benefit sharing redistribution (revenue sharing), and benefit sharing partnership (equity sharing). These measures may be put in place by project developers and partners, including government, in designing benefit sharing in favor of local populations. IIED (2014) further says the key element of governance for local benefit and control is the decision-making structure. How is it established and the extent to which project-affected populations can directly influence the use of funds. For example, where funds are paid into government budgets, the risk is that they will be absorbed and applied as general expenditure, without benefitting actors external to government, including local populations. In other words, despite the intent to create a benefit-sharing mechanism, local needs and aspiration may still be subordinated to national, or regional, development priorities. To prevent this from happening, adequate representation of local communities in the decision making processes for allocating funds is crucial.

Therefore, benefit sharing, which has many definitions, is continually changing (Wang 2012, Skinner et al. 2009 and McDonald 2009). While we agree that the mechanisms of benefit sharing are contextual and there cannot be one definition and/or mechanism of benefit sharing which fits all projects (Cernea 2008), we do support defining benefit sharing as those monetary and non-monetary mechanisms that go beyond compensation and mitigation for communities affected by hydropower.

1.4 EMERGENCE OF BENEFIT SHARING IN INDIA: LEARNING FROM OTHER SECTORS

The concept of 'Benefit sharing' in India started through the formulation of various acts and policies in multiple sectors. Initially, it started in the Biological resources with the adoption of one of the objective of Convention on Biological Diversity (1992) which aims to ensure 'fair and equitable of benefits arising out of utilization of genetic resources' in its Biological Diversity Act (2002), the Biological Diversity Rules (2004), Access and Benefit Sharing Guidelines (2014). In the year 2002, India was the first country to enact legislation on Benefit sharing to ensure those whose access resources take prior permission and on mutually agreed terms thus offering win-win solution between the resource user and the owner through three Benefit sharing mechanism as identified in the national laws namely; 1. Monetary mechanism 2. Non-monetary mechanism and 3. Benefit sharing through the National Biodiversity Fund (Pathak 2017).

Some of the monetary and non-monetary mechanism as identified in the BDA (2002), Biological Diversity Rules (2004) and ABS guidelines (2014) are: Royalty/fee/financial benefits arising out of commercial utilization; Joint ownership; transfer of technology; Venture capital fund; institutional

capacity building; product development; education and awareness raising activities; providing scholarship and sharing information relevant to conservation and sustainable use of biological resources. Furthermore, the Biological Act of 2002 mandates the formation of three monitoring bodies for the access and benefit sharing from the national to local level namely; National Biodiversity Authority (NBA) and State Biodiversity Board (SBB) at the provincial level and the Biodiversity Management Committees (BMCs) at the local level.

The most popular form of sharing benefits is the monetary mechanism which legally binds the user agency to pay a royalty to the resource owner/benefit claimant. But the financial obligation of the user and how benefits are shared is mentioned only in the 2014 ABS guidelines which mandate the user to pay a royalty to the National Biodiversity Authority between the ranges of 1per cent to 5 per cent (determined on a case-by-case basis) from the annual gross ex-factory sales. The amount is divided into equal half between the two. Further, 95 per cent of the fund is allocated to the Biodiversity Management Committee at the local level. The royalty can only be deposited in the National Biodiversity Fund, used for the local developmental activities only in the case where the owner (individual/organization) remain unidentified (ABS, 2014)

“Rich Land, Poor People”- the ironic dichotomy in mining where poorest people live on the richest land (CSE, 2011). Similar to the hydropower sector, the mining sector lacks the legislative framework that precisely deals with the Benefit Sharing. But one cannot deny the fact that various mechanism of Benefit sharing is gradually evolving through different country’s legal framework. There has been a gradual shift in country’s laws from one-time compensation to one job scheme, land to land, programmes under Rehabilitation and Resettlement, CSR and then recent provision of sharing monetary benefits directly to the local affected peoples.

Among all the mechanism, Royalty/tax has been the common form of Benefit sharing to the state government as an ‘economic/resource rent’ for the use of natural resources and not the affected communities (CSE 2011). Besides government being the owner of the rent from the resources used, CSE (2011) further claimed displaced population losing their livelihood to be the actual owner of the economic rent in addition of R&R packages.

The rate of the royalty different from one another, fixed on ad advalorem basis (rate based on the percentage of sales price). The sharing of the monetary and non-monetary benefits to the locals got recognition in the country’s legislation only in the Mines and Minerals (Regulation and Development)

Amendment Act, 2015 and Companies Act of 2013. The Act mandates 'profit sharing' by the leaseholders to pay an amount not exceeding a third of the royalty to the state government, for the District Mineral Foundation (DMF). The fund transferred to the DMF is to be utilized for the programme identified in the Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY). Sharing of at least 2 per cent of the company's three years net profit to implement welfare programme as identified in the act.

Unlike the biological and mineral resources, the country lacks the clear regulatory and institutional framework that legally binds the developers to share the various benefits with different project stakeholders including the local affected communities. The concept of benefit sharing is gradually evolving in India's hydropower sector. The shift from the 'Nation building process' towards recognizing the 'Rights of the local affected communities' is resulted from the recommendation by the International agencies such as WCD (2000), IEA (2000) and IHA (2000) as well as the evolution of Sectoral acts and policies emanating from the decades of past experiences from the resource extraction, huge displacement, ecological disturbances, struggles and conflict against the negative externalities of the developmental activities.

As a consequence, there has been a major shift from the compensation, mitigation, towards the inclusion of local affected communities as project stakeholders and the implementation of various monetary and non-monetary mechanisms. Some of the mechanism identified in the country's acts, policies, notification are: 1. Benefits to the State government (12 per cent royalty to the state government); 2. Benefits to the local communities through the provision of the public hearing, preference of the locals, one job from the displaced families), training the unskilled workers, a total of 2 per cent LADF, free electricity, welfare activities through CSR, broaden the definition of affected families etc.

Despite the several efforts at the global level, there is need of a clear distinction between the compensation, mitigation and Benefit sharing in the country's hydropower sector. Pant et al (2014) found Benefit sharing, compensation and mitigation, and CSR lumped together due to the lack of a clear concept of 'Benefit sharing'. As said by Wang (2014) that compensation, mitigation and CSR if seen through the lens of Benefit sharing provided that the living condition of the affected people must be better than the pre-project.

2. METHODOLOGY:

The core intent of this study is to understand the benefit sharing landscape for the Indian states of Sikkim and Arunachal Pradesh, located in the geopolitical northeast region of the country housed in the eastern Himalayas. The study has selected a total of 13 hydropower projects – 10 from Sikkim and 3 from Arunachal Pradesh – to capture the drive for hydropower development in the north east region. The study has attempted to tie together knowledge gained from literature, central and state policy documents, project related documents, field observations and interviews from multiple stakeholders - the state government, the district government, project developers, key persons from villages and affected population. This approach was taken not only to allow for a triangulation of information received, but also to capture the various lenses and discourses through which the issue of impacts and benefits from hydropower are viewed.

The study has tried to study the practices of benefit sharing in close conjunction with the policy, assessing the alignments and misalignments between the two, and the reasons behind these. The primacy of the policy process in determining the benefit sharing landscape in India and in the states of Sikkim and Arunachal Pradesh have been captured through a dedicated section on the analysis of evolution and issues of the policy process. The generic issues with regard to benefit sharing mechanisms, those that enhance or hinder them, are broadly under:

- **Issues related to the policy process:** These include issues linked to the provisions for benefit sharing in the policy, the alignment between state and national policies, temporality of the policy process and impacts of time period of allocation on policy provisions
- **Issues of institutions and governance:** These include issues related to role of the state, involvement of local governments from the district to the village levels, ownership of projects by public or private developers and their modes of operation, institutional platforms for demands and conflict.
- **Sustainability issues:** These incorporate issues of temporal variations in intent, obligations, and ability of developers to provide benefits, as well as the shifting focus on beneficiary stakeholders at different levels, over the period of the projects.

Since the hydropower production in this region is largely exported to other parts of the country there are various spatial levels of affected and thus beneficiaries beyond just the displaced population.

Therefore the benefit practices have been categorised according the level of beneficiary the mechanisms is primarily intended at:

- State government
- Local area
- Local and affected persons

There has been an effort to bring together a wide variety of data sources, given the limitations related to the ease of data availability, sensitive political environment surrounding hydropower, extreme remoteness of the study area, and varied expectations of stakeholders.

2.1 METHODOLOGY AND DATA SOURCES

To better understand the evolution of Benefit sharing mechanism and the current practices in the hydropower projects in selected sites, the data has been acquired through the following methods and data sources:

2.1.1 Review of Literature: The relevant literature on the benefit sharing was reviewed at the International, national level as well as regional literature to understand the socio-political context in the hydropower sector of North Eastern states.

2.1.2 Review of National and State policies have been conducted to understand the evolution of various mechanisms in the legal framework, which is one of the triggering factors for the successful implication of benefit sharing in the India’s hydropower projects.

Table 1: Policy documents for analysis	
National Polices	Land Acquisition Act, 1894 Constitution of India 1950: Article 19 (Right to Property) and Article 31 (Right to Compensation) T.N Singh Formula, 1967 Forest (Conservation) Act, 1980 Environmental Protection Act, 1986 Environment Impact Assessment Notification, 1994 Environment Impact Assessment Notification, 1997 Hydropower Policy, 1998 Rehabilitation and Resettlement Policy, 2003 Environmental Impact Assessment, 2006 Rehabilitation and Resettlement Policy, 2007 Hydropower policy, 2008 Companies Act, 2013 The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement, 2013

State Policy (Sikkim)	Terms of Development (Draft) model Implementation Agreement Project MoU: Sample <i>(Private - Rahi Kyuong HEP 25 MW; Rongnichu HEP 96 MW; Dikchu HEP 96 MW; Tashiding HEP 97 MW; Chujachen HEP 110 MW; Central PSU - Teesta V HEP 510 MW)</i>
State Policy (Arunachal Pradesh)	Small Hydropower policy, 2007 Mega Hydropower policy, 2008 Project MoU: Sample <i>(Small hydro - Dikshi HEP 24 MW; Tsa Chu HEP 24 MW; Large and mega hydro - Par HEP 65MW; New Melling HEP 60MW; Rho HEP 60MW; Mago Chu HEP 96MW; Nyukcharong Chu 96MW; Central PSU owned – Kameng HEP 600 MW Joint venture - Attunli HEP 500MW).</i>

2.1.3 Field based research:

Qualitative data collection

- **Key person Interviews-** This method was used mostly to access village level or project level impacts and benefits. The method was found suitable for cumulative understanding of the prevailing situation.
- **In-depth Interviews:** Method was used to understand personal experiences and narratives and stakeholders with regard to impact, gains, challenges and therein personal narratives
- **Group Discussions:** This method was found helpful to ascertain community's opinions conflicts and inequalities in distribution of benefits.

Quantitative data collection

- **Government data sources:** Documents such as CAG reports, state government progress report as well as relevant central government reports were used to gain quantitative data regarding hydropower development
- **Project level documents:** This include documents such as project level environment compliance report, documents on Corporate Social Responsibility, Environment Impact Assessment and Environment Management Plan, Public hearing and CDM-PDD reports.

For the qualitative analysis in this study, the data was collected from the three major project stakeholders namely;

- **Hydropower developers** include the project management staff consisting of Head of the project, Project Manager, Public Relation Officer, Project In-charge, Engineers, Corporate Social Responsibility officer, Environment officer, Human Resources head and other local and non-local employee.

- **Government stakeholders** include concerned officials from different departments of state, district and local administrative level such as:-

Table 2: Government Stakeholder Departments

Sikkim	Arunachal Pradesh
<ul style="list-style-type: none"> - Department of Energy and Power - Forest, Environment and Wildlife and Management Department - Land and Revenue Department - State Pollution and Control - Divisional Forest Office - District Collector office - Forest Range office 	<ul style="list-style-type: none"> - State Hydropower Department - Department of Forest and Environment - District Collector Office - Range Office - Sub-Divisional Forest Office - Additional District Collector Office

- **Local stakeholders** the local affected communities including both the landowners and other villagers. This includes peoples who have received compensation in return of land, impacts to life, property and livelihood, village panchayats, social activities, Members of NGOs village committee members etc . Snowball sampling was used to select the respondent at the village level.

2.2. SELECTION OF HYDROPOWER PROJECTS

A total of 13 hydropower projects were selected as sample representatives based on ownership, temporal and capacity of the project to understand the various benefit sharing mechanism in the hydropower sector in the North-eastern states of Sikkim and Arunachal Pradesh. These case studies represent 1551 MW (Sikkim) and 1115 MW (Arunachal Pradesh) from the total estimated energy generation from the hydropower projects in the state.

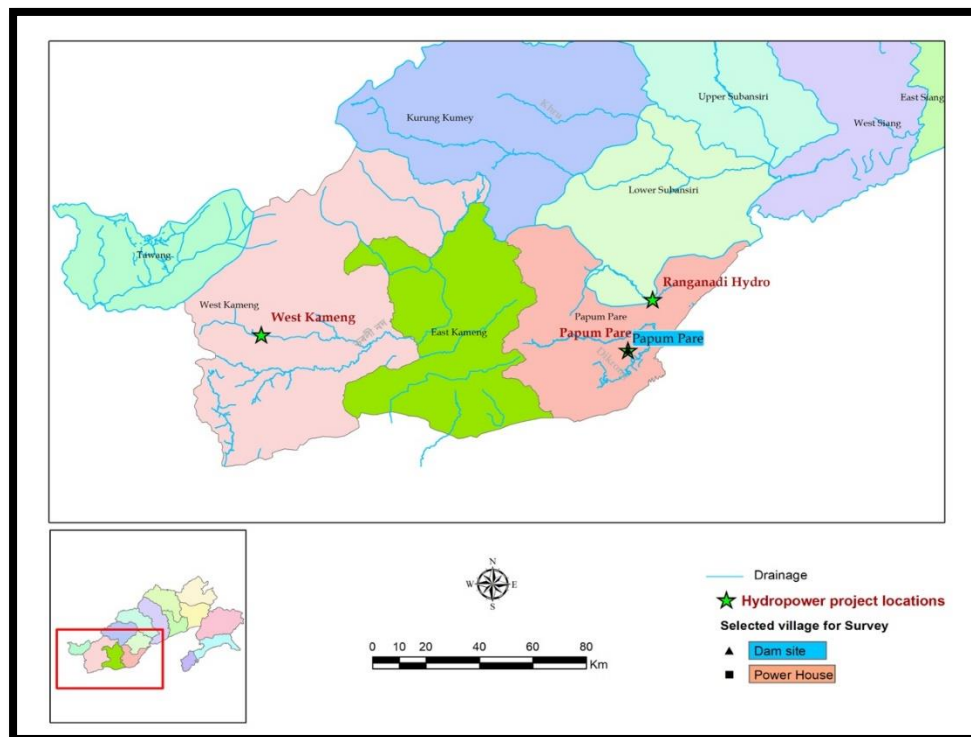
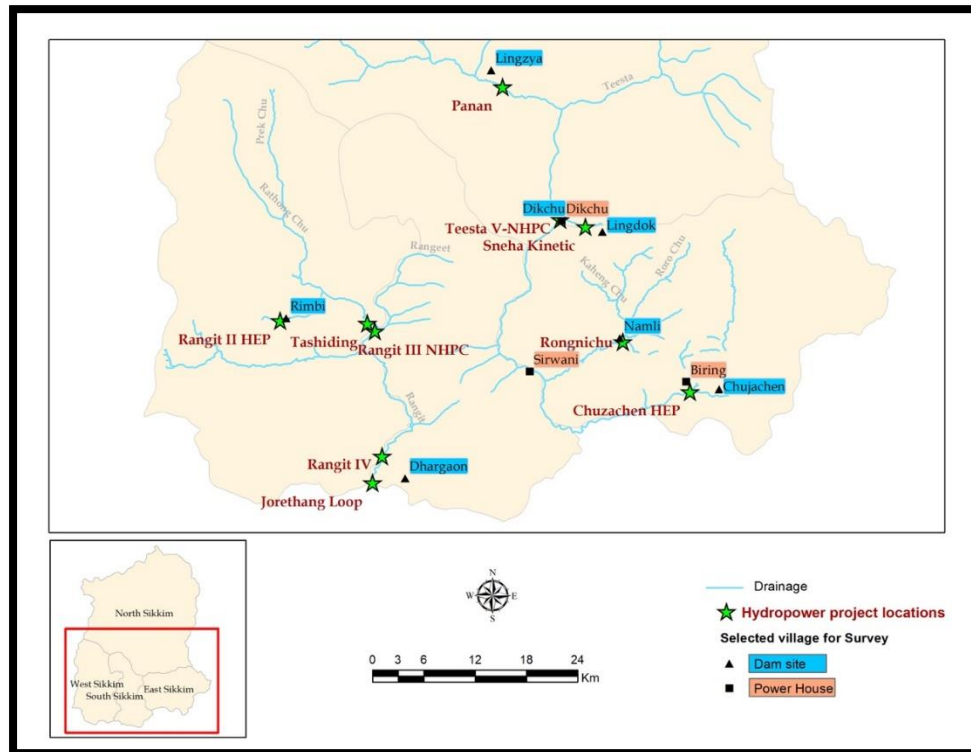
- **Geography:** The 13 hydropower projects selected as sample representatives of hydropower projects, spread over all the four district of Sikkim and three district in Arunachal Pradesh.
- **Status of Implementation:** The hydropower projects are at different stage of implementation - such as the projects at preliminary construction phase, and those already commissioned. From the hydropower projects under-construction and operation, different time frames are selected to understand the policy implication and practical implementation of Benefit sharing mechanism.
- **Ownership Pattern:** The selected projects are under the ownership of public and private agencies. The different in the ownerships support the study to understand the various benefit-sharing activities implemented during the pre and post construction of the hydropower projects.
- **Capacity of the Project:** The selected hydropower projects from mega to large with the installed of 60MW to 600 MW.

Based on the above mentioned criteria, the following hydropower projects were taken into consideration for the study of 'Analysis of Benefit sharing by Hydropower Projects in Sikkim and Arunachal Pradesh':-

Table 3: Status of select Hydropower Projects in Sikkim and Arunachal Pradesh

Name of Project	Location (District)	Company	Capacity (MW)	Ownership	Nature of allotment	Date of MoU	Latest status	Remarks
Sikkim								
Rangit III	South	NHPC	60	Public	BOO	-	Commissioned	Commissioned (2000)
Rangit II	West	Sikkim Hydro Venture	66	Private	BOOT	2005	Work on hold	Project works suspended due to funding issues. Cumulative progress of the project 12%.
Jorthang Loop	South	Dans Pvt Ltd	96	Private	BOOT	2005	Commissioned	Commissioned (2015)
Rongnichu	East	Madhya Bharat	96	Private	BOOT	2006	Under-construction	Project under construction and cumulative progress 64%.
Dikchu	North/East	Sneha Kinetic	96	Private	BOOT	2006	Commissioned	Commissioned (2017)
Tashiding	West	Shiga	97	Private	BOOT	2008	Commissioned	Commissioned (2017)
Chujachen	East	GATI	110	Private	BOOT	2003	Commissioned	Commissioned (2013)
Rangit IV	West	Jal Power	120	Private	BOOT	2005	Work on hold	Project works suspended due to funding issues. Cumulative progress around 49%.
Panan	North	Himagiri	300	Private	BOOT	2005	Work on hold	Project works suspended due to funding issues.
Teesta V	East	NHPC	510	Public	BOO	2000	Completed	Project commissioned on April 2008
Arunachal Pradesh								
Ranganadi	Lower Subansiri	NEEPCO	405	Public	BOO	No MoU	Commissioned	Commissioned (2002)
Pare	Papum Pare	NEEPCO	110	Public	BOO	2006	Commissioned	Commissioned (2018)
Kameng	West Kameng	NEEPCO	600	Public	BOO	1999	Under-construction	Test running

Map: Geographic Location of hydropower Projects selected as case studies in Sikkim and Arunachal Pradesh

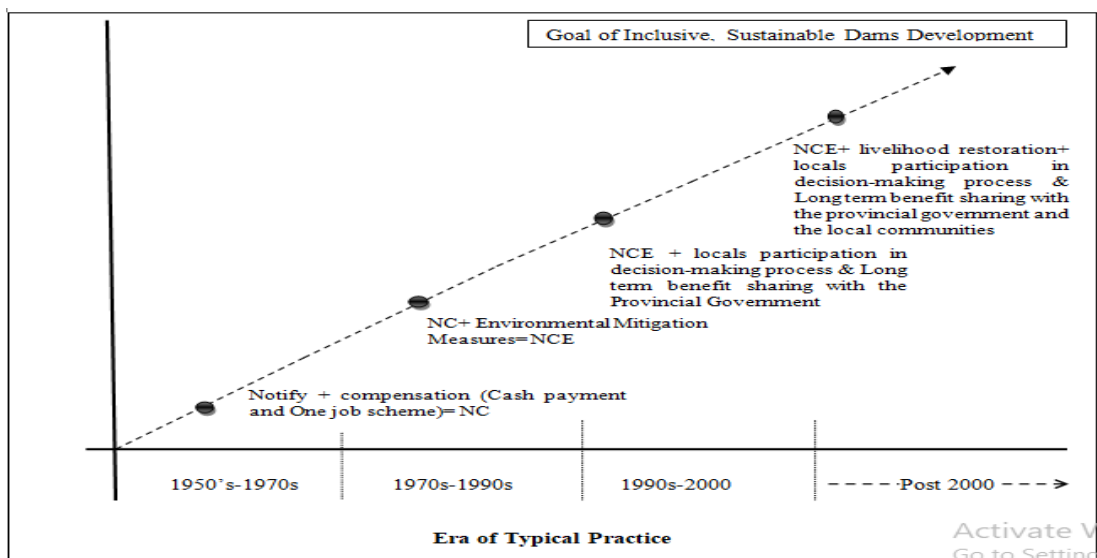


3. BENEFIT SHARING IN POLICY

As mentioned in the previous section, the concept of Benefit sharing has been gradually evolving in the hydropower development through the country’s legislation as a result of International discourse, decades of past experiences from the local protest and the policy evolution. The assimilation of three triggering factors identifies the major steps of going beyond the simple compensation and mitigation towards benefit sharing with different project stakeholders mainly the local communities. But what is still missing in the legislative framework are; 1. Unlike the Biological resources, there lacks the regulatory and institutional framework that clearly defines the term ‘benefit sharing’ and it’s mechanism to the resource owner/benefit claimant by the user agency. But one can deny the fact that the prevailing acts and policies is no away from including the components that characterize the features of Benefit sharing as identified by the International agencies; 2. The existing policy document does not legally bind the developers to share the benefits with the local communities.

3.1 EVOLUTION OF BENEFIT SHARING IN NATIONAL POLICY

The significance of the policy in sharing the benefits to the local stakeholders is considered as major enablers and triggering factors for the successful implementation of Benefit sharing mechanism (SWECO, 2011). The gradual shift in the acts polices and notification from the compensation for the land and property to mitigation to both the short and long term benefit sharing mechanism is visible temporally.



Source: Pradhan, 2018 Pg. 89

The above mentioned figure illustrates the change in the perception that has occurred and also to find how the principles and concept of Benefit sharing are applied over the period of time through the legal and regulatory framework. It shows the change in which the project beneficiaries are viewed (from the country's overall population to state government to the local affected communities) from the historical past. For many years, they notify the landowners to vacate the land without any Rehabilitation and Resettlement support which was meant to for 'Nation Building' process. However, the one-time compensation and one job scheme to the landowners and displaced population identified in the Land acquisition act 1894 and polices after Independence dominated the developmental activities for several of decades.

The norm to conserve the environment reaches the national agenda only after the Stockholm conference of 1972¹, with the enactment of legislative framework for environment management by the central government (Choudhury, 2013), broadly contained in the umbrella of Environment Protection Act 1986, Water (prevention and control) Act 1974, Forest (conservation) Act 1980 etc . It was only from the 1990's various mechanism of benefit sharing become visible in the policy documents that goes beyond the mere one-time compensation and mitigation. The major landmark in the Indian hydel power sector has been the 'Hydropower policy 1998' that deals with the hydropower projects in particular and not multi-purpose project/water infrastructure as a whole. The local participation in the decision-making process and considering state as a project stakeholder by sharing its revenue generated. Similar is the case with displacement with the formulation of Rehabilitation and resettlement policy in the year 2003, 2007 and then Act of 2013 amended to address the long drawn issues on displacement due to developmental activities. Furthermore, the direct sharing of benefits to the local affected communities was identified with the formulation of Hydropower Policy 2008.

3.1.1 Compensation, Rehabilitation & Resettlement: Land is the important input for the hydropower project. The history of individual landownership began with the recognition of right to property as fundamental rights. In the Indian constitution, the article 19 and 31 ensures "Right to Property" of private landholders and 'Right to compensation', if the state government acquires the land for the public purpose. This initiative in the Indian constitution bought a significant change in the norms outlined by

¹ The United Nation Convention on Human Environment (UNCHE) 1972 led to the inception of National Committee on Environment Planning in 1974.

the LAA 1894² that empower the government to acquire the land and compensate the owner based on market value of the land.

Besides the one-time compensation, efforts were made by the government to incorporate provision of Rehabilitation in the T.N Singh formula (1967) which stipulates *one job scheme to the displaced families* and Narmada Dispute Tribunal (1979) identifying *Land to Land compensation*. Despite the several draft prepared for the R&R policy since 1985, government formulated its first national policy titled *National Policy on Rehabilitation and Resettlement* in 2003, 2007 policy and then Act in 2013. The legal scope of compensation under LAA 1894 and Constitution of 1950 remain outside the purview of landless agricultural labourers, businessman and those with common property. It was only in the 2003 R&R policy that actually brought in the definition of agricultural families, displaced families, Project affected peoples which includes both the landowners and landless families whose livelihood has been affected after the commencement of the project.

Some of the elements of R&R includes: provision of housing, land to land compensation, one employment, training and skill development, subsistence grant, one-time grant to artisans, small traders, fishing rights and one time settlement allowance etc entitled to both the landowners and landless families living in the project area. As per the hydropower policy 2008, Compensation outlined under the R&R plan includes those affected families living in the area prior to two years from the notification.

3.1.2 Environment: Environment gets institutionalized in the country's legislation after India's Prime Minister attended United Nation Conference on Human Environment on 1972 with an objective of *Sustainable Development* (Choudhury 2013). This creates a landmark in the field of environment conservation, resulted into inception of National Committee on Environment Planning and Coordination (NCEPC) in 1974 and later in the year 1985, it led to the formation of Ministry of Environment and Forest (MoEF). In the year 1977, Environmental Impact Assessment was initiated Planning Commission with an objective to predict the social and environmental impacts at an early stage of the project and find ways and means that ensures minimal environmental impacts and bring maximum economic and social benefits. Furthermore, it requires clearance from the different departments and directs to prepare

² The legislative framework enacted during the colonial rule for the land acquisition was retained in the same form by the Republic government until the new act of 2013.

Detail Project Report and Environmental Management Plan of the project. Hence, the EIA became the integral part of decision-making in the river valley project.

Forest (Conservation) Act of 1980 empowers the government to approve the diversion of forest land for non-forest purpose. The act directs the developers to pay the Net Present Value for the diverted land as well as Compensatory Afforestation which must be twice the size of the forest land used. The Environment Protection Act of 1986 act as an umbrella legislation enacted under the article 253 of the Indian Constitution which legally empower the central government to undertake 'measures' to 'protect and improve' the 'quality of environment'. Furthermore, the act empowers the central government to monitor the project site and undertake punitive measures in case of violation of any of the rules.

The EIA 1994 notification enacted as sub-ordinate legislation under EPA 1986 requires the developers to conduct public hearing only in the project with large displacement or severe environmental impacts. It was only in the 1997, the public hearing was mandated as one of the fundamental principle of environmental clearance, ensuring fair and equitable participation of the locals in the decision-making process. It is an opportunity to the affected communities to express their views and concern for the proposed project. Whereas, the notification of 2006 narrowed down the participants to the affected families than the previous EIA notification and remained silent on civil society organization in the hearing.

3.1.3 Royalty: The only mechanism that entails the direct share of the Revenue as compensation to the state government was outlined in the Hydropower Policy of 1998 and then 2008. As per the policy, the developers are required to pay 12% of free electricity from the total revenue generated from the sale of electricity.

3.1.4 Free Electricity: The hydropower policy 2008 includes the provision of 100 unit free electricity per month to the project affected families for the period of 10 years. If the family does not consume then the cost of the unused electricity to be paid in cash or kind, the rate is to be determined by the State Electricity Regulatory Commission. For the implementation of Rajiv Gandhi Grameen Vidyutikaran Yojana, the company is required to bear 10 percent loan of state government's share to electrify or provide free electricity within certain radius from the dam site/powerhouse site.

3.1.5 Local Area Development Fund: Since the emergence of hydropower policy 2008, the country experience flow of regular fund to the project affected communities with the introduction of 1 percent free power over and above 12 percent by both the state government and developers towards the LADF.

The LADF is intended to improve the livelihood condition. For the implementation of the programme under the LADF, the policy further outlined the formation of standing committee that includes government officials not less than District Magistrate and representatives from the project affected people.

3.1.6 Employment: Besides the one-time compensation to the landowners, the provision to employ one member from the displaced family was identified in the T.N Singh Formula 1967. However, the employment scheme was restored by the Standing Committee in 1986 claiming the company's inability to absorb the surplus unskilled workers from the displaced families. Despite several efforts, the planners and policy makers fail to amend the R&R policy to safeguard the rights of the local affected communities. It was only in 2003 R&R policy then 2007 and 2013 act, efforts has been made to include the provision of one employment from affected families that goes beyond one-time compensation. Besides that, the hydropower policies 2008 emphasise to provide special training (IITs) by the developers to the affected families as well as local communities at least prior to six month from the commencement of the project. The policy aims to boost the employment from the villages around the project for the long-term benefits of the people.

3.1.7 Corporate Social Responsibility: The Companies act 2013 came into force in 2014 after replacing the previous act of 1956. For the social and economic development of the local communities from the project area, the section 135 of the Companies Act 2013 obliged the developers to share its 2 percent of the average profit earned from the immediate three preceding years towards various programs identified under CSR scheme. Some of the focused areas under CSR are education, health, eradicate hunger and poverty, gender equality, empowering women, environment, vocational skill, and enhance business and contribution to Prime Minister's National Relief Fund.

3.2 STATE POLICY: THE CASE OF NORTH EAST INDIA

Hydropower policy and benefit sharing in the states of Sikkim and Arunachal Pradesh emanates from both, the national policy regime as well as from the larger context of the hydropower development in the north east of India. In 2003 the north east region of India gained major significance for hydropower as a part of the Prime Minister's 50,000 MW Hydro Initiative³, of which more than half the potential was

³ Initiative targeted for the end of the 12th Plan period in 2017

planned from the North east states of India (including Sikkim)⁴. In 2001, the Central Electricity Authority (CEA) identified 168 dams in the Brahmaputra basin alone with a potential for generating 63,328 MW of power making the north-east region frequently known as the potential ‘power house of India’ (Das and Thomas, 2016; Joy et.al, 2017; Das, 2013; Baruah, 2012; Gol, 2009). However, the push for development of this power potential of the state was not to fulfil the local energy demand of the region, which is very low. The push was largely intended for the provisioning of power demands of the country, general development of the region through revenue generation for the state and “spin-off benefits” such as employment generation, boost to infrastructure development in remote areas, services, and tourism in the region (World Bank, 2007; PIB, 2017). The liberalisation of the power sector in 1991 (D’Sa et.al, 1999) and the impetus to increasing private sector participation in hydropower development through the Hydro Power Development Policy 1998 (Gol, 1998) has also contributed to the hydropower policy landscape of the north east. Together these factors led to rampant signing of MoUs (Chowdhary and Kipgen, 2013) with CPSUs⁵ and private IPPs in Sikkim and Arunachal Pradesh in the 2000s, that was critically termed as “MoU virus” (Chakravartty, 2011; Alley, 2017). It is within this context of the national policy landscape, government thrust for hydropower development, focus on regional development through revenue generation, encouragement of private sector participation, and fast tracking of hydropower projects, that benefit sharing mechanisms in Sikkim and Arunachal are embedded.

3.2.1 Evolution of Benefit sharing provisions in Sikkim Policy:

Benefit sharing instruments found in Sikkim stem from a mix of national and state policy framework. The policy process of hydropower sector in Sikkim thus plays a major role in determining the mechanisms for sharing benefits with the state, local area, and affected population. In Sikkim, since 2000-01, 35 large hydropower projects had already been identified and 28 MoUs signed by 2009 (CAG, 2009). As of 2018, 5 projects have been commissioned, 11 are ongoing, and 17 have been terminated⁶. In the rapid drive to meet the hydropower development initiative in the region in this period, the projects were sanctioned, in the absence of a finalised Hydropower policy, solely through the route of MoUs. The project MoUs have been the primary source of the state policy provisions and duties that are legally binding on the project developers and also, thereby, of mandated benefit sharing mechanisms. These provisions given in the MoUs are compiled and reflected under “*Terms for Development - Specific Terms & Conditions of*

⁴ Of the total of 162 planned projects developing a potential of 47,930MW in 16 states of India, Arunachal Pradesh alone provided for 42 (27293 MW) projects and Sikkim 10 (1469 MW): CEA (2015)

⁵ Predominantly NHPC, NTPC, NEEPCO

⁶ Official website of Energy and Power Department, Government of Sikkim - <http://power.sikkim.gov.in/>

the State Government for Development of Hydro Power Project under Private Sector for Projects above 25 MW”⁷, but no outright state hydropower policy has yet been notified⁸.

Many provisions for benefits in the state emerge from requisite compliance with the national policy environment (central sectoral policies, notifications, and acts). The *Terms of Development* bring together these provisions for benefit sharing from the national policies as well as outline State specific provisions.

Table 4: Provisions of state policy of Sikkim

The national policy framework contributes to the state policy provisions through:
<ul style="list-style-type: none"> • Royalty: 12% free power royalty to host state government • Other revenue benefits: Provisioning of 10% loan of the state for RGGVY within 2km surface distance from project • Local area development: 1% free power provided for Local Area Development Fund
State specific provisions for benefit sharing in the Terms of Development:
<ul style="list-style-type: none"> • Royalty: 15% net energy as royalty (instead of the initial 12%) after first 15 years of operation (upto 35 years)⁹ • Other revenue benefits: processing fees, penalty charges, and cess • Equity sharing: Option for equity sharing in projects by the state government in joint ventures with private developers • Access to infrastructure: Access for local public to infrastructure such as service roads, hospitals, post offices, schools, etc constructed and maintained by the project developer • Employment: Preference to local bonafide residents of Sikkim and the project area in tendering of contracts as well as employment of skilled/unskilled labour • Platform for benefit of affected community: Constitution of a Project Welfare Committee
Mitigation measures: (when implemented true to intent with a focus on the betterment of the local area and community, have the potential to translate into benefits)
<ul style="list-style-type: none"> • Rehabilitation and Resettlement in accordance with central law • Employment to one member of displaced or adversely affected families • Environmental mitigation measures such as protection of fish culture, mandated EIA and EMP, ensuring minimum flow of water downstream of dam

⁷ ibid

⁸ Small hydropower projects (below 25MW) in Sikkim are developed by the state government and have no notified policy.

⁹ IPPs are given projects on a BOOT (Build, Own, Operate and Transfer) basis for 35 years after which the project will be transferred to the State government. This is owing to the land laws wherein outsiders are not permitted to purchase or own land in the state of Sikkim.

Policy provisions not legally binding: In the national policy framework, while central acts (such as Environment, CSR, Land Acquisition, Rehabilitation and Resettlement) are absolute and legally binding, provisions in the central sectoral policies (such as Hydropower Policy 2008) are only indicative and reflect government intent and recommendations. Since these policy provisions are not binding by law, they are incorporated into state policies at the discretion of individual states in various altered ways. Some of benefits sharing provisions and recommendations in the central policy haven't been incorporated in the Terms of Development or the existing MoUs in Sikkim at all, such as the monthly provision for 100 units of free electricity to every Project Affected Family. Others have been incorporated but not in its entirety – for instance 1% free power for LADF has been included but the recommendation that state governments would also provide a matching share of 1% from their royalty share has not been incorporated. For the provisioning of 10% loan for RGGVY, the state terms delineate a 2km surface distance, ignoring varied distance delineations made in the central policy based on the MW range of the project. The royalty mechanism of 12% free power to the host state government is incorporated in a modified manner in the state of Sikkim.

Non uniform policy provisions in MoUs: Since many of these provisions are not legally binding in many central policies or *Terms of Development*, they have to be incorporated in MoUs of various projects to become binding on power producers and the state. However, a reading of a sample of six MoUs¹⁰ for hydropower projects in Sikkim, varying by period of agreement and nature of producer, shows that these policy provisions have not been uniformly incorporated in all the MoUs. MoUs have been drawn up case by case, and therefore differ for projects based on the period of signing, nature of power producer (PSU, Private), and special cases (eg. first private developer in the state). For instance the provision for 1% contribution to Local Area Development Fund has been incorporated only in two projects (Tashiding and Rahi Kyuong HEP) as they the only MoU signed after the national Hydropower Policy 2008. The clause for provisioning of 10% loan of the state for RGGVY by the developer has been included only in the most recent MoU - Rahi Kyuong HEP, 2012. Another instance is that of projects under CPSUs like NHPC which are primarily dictated directly by central guidelines unless otherwise incorporated in the MoU. Unlike the case of private producers, it is seen that these projects are not required to pay the 15% royalty after 15 years of operation. Chujachen HEP by virtue of being the first private hydropower project in the state was also a unique case with regard to mandated provision of revenue benefits since it is required to pay only 12% royalty for the entire 35 years period instead of the

¹⁰ Chujachen HEP, Dikchu HEP, Teesta V HEP, Rongnichu HEP, Tashiding HEP, Rahi Kyuong HEP

increased amount of 15% royalty after 15 years. The other mandated revenue benefits of processing fees, penalty charges, and cess were also not imposed on it. As CAG (2009) revealed, in view of the state, this was done to provide “certain extra incentives with a view to attract other developers to the State” (CAG, 2009.p 15).

Ex post facto adherence to policies: As discussed earlier, the benefit-sharing provisions of the Hydropower Policy 2008 were not incorporated in many MoUs as binding terms on the project developers as the MoUs were signed prior to the policy. The agreements do not contain relevant terms and conditions that obligate the adherence to new emerging policies of the central and state governments.

New Draft Model Project Implementing Agreement: A new policy, in the form of a model MoU, for hydropower projects in Sikkim was provided for the study by the Department of Energy and Power, Government of Sikkim which was drafted in 2016 and continues to be in a draft stage. However it offers certain opportunities to study the direction of developments and gaps in the policy process. Some changes and new developments have been made with regard to various benefit sharing terms in the draft policy:

- **Project Level Welfare Fund:** 1.5% of the total final Capital Cost of the project is to be deposited in a Project Level Welfare Fund in prescribed instalments before the commissioning of the project which will be spent by the company on recommendation of the Project Level Welfare Committee.
- **Employment:** While previously agreements gave preference for employment to local bonafide residents of Sikkim, the new draft agreement has developed this provision by clearly prescribing that “at every levels and categories, atleast 50% of its total manpower” must be employed from among bonafide Sikkimese people. Additionally, it has stated that the first preference will be given to persons from the project affected families and develops it further with the clause of monitoring of employment positions by the Labour Department.
- **Ex post facto adherence to new policies:** The draft agreement has incorporated the provision that would make any new government notified Act(s), Laws, and Policies binding on the company. This has positive implications for benefit sharing mechanisms which are constantly evolving in policy.

The policy framework for Sikkim is evolving with regard to its focus on benefits for the local affected areas and affected population. However, since a large number of projects are already in process with signed agreements that have no provision for ex post facto adherence to new policies, these evolving mechanisms for benefits will not be incorporated into the existing projects.

3.2.2 Evolution of Benefit sharing provisions in Arunachal Pradesh Policy:

As discussed earlier, Arunachal Pradesh alone holds over half of India's hydropower potential. By 2009, 57000 MW of potential had been already been explored and identified, of which development of 25,722MW potential had been allotted between 2004 and 2009, ranging from 7 MW projects to 4000 MW projects, through 72 MoUs (61 above 25 MW) to various private and public hydropower producers (GoAP, 2008; GoI, 2009). This is indicative of the drive for rapid hydropower development in this region in line with a targeted time bound central initiative. As of 2018, 81 projects (above 25MW) covering 40,000 MW of hydropower potential of the state have already been allotted. Of these 2 are in operation and only 3 have reached the construction stage (CEA, 2018).

Till 2004 there was only one commissioned large hydropower project – Ranganadi (405 MW) – and state run pico/micro/mini hydropower projects with a total capacity of only 33.21 MW (GoAP, 2008). Ranganadi HEP under the central PSU NEEPCO was operationalised without an MoU at all. Thereafter, Kameng hydropower project was granted to NEEPCO through an MoU signed in 1999. This stated benefits of 12% royalty to the state government, and preference to locals of Arunachal Pradesh for contracts and for employment under C and D categories of employment.

The state of Arunachal Pradesh formulated a Small Hydro Power Policy in 2007 (below 25 MW) and a State mega Hydro Power Policy in 2008 (which superseded an earlier version of the state Hydropower Policy 2005). Prior to these policies, projects were awarded primarily through a negotiated MoU route. A sample of 10 available MoUs¹¹ and the two state hydropower policies were analysed to identify mandated benefit sharing provisions in state policy and variations therein among different cases. The benefit sharing mechanisms in Arunachal Pradesh, like Sikkim, emanate from both the national policy framework as well as state policy provisions, made legally binding by their incorporation in the MoUs.

Table 5: Provisions of state policy of Arunachal Pradesh

The national policy framework contributes to the state policy provisions through:
<ul style="list-style-type: none">• Royalty: 12% free power royalty to state government (for 40 years BOOT mode of operation)• Other revenue benefits: Provisioning of 10% loan of the state for RGGVY within a differentially prescribed surface distance from project based on the potential of the project• Local area development: 1% free power provided for Local Area Development Fund• Free Electricity: 100 units of free electricity for Project Affected families for 10 years

¹¹ Par HEP (65MW), Mago Chu HEP (96MW), Nyukcharong Chu (96MW), Attunli HEP (500 MW Joint venture), Tsa Chu HEP (24MW), Dikshi HEP (24 MW), New Melling HEP (60 MW), Rho HEP (60 MW), Rego HEP (70MW), Kameng HEP (600 MW)

State specific provisions for benefit sharing:
<ul style="list-style-type: none"> • Other revenue benefits: state determined processing fees, upfront premium, penalty charges, and cess. Sharing of CER proceeds gained from project's CDM registration • Equity sharing: Option for equity sharing in projects by the state government in joint ventures with private developers • Local area development: 1 paise per unit electricity provided for Local Area Development Fund • Employment: -preference to local contractors for project works; -prescribed percentage reservation in posts in project for local tribal people and preference therein to project affected people
Mitigation measures:
<ul style="list-style-type: none"> • Rehabilitation and Resettlement in accordance with central law • Environmental mitigation measures such as protection of fish culture, mandated EIA and EMP, ensuring minimum flow of water downstream of dam

Incorporation of central provisions: The MoUs signed after the relevant state hydropower policies, with regard to benefit sharing mechanisms, closely follow the norms stated in the policy documents. The State Hydro Power policy of 2008 of Arunachal Pradesh has incorporated all major benefit-sharing provisions of the national Hydropower Policy 2008 in their entirety. These include the provisions related to payment of royalty to host state, producer's and state's contribution to local area development fund, free electricity for project affected families, and bearing the state's share for the RGGVY for the recommended surface distance range. Compliance with the provisions of national Hydropower Policy 2008 has been included even in projects that are allotted as joint venture with the state government (MoU Attunli Hydro Electric Project – December 2008).

However, the Small Hydro Power Policy 2007 has not incorporated these provisions. These are accordingly reflected in the MoUs studied. The studied MoUs in this category state that the compliance of these projects is held to the Small Hydro Power Policy 2007 of the state. But since this policy does not incorporate the terms of the central Hydropower Policy, possibility of adherence its provisions on an ex post facto basis is weak.

MoUs signed prior to the 2008 policy also do not have these provisions incorporated; however there is a provision that states:

“4.3 The Company shall comply with the Hydro Electric Power Policy of the Central/State Govt. as would be in force at the relevant point of time, during the course of implementation and subsequent operation and maintenance of the hydel station” (MoU Par Hydro Electric Project – December 2007).

This gives an indication towards the possibility of seeking compliance with the state and central Hydropower Policy 2008 on an ex post facto basis. However, most of these projects have not entered even the construction phase and therefore operational realities are yet to be seen.

Central versus State Guidelines: Projects run by CPSUs generally operate directly under central guidelines. State policies are not binding on these projects unless incorporated within the MoUs for the central projects. For CPSU projects allotted prior to notification of state policies there is no provision for ex post facto incorporation of state policies either. Therefore the state cannot impose their policies, however as it is found in field, that some ex post facto norms may be operationalised through project specific correspondence and notifications from the state government, subject to agreement and approval of the central government.

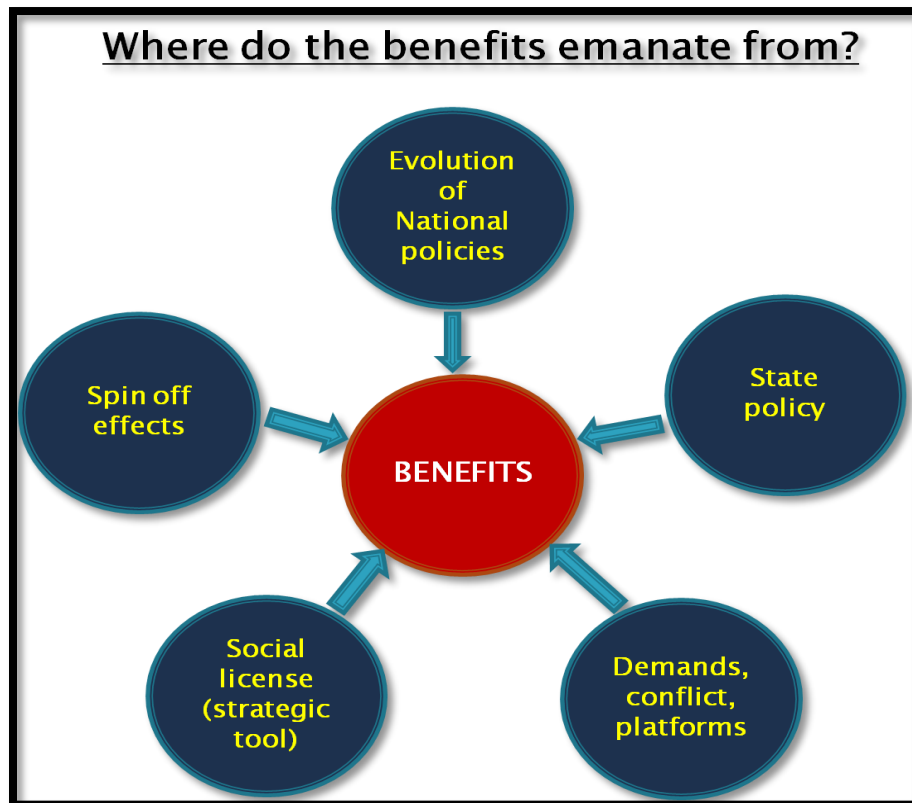
Understanding policy provisions for benefits sharing and issues in the very policy process is essential in Sikkim and Arunachal Pradesh to understand the mechanisms and gaps in practice. While this chapter introduced the generic mechanisms of benefits in policy, their evolution, and issues, a more detailed elaboration of the policy provisions of specific benefits will be done in conjunction with their implementation on ground in the following chapter.

4. BENEFIT SHARING MECHANISMS IN PRACTICE IN SIKKIM

INTRODUCTION:

As discussed in the earlier section 1 the concept of benefit sharing has entered into the international thinking interms hydropower project since two decades. Theoretically, benefit sharing is considered as a social tool that ensures to sustainably benefits all the project's stakeholders in the development of hydropower projects. Furthermore, emphasis has been given to improve the socio-economic conditions of the local affected communities. However, it is learnt from the case studies that current practice of benefit sharing is not resulted from the developers goodwill but several enablers triggered the interest and need of benefit sharing to project affected ranging from national to local level. The triggering factors that sparked the implementation of benefit sharing, valid for both the states under case study is illustrated in the below given figures.

Figure 1: Flow chart showing enablers prompting the benefit sharing



Source: Author's self-compilation

SINGLE FORM OF BENEFIT DERIVED FROM MULTIPLE MECHANISMS:

Several typology of benefits to the diverse array of project stakeholders emerged from different benefit sharing mechanisms. As the country lacks the framework that precisely deal with the benefit sharing of the hydropower projects. Similar to the several triggering factors for the implementation of benefit sharing programmes, single form of benefit emerged from the multiple mechanisms, which many times become a reason for developers not implementing the programmes. Different form of benefits practised in the case study and the governing mechanism are elaborated in the below given tables.

Table 6: Benefit sharing in practice

BENEFITS	MECHANISMS						
	National policies			Social license (CSR Policy)	State Policy/MoU	Demands /protests	Spin-off effect
	R&R policy	Hydropower policy	environment policies				
State							
Revenue		✓			✓		
Equity					✓		
Environment			✓				
Local Area							
Development Fund		✓			✓	✓	
Infrastructure	✓			✓	✓	✓	✓
Affected population							
Employment	✓			✓	✓	✓	✓
Free Electricity		✓					✓

Source: Author's Self-compilation

BENEFIT SHARING PRACTICE IN SIKKIM:

The following sections examine mechanisms of benefit-sharing in practice in the state of Sikkim. These benefit mechanisms have been categorised based on who the benefit is aimed at. Since benefit-sharing as a concept originally envisaged mechanisms for betterment of project affected people, this categorisation triggers a significant question in benefit-sharing – and that is regarding the scale of affectedness. In the states under study here, the hydropower potential that is being developed is primarily as an initiative to serve the energy demands of the country, and therefore the we may consider as affected – the state, the local area, and the direct land and livelihood affected population. These categories are of course not mutually exclusive and do not imply that benefits of one scale precludes the other, rather it is based on the broader intent of the mechanism as it is in design and practice.

The mechanisms for benefits identified are:

- Revenue Mechanisms including Royalty
- Equity sharing
- Local Area Development Fund
- Corporate Social Responsibility
- Employment and Livelihood benefits
- Mitigation initiatives translating to benefits: R&R, Environmental enhancement

The mechanisms under study largely emanate from provisions of policy discussed in the previous chapter, but the benefits vary given the non uniformities in MoUs, variations in nature of the project developers, location of projects, and phase of project development. The following sections will look into practices as they are on ground, and analyse them vis-à-vis the policies that direct these mechanisms.

4.1 BENEFITS TO THE STATE:

4.1.1 Revenue Benefits: Royalty

The royalty mechanism for hydropower projects was outlined in the national Hydropower Policy 1998, which was then continued in the national Hydropower Policy 2008. The policy stipulated a 12% royalty to host states of hydropower projects. There is however, in the national policy, no indication as to how the state governments are required to utilise the royalty amount or whether this amount will be distributed among the local affected areas or population for their development.

In the state of Sikkim the royalty mechanism varies for government and private IPPs. Only projects beyond 25 MW are open for allocation to IPPs that are required to pay a royalty. The projects under the private sector are allocated and operated on a BOOT (Build Own Operate Transfer) mode for a period of 35 years. Whereas the projects run by CPSUs such as NHPC are operated on a BOO (Build Own Operate) basis wherein the developer owns and runs the project for the entire life of the project. For the projects run by CPSUs the royalty amount is 12% of the net electricity as royalty to that state government, from the date of commission continuing for the entire period of the project. Whereas for private IPPs the royalty payment mechanisms stipulates 12% for the first 15 years of operation and 15% for the remaining period, i.e. years 16 – 35. In accordance with government notifications from time to time to private developers the royalty may be collected either as free electricity or in monetary terms in accordance with a rate mutually agreed upon or at the actual rate of the electricity sold by the developer.

Currently the royalty is taken in the form of free power from all IPPs, which is primarily sold outside the state to earn revenue. This mechanism is a direct benefit to the state government as it contributes to the state coffers as revenue which then is spent by the state government for its regular developmental and other expenditures for the state. There is no provision in the state policy, as in the national policy, for sharing of this royalty amount directly with affected districts, villages, or families.

The royalty comes directly the state, and the state government decide where to build roads, where to get water supply etc. for the whole of Sikkim. That is how it reaches the local communities including the affected communities. There is no direct focus to spend it on affected people – State Government Official, Sikkim

The royalty mechanism is thus a primary revenue benefit for the state. But lack of targeted distribution to affected areas and people weakens its stance as a benefit-sharing mechanism.

4.1.2 Revenue Benefits: Other Revenue mechanisms

In accordance with the state policy, a non-refundable one time processing fee of Rs. 10,000 per MW of project capacity is charged in the very initial stages of project allotments. However, as in our own assessment of select MoUs from the field case studies, and in a more detailed assessment by CAG in 2009, it was found that the application of this charge was not uniform and the mechanism appears to have evolved over time. These charges were made applicable only for projects signed onwards from 2005, while 10 projects signed before that did not face this fee (CAG, 2009).

Similarly a penalty charge of Rs. 10,000 per MW per month is applicable in case of delays in project commissioning that stem from obstacles on part of the project developer. Observations from the audit report of CAG (2009) a comparison drawn with other states shows that these charges have been kept at very low levels in Sikkim to provide incentive for hydropower development in the state. Other charges such as upfront premiums and application fees, charged in other states, are not included in Sikkim (CAG, 2009). An environmental cess at the rate of 1 paise per unit of generated electricity is also applicable.

In the national Hydropower policy 2008 a provision has been introduced (incorporated in only one MoU in Sikkim) wherein the 10% share of the RGGVY, which is originally in the form of a loan from the central government by the state government, is to be paid by the developer for a radius of 2kms surface distance for the project.

All of these together provide revenue benefits to the state government.

Recommendations to improve revenue benefit mechanisms:

- **Transparency of expenditure of the collected revenue:** Since this amount is transferred to the state revenue coffers, the actual on ground development that this revenue potentially offers is not discernible. This causes a lack of transparency and information about the actual benefits from the hydropower sector. More transparency in the expenditure heads separately and specifically from this revenue can bring the benefit from this mechanism to light.
- **Availability of data:** There is a lack of open availability of data on the total revenue receipts from hydropower projects in the state as well as discernible expenditure heads of this particular revenue. More open data policy regarding the revenue earned and expenditure made can help bring more reliability and accountability of this mechanism.
- **Distribution of revenue benefit:** A clear mechanism to distribute the revenue earnings, specifically the royalty, or atleast a share of it to the project affected people and villages, incorporated in the policy can strengthen this as a benefit mechanism. This process will entail a clear definition and identification of affected population and areas, determining the percentage share for distribution to different levels, creating local platforms for determining modalities of expenditure, as well as resolution of potential conflict.
- **Learning from case of other states:** These revenue mechanisms and more are operationalised in varied ways in other states. It could be prudent practice to enhance revenue benefits by learning and incorporating from models followed in other states.

4.1.3 Equity:

The mechanism to share the equity entitles the government with the project ownership, aiming to enjoy the long-term benefits along with free electricity. The equity mechanism in the state is not much flourished in the hydropower sector. As mentioned in the terms of development and few MoUs, it is an option for the state government to invest in the private projects with minimum 26% (project above 100 MW) and 11% (below 100 MW) of the company's equity. The policy framework for the joint venture applies a condition of signing the equity agreement within the period of six month from the date of signing the agreement for the project. However, the developers have to arrange the fund for the state's equity share.

Current practise of sharing equity

According to the government latest data, state government has only entered into agreement of 26 % share with the four hydropower projects. Out of the total, the equity has not yet infused in two projects

and Teesta III project is the only project with successful Joint venture with the investment of 60.8% alone by the state government. The Teesta III HEP is the largest project in the state with the installed capacity of 1200 MW. The major share of the state government provides the state's ownership over the project and involve in decision-making process.

The shares are considered as long-term benefits but there is always an equal chance of losing which is more prevalent in the Sikkim's hydropower sector. The numbers of private project terminated by the government makes it more difficult for the investor for equity sharing. The Rangit IV HEP, the only project among the case study with 26% (50.40 crores)¹² share by the state government which resulted into extra financial burden to the state government to pay back loan.

We have lost a huge amount in equity sharing in the Rangit IV HEP as the project is on halt due to some financial crises. As per the norms of the funders, state government have to pay bank loan within 10 to 12 years. The project was supposed to be commissioned by 2013 which means every year state government is losing 12% royalty. -Government Officials, Energy and Power Department.

Equity sharing in the hydropower projects has not resulted into productive outcome. Except in Teesta III HEP, the state government either not infused the fund despite signing an agreement of joint venture and whatever investment is done with a private partner is at greater risk because the project itself is struggling to continue its constructional work.

Recommendations:

- **Risk Reduction:** Completion of the project itself is a major issue in the state and equity adds additional risk to the government budget. Therefore, it is important to know the accountability of the developers by knowing their past experiences in the field of hydropower projects. Lesson can be learnt from other states such as Arunachal Pradesh which set criteria to select partner based on technical and financial experiences.
- **Offer timing:** The equity holders are to invest at the initial stage of the project which triggers the risk of losing financial equity in a case where numbers of private developers are unable to complete the project. In order to reduce the risk of financial equity, share should be done after completion of some constructional work (atleast 50%) rather than in the initial stage of the project.
- **Open to public:** Sharing of equity entitles with the 'ownership' which brings a sense of belongings and responsibility to share holders. Making local affected communities shareholders can have long-term benefit as well as it will provide financial support for the construction of the project. If properly

¹² Retrieved from www.jpcl.com/finance Accessed on 12th August 2018.

implemented, it has the potential to bridge the gap between the locals and developers. Locals should be encouraged in equity sharing in the especially in the CPSUs as there is less risk of losing investment than IPPs.

- **Local Awareness:** Lack of knowledge among the locals may create conflict and inequality within society. It is crucial to make people understand the procedure for the financial investment as well as risk related to it. Therefore, it is important to formulate a clear framework to guide the developers and the shareholders that may result into win-win solution to both the developers and equity partners.

4.1.4 Funds for Environment Enhancement

Hydropower projects are portrayed as benign the clean energy, source of economic development and climate change mitigator (Arora 2009). Hence, the measures to protect the environment gained more significance since the early seventies after Prime Minister attended the United Nation Conference on Human Environment thus recognising the need for sustainable development, resulted into formulation of various acts and polices at national level (Priyadarsini 2016).

All the hydropower developers are required to carry out the Environmental Impact Assessment (EIA) and Environment Management Plan (EMP) report in association with the State Forest, Environment and Wildlife Management (FEWM) Department as well as consultation from reputed organisation as required under the Environment Protection Act of 1986. The hydropower developers in Sikkim mostly follow the guidelines outlined in the EMP based on the EIA that is framed to properly address the environmental issues due to the commencement of the project. The impact to the environment further affecting the culture, religious belief and Identity has always remained the major concern of the locals. Time and again, researcher have talked about the negligence and faultiness in the environment clearance. As CAG report 2009 stated the non-involvement of the government officials by some of the developers while conducting survey and investigation of the forest land. The developers applied for site clearance to GOI without knowledge of state department and the data provided were found to be incorrect. The people's contestation over the hydropower projects and its impact on environment is purely based on the ethnicity which Chettri (2017) as 'Ethnic Environmentalism'. Further, she stated that those who cannot make environment claims on the basis of ethnicity remain marginalised and continue to be exploited, reflects the lack of local grievance mechanism. Therefore, it is difficult to justify that the programmes under EMP implemented goes beyond the mitigation measures, whereby

claiming to be a benefit to the environment of the state, until and unless a detail study is not carried out.

Despite the fact that environment enhancement programme technically is a mitigation measures but the fund allocated under the EMP is considered to be benefits for the state government and hydropower developers. Hence, the study claims that if the programmes are properly planned, executed and monitored throughout the lifetime of the project then the simple mitigation can be translated into benefits.

Allocation of funds

As discussed in the earlier section, the developers are required to deposit the fund to the Central CAMPA, based on the estimation done in the EMP. The fund gets further disseminated to the State's FEWM department, the implementing agency. Under the concerned department, the work gets divided to different sector such as territorial sector responsible for forest land diversion including forest products; Environment and social sector for CAT plan; Wildlife sector for Biodiversity Conservation Plan; Fishery department for Fishery Management Plan; Social Forestry for plantation and fodder trees. This shows the direct involvement of the state department in implementing and monitoring the environment management plan, therefore, the proper maintenance of the environment is the responsibility of the state government (concerned departments), developers as well as the local communities.

Funds allocated for the different plans and programmes outlined in the EMP are based on the impact identified during the EIA study.

- District official Forest Department

Developers are directed to deposit the fund to State CAMPA which will be further transferred to the Central head CAMPA, Delhi. Based on the State CAMPA's Annual Plan of operation the central released 10% of the total EMP CAT plan for each project annually.

- Officials forest department

Table 7: Funds paid/received by the state government for the CAMPA

Name of the Projects	Funds allocated for the Environment Management Plan			
	CAT	CA	BMP/WCP	FMP
Jorthang Loop	1,36,96,000	60,67,914	50,48,000	-
Tashiding	63,48,000	28,43,900	88,40,000	30,59,000
Chujachen	1,68,93,000	44,50,900	56,50,000	-
Teesta V	3,68,044,000	1,11,10,000	1,24,42,000	84,27,000
Rongnichu	5,78,26,000		72,02,000	27,79,000

Rangit III	-	-	-	-
Dikchu	7,80,92,000	84,14,000	60,00,000	55,75,000
Pannan	9,09,81,000		1,27,48,000	
Rangit IV	2,06,40,000	52,80,000	39,70,000	-
Rangit II	3,85,01,000		1,51,50,000	49,22,000
CAT=Compensatory Area Treatment; CA=Compensatory Afforestation; BMP=Biodiversity Management Plan; FMP=Fisheries Management Plan				

Source: Project Six Monthly Environmental Compliance Report; Project Environmental Management Plan

Beneficiaries of the fund

The protection of environment from the damages caused by the project is not only the sole responsibility of the developers but it equally involves different government institutions from the central-state to local level including the local communities. As measures of environmental enhancement, the Compensatory afforestation and CAT plan technically qualifies to be a 'benefit' that simply goes beyond the mitigation measures, if not the affected/local communities but state as a whole. According to the narratives of forest officials, despite the several development activities with massive utilization of land and forest products, the state is able to achieve the growth in the forest rate.

As per the report on the status of forest cover assessment for 2 years, the state achieves 4% increase in the forest cover, is the result of various programmes and the strict implementation of forest laws.

–Officials Forest Department

Considering the fact that the environmental condition after the constructional work won't be same as pre-project but the fund under the CAMAPA acts an additional fund to the forest department to execute environmental management plan which many times become a benefit to the state.

Implementation of CAT includes work related to plantation and improvement of infrastructure.

The status of the forest remains unchanged even after the forest land used for the project.

– District Official's Forest Department

CAT plan is a benefit to the department because that would be an area that would have been taken up under some scheme by the state. If that fund is provided as a part of the project then that is definitely a benefit to the government and to the environment.

–official Forest Department

The degradation of the catchment area is not because of the project but other natural factors or the overexploitation by the villagers, which in any case need to be addressed by the department in the future. Because of the hydropower project we deal with it on higher priority.

-Official Forest Department

The programmes such as Rim treatment, Wildlife conservation plan, Biodiversity conservation plan etc are mitigation measures of the project but not the CAT plan. Catchment area is actually a degraded forest and vulnerable to erosion, not necessarily due to the hydel project, it is just to protect the areas from eroding further and producing silt to the river.

-Official Forest Department

Developers as beneficiaries of environmental programme

From the narratives of project developers, it is revealed that fund for the CAT plan is not simply a social sanction to mitigate the damages caused due to the project but, it is an important investment for the developers to control the siltation and maintain the proper flow of the river.

CAT plan has a dual role. One is to protect the hydropower projects itself and enhances the life of the project, while on the other hand is a fund for us to mitigate the degradation as a priority which otherwise needs to be done in the future.

- Official Forest Department

We have already deposited Environmental Fund to the CAMPA, but from the last few years they have not implemented any CAT programmes in the upper catchment which will reduce the volume of the water to meet the requirement for the electricity generation. We are approaching forest department to initiate the work at earliest.

- Project official, Rongnichu HEP

Institutional barriers for timely completion

It is one-time fund deposited by the developers during the initial stage of the project under the Central, implemented simultaneously with the execution of the project which is to be completed in a period of 5 year. But in many of the cases, the environmental management plans implemented during the construction is either continued after the completion of the project or started in the operation phase. The CAG team found no uniformity in the execution of EMP between the projects when asked to the FEWM department, stated that the fund transferred by the developer had not yet released to the state by the CAMPA under MoEF, GoI. Hence, the delay in the fund by the CAMPA heads is identified as a major barrier to translate the mitigation into benefits also resulted into addition of the fund by the developers.

Because of the delay in releasing the fund for EMP, the wages of the labour get increased.

-Project official, (Rangit IV HEP)

If you see the environment clearance the fund should be cleared in a period of five years but it doesn't actually happen like that because CAMPA doesn't release sufficient fund for taking up the required activities. So, there is a delay in implementation of activities.

- Official forest department

EMP fund is a one-time deposit for the 5 years programme to the CAMPA head during the initial stage of the project from the project cost. But, the CAMPA head don't release the money on time to the implementing agency hence the work for the environment management get delayed, hence developers have to suffer he loss. We have to pay an additional labour cost to the implementing agency from the project cost becomes the extra financial burden to complete our constructional work or repay the loan to the investor.

- Project Official, (Rangit IV HEP)

All the developers have approach the state government to raise the issue at central level. Why don't the ministry keep 10% and release the 90% at the earliest instead of giving in instalment'. Te programmes even continued after the completion of constructional work'.

- Project official, (Rangit IV HEP)

Local's participation

Involvement of local communities for the environment management plan is found minimal in all the hydropower projects. In the study the villagers around the project is found unaware of any environmental management programmes implemented by the forest department. They can only recall the plantation works done by the developers. Only in few cases local youth were given the contract only to plant saplings on the roadside but not to check the survival rate.

For the compensatory afforestation, preference is given to the nearby areas but it largely depends on the availability of the barren land. Hence, the chance of getting an employment for the environmental management to the local affected communities seems to be minimal as well as they don't get access to forest resources.

Generally, the local community's access to forest resources is found low because of the state's strict laws that prohibit them to use the resources except for fodder and fuel purpose.

Felling of trees (bonafied)¹³ is only allowed in the private lands with the prior permission from the Divisional forest office.

- Official Forest Department

To protect the forest cover of the state, government prohibits grazing of animals, fodder and fuel in the forest.

-Official forest department

From the narratives of government officials and the developers that the environmental enhancement plan can be a benefit to the state and the developers if implemented properly, but it is not clear

¹³ Only those tree species identified for felling by the government.

whether the local affected communities are the beneficiaries of hydropower projects from the environment enhancement plans.

Recommendations:

- **Regular flow of fund:** For the timely and effective execution of EMP, the central agency needs to release the annual fund to the implementing agency within the estimated timeframe. If the programmes are implemented timely a simple mitigation measures can translated into benefit, or else lacks to mitigate the adverse impact of the project.
- **Monitoring and Evaluation:** Imperative role of different institutions in monitoring and evaluating the social and environmental aspects during the planning, constructional and operational stage of the project. Monitoring committee must include local administrative officials, panchayats and local affected communities. Lack of monitoring and evaluating mechanism constraint to evaluate whether the adopted measures is becoming threat or benefit.
- **Post-Construction EIA study:** To evaluate the Pre and Post construction situation to ascertain the effectiveness of Environment Management especially Run-of-River project. EIA study of post-construction on a timely basis needs to be conducted to identify and mitigate the impact of the project in the post-construction period. If the post-construction impacts are not taken care of, how much benefits is gained from the project, remains indiscernible.
- **Maintaining Ecological flow:** Government needs to empower the district/local level forest officials to monitor the environmental flow regularly prior to environmental clearance.
- **Transparency in the programme:** Local affected communities should be involved in the decision-making process as well as employ in the implementation of environment management programmes such as CAT plan and compensatory afforestation rather than giving to other contractors. Recent government's initiatives of formulating Joint Forest Management Committee (JFMC) for the management of the forest at a local level should be encouraged to participate in the environment management plan of developmental activities (hydropower projects). This can be a better way to improve local capacity for managing ecosystem.
- **Collaboration of institutions:** All the concerned departments such as Water, Irrigation, Environment, , Social welfare, Energy and Power etc needs to actively participate and collaborate their work for the proper implementation of the project with less impact to the environment and its people.

4.2 BENEFITS TO THE DISTRICT OR LOCAL AFFECTED AREA

India has always advocated hydropower development as the means for local and national development. In the history of hydropower development, India saw many resistances from the local people where the projects were housed. Therefore, over the years, Indian hydropower policy is evolving in terms of recognizing the need for sharing benefit to the local communities for using their resources (See Chapter 3). Basically, two major policies have a relevance for local area development in the vicinity of hydropower projects. One is Local Area Development Fund (LADF) and the other is Corporate Social Responsibility (CSR).

4.2.1 Local Area Development Fund

National Hydro Policy 2008, for the first time, mentioned fund for local area development for local population. This policy had a provision to allocate 1 % of net energy generated or equivalent revenue in Local Area Development Fund (LADF). This additional 1 % free power or revenue equivalent from the project would be provided and earmarked for a Local Area Development Fund, aimed at providing a regular stream of revenue for income generation and welfare schemes as well as the creation of additional infrastructure and community facilities on a sustained and continued basis over the life of the project. The policy recommends that state governments also provide a matching 1% from their share of the 12 % free power towards this corpus. The policy says, “this fund could be operated by a standing committee headed by an officer of the state Government, not lower than district magistrate to be designated by the state government, male and female of the Project Affected People, and the project head nominated by the developer. This fund would be available in the form of an annuity over the entire life of the project” (Hydropower Policy 2008, p.33).

The following two table shows the details of the time line when the projects were awarded and the liability of the projects for paying LADF after the commissioning of the project. As most of the selected projects signed MOU with Sikkim government prior to the 2008 National Hydropower Policy 2008, and Sikkim does not have separate LADF policy, all these projects are not liable to pay LADF. Tashi Ding (97 MW) project is the only project in this group who is liable to pay 1% of total energy generated per year towards LADF.

Table 8: Details of the selected projects

S.N	Name of the Project and Capacity	Location	ownership	Date of Award of the Project	Project status / Commercial Operation Date
1	Rangit III 60 MW	Hingdam, South Sikkim	Central Sector NHPC	-	Completed/ 15/2/2000

2	Teesta V 510 MW	Balutar, East Sikkim	Central Sector NHPC	August/2000	Completed/ April 2008
3	Chujachen 110MW	Chujachen, East Sikkim	Private: Gati Infrastructure	14/11/2003	Completed/ 18/06/2013
4	Jorethang Loop 96 MW	Majitar ,South Sikkim	Private: Dans Energy	5/12/2005	Completed/ 25/09/2015
5	Rongnichu 96 MW	NineMile, East Sikkim	Private: Madhya Bharat	01/03/2006	Under construction/ Declared COD Dec/2019
6	Tashi Ding 97 MW	Tashi Ding West Sikkim	Private: Shiga Energy	03/09/2008	Completed/ 18/10/2017
7	Panam 300 MW	Dzongu, North Sikkim	Private: Himagiri Hydro	05/12/2005	under construction /not known
8	Rangit II 66 MW	West Sikkim	Private : Sikkim Hydro Venture	08/12/2005	Under construction/ not known
9	Rangit IV 120	Rothak , West Sikkim	Private : Jal Power Corporation	19/12/2005	Under construction/ Not known

Table 9: Projects with LADF

Projects	Is the project paying LADF?	If yes, how much?	If not why they are not paying?
Rangit III	No	-	MoU signed prior to 2008 hydropower policy
NHPC V	No	-	“
Chujachen	No	-	“
Rongnichu	No	-	“
Pannan	No	-	“
Rangit IV	No	-	“
Rangit II	No	-	“
Jorthang Loop	No	-	“
Tashiding	Yes	1 % to the state government as LADF	No fund has been released by the project as the project achieved its COD on October 2017. Even the government has not notified the developers

However, there is still no definite institutional mechanism ready to implement LADF. The “Term and Condition” of the hydropower development in Sikkim just says that the committee will be formed under the chairmanship of District Magistrate (DM). But, how the institutional mechanism looks like or how the fund will be disbursed is unknown. What kind of activities will be prioritized and where it will be implemented is all unknown. Tashi Ding project has not received any communication from the state

government regarding the mechanism of payment of LADF as it will be soon one year of its commissioning.

The other aspect of the LADF is the awareness on the existence of this fund among local affected people. Most of the people interviewed do not have any idea of LADF provision in the development of hydropower project. Local government in the district happily share that LADF will be very helpful in the local area development however they are also not sure of the mechanism and modality of LADF implementation.

There are six new projects under construction which signed MOU after 2008 and seven new projects which are provided Letter of Intent (LOI) by Sikkim government after 2008. Therefore more projects will liable to pay LADF sooner or later. In this context, it is urgent for Sikkim to have the LADF policy and guidelines in place so that all the stakeholders can follow and implement such policy.

4.2.2 Corporate Social Responsibility (CSR) of Hydropower Projects in Sikkim

CSR is deemed as a point of convergence of various initiatives aimed at ensuring socio-economic development of the community (Shyam 2016). At the policy level, the formal focus on CSR started in India with the issuance of the Corporate Social Responsibility Voluntary Guidelines in 2009 by the Ministry of Corporate Affairs (MCA, 2009) that culminated in the enactment of Section 135 of the Companies Act 2013 (MCA, 2013) making CSR spending as well as CSR disclosure mandatory for specific types of companies, and this includes hydropower companies as well. According to the Company Act 2013, companies should spend 2% of the profit each year which is the average of three consecutive years under the CSR head.

CSR fund and activities in hydropower projects

After the allocation of CSR fund is mandatory through the company act 2013, hydropower companies which otherwise allocate some fund as philanthropy or charity in the project vicinities, are now spending under CSR head. It is found that all companies have CSR governing committee and mechanism of disbursing the fund according to the strategy of the company.

“CSR is not the philanthropy or charity, it is a strategic tool of the company and it can spend where ever it is deemed important in terms of the goodwill or benefit of the company”
-CSR officer, NHPC, Sikkim

The table below shows the good amount of fund and lot of CSR activities in and around the projects areas however, different stakeholders have different opinion on whether the CSR activities is actually benefitting the project affected people. Is CSR activities actually improving local affected people who

lost their land and livelihood through projects. The answers are various according to different stakeholders, and it is presented in the subsections below.

Table 10: Project wise CSR fund and activities

Projects	Project Status	CSR Fund (INR Lakh)	CSR Activities
Rangit III 60 MW	Completed	10 (In the year 2015-16)	Health (free medical camp, free medical checkup), Education (distribution of scholarship to students)
Teesta V 510 MW	Completed	1355(from 2008 to 2015)	Education (schools infrastructure, exposure visit, support in sports, scholarship), Health(Hospital, health center, medical camp), Art and Culture and Rural Development(footpath, water supply, livelihood training)
Rongnichu 96 MW	Under construction	INR 237.23	Construction of schools, sports facilities and temples, Independent Day Celebration, Trainings (computer training to local youth), donation for earthquake relief fund, Drinking water Supply, Donation for different cultural programme and festivals
Panam 300 MW	under construction	INR 163.66	Scholarships, local festivals and events, condolence and Miscellaneous, Earthquake relief
Chuzachen 110MW	Completed	Exact numbers not available but several activities are done	Water supply schemes, Sports support, School Infrastructure Support, Foot path connecting the communities, Construction of temples, Construction of police check post in Rongli
Jorethang Loop 96 MW and Tashi Ding 97 MW	Completed	Figure not available but activities are done	Skill enhancement and capacity building, Health related activities (Public health infrastructure, medical camp, sponsor medical equipment), Earthquake relief works, forest fire fighting camp, river training works, awareness on solid waste management etc.
Rangit II 66 MW	Under construction	Not Available	Project is stalled due financial problem
Rangit IV 120 MW	Under construction	Not Available	Project is stalled due to financial problem

Perception of Project Developer on CSR and CSR activities

Project developer opines that CSR is doing a lot in terms of infrastructure development in education, health, rural development and enhancing skills of the rural people. They claimed that project affected people and the projects areas have developed a lot with better transportation, mobility, communication, electrification and improved education. Developers are often found to be proud of their presence and activities they support.

Perception of Local Government on CSR activities

Local government is also found to applaud CSR activities. Generally, it is found that whatever the demand or request put forth from the district office is easily given high priority in selecting projects to allocate fund for CSR. Similarly, influential politician can dictate the decision of CSR activities. It is more

often found that the CSR activities are often diverted into different districts with the influence of politicians. This has created so much distress among local affected people.

Awareness and Perception of Local People on CSR Activities

In almost all of the cases, local affected people are found to be not happy with CSR activities and fund. The major complain of local affected people is that the CSR activities are conducted outside of the projects affected area. In one case, during the field visit, it is found that the construction of the temple was carried out in the separate district with the influence from the politician. In other case, it is found that the medical camp was conducted in far flung village not in the project affected areas. There are many such cases found in the projects.

The other issue is that there are so much of demands from people and the company complied all of them and send to the head office to take decisions for fund and activities. The company decides which activity to fund. People have been waiting to be heard on their demands however it is not heard most of the time. The company does not do any need assessment before they select the CSR activities. This has disappointed the local affected people.

Recommendations:

Foremost, LADF could be the only refuse for the local affected people for their development, therefore it is important to have clear LADF policy and guidelines in place. Regarding CSR, the first preference should be given to develop the impacted local areas and improving the life of local affected people.

4.3 BENEFITS TO THE LOCAL AND AFFECTED POPULATION:

4.3.1 Employment and Livelihood Support:

Employment and livelihood benefit is one of the most important direct benefits that the local and affected population gain from hydropower development. It is one of the key objectives and incentive for hydropower development as envisioned in national policies. Employment and livelihood benefits are explicitly mentioned in the state policy. These benefits, in practice, are provisioned through multiple mechanisms.

- Mandated employment for displaced/affected persons in MoU
- Preference for locals in employment in MoU
- Employment from development of project colonies (indirect benefit)
- Livelihood support: -Preference for local contractors in MoU
 - Livelihood support provided through CSR policy

MANDATED PROVISION OF EMPLOYMENT FOR DISPLACED FAMILIES:

An opportunity for employment is provided in National Policy for Rehabilitation and Resettlement 2007 of India which gives preference to at least one member of affected families for providing employment in the project. However this is only a recommendation or intent of the government which needs to be incorporated in a legally binding document. In Sikkim policy (through MoUs) has been mandated for one member of every displaced (rendered landless) family.

In Sikkim, this mandated norm has been incorporated into MoUs of all private projects. However in the case of MoUs for projects under CPSUs there is only a mandated employment of locals through Employment cell of the state. There is no incorporation of the mandated criteria for project affected people. However in the case study projects under CPSUs – Rangit III and Teesta V, we find that one job per displaced family has been provided in accordance with their internal company R&R policies. While this is primarily a compensation mechanism for affected livelihoods, this provision is included here as it is seen from field experiences that in certain cases this mechanism has been able to more than merely compensate for lost livelihood and has been able to provide long term benefits of improved livelihoods for affected families.

These two case study projects have been found to be providing long term benefits from mandated employment for displaced population – Rangit III and Teesta V. Both projects are under CPSU NHPC. Rangit III has provided permanent positions to one member of all 12 displaced families while Teesta V has sent one member from displaced families for ITI training and provided one job per displaced family based in their skill. NHPC being a central government undertaking has provided permanent jobs (till retirement age).

NHPC has given permanent employment as per the local demand to at least one member from those whose total land has acquired by NHPC. They are not in always in good post but at least in a regular post

- Local Panchayat member (Teesta V HEP)

Along with regularity of employment, benefits of central government employment such as medical facilities, social security, high assured salaries, as well as trainings and skill development on the job.

We are experiencing major changes in villages after the advent of NHPC. Now we don't have any unemployed in our village and most of the people are skilled from the skill development programme provided by the company

- Local NGO member (Teesta V HEP)

However a process of local demands and voicing of concerns was involved in getting even these mandated opportunities.

“They didn't employ us in that easy way as mentioned in the country's acts and policies. At the initial stage, we locals were unaware of one job scheme to the affected families. From 1988, we filed a case against NHPC demanding job to the affected families. Neither the state government nor the NHPC told us about the norm

– Local project displaced person (Rangit III HEP)

Period of Employment: A closer scrutiny of the sample of MoUs analysed for the study with regard to this provision of employment for displaced families reveals that this employment is mandated by the state only during the construction process of the project and that the “employment shall cease immediately on completion of construction of the project”. In this form this provision is inadequate even as livelihood compensation considering the loss of long term income. However, by virtue of being central PSUs, NHPC has been able to provide permanent long term employment with social security and long term job benefits to the employed population. This however is not the case with most private developers. Almost all the private projects in our study provided employment to one member of the project affected families but this was only given for the construction period.

Majority of the locals were benefited from the project at the time of construction. After commissioning of the project, there is no such activity from the company except few numbers of employees from the land losing families.

- Local from affected village (Chujachen HEP)

Initially, they promised to employ one member from the landowning families for the 35 years but locals were appointed only till the constructional work.

- Local Project Affected Person (Tashiding HEP)

The only exception to this was the case of Chujachen HEP wherein the members from project affected families were retained after commissioning but all others were terminated from employment and contract.

PREFERENCE FOR LOCALS IN PROJECT BASED EMPLOYMENT:

While the project affected families are given first priority, the focus for benefits of employment goes beyond project affected families to ‘locals’ from the entire state of Sikkim. The preference for locals in project employment emanates from a relevant policy provision in the project MoU and *Terms of Development* of Sikkim that states that local bonafide residents of Sikkim are to be given preference in employment of skilled/unskilled manpower in the project. This is stipulated to be made through the state Employment Cell of Sikkim. This preference for locals provides opportunities for enhancing local employment in the state. An assessment of public hearing documents and CDM-PDD documents¹⁴ of the

¹⁴ Highlight and summarise the key concerns and demands raised by local stakeholders

study projects, as well as field interviews it is found that employment is one of the most common demands and incentives for locals from hydropower developers reflected in demands voiced in public hearing platforms.

Landowners happily signed (consent to part with land) without any question as they were assured to get employment in the project for the 35 years by the developers.

- Local Project Affected person (Dikchu HEP)

Hiring through contractors: In most of our study projects, especially the projects developed by the private sector, much of the hiring of manpower, particularly during the construction phase when most of the local employment is provided, is not done directly by the developer, rather it is done through the contractors who are allotted major and petty project works. While the preference for locals in various employment positions is binding on the company, the outsourcing of employment to contractors allows developers to relieve themselves of responsibility for non-compliance of this clause.

They ensured 90 per cent of employment to the local communities and wasn't limited to the land losing families. Around 10 per cent of the employees were from the area during construction. In reality, only 2 per cent are the locals during operation, whereas rest are from other areas.

- Local Affected Person (Dikchu HEP)

Most of them were employed by the contractor. Those contractual workers are not provided with other benefits other than monthly wages. Locals should be employed directly by the company so that they receive actual amount and company benefits (without any commission by the contractors).

- FGD Women's Group (Jorethang Loop HEP)

Skill Requirements for employment: The policy stipulates that the preference for employment of locals would be subject to suitability of skills. The policy does not provide for training and skill development of locals to ensure their employability. As a result of which a large share of the project manpower is filled from other states.

After getting an appointment letter from the project, I thought that we will be trained by the developers so that we can replace those workers from the other states. But the fact is that I was appointed as unskilled workers and will remain unskilled through my life.

- Project Affected Person (Dikchu HEP)

As a result most private developers confessed that the percentage of locals hired was low as they lacked adequate skills. The employment could be provided mostly during construction phase as the requirement of unskilled labour was high at that point.

According to the government there should be 70-80 % of the local employee but that is just in the paper. In reality we cannot provide employment to the locals because we don't have skilled people. If we see at present date then there are around only 50% of the employee are locals including technical and non-technical.

- Project Official (Rongnichu HEP)

Most of the locals didn't get the employment because they are unskilled. According to what was promised, company should provide trainings to the locals and make them skilled to give them employment but they have not done any of such things.

- Panchayat Member of affected village (Rongnichu HEP)

Nature of jobs for locals: The condition of requirement for suitable skills for being eligible for preference for the employment affects the nature of jobs that the locals are offered and the related benefit in terms of salaries and standard of living, especially post commissioning of the project. Since there is no mandated requirement for training and skill development for locals, they are usually restricted to low division jobs with low salary grades. Most of these low division jobs are also under short term contractual terms or sometimes informal. As a result despite getting some form of employment, the nature of work, remuneration, and quality of work affects the perception of employment as a benefit for locals. The share of locals in positions also reduces drastically after construction phase is completed as the demand for technical and skilled personnel increases in the operation of the hydropower plant.

In terms of skilled workers in the hydropower sector, there is hardly any populace specialized in that field. Local people are engaged as support staff, drivers, supervisors, and few in the administrative sector.

- Project Official (Jorethang Loop HEP)

There are few locals working in the project but the highest position they hold is a security guard with the monthly salary of Rs. 15000 per month. They started from Rs 4000 per month and few as safai karmachari.

- Project Welfare Committee member (Tashiding HEP)

I am working as a security on a contractual basis under the contractor. I work time for 12 hours and working for the last year. There is no written agreement of my service to the project. After several demands, they want us six more months to get an appointment letter from the project. For how long will we be kept on trial? After 5 years of my service, we are paid Rs. 9000 on a monthly basis without any holiday.

- Local from affected village (Dikchu HEP)

Being the landowners, I was directly appointed by the developers but there is two categories of an employee in the company; one is on-roll and off-roll (hired by contractors). On-roll employees are paid better along with better facilities. Their monthly salary is more than Rs 15000 while an off-roll employee getting salary low than on-roll.

- Local land affected person (Teesta V HEP)

This drastic reduction in manpower demand, particularly the demand for unskilled labour, after commissioning of the project is a major factor ailing the benefit mechanism of employment. Hydropower projects, with evolving technologies, currently require a very small labour force after the commissioning of the project. Also, as was previously mentioned, the demand for skilled technical staff increases after

commissioning, reducing locals to few unskilled positions such as security guards, driver, canteen help, cleaning, etc. To give an example and a sense of the drastic change, the CDM-PDD document for Chujachen HEP recognized that 40 persons would be given employment during operation of the project as against 1000 persons during construction.

There are significant changes (in employment after commissioning). There was a strike regarding the issue of job loss after the completion of the construction work because there was no way to provide the limited employment in the office to the public. They were only been provided during the construction period.

- Panchayat member (Jorethang Loop HEP)

During a time of construction, one or two members from every household were working in the company. Now, after a commissioning of a project, only one member from a land affected household is kept by a company.

Ex-panchayat member (Chujachen HEP)

Perception regarding locals: There are perceptions regarding local people that affect the preference for employment of locals. While this is only a peripheral issue, perceptions about locals as lazy, unwilling to participate in hard labour, lacking mobility, etc. can have a bearing on the willingness of developers to push for preference of employment of local population.

There are no skilled and technical people in this area. There is no availability of labour and about 95% of the labour comes from outside the state because people here don't prefer to work as a labour instead they will earn money with their own business.

Company gives employment to the locals but the problem here is if they get the government jobs then they will leave the job in the company therefore prefers to hire the outsiders for the service.

- Project Official (Rongnichu HEP)

All of the above discussed issues and challenges affect the realization and strength of employment provision as a benefit mechanism. However, it is clear from field experiences and narratives that employment provides the most direct and sought after benefit that the local population seeks.

"Local employment can solve the issues over hydropower project"- District official, North Sikkim

It has been an incentive for the people to part with their land and welcome hydropower producers in their backyards and homes, sometimes quite literally.

Stalled Projects: Among our study projects we observed some cases of projects that have been stalled or abandoned due to various reasons. Employment as a benefit is majorly affected by such developments as developers and contractors are unable to pay salaries and wages to the project labour for months at a stretch. In the case of projects that are temporarily stalled for an indefinite period, the impact is worse as

some of the project site infrastructure is kept running in the situation that the project will restart, but the labour claims to have been unpaid during that period.

The people whosoever been employed in this project have not been getting salaries due to shortages of fund. It is becoming very hard to maintain/run mess for the project staff.

- ex-Member Zilla Parishad and Local contractor (West Sikkim, Rangit II HEP)

EMPLOYMENT IN PROJECT COLONIES:

In two of our study projects which are under the CPSUs there are additional benefits in this regard. Since these projects are not on a BOOT basis and ownership of the project is retained by the CPSU throughout the life time of the project, investments are made with regard to developing long term infrastructure and facilities for the project and local staff. These colonies offer major opportunities to locals for employment as support staff ranging from gardeners, to cleaners, drivers, guards, school staff, helpers in residences, shops in colony markets etc. In these projects developers form closer relationships with local affected populace and surrounding villages as all major officials and project staff reside in the colonies that are established for the long term. They deem this cooperation from the local population as important for the long term sustainability and smooth operation of their project as well as their daily personal lives. These employment opportunities have the advantage of not being restricted to the construction period of the project and can offer long term employment.

Colonies can bring about some spatialisation of employment benefits as the people living closest to colonies tend to benefit more from access to them. This is especially the case when there is much surface distance and issues of easy accessibility between affected villages and colonies.

Most of the project sites are located on the South district such as tunnel, project office, colony while dam and powerhouse lie in both the districts, therefore much of the benefits are enjoyed by the people from the South.

- Land Affected person (Rangit III HEP)

LIVELIHOOD SUPPORT: LOCAL CONTRACTS:

Apart from regular and contractual employment to locals, the *Terms for Development* also envision a preference for local businesses and contractors for all works other than the major project construction such as dam, power house, surge shaft, hydro mechanical and electro mechanical works. This is primarily done to ensure that locals accrue benefits from hydropower projects. Demand for local contracts, along with local employment, is also a major demand from the locals as well as assurance offered by the developer in the public hearing platforms.

In many cases the Welfare Committees formed at the project level served more as contractor associations to determine the distribution of contracts among locals and to resolve conflict regarding the same. Most of the small contracts were given to locals. With regard to the few large contracts much of the benefits were accrued to local elites.

In terms of the constructional contractor, locals got an opportunity which may vary from thousands to crores. But the fact is that there is an inequality in getting an opportunity. The powerful and better off people always get the better opportunity. Actually, it should be the innocent locals who should get an opportunity to improve the livelihood condition. It was an individual gain from the project rather than community benefitting as a whole

- Ex Committee member (Tashiding HEP)

The time period when this benefit is offered, similar to the case of contractual employment, is primarily during the construction period. This is the time when there most opportunities for small and large contract works ranging from running canteens for labour at the dam site, to dam excavation, construction of protection walls etc. However, after the construction period the contract opportunities dry up and restrict further benefit options from this mechanism.

Now, you will find a contractor (small) in every household. I, myself am a contractor. The local contractors from this village have done at least 1 to 10 lakh contractual work from the project. Now, project work is complete as they have already achieved its commission. As there is no other support from the company, villagers are going back to the same.

- Local Person from affected village (Tashiding HEP)

LIVELIHOOD TRAININGS PROVIDED THROUGH CSR:

The CSR mechanism has already been elaborated upon in the previous section dedicated to CSR activities. The aim of the current discussion is not to repeat these aspects, but to consider the potential of this mechanism to offer livelihood to the locals, examine as to whether the benefits are achieved, and if not then why. The mandated CSR policy has the potential to offer livelihood support to the local youth and women. Activities include livelihood trainings for skills such as broom making, basket making, baking, mushroom farming, tailoring, jewellery making, organics farming practices etc. In addition, in some projects requisite tools and implements for these activities have also been provided.

The sustainability of these skills requires end-to-end support, which is from production to processing, packaging, and marketing. More often than not, in our study cases, mostly for private developers trainings are provided for short periods ranging from a few weeks to a month and these efforts are not supplemented by end-to-end support to train and engage them in processing and marketing of these products. In many cases affected locals were not aware of such trainings being provided in different or sometimes distant towns or villages. Because of this skill training mechanisms fall short of transcending

into long term sustained livelihood opportunities. The CSR activity is seen by locals as inadequate and as little more than the bare minimum mandated requirement of the company without the intent of fulfilling the true goal of the activity.

They provided us with only a few weeks of training in tailoring where we could only learn the basics of stitching, but other related work like cutting could not be taught. Thereafter we also weren't taught to market these products. Where should we go to sell it, we don't know about options. – Local woman (Jorethang Loop HEP)

Chujachen HEP however provided a pleasant change in terms of good practices in this regard. This was the first private developer (GATI) in Sikkim. The efforts with regard to livelihood support translated into long term benefits here. GATI brought the local women together into self help groups and in a participatory manner determined requirements for development of skills that would be perceived as locally relevant.

Tying of women in a group of around 10 members was initiated by the social team under the GATI Company. According to our choice of work, they provided a loan as well as training.

- Local woman in affected village (Chujachen HEP)

Some of the women got an opportunity to travel and represent the state in handicraft exhibition, expenses borne by the company that includes travelling, fooding and lodging costs.

- Local woman from affected village and employee at project (Chujachen HEP)

Interaction with the local SHGs revealed that even though after commissioning of the project GATI was no longer investing in such training and social activities they gained for the long term in the end-to-end training support and have been able to contribute to small businesses in the locality.

Recommendations:

- **Employment training:** Instead of holding onto perceptions and drawbacks in terms of lack of skill among the local population, training for relevant skills should be provided to enhance their employability and long-term benefit from hydropower projects. The first priority for these must go to project affected families as these are the most livelihood-affected in the region. While the national R&R policy for hydropower does stipulate such a provision, its incorporation into the MoU is required to translate the recommendation into a binding clause.
- **Monitoring of employment under contractors:** The shirking of responsibility to give preference to locals for employment by developers, on the basis that the employment is being provided through contractors, can be minimised by mandating monitoring by developers of the contractors. A monitoring mechanism by the state must also be focussed on employment and labour issues beyond those of project affected families.

- **Sustainability through end-to-end support under CSR:** CSR mechanisms may be monitored by the state government with regard to the sustainability of the initiatives for livelihood support. Additional support for processing and marketing of goods, provisioning of means to access tools and facilities required to sustain and utilise the skill, needs to be provided.
- **Extending benefits beyond construction period:** While the drastic reduction in labour demand is a fact in the very nature of hydropower projects, creative ways to regularly incorporate the locals from surrounding affected villages need to be encouraged. For instance, short term internships could be provided to the youth in the operations and maintenance of the project post commissioning. This can help them gain on the field experience in certain skilled activities and increase their awareness regarding technical and environmental aspects of the project. Scholarships for education degrees relevant for the project can be provided.
- **Ensuring greater equality:** Local contractors, especially the rich and powerful in the village, individually gain most benefits from big contracts. In the monitoring mechanisms, a more equal distribution of provision of contracts should be ensured through platforms of grievance redressals and representation of local administration in contractor association and committees.
- **Mandatory provisions in MoU:** The language with regard to employment needs to be strengthened from “preference” to mandatory norms for employing of defined percentage of locals at various grades of employment. Weak language of MoUs with regard to employment allows space for developers for non-compliance of provisions.

5. BENEFIT SHARING MECHANISMS IN PRACTICE IN ARUNACHAL PRADESH

Despite its richness in terms of water resources, the state remained unexplored due to its undulating physiography, diverse tribal communities, remoteness, culture etc. It is the recent initiatives by the central government that intend to explore the water resources through hydel projects to meet the energy demand, generate revenue to the state government and provide opportunities for the local communities as a means to improve their livelihood condition.

Considering the fact that only three public sector projects under the case study has moved into construction, approved prior to the national and state policy, the study takes into consideration the new policy framework to better understand various mechanism practised in the state to share the benefits with different projects. After examining various data from the field, policy and project documents, the study identifies similar set Benefit sharing mechanism in Arunachal Pradesh as identified in the Sikkim's hydropower projects.

5.1 BENEFITS TO THE STATE

5.1.1 Revenue Benefits: Royalty Sharing

The royalty mechanism is the most common and popular form of sharing direct benefits to the resource owner¹⁵ in the hydropower projects. Eventhough the state government started collecting royalties from the developers since long, but it was in only in the year 1998 that the central government adopted Hydropower policy which formally declares 12 % share to the state government. The state government followed the central policy for all the hydropower projects in the state. Later in 2008, the state government incorporated the national norms and formally announced its own State Hydropower Policy for IPPs above 25 MW that allocates not less than 12 % royalty as free electricity to the state government, for the period of 40 years from the state of operation. Whilst in case of small projects, the small hydropower policy in 2007 came up with different royalty rate, depending on the capacity of the project, from the date of commissioning till 50 years.

¹⁵ The constitution of India categorized the water resources in the state list, therefore the ownership over the water resources is entitled to the state government

The policy of 2008 includes a provision of temporary prohibition for the royalty to the state government as an incentive to encourage the developers for the timely completion of the project till 50 years of operation. The rate of royalty and time of payment for the small projects is outlined in the 2008 hydropower policy.

Table 11: Royalty to the State Government for Small Hydropower Projects

Category	Moratorium period from scheduled COD	Rate of free power after moratorium
Projects upto 1000 KW	Nil	Nil
Projects upto 1 MW to 5 MW	3 years	5%
Projects upto 5 MW to 10 MW	2 years	8%
Projects upto 10 MW to 25 MW	1 years	10%

Source: Department of Power, GoAP 2007

Among the three hydropower project under study, Ranganadi HEP (405 MW) is the only projects paying 12% electricity to the state government and Pare HEP (110 MW) has recently commissioned. Besides the CPSU, there is only one IPPs Dikshi HEP (24 MW), recently achieved its operation. Till date, there is no mechanism in the national/state policy framework that further allocates the royalty to the state government.

5.1.2 Revenue Benefits: Other Revenue mechanism

The other benefits from the state government from the developers as mentioned in the state's policy includes the processing fee, upfront premium, fund for RGGVY scheme and penalty in case the developers are unable to commission the project in the given timeframe. As mentioned in the state's hydropower policy, the developers are required to pay the processing fee and upfront premium to the state government (GoAP, 2007 and GoAP, 2008). The amount to be paid is pre-determined in the policies which are to be paid at the time of agreement which is not included in the post-cost and are non-refundable in nature. The given amount acts as an additional budget to the state government. The report (2015-16) by standing committee outlined that non-inclusion of premium in the project cost, which cannot be concluded in the tariff hence the developers are unable to make the cost for the premiums.

Table 12: Processing Fee and Upfront Premium for Small projects

Category of the project	Processing fee (in Rs)	Minimum upfront premium payment (in Rs per MW)
10 MW to 25 MW	50,000	20,000
5 MW to 10 MW	35,000	15,000
1MW to 5 MW	25,000	10,000
100KW to 1000 KW	15,000	Nil
Upto 100 W	10,000	Nil

Source: Department of Power, GoAP 2007

Table 13: Upfront Premium including processing fee for Mega projects

Category	Payment (in Rs per MW)
25 MW to 99MW	1.00 lakhs
100 MW to 499 MW	2.50 lakhs
500MW to 999MW	3.50 lakhs
1000MW to 1499MW	5.00 lakhs
2000MW to 2999MW	6.00 lakhs
3000 and above	7.00 lakhs

Source: Department of Power, GoAP 2008

The state's hydropower policy 2008 for private developers incorporates the RGGVY scheme (introduced in the National Hydropower policy 2008) in which 10% loan of state government's share to be borne by the developers.

Table 14: RGGVY scheme for the Hydropower Developers

Capacity of the project	Coverage
Upto 100 MW	Within the radius/distance of 2 KM
100MW to 250 MW	Within the radius/distance of 5 KM
250MW to 500 MW	Within the radius/distance of 10 KM

Source: Department of Power, GoAP 2008

Furthermore, the developers are mandate to pay 0.1% of the project for the monitoring, evaluation and coordination including both technical and financial) fee to the state government.

Recommendations:

- **Transparency in the royalty:** The amount of royalty received by the state and its utilization should be disclosed publically to understand the ways in which they are investing and whether or not, the actual affected communities are benefitted from the royalty.

- **Distribution of affected communities:** Much of the opportunities for the locals are concentrated during the construction phase, thereafter it get limited to few pockets of people. Despite, identifying the direct flow of fund during the operation period in the new national laws, it remains inapplicable in the existing project. The only fund that regularly flows from the project directly flows to the state government that doesn't reach the affected communities. Therefore, it is important to share a regular amount as a local support or may be interms of free electricity to the local affected communities.
- **Clarity in policy:** The state needs to clarify whether the guidelines amended in the hydropower policy 2008 are applicable to the project approved before the policy. Lesson can be learnt from the other states like Himachal Pradesh which clearly mentioned that the provision is applicable to both the proposed and ongoing project. State government need to clarify whether the state hydropower policy 2008 incorporate those projects to follow the norms approved prior to the formulation of the policy that may result into dispute between the new and old projects.

5.1.3 Equity

The mechanism of equity sharing is a recent initiative by the government with the formulation of state's small and mega hydropower policy 2008 for the private undertakings project. However, the study takes into consideration the sharing its investment by the government to understand the evolution of benefits sharing in the hydropower projects in Arunachal Pradesh.

The state government perceive Equity sharing with the private partners is seen as a major benefit to state whereby government would actively participate in developing the project as well as enjoy 'Return on Equity' and 12% free power from the total generation. The state mega policy guided by the provision of national company's act stipulated 11% to 26% equity shares in the project. If required the partners have to arrange the fund for the state government, keeping the free power as a security in case state government fails to repay the fund. For the selection of the project state government entrust the responsibility to some other agency or hydropower corporation. There are certain conditions laid by the government in the policy for the selection of the partner.

Table 15: Criteria for Equity Sharing by the State Government

Installed capacity	Technical strength	Financial strength
Upto 1000 MW	Either commissioned or construction the project of 100 MW project	Achieved financial closure of 100 MW
Above 1000 MW	Either commissioned or construction the project of Atleast 500 MW	Achieved financial closure of 500 MW

2000 MW	Either commissioned or construction the project of 1000 MW	Achieved financial closure of 1000 MW
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Source: Department of Power, GoAP 2008

The provision outlined in the policy of selecting project for sharing equity based on the past experience of the developers can be a good example for the other state. Interms of small hydropower projects, government's equity sharing depends on the mutual developers. The provision of equity sharing does not imply to the CPSUs, hence there is no state's share in three projects under study. Despite allocating numbers of project under Joint Venture, there is no project completed to understand the current practice of equity.

Recommendations:

- **Providing equity ownership to locals:** One way of providing opportunity to the local affecting communities by making a project stakeholder is through equity sharing. Such innovative mechanism can change the socio-economic condition of the project area. It can also become a way to bridge the gap and develop mutual understanding between the affected communities and the developers. Government may formulate the guideline of local equity sharing in the policy framework. The unanimous characteristic such as same tribal group as well as cluster settlement, local governing system can be a triggering factor to minimize the risk of conflicts within the community and yield equal benefits to whole communities.
- **Awareness creation in the initial stage:** Because most of the villagers lacks in financial education and are not exposed in entrepreneurship, so the developers or the government should make an effort to make them understand the principles of equity sharing as well as associated risk in the initial stage of the project.

5.1.4 Funds for Environment Enhancement

Arunachal Pradesh is known for its richness interms of forest resources thus covering 80% of the total geographical area of the state. The state's forest department is in charged with the responsibility to execute and monitor the programmes identified under the EMP at the cost deposited by the developers. Any constructional work requiring evacuation of land and utilization of resources has always resulted into sever impact. Despite the fact that hydropower project starts with lots of construction and in many cases continued even after the completion of the constructional work, the fund paid by the developers cannot replenish the environment to the pre-project condition. In a generic term, it is just a mitigation measures to mitigate the damages. But, from the study done in the three hydropower

projects in the state followed with the narratives of different stakeholders, which indicates that the programmes identified under the EMP has the potential to go beyond the simple compensation. Firstly, the fund paid to the state government acts an additional support to the state government to implement the programmes at the earliest whereas to the developers, it is a way to maintain the ecosystem and mitigate the future impact of the project in the upper catchment area of the barrage such as erosion to reduce the siltation and increase the flow of water for the better productivity.

CAT plan from the project support for the department to implement various programmes while Compensatory Afforestation increases forest cover of the state but all the department should cooperate for the successful implementation.

- Official District forest office

Allocation of Fund

Similar to the other Indian state, the environmental management is governed by the Environmental Protection Act of 1986 and Forest Conservation Act 1980, whereby developers are required to allocate the budget under EMP to State's Environment and Forest department, the implementing agency. Below mentioned table shows the amount allocated to the implementing agency under different sectors as a measures to compensate the impact caused by the project.

Table 16: Funds paid/received by the state government for the CAMPA

Name of the Project	Funds allocated for Environmental Management Plan			
	CAT	CA	BMP	FMP
Ranganadi	1,04,00,000	75,25,000	-	-
Pare	1,08,304,000	21, 58,000	25,40,000	95,00,000
Kameng	5,04,292,000	80,992,000	50,00,000	40,00,000
CAT=Compensatory Area Treatment; CA=Compensatory Afforestation; BMP=Biodiversity Management Plan; FMP=Fisheries Management Plan				

Source: Projects Six Monthly Environmental Compliance Report

Beneficiaries of the Fund

It is observed that the budget for the CAMPA is not only a social sanction for developers as measures to mitigate the impact caused due to the construction of the project. These programmes are of equal importance to control the erosion and maintain the continuous flow to water to meet the demand for electricity generation. Since, there is no mechanism in the state government to further disseminate the fund to the local communities but the narratives of forest officials reveals that locals get benefitted both directly and indirectly from the implementation of the CAT and Compensatory Afforestation as locals have ownership over the forest land and water resources hence involvement of locals are involvement in the environmental enhancement from the early stage of the project.

For the estimation of the fund and selection of the work is done in collaboration with Aanchal Samiti. Once they are convinced then only we prepare the estimation.
- Official Range office

Because 80% of the land is covered by the forest hence there is hardly any barren land, most of the focus is given to densification of the forest in the degraded area in collaboration local communities which is different from the case of Sikkim. The villagers temporarily donate their 'community land' for the plantation which in turn improve the forest especially in the land used for the traditional practice of *Jhum cultivation*. Since, the region is geologically unstable, the densification of forest further supports in the stability of the land.

The environmental enhancement further creates an employment opportunity to the local communities for the plantation work which will be discussed in detail in the later section.

Busty people are ready to donate their land for the afforestation. Once they donate the community forest land, we provide seeds and tools and locals get employment.
- Official Forest Department

Here Compensatory Afforestation has to be done in community forest through villagers and cannot be given to the contractors. Without their involvement of local communities, it would not be successful.
-Project official, Kameng HEP

In the tribal states like Arunachal Pradesh, the simple environmental enhancement programme can bring benefits to the local communities whereby individuals and communities are given ownership the natural resources including land, forest and water as well as they has direct access of the resources for daily livelihood by the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006. It is even more significant in Arunachal Pradesh where majority of population practice Jhum/shifting cultivation.

Recommendations:

- **Policy Implementation:** The importance to safeguard the forest and other resources has gained significant since long decades, resulted into formulation of various acts and polices at the national. But, equally important is the practical implementation of the programmes outline to make it more successful. In the hydropower projects taken under study, the delay in the implementation has been found common among the all. Developers as well as state government should implement the programme within the estimated timeframe to translate the mitigation measures into a benefit.

- **Monitoring and Evaluation:** There is a need for a monitoring of the implemented programmes as well as other guidelines outlined in the environmental clearance by the concerned authorities especially 10% of the ecological flow to be maintained by the developers below the barrage. Cases have been found where the developers have not released any amount of water which impacts the aquatic life.
- **Post-construction EIA study:** Pre and post EIA needs to be included to evaluate the effectiveness of the environmental management programmes as well as identify the impact and mitigation measures of post-construction stage of Run-of-River project. Post-construction damages need to be focused otherwise the benefit accrued becomes invisible and of less value.
- **Undertakings of the programmes in the operation stage:** There is a need of a policy formulation to that identifies the environmental enhancement programmes to mitigate the damages in the post-construction stage.

5.2 BENEFITS TO THE DISTRICT OR LOCAL AFFECTED AREA

India has always advocated hydropower development as the means for local and national development. In the history of hydropower development, India saw many resistances from the local people where the projects were housed. Therefore, over the years, Indian hydropower policy is evolving in terms of recognizing the need for sharing benefit to the local communities for using their resources (See Chapter 3). Basically, two major policies have a relevance for local area development in the vicinity of hydropower projects. One is Local Area Development Fund (LADF) and the other is Corporate Social Responsibility (CSR).

5.2.1 *Local Area Development Fund*

National Hydro Policy 2008, for the first time, mentioned fund for local area development for local population. This policy had a provision to allocate 1 % of net energy generated or equivalent revenue in Local Area Development Fund (LADF). This additional 1 % free power or revenue equivalent from the project would be provided and earmarked for a Local Area Development Fund, aimed at providing a regular stream of revenue for income generation and welfare schemes as well as the creation of additional infrastructure and community facilities on a sustained and continued basis over the life of the project. The policy recommends that state governments also provide a matching 1% from their share of the 12 % free power towards this corpus. The policy says, “this fund could be operated by a standing committee headed by an officer of the state Government, not lower than district magistrate to be designated by the state government, male and female of the Project Affected People, and the project

head nominated by the developer. This fund would be available in the form of an annuity over the entire life of the project” (Hydropower Policy 2008, p.33).

The dates of award of the projects in the table below are all before 2008, it generally means all these projects are not liable to pay LADF. Moreover, the company reveals that the MOU signed do not have any clause of LADF. Therefore, they opined that they are not liable for paying LADF. However, the Arunachal State Hydropower Policy 2008 says the projects signed before 2008 are also liable to pay LADF fund. Therefore, with the conversation with developer of these projects, it is known that Papum Pare which is just commissioned and Kameng which is under construction will pay LADF.

However, again in Arunachal too, there is no working policy and guidelines for LADF. Local government officers claim that LADF will benefit local affected people and the LADF fund should be spent for the local development, but they do not know the progress of the LADF policy and guidelines.

But, interestingly local affected people in all these three projects are quite aware on the LADF term, and already floating ideas on how the LADF mechanism could benefit them. Local people are in the opinion that the LADF could be divided among the affected villages and fund should be used for development-oriented activities such as infrastructure and also for employment generation.

Table 17: Selected Hydropower Project for Case studies

S.N	Name of the Project and Capacity	Location	ownership	Date of Award of the Project	Project status / Commercial Operation Date
1	Ranganadi 405 MW	Yazali, Lower Subansri, Arunachal	NEEPCO	1980	Completed/2002
2	Papum Pare 110 MW	Papam Pare District, Arunachal	NEEPCO	2006	Completed/ May 2018
3	Kameg 600 MW	West Kameg District, Arunachal	NEEPCO	1999	Ongoing/ Anticipate in December 2018

Table 18: Projects with LADF

Projects	Is the project paying LADF?	If yes, how much?	If not why they are not paying?
Ranganadi 405 MW	No	-	MoU signed in 1980 and it is already running for 16 years.
Papum Pare 110 MW	-	Will Pay	This project is just commissioned and although MOU is signed before 2008, the state hydropower policy 2008 says the policy will apply for projects prior to this policy too .

Kameng 600 MW	-	Will Pay	This project is just commissioned and although MOU is signed before 2008, the state hydropower policy 2008 says the policy will apply for projects prior to this policy too .
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Therefore, it is worthwhile to include local affected people in the process of drafting LADF policy and guidelines.

5.2.2 Corporate Social Responsibility (CSR) of Hydropower Projects in Arunachal

CSR is deemed as a point of convergence of various initiatives aimed at ensuring socio-economic development of the community (Shyam 2016). At the policy level, the formal focus on CSR started in India with the issuance of the Corporate Social Responsibility Voluntary Guidelines in 2009 by the Ministry of Corporate Affairs (MCA, 2009) that culminated in the enactment of Section 135 of the Companies Act 2013 (MCA, 2013) making CSR spending as well as CSR disclosure mandatory for specific types of companies, and this includes hydropower companies as well. According to the Company Act 2013, companies should spend 2% of the profit each year which is the average of three consecutive years under the CSR head.

CSR fund and activities in the hydropower projects in Arunachal

The story of CSR in Arunachal is not different from Sikkim. According to the table below, it seems that there is good sum of money going for CSR activities in each project. However, there are different opinions among developer, local government and local affected.

Table 19: Status of CSR fund and activities in the selected hydropower projects

Projects	Project Status	CSR Fund spent until June 2018(INR Lakh)	CSR Activities
Ranganadi	Commissioned	352.18(CSR since 2008)	Drinking Water Project, Promoting Education, Public Health Center and Medical Camp, Sanitation, livelihood training, Swachh Bharat Abhiyan, Swachh Vidyalaya Abhiyan
Papum Pare	Commissioned	Not Available	Procurement of tools and equipment for ITI college Yupia, Sanitation (construction of toilets in Doimukh market, construction of weir and water supply tank in Hoz,
Kameng	Under Construction	332.45 (CSR since 2010)	Ultrasonography machine for hospital in Bomdila, Ambulance, Sanitation (construction boys and girls toilets in different part of the state), water tank, foot track,

Perception of developer on CSR Fund and CSR activities

It is understood with the conversation with developers that CSR is a strategic tool and they are not obliged to spend CSR fund in the project affected areas only. Moreover, they spend more CSR fund in the areas where they want to bring new projects. Therefore, CSR activities are generally done vigorously before the projects starts to have good will of the local people. Once the project is completed, the CSR activities in the project area generally slow down.

Perception of local people on CSR Fund and CSR activities

Local people has only one issue with the CSR activities i.e., most of the CSR activities are done outside of the project affected areas and the activities they apply for are never heard off. Moreover, local people are unaware of the annual CSR fund dedicated for the project area or for the project. It keeps local people in suspicion that CSR fund has been diverted elsewhere.

Perception of local government on CSR Fund and CSR activities

Local government is found to be appreciating and applauding the CSR activities done by the hydropower projects. In one of the project local government officer was with the opinion that CSR activities should not be restricted with in the project areas. There are other local units which are also in need of various development activities and hydropower projects should go beyond the project affected area.

Recommendation

For Arunachal, foremost it is important to have clear policy on benefit sharing mechanism such as LADF and CSR activities. Arunachal with vast water resource offering huge hydropotential is lagging behind. There are several challenges and one of the main is local resistance. If the local people can own and get benefitted from the hydropower projects in the real sense, then hydropower making in Arunachal could speed up. Therefore it is necessary to have such policy in place now.

5.3 BENEFITS FOR LOCAL AND AFFECTED POPULATION:

5.3.1 Employment and Livelihood Support:

In the state of Arunachal Pradesh employment benefits emerge from notified state policies as well as clauses provided in MoUs. The following sections will elaborate in detail the provisions for employment in the state small and mega Hydropower Policies which are incorporated in agreements outlined after these policy notifications. However in order to look into issues of operationalising this benefit mechanism on the ground we have the opportunity only to study three projects which are in operation

or in construction phase, run by CPSUs, agreements for which were signed before state policies for hydropower were in place. **POLICY PROVISIONS**

- **Percentage of reserved positions for locals:** The State Mega Hydropower Policy, relevant for all projects above 25 MW, clearly outlines the percentage share of positions that shall be reserved for local tribal population in the hydropower project. These stipulated shares given in the policy are:

- Managerial/Professional posts – 25%
- Ministerial/Clerical posts – 50%
- Skilled jobs – 25%
- Unskilled jobs – 75%

On the other hand the Small Hydro Power Policy does not explicitly prescribe percentage share of reservations for locals. It leaves it to the developer to spell out the employment opportunities that would be provided to bonafide Arunachalese. This is required to be provided in the offer letter and has been kept as a selection criterion for the allotment of projects to the IPPs in question. A case in point is observed from the sample of MoUs that have been studied for the analysis of policy wherein two of the MoUs are inked for small hydropower projects (Dikshi HEP and Tsa-Chu HEP). These two projects have stipulated different shares for various grades of employment:

Dikshi HEP	Tsa-Chu HEP
<ul style="list-style-type: none"> • Managerial/Professional post – 25% • Ministerial/Clerical posts – 50% • Skilled jobs – 25% • Unskilled jobs – 75% 	<ul style="list-style-type: none"> • Ministerial/Clerical posts – 25% • Skilled jobs – 25% • Unskilled jobs – 50%

Source: MoU Dikshi HEP and Tsa-Chu HEP

- **Preference for project affected families:** The state Mega Hydro Power policy provides the clause wherein project affected people will be given preference in the mentioned reservations in various employment grades. There is no such explicitly mentioned clause for giving priority to project affected people in Small Hydro Power policy.
- **Skill requirement:** While the policy does provide for reservations in positions as well as a preference for project affected persons, it is important to note that these stipulations are subject to the prior eligibility, ‘fulfilment of job requirements’ and ‘considered suitable by the Company’. No provision for skill training in order to enhance the ability of locals to meet these job requirements is provided.
- **Contracts to locals:** The Mega Hydro Power stipulates a preference to local eligible contractors in award of general works.

- **Deputation of state government personnel:** The government has provided a clause in the Mega Hydro Power policy that allows state government personnel to be taken on deputation by developer on government recommendation. This can provide advantages of skill development for state personnel, as well as offers a route to monitoring and accountability of the developer.

PROJECT BASED EMPLOYMENT BENEFITS IN PRACTICE:

The three cases on field available for study are all owned and operated by CPSUs which are firstly, not bound by state policies unless incorporated in their MoUs; secondly, are mostly bound directly by central regulations; and thirdly, do not incorporate clauses of the state or central Hydropower policy 2008 as they were sanctioned before the time. One of the projects, Ranganadi (405 MW) was signed without an MoU. A study of the MoU for Kameng HEP (600 MW) reveals the policy at the time. The MoU mandates that all new and required recruitments made in Grade C and D levels shall be made through the local Employment exchange, thereby giving mandated preference to locals. For Grade A and Grade B posts, while the recruitments will be opened for all India applications by central government norms, local candidates will be given preference if eligibility criteria are fulfilled. There is no provision explicitly outlined for employment of project affected families, training of locals, or requirements of providing contracts for locals.

Currently employment positions, both regular and contractual, have been provided in Kameng and Pare, which are in construction phase of the project¹⁶. Ranganadi HEP was commissioned during 2002-03. According an official notice/letter from NEEPCO¹⁷ to the Department of Hydropower Arunachal Pradesh the following details of employment offered were given:

Table 20: Recruitment status of locals in selected case study projects in Arunachal Pradesh¹⁸
<p>Ranganadi HEP: All the posts notified for Group C and D against Ranganadi HEP were recruited through local Employment Exchange(s).</p> <p><i>Number of employees from Arunachal - 344, including all the posts/jobs.</i> <i>Regular - 195 employees, STs – 53</i> <i>Contractual employee - 23. Work charge employees – 95 They are working since 1992-93.</i> <i>Total 170 members of APST, so 1/3 of employees are locals. – Project Official (Ranganadi HEP)</i></p>

¹⁶ Pare HEP was commissioned during the field visit in June 2018

¹⁷ Vide Letter No. NEEPCO/ED(CP)/G-94 (Part II)/2017-18 dated 21.12.2017

¹⁸ Recruitments made since February 2012 after relaxation of earlier imposition of restriction in recruitments for all posts since February 2006 for NEEPCO by Ministry of Power, Gol, and approval for new recruitments in few posts. Later in November 2015 Gol communicated withdrawal of restrictions for backlog vacancies and recruitments were accordingly.

Kameng HEP: All recruitments for group C and D posts			
<i>Year</i>	<i>Group C</i>	<i>Group D</i>	<i>Total</i>
2007	26	0	26
2013	36	27	63
Total	62	27	89

In addition, 17 persons were also recruited as W/c employees

Pare HEP: All recruitments for group B, C, and D posts against Pare HEP were made through the local Employment Exchange			
<i>Year</i>	<i>Group B</i>	<i>Group C</i>	<i>Group D</i>
2012	0	0	1
2013	1	10	21
Total	1	10	22

1 person was also engaged as W/c employee and 48 persons belonging to Project Affected Families were also engaged on contract basis in addition to above.

Source: Official response letter from NEEPCO with reference to letter from Department of Hydropower seeking details of recruitments in projects made by NEEPCO

Locals versus Affected Population: While the policy for the CPSUs in our study does mandate a preference for locals, it has not outlined any focus specifically for project affected people. The MoU binds them to a requirement for filling new position through the local Employment Exchange that ensures hiring of locals. This creates issues with regard to hiring of project affected population as most of them are not registered on the Employment Exchange and there is a general lack of awareness about the need to do so.

Nothing is mentioned in the MoU (with regard to providing benefits for people) except that categories C and D employment should be provided to locals of Arunachal. That is the only requirement. It does not even focus on affected areas or affected people. We are supposed to go to the nearest employment exchanges. They will then suggest us.

- Project official (Kameng HEP)

One of the most major grievances among the affected families is with regard to employment of able youth from affected villages. However, while there is a sense of rights to such benefits among the project affected villages, the developers are bound by clauses in policy and MoU that are inadequate to respond to this grievance. In addition to this, the new state hydropower policies, which do take into consideration the priority for project affected families, are not binding on these projects.

The main demand is employment, it is local demand. They complain that very few employments is given to the local affected people. But we don't make that decision. Every time we go for recruitment through the employment office. We have not recruited the project affected people directly. Whatever list is given by the state government we have done by that.

- Project Official (Kameng HEP)

While the developer takes no responsibility for this issue on the basis of their MoU, this issue is a significant one with regard conflicting perceptions of project affected persons and local government. While project affected persons feel a sense of entitlement over the employment benefits accrued from the project as they are directly affected, the local administration takes into consideration the development requirements of the larger local area.

X numbers of employment can't be given just because villagers have certain number of unemployed youth, so you take all unemployed youths. This is not economically or legally feasible. If you take 100 youths from one place only what will I do with 1000 of unemployed youths spread across state. Inequity will prevail.

- District Official (Kameng District)

The inadequate mandate of the MoU on this issue of locals and affected population weakens the support from the local government for demands of affected families as well as the entitlement of employment benefits for local affected population.

Process of employment: Employment process for the CPSU projects involve the state Employment Exchange for Group C and D posts, and central level applications for Group A and B posts. There is a lack of awareness regarding these processes among locals in remote areas. Employment Exchanges are not always easily accessible due to remoteness of the affected areas and poor infrastructure. For Group A and B posts, since the recruitments are made at central level, the interviews are conducted outside the state. This involves long hours of travel from areas with poor infrastructure, significant investment in travel and stay, and associated burdens. Also, notifications of these vacancies are not locally advertised in the village. Online processes of application and tendering of contracts have been introduced. In areas lacking infrastructure for web services, this can be a major obstacle in application for recruitments despite fulfilment of eligibility requirements.

We don't know when the notification comes. After the recruitment only we see new employees. Last year 7-8 post was created but they did not give advertisement. They do it through unemployment office, shillong. They don't do interview here. Even for small jobs they do recruitment from shillong

- Project affected person (Ranganadi HEP)

Conflict and Demand: In response to this concern, strong voicing of opinions and demands from the affected locals, vis-à-vis the developers is a characteristic found across our study cases. Awareness regarding policies and a sense of rights to benefits from the project in lieu of the home land and livelihood – impact faced propel protests from Demand Committees/Welfare Committees. While the MoU for NEEPCO incorporates the clause for employment of locals from local Employment Exchange, it does not state any focussed benefit for the project affected people. These protests and direct

interaction of locals with NEEPCO project officials have played a major role in compelling project developers to provide employment to project affected people. For instance in Pare HEP, through local protests, 48 positions were provided for which local affected people were sent for ITI training.

In papum pare and lower-subansiri, people protested for their rights. Their protests are not against the project but for benefits. We listen to NEEPCO; they said we will get the employment which was not fulfilled. Through our protest, we got some (48 people in ITI training) but it is in contract.

- Welfare Committee Member (Pare HEP)

Each of the three projects has a Committee for voicing demands and concerns of locals. In their charter of demands employment demands for local youth is a major component.

Issues of Awareness of policies and guidelines: In our study area it is found that because of the formation of committees as platforms for local concerns and protests there is significant amount of awareness regarding the development of hydropower projects, entitlements to compensation and benefits, norms and policies of developers. This level of awareness allows for the local affected population to put pressure on developers to provide them their entitled benefits, as well as reason out the demands backed by policy. However there are also certain inconsistencies in knowledge and perception with regard to employment that lead to impasses between the government, developers, and the affected populace. One instance is that of a rampantly widespread knowledge that there is a formula for employment in hydropower projects at the rate of 1.7 persons per MW, by reference of which there are large demands made for employment by the affected population. However developers claim that such information is flawed and a share of employment would be impossible to generate especially for large capacity projects, especially after commission.

(With regard to guideline of 1.7 persons per MW) We don't know of any such guideline. That is too large a number and we don't know its basis. Long back there was some skill development study throughout India. Maybe under that it was 1.7 many years back and that too for all India.

- Project official (Kameng HEP)

Contradictory information regarding policies among locals, developers, and government create gaps between entitlements, demands, willingness of developers to meet the demands, support of the local governments for local issues, as well as overall sense of justice among the affected people. It is in the persisting environment of regularly changing policies, notification of new norms, and complex institutional framework within which hydropower projects function, that such inconsistencies develop.

EMPLOYMENT OPPORTUNITIES PROVIDED THROUGH ENVIRONMENT MANAGEMENT INITIATIVES:

In addition to the direct project employment, Arunachal Pradesh presents a mechanism for additional employment benefit to locals in the catchment area of the project. The policy clause for Compensatory

Afforestation mandates that twice the deforested area should be afforested to compensate for the environmental impact of the project. The following conditions regarding forest prevail in the state:

- In the state of Arunachal Pradesh since almost 80% of the land is under forest (FSI, 2017) the availability of open non-forested land where compensatory afforestation may be done is very less.
- In accordance with the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, local communities have ownership rights on forests.
- Jhum cultivation (slash and burn) is prevalent in many parts of Arunachal Pradesh which has affected the density of forests over time.

Given these conditions, for the purpose of compensatory afforestation, the mechanism followed here allows for local communities of the villages in the selected catchment areas to donate their forest land as Village Reserve Forest to the government for the purpose of compensatory afforestation. In this process the government offers employment to the locals of the village for plantation activities, monitoring, and guarding the plantation areas.

There are 300 people sometimes 400 people. Suppose we gave 103 hectares for plantation so we need more labour. It takes 1 or 2 month for one plantation.

- Forest Official (Lower Subansiri district)

As a result of this mechanism local communities benefit with regard to employment while enhancing the quality of their local forest land.

Recommendations:

- **Focus on project affected people:** Employment benefit for the affected population is the major source of contention in the study projects. Mandated benefits, not just 'preference' in this regard needs to be brought out in the MoUs. This is particularly relevant for CPSUs.
- **Need for a project welfare committee:** There needs to be a provision for project welfare committees in the policy prescriptions and MoUs at the project level that brings the local administration, developers, and affected people on the same platform for negotiation. Currently all three demand committees are formed informally and locally by affected villages and have no representation from the government or the developer.
- **Awareness of affected population:** Awareness of the affected population with regard to policies is essential to enable them to demand their rights in a manner that is supported by latest policies. Regularly updating them on recent notifications and norms is essential to reduce the gap in

knowledge and perception between various stakeholders of the project, bringing them on the same page. This can enhance the platforms for demands that are locally created by the community.

- **Advertising of vacancies:** Advertising of vacancies in the affected villages and allowing simple paper-based application systems directly to project developers can give project affected persons in remote areas a greater chance of accessing employment opportunities.
 - **Streamlining process of employment:** While the institutional mechanisms of recruitment allow for accountability and process, some flexibility made for the project affected villages in the near vicinity of the project can offer better and more equal opportunities. Simpler methods for application for vacancies can help. Building awareness and extending support by the government or the developer in the process of job applications can help enhance benefits of employment from projects.
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6. CROSS CUTTING CONCERNS AROUND BENEFIT SHARING PRACTICES:

Having had discussed the benefit mechanisms in practice at length, we find that there is a need to look at larger socio-political issues and concerns of operationalising mechanisms across the benefit-sharing landscape. These larger concerns can help understand the commonalities across the practices in terms of intent and form, processes that weaken benefits from projects, and issues that need to be considered in improving policies of benefit-sharing.

6.1. PRIMACY OF POLICY IN BENEFIT SHARING:

In this region policy has proved to be the backbone of the benefit sharing mechanisms by mandating a focus of hydropower projects on welfare and development of the project affected and local communities. Therefore streamlining and strengthening the policy process is first essential step to building a solid framework for benefit sharing in India, and in the north east in particular. Since this region is politically sensitive, remote, lagging in development, and extremely heterogeneous, a solid foundation of policy is vital. Sustainability of benefit sharing as a concept requires the establishment of this concept in the very discourse of hydropower development. Thus a framework, complete with an accepted definition of benefit sharing, its intent, beneficiaries, institutional framework, local platforms, and indicators of benefits, needs to be made a part of policy that is made legally binding. It is through good policy enforcement that benefit sharing mechanisms can be internalised the very process of hydropower development.

6.2. EX POST FACTO COMPLIANCE OF POLICIES:

The primacy of policies in benefit sharing in India has emerged from the long history of resource contestations and evolution of policy focus on justice and development for local communities. The policy landscape that offers benefits is constantly changing and evolving over decades. On the other hand hydropower development in the north east has been rapid and time bound giving little space for policies to evolve through experience. Rapid signing of MoUs, sometimes even before state policies on hydropower have been drawn up, has affected the complete incorporation of benefit mechanisms in project contracts, flexibility of ex post facto compliance of newly emerging policies, and opportunities to learn from earlier projects to improve future projects. There is a need to provide adequate provision and flexibility in policies and MoUs to enable the validity and compliance of new policies that are evolving

with increasingly refined benefit sharing mechanisms. Currently with such an enormous number of projects already allotted and signed, many prior to policy notifications; it will be a question in the near future as to how to best ensure that developers comply with evolving benefits practices.

Due to non uniformity in MoUs and mandated provisions there is bound to be a lot of variations in the gains across different projects on ground. There will be a disparity in benefits to locals between projects signed at various points of time and regions. As new and evolved benefit mechanisms become increasingly refined and institutionalised, these disparities will be stark. Grievances will be high in projects where new benefit practices are not provisioned for, which may eventually lead to increased demands for benefits. An example of this may already be seen in Ranganadi HEP in Arunachal Pradesh. Since this project was signed back in the 1980s, there was no MoU for the project and no provisions for the benefits that are accruing to the new project – Pare HEP. The Ranganadi MoU Demand Committee was formed by the locals to demand for comparable benefits.

6.3. BENEFITS FROM MITIGATION AND COMPENSATION:

Mitigation and Compensation though conceptually different from benefit-sharing, are found to be processes along a continuum in practice. Mitigation and compensation may be seen in relation to benefit sharing in the following three ways:

- Since benefits may be seen as relative to pre-project situation and impact, If compensation and mitigation are not adequately done, it can affect perception of benefits by project affected locals.
- Distribution of benefits depends on adequate and effective compensation and mitigation. Since benefits go beyond the directly affected population, those who are relatively lesser impacted might sense more benefit from the same mechanism than those who are highly affected and inadequately compensated or if mitigation efforts are ineffective.
- Mitigation and compensation if streamlined and carried out effectively with intent towards welfare of local community can lead to benefits beyond mitigation.

In the process of our research we found that narratives of developers with regard to benefits often lean towards concerns of project costs and economic viability of hydropower projects. In response to such concerns, the already mandatory compensation and mitigation mechanisms and costs paid for by projects, can offer a route to offer benefits, provided the scope and intent of these mechanisms is expanded beyond their limited current mandate.

There are examples of cases found where these mechanisms have been able to go beyond their minimal mandate to offer benefits. For instance, as earlier discussed, compensatory afforestation in Arunachal Pradesh has been able to provide employment in conjunction with environmental enhancements on

lands owned and accessed by local communities, providing direct benefits to locals. Also, settlement colonies, built under R&R plan for displaced villages and people, have provided improved housing condition and infrastructure development beyond the pre-project baseline situation. This was seen in Kameng HEP. On the other hand there have also been cases where R&R colonies were built with infrastructure but were not lived in due to issues such as small houses for large families, distance from original place of settlement, lack of availability of land for small cultivation or other allied activities, location away from traditional community land etc. This illustrates the need to involve locals in R&R plans to best understand their perceptions and requirements such that large planned investments in compensation and mitigation may be translated into long term benefits.

Adding value to existing mitigation and compensation mechanisms has the potential to provide immense benefit even in the absence of other benefit mechanisms, as well as make beneficiaries more perceptive of other benefits.

6.4 ROLE OF STATE: INSTITUTIONAL FRAMEWORK TO SUPPORT BENEFIT MECHANISMS

The role of the state vis-à-vis the developer and other levels of decentralised governance in the state plays a major role in provision of benefits. Since hydropower has been promoted in the region as a government initiative in a time bound targeted manner, and the state has a major investment in processes of project allotment, land acquisition and monitoring, it is in the interest of the state government, earning royalties and revenues, that projects are invited, encouraged, and completed. Thus in case of potential conflict between the local affected populace and the project, there is a clash of interest when sustainability and economic viability of projects is pitted against the welfare and development of locals. This impacts the relative position of the government vis-à-vis developers affecting demands of benefits beyond mandated compensation and mitigation, from the project.

With regard to local governance it is found that the local levels of governments at the district level only play a role in maintaining law and order. In addition, we found that in most case studies in Sikkim, the demands for employment and CSR are routed through the district administration. Other than that, levels of government at the district and below, the zilla parishad and village panchayats are not provided any power or authority vis-à-vis hydropower developers to demand additional benefits for the local communities. As a result of which district governments are reduced to requesting, negotiating, and bargaining with developers in cases of demands for benefits or any form of grievances. The lower level governments also do not earn any form of revenue or direct benefits from the hydropower projects.

Devolution of more powers to the lower levels of governance in the state vis-à-vis the hydropower producers can provide a stronger platform for communication, grievance redressal, awareness building, and demands for benefits for affected populace and region.

Decentralisation of authority and power to local levels of governance can also help in smoothening the transition of the hydropower projects from IPP to state ownership after the predetermined period of BOOT mode of operation since institutional systems of the locals will remain intact.

6.5 PUBLIC AWARENESS, PLATFORMS FOR DEMAND AND GRIEVANCE REDRESSAL

In the process of field studies we found that public awareness about hydropower projects, policies and entitlements was high in Arunachal Pradesh which is characterised by contestations over benefits while it was low in most projects in Sikkim. Public awareness stemmed from factors such as level of direct impact to livelihoods and settlements of local population, extent of displacement, organised socio-political movements around hydropower, experiences of other projects, effectiveness of public hearing process, village level leadership etc. Public awareness in turn determined contestations and demands for entitlements, sense of rights vis-à-vis impacts, perceptions of injustice. This in turn has led to creation and effective utilisation of platforms for voicing concerns and claiming rights to benefits. Some such formal and informal platforms that are used for voicing concerns and demands in Sikkim and Arunachal Pradesh found in the study are:

- Project Welfare Committee
- District level administration
- Heads of Projects
- Spaces for protests and movements (Societies and Committees heading contestations)
- Public Hearing

The strength of these platforms majorly affects levels of benefits received by the local community. They also act as informal forms of local monitoring of projects with regard to provision and fulfilment of policy mandated clauses and promises made in public hearings for welfare of locals. These platforms are essential for voicing grievances regarding damages, CSR expenditure, local employment, inadequate benefits. In practice and policy the state government assumes the role of protecting the company, its assets, and law and order; this has at times proved to weaken strong claims and mobilisation of locals for justice and benefits. Strengthening formal local platforms in policy can help institutionalise, sustain, and internalise projects' accountability to the local affected population mediated by state government, departmental representatives, various levels of local administration and government, and civil society.

6.6 TEMPORAL SUSTAINABILITY OF BENEFITS

One of the major challenges in the benefits landscape of hydropower projects is the temporal aspect of benefits. Since benefits are increasingly seen as obligations emanating from policy or means of gaining 'social sanction' for projects from local communities and local governments, many kinds of benefits drastically reduce after commissioning of projects. Additionally the challenges of financing and repayment of loans for the project affect the developer's need and ability to provide benefits. This is seen in the case of CSR investment of projects, particularly for private IPPs, as well as in opportunities of employments and contracts for locals. However there are some forms of benefits that are designed to begin after commissioning of projects. These include royalty mechanisms and contributions to local area development fund. Both of these are largely revenue benefits which accrue to state and district governments respectively with no determination of requirement and modalities of distribution to local and affected population. Thus, the stakeholder to whom benefits accrue, changes in the temporal sphere of benefit-sharing. As a result of which the perceptions regarding hydropower also change in various phases of the project. A greater effort needs to be put in ensuring trickling down of benefits from these revenue mechanisms after commissioning of the project. The strengthening of local platforms discussed previously would also have a major role to play in providing socio-political pressure for ensuring that benefits to local community are continued beyond construction phases.

6.7 OWNERSHIP OF PROJECTS:

The mode of ownership and operation of projects has major implications for benefits from projects. The CPSUs run project on a BOO mode wherein their ownership of the projects sustains for the lifetime of the project; on the other hand the private IPPs own and operate project on a BOOT basis for a period 35-40 years (period varies from state to state). The central government ownership also makes its more financially viable and capable of absorbing risks emerging from delays, political environment, and local grievances. The long period of their ownership requires more permanent establishments in the local area, project colonies, long term cooperation from locals, and a more structured institutional and management framework for running the project. This in turn calls for requirements of continued benefits in the long term to sustain the local support, enables access to improved infrastructure and facilities as well as employment opportunities in project colonies, and central government benefits for employees.

On the other hand private projects are more risk averse due to their challenges of financing. The objective of minimising costs and maximising profits for private players affects their intent and ability of

providing benefits and support to the local community beyond mandatory agreed-upon policy obligations and costs incurred to ensure basic levels of social sanction. With a large number of private projects in both Sikkim and Arunachal Pradesh unable to achieve financial closure and complete, or at all, start construction, the provision of benefits is put on the back burner of priorities for both the developer as well as the state government. The private projects, owing to their relatively smaller periods of ownership of projects, have lesser incentive to invest in long term support infrastructure such as project colonies. Nearby towns serve as official and residential establishments for the limited manpower used to operate the power plant. It was observed that for all the case studies involving projects owned by CPSUs the interaction of the local population was made directly with the project, the Heads of Projects providing the prime platform for grievance redressal and benefit demands. On the other hand, private players being significantly more risk averse maintained minimal interaction with the local community and primarily channelled their activities and responses through the District administration. Thus the very nature of the project owning institution, as well as the modalities of ownership and operation can affect the benefit sharing landscape of the project as well as perceptions of locals vis-à-vis the project.

6.8 BENEFITS AND SPACE

The development of hydropower against a backdrop of the nature of the north east region brings out how issues of geography, geology, topography, remoteness, and the ways in which this physical space relates with forms of land ownership, cultures and beliefs, and indigeneity affect perceptions of impact and thereby perceptions of benefits. Both the study areas of Sikkim and Arunachal Pradesh are characterised by heterogenous sociocultural groups, each with unique livelihood practices, landownership traditions, local forms of leadership, and varied customs and relations with the environment, river, and development itself. As such, looking at the benefit-sharing concept and practice without context could, potentially, lead to a mechanism which is ineffective or irrelevant to the context in question. Any design of benefit sharing mechanism needs to be region specific or flexible enough to cater to the specific nature and requirement of a region or a community.

For instance in the state of Arunachal Pradesh topography in terms of the geological stability of the region and width of the basin has had some implication for the extent and nature of displacement. In the area of the case studies, it is found that most of the villages are located in the valley on the banks of the river, because of a wide river valley and highly unstable mountains prone to mudslides and landslides. As a result of this the projects in our study have led to displacement of many and entire village settlements while retaining their large tracts of community forest land which is also primarily

used for cultivation. Entire village settlements have been uprooted and resettled in R&R colonies. Thus, in this region, the focus on R&R plans and design of R&R colonies can be translated into a benefit for the entire community. Different tribes have varied family systems and forms of settlements. These cultural variations need to be taken into consideration while developing infrastructure. Comparatively in the state of Sikkim geology and topography of the mountain and the river valley is of a different nature. In most cases village settlements are in the higher reaches of the slope and thus there is relatively lesser population that is entirely displaced from the valley by one project. Thus R&R colonies and concerns that come from resettlement to different locations are fewer.

In Arunachal Pradesh since the entire village is affected, there is greater cooperation and unity in terms of grievances and demands for benefits; this enables stronger contestations and peoples' movements. In the case of Sikkim, while some in the village have lost land, others have not. Therefore the impacts, as well as entitlements vary within a community. This has an implication for weak cooperation and unity among the people of affected village in terms of organised agitations and pushing for demands. The role of the state, which has been strongly posed against such agitations through role of providing protection for the projects and their assets and ensuring completion of projects, has been a factor in weakening of such agitations.

The quality of land owned can also have a bearing on the perception of impacts. The location of the village as well as physical conditions of the land can determine whether the land acquired led to loss of livelihood or not. In cases where the quality of land owned was mostly infertile rocky forested land, locals perceive benefits even in cash compensation for their acquired land. However those who lose good quality agricultural land may feel more livelihood impacted.

In a context of indigeneity and remoteness of the regions questions of exclusion, contradictions of traditional socioeconomic systems of land and community pitted against neoliberal essentials, perceptions and acceptance of state led and private development all play a role in determining impact and thereby, in relation, perception of what would constitute a benefit. The very process of initiating of hydropower projects in certain areas would bring to the region forms of neoliberal and global forms of capital development, the tenets of which may provide opportunity but may also simultaneously challenge traditional systems and beliefs (Gergan 2014; Gergan 2017; Rahman, 2014).

While this issue of benefits and space is one that requires dedicated research, these are only some indicative cases in point to support recommendations of incorporating context specificities in designing and analysing benefits.

6.9 DEFINING 'AFFECTED'

Throughout our study we find that the definition of affected people focuses only on land losers. However the run-of-the-river technology which is the prevalent nature of projects in the study area has socio-technological impacts that are beyond issues of land acquisition. Since much of the conflict and international discourse around dams has traditionally been around the question of large scale displacement of people due to large reservoirs. Therefore the policy as well as perception narratives of the affected population are with regard to land acquisition. Developers in some projects in Sikkim hold almost a sense of pride in the fact that their projects have no population that is entirely displaced and have therefore less socioeconomic impact. However run-of-the-river technologies that involve tunnelling and some impounding of water have implications for stability of mountain slope, landslides, house damages arising from slippage of slope, surface flow of streams that provide sources of drinking water and irrigation, air and noise pollution etc. These are impacts that need to be taken into account while defining project affected persons. This broadening of the definition of "affected", currently centred on loss of land, to incorporate a range of impacts according to different technologies of dams.

7. CONCLUSION: The Ways Forward

Although benefit-sharing is not strictly defined or conceptualised as a framework in policies for hydropower we find that Indian policies have evolved to ensure that the local affected population gain benefit from the development process. This has come about not only as a response to changing global discourses but also through decades of its own experience in resource contestations and appropriation, conflict, discourses of development, debates, changing relationships between the state and citizens, and emergence of private and global capital. However, strong conceptualisation and a framework of benefits that incorporates questions of – what comprises benefits, who is it for, when is it offered, how is it related to impact and compensation, how are benefits perceived, how is it distributed, and how are they sustained – needs to be developed through a process of negotiation. Policies need to be strengthened through legally binding provisions in the form of acts and laws. Lessons may be learned not only from frameworks developed internationally but also within other sectors within the country. Negotiations with various stakeholders and cross learning from sectoral policies can open doors to ways forward for the very foundation of benefit sharing in India.

In the specific case of the north east region of India the very basic tenets of benefit sharing, concepts and practices, are challenged and demand a critical lens. The region is precariously positioned between characterisations of remoteness, indigeneity, resource potential, strategic importance for national security, and backwardness. The emergence and drive for hydropower development in this region within a very short span of time poses particular political and development challenges. The nature and limited inclusion of this region in the larger development paradigm and process of the country, particularly with the influx of private capital, creates an uncertainty and disquiet among local communities vis-à-vis large hydropower development from outside the region. As aspirations of the youth change while still being rooted in traditional norms and systems, the very understanding of what developments are perceived as benefits and what is perceived as an impact needs to more contextual understanding. This leads to variations in narratives of the government, developers and affected locals regarding the impact of hydropower projects and what would entail commensurate benefits. The study of hydropower in this region additionally calls for looking at the relationship of benefits-sharing, compensation, and mitigation, in order to delineate where one ends and another begins. Whether the local population in this region at all consider the indicators and mechanisms of compensation and mitigation to be adequate and relevant plays a major role in identifying where the line between

compensation, mitigation, and benefits should be drawn. These delineations and perceptions may shift for different regional and space contexts. The designing of benefit-sharing mechanisms for this region requires a framework that, while embedded in the national framework, caters to the peculiar contradictions and the unique socio-political positioning of this region vis-à-vis the country.

As Baruah (2012) observes, the focus of development of projects in this region is on exclusively hydropower project, and not on multipurpose projects which limits the local utilisation and purpose of the project and is almost entirely meant for export of the produce to the rest of the country. This creates uneven distribution of benefits and impacts not only for affected people but also for the affected state. As a result the benefit sharing mechanisms for this region needs to be considered for multiple levels of beneficiary as has been categorised in this study. Benefits need to accrue to the affected state, affected local area, the affected villages, and the affected population.

The institutional structure of benefit-sharing mechanisms – nature of the developer, role of the state government, devolution of benefits and authority to local levels of governance, and the relative power structure between various stakeholders, has a major role to play in the realisation and sustainability of benefits for the impacted regions and population. This is particularly relevant in the period of liberalised power sector with the proliferation of private players in hydropower. The fragile landscape of eastern Himalayas in Sikkim and Arunachal poses immense challenges to hydropower development such as geological risks, remote locations, poor infrastructure, harsh weather conditions, environmental issues, land acquisition and rehabilitation, local conflicts etc (LS, 2016) which affect cost of hydropower projects. For private players, with challenges of mobilising long-term loans and funding for high cost projects, while intending to maximise profits to ensure economic sustainability of projects, it can affect their intent and/or ability to share benefits with the local population beyond legally mandated provisions. The power structure and roles of the state vis-à-vis the hydropower project has an implication for the contradictions and balancing between benefits-sharing and financial viability of projects for developers.

The tendency of developers, in a landscape of private capital, to see benefits and environmental safeguarding as cost burdens brings into focus also the importance of the national power scenario in determining how benefits-sharing is perceived by developers. This includes aspects such as demand for hydropower, tariffs of hydropower, competing sectors of thermal power and renewable energies such as solar power, biogas etc, and incentives provided to promote hydropower – all affect how cost and profitability of hydropower is judged. This has further implications for whether benefit-sharing

mechanisms are seen as a ‘social licence to operate’ (SWECO 2011), as mandatory norms by state or central government, as cost burdens, or as negotiation tools.

This study has attempted to present the strength of the evolving policy framework while analysing the factors that hinder the complete realisation of policy intent. For a way forward into an environment where benefit-sharing concepts are internalised enhanced and sustainably practiced, the entire hydropower landscape of the country from power generation to distribution and consumption has to be taken into consideration. This point at the massive challenge of formulating a robust and comprehensive benefit-sharing framework for policy that is binding, and yet leaves ample scope for context specificities.

Based on several characteristic of benefit sharing such as ownership pattern, policy framework, spatial and temporal scale, the following table elaborates the benefit sharing practices in the 13 hydropower projects taken under case study in the two Indian states of Sikkim and Arunachal Pradesh.

BENEFITS	COMPARATIVE CHARACTERISTICS OF BENEFITS						
	Temporal Sustainability	Whose Responsibility	Target Beneficiary	Involvement of Local	National Policy	State Policy	In practice on field
Revenue	After Commissioning	Developers	State Government	No	Yes	Yes	Yes
Equity	After Commissioning	State Government	State Government	No	No	Yes	Yes / No
Environment	During Construction	State Government	State Forest / Local Communities	Yes	Yes	No	Yes
LADF	After Commissioning	District Governemnt	Local Area	Yes	Yes	No	No
Infrastructure	Mostly During Construction	Developers	Local Area	Yes	Yes	No	Yes
Employment	Mostly During Construction	Developers	Local and Affected Population	No	Only in case of CPSU	Yes	Yes
Free Electricity	After Commissioning	Developers	Project Affected Families	No	Yes	No / Yes	No (informal)

Note. The case of Arunachal Pradesh is marked in red wherever the situation is different from that of Sikkim

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ANNEX: DETAILS OF STAKEHOLDERS INTERVIEWS

Arunachal Pradesh

Projects	Government Officials	Hydropower developers	Local communities	State Government Official
Ranganadi	<ul style="list-style-type: none"> • Additional District Collector • Range Officer (Forest departm.) 	<ul style="list-style-type: none"> • Deputy General • Human Resource Manager 	<ul style="list-style-type: none"> • Local Panchayat • Focus Group Discussion (12) • Aanchal Samiti Member • Focus Group Discussion (22) 	<ul style="list-style-type: none"> • PCCF (forest department)
Pare	<ul style="list-style-type: none"> • Sub-Divisional officer 	<ul style="list-style-type: none"> • Electrical Engineer • Public Relation Officer 	<ul style="list-style-type: none"> • Secretary of Land affected welfare committee • Ex-Anchal Samiti Member • Focus Group Discussion (5) 	
Kameng	<ul style="list-style-type: none"> • District Collector • Divisional Forest officer 	<ul style="list-style-type: none"> • Project Head • Account Officer • Human Resource Manager 	<ul style="list-style-type: none"> • Focus Group Discussion at R&R colony (10) • Focus Group Discussion (10) 	

Sikkim

Projects	Government Officials	Hydropower developers	Local communities
State/District Government Official <ul style="list-style-type: none"> • Chief Engineer (Energy and power department) • PCCF-secretary (state Forest, Environment, Wildlife Management) • PCCF (Forest department) • Land and Revenue Officer • Principle scientist (State Pollution Control Board) • Divisional Forest Officer 			
Rangit III	<ul style="list-style-type: none"> • District Collector West Sikkim 	<ul style="list-style-type: none"> • Project Head • Electrical Engineers • Human Resource Manager • Incharge of Women Association 	<ul style="list-style-type: none"> • Focus Group Discussion including panchayat (5) • Focus Group Discussion (6) • Focus Group Discussion with local contractual employee (6) • Focus Group Discussion Self Help Group near power house site(4) • Interview with local contractor as well as chairman of welfare committee • Local employee by project • Local women • Interview with Ex-panchayat • Interview with Landowner • Interview with Ex-panchayat
Chujachen HEP	<ul style="list-style-type: none"> • Sub-Divisional Forest Officer • Land and Revenue officer 	<ul style="list-style-type: none"> • Corporate Social Responsibility officer 	<ul style="list-style-type: none"> • Focus Group Discussion with locals (landowners/affected) (8) • Focus Group Discussion near downstream(5) • Interview with Ex-head master (attended public hearing) • Ex-panchayat • School teacher

Teesta V HEP	<ul style="list-style-type: none"> • Range officer (forest department) 	<ul style="list-style-type: none"> • Human Resource Manager 	<ul style="list-style-type: none"> • School teacher • Former NGO member • Member of Dikchu Youth Welfare Association (1) • Focus Group Discussion near dam-site (5) • Landoustees at R&R colony (2) • Local affected near to dam-site • Panchayat near power-house site
Tashiding HEP	<ul style="list-style-type: none"> • District Collector • Sub-Divisional Magistrate • Divisional Forest officer 	<ul style="list-style-type: none"> • Project Relation Officer 	<ul style="list-style-type: none"> • Social activists (save Sikkim) • Interview with locals near dam-site • Landowner near dam-site • Interview with committee member (Joint Action Committee) • Interview with landowner near powerhouse site • ex-panchayat near power-house
Jorthang Loop	<ul style="list-style-type: none"> • Sub-Divisional Magistrate 	<ul style="list-style-type: none"> • Local security Guard • Human Resource Manager • Public Relation Officer 	<ul style="list-style-type: none"> • Local contractor • Focus Group Discussion with women near Power house (5) • Focus Group Discussion near dam-site (6) • Local villager near dam-site • Local Businessman • Panchayat Dam site • Focus Group Discussion with women from dam-site
Pannan	<ul style="list-style-type: none"> • District Collector • Divisional Forest Officer 	<ul style="list-style-type: none"> • Project In-charge • Public Relation Officer 	<ul style="list-style-type: none"> • Focus Group Discussion near dam-site (5) • Social activists (Affected citizen of Teesta)
Rangit II	None	<ul style="list-style-type: none"> • Project Incharge • Project Employee 	<ul style="list-style-type: none"> • Focus Group Discussion with locals employed in MGNREGA (6) • Focus Group Discussion with project affected families near dam-site (4) • Local resident • Interview with Ex-Zilla panchayat • Interview with local contractor
Rongnichu HEP	<ul style="list-style-type: none"> • Same as Teesta V HEP • Member of Legislative assembly 	<ul style="list-style-type: none"> • Project Manager • Public Relation Officer 	<ul style="list-style-type: none"> • Ex-panchayat near dam-site • Interview with local affected/landowner at project Adit • Local women near dam-site • Local women near dam-site (landholder) • Local Resident • Local Resident
Rangit IV	<ul style="list-style-type: none"> • Same as Jorthang loop 	Developers not in state	<ul style="list-style-type: none"> • Local employee near dam site (Landholder) • Villager from affected area
Dikchu HEP	None	None	<ul style="list-style-type: none"> • Focus Group Discussion at Dam site (6) • Focus Group Discussion at power house (5) • Interview with landowner