

(V) Status and Untapped Potential for Climate Change Adaptation & Mitigation Projects in the Himalayan Region of Northeast India & Southwest China

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Introduction

This chapter aims to identify project opportunities to support climate change affected communities in establishing and integrating adaptation and mitigation measures in order to foster a community's resilience vis-à-vis climate change risks. The focus lies on the geographical region of the Himalayas and its river basins, as the region is known to be impacted heavily by climate change and is home to many vulnerable communities with limited coping capacities. Among the manifold ways livelihoods in the Himalayas are threatened are e. g. the melting of glaciers and changing weather patterns that cause shortening resources of drinking water, land and food production. In order to identify project opportunities, the working group looks at current Sino-German and Sino-European cooperation and strategic partnerships and official development assistance (ODA) with the Northeastern Region of India (NERI). A special focus is given to the marginalized Autonomous Region of Tibet and Yunnan province (China), and the Indian Federal States of Sikkim, Nagaland, Meghalaya and Tripura.

The chapter addresses the following research question: What is the current status of Germany's and the EU's climate change adaptation and mitigation efforts in the Himalayan region. What potential exists to improve living conditions of the marginalized population and foster further development cooperation? The working group has chosen varying methodological approaches including a purpose-built database of existing projects¹ and measures illustrating categories such as type of project, level addressed (regional/national/local), civil society engagement and thematic focus (water management/ forestry). Findings are based on qualitative research of media analysis, expert interviews and institutions' web presence and information. The paper also refers to the current academic discourse, aggregated data, and above-mentioned interviews to derive a needs assessment and recommendations for action, too. The working group encountered some obstacles in accessing project evaluations from the KfW Development Bank and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) conducted projects. With regard to the database, it is important to note that the implementation or presence of a project is no indicator for the (positive) effects or success of the project and may conceal potential for action. The chapter consists of three consecutive parts: the first identifies current type and quality of development cooperation, the second formulates a needs assessment, and the final part gives recommendations for action.

1 Types and quality of cooperation

In order to be able to create a comprehensive needs analysis and to formulate recommendations for future engagement in the region, we have first analyzed the type and quality of environmental cooperation by the German government with Northeast India (NE India) and Southwest China (SW China). In the following, the type of cooperation, responsible ministries and the contents of the currently implemented projects will be examined.

1.1 Political framework for the environmental commitment of the German Federal Government in Northeast India and Southwest China

Since the German Federal Ministry for Economic Development (BMZ) is responsible for the fundamental conception of the development cooperation of the Federal Republic of Germany, it also arranges the

1 The database (see Annex) records not only the currently ongoing projects, also projects that were carried out since 2001 and have already been completed, are included. The project database aims to show which project approaches were used and who were the cooperation partners in the past. However, the needs analysis focuses only on current projects.

objectives and measures for climate change adaptation programs in India and China. For the practical implementation of the programs, the so-called implementing organizations and non-governmental organizations are consulted and supported financially by the BMZ. To ensure the timelines of the project plan, only those projects that are currently carried out or ended in 2013 were recorded by our working group.

In addition to the Federal Ministry for Economic Development, the Federal Ministry for the Environment also supports a series of climate change adaptation programs in China and India as part of the international climate protection initiative. However, we could not identify projects that are directly addressing NE India and SW China.

1.2 The Sino-German Strategic Partnership

The engagement of the German Federal Government in the Himalayan region, especially regarding China and India, differs significantly in the type of cooperation. Given the immense development success in China and its changing role in global politics and economy, the German Federal Government ended the development cooperation with China in 2009.² Since 2010, the German-Chinese Strategic Partnership provides the political framework for the cooperation between the German Government and China. The focal points of the partnership are environmental policy including environmental and climate policy, renewable energies and energy efficiency as well as economic and legal reforms.³ Within the new development partnership, the contribution from both, the German and the Chinese Government is based on the level of development and the performance of China. At the same time, if possible, the German economy tries to be more involved.⁴ Considering the projects that are currently carried out in China by the German government, no regional focus on SW China can be identified.

1.3 The Indo-German Development Cooperation

In contrast to China, India is still one of the partner countries of German development cooperation. Germany works closely with these partner countries on the basis of intergovernmental agreements.⁵ The Indo-German development cooperation focuses rather on structure-building programs than on individual local projects. Focal points of the cooperation are the promotion of renewable energies, sustainable economic development and environmental and climate protection. The projects are linked to India's own efforts and reform programs. The aim of the programs is to advocate solutions and qualify the partners involved, to enable them to independently continue and expand the projects. In 2013, India obtained resources from the federal budget in the amount of 1.089 billion Euros. Of this amount, 1.06 billion Euros represent the financial and 29 million Euros the technical cooperation.⁶ The currently implemented programs in NE India have a regional focus on Sikkim, Nagaland, Meghalaya and Tripura.

Comparing the thematic focus of the cooperation between the German government with China and India, it becomes clear that the partnership with China is rather focused on the energy sector, while the cooperation with India concentrates on environmental protection and resource conservation as well as the preservation of livelihoods especially regarding marginalized communities.

1.4 Networking of actors in NE India and the role of the GIZ

Since the networking of actors that are involved in the German development cooperation in NE India represents a certain complexity, an overview of the networking of relevant stakeholders, above all, GIZ, KfW Development Bank and the Indian ministries is given (see Annex, Figure 1). The Ministry of Development of North Eastern Region (MDONER) plays a central role in the development cooperation between the German government and NE India. MDONER receives financial assistance of up to

2 Federal Ministry for Economic Cooperation and Development (China) 2014.

3 German Federal Foreign Office (China) 2014.

4 Ibid.

5 Federal Ministry for Economic Cooperation and Development (India) 2014.

6 Federal Ministry for Economic Cooperation and Development (Indien) 2014.

76 million Euros by the KfW Development Bank in the framework of the “North East Climate Change Adaptation Program (NECCAP)”⁷. The KfW Development Bank provides financial support to the Indian government for the development of regional action plans at state level to adapt to climate change and protect vulnerable population groups in NE India.

To identify the most vulnerable districts, a study by the Indian Institute of Science⁸ based on data on soil conditions, infrastructure and socio-economic factors (e. g. poverty ratios) in conjunction with historical and projected climate data was taken into account.⁹ Thus, there are criteria and parameters to prioritize districts in the program area by the vulnerability of population groups and sectors. The distinction is made by identifying the regional threats to agriculture, the forest, the ground water and the threat caused by floods. This process led to the selection of 15 out of 57 districts in the five participating NECCAP states of Assam, Nagaland, Meghalaya, Mizoram and Sikkim.¹⁰ The NECCAP program funds adaption measures such as reforestation, erosion control, groundwater protection and water storage at local level.

Beside the NECCAP program, the German Federal Government addresses the MDONER as well as a federal enterprise by providing technical cooperation in the framework of the “Climate Change Adaptation Program in the North Eastern Region (CCA-NER)” implemented by GIZ.¹¹ The national leading executing agency is the Indian Ministry of Environment and Forests (MoEF). GIZ advises the local governments, partner institutions and communities in setting up policies and tools to promote the adaptation to climate change in the framework of state action plans on climate change. The different sub-projects are: Eric Peace Silk-Slow Fashion, Indigeous Rice Development, Regional Training of Trainers, Biodiversity and Culture Significance at Kabi Lungchok Scared Preserves and Mapping, Modelling Management Guidelines for Oak Forests.¹² In the framework of these sub-projects, GIZ offers capacity development measures and in particular promotes awareness rising, training of multipliers and strengthening of training facilities, which are important in relation to climate change in the Northeastern region. In addition, GIZ has established a network of international and national actors from the public and private sector to develop affordable financial products for the rural population. As a result, several customized financial instruments are expected to finance necessary measures to adapt to the impacts of climate change as well for rural target groups as for public investment. In addition, GIZ promotes knowledge management and regional networking for joint resolution of issues and problems related to climate variability and change.¹³

The state of Tripura, which borders on three sides with Bangladesh, is one of the most isolated and underdeveloped states in NE India. Therefore, the BMZ decided to carry out the project “Socio-economic integration of tribal groups and poor rural populations and protection of natural resources in the Indian state of Tripura”, with GIZ and the government of the Indian state of Tripura from 2009 to 2013.¹⁴ The objective of this project was the planning, implementation and monitoring of public and private investment programs to improve the management of natural resources. For that purpose GIZ designed economically viable models for micro-enterprises that are managed by tribes and the poor population in order to get access to natural resources through public and private investment.¹⁵ The project has been able to support five producers’ communities in five pilot villages in the establishment of micro-enterprises. These are dedicated to the production of selected agricultural products in the short term, which means products carry a yield in the first six months, and thus generate income.¹⁶

7 On behalf of the Federal Government, KfW Development Bank is in charge of the financial cooperation of Germany in more than 100 developing and emerging countries in Africa, Asia, South and Central America, the Middle East and the Caucasus.

8 Ravindranath 2012.

9 KfW Entwicklungsbank 2011.

10 Stewen 2012: 342.

11 The project duration is from 2009 to 2014.

12 Deutsche Gesellschaft für Internationale Zusammenarbeit GIZ / Ministry of Development of North Eastern Region 2012.

13 Deutsche Gesellschaft für Internationale Zusammenarbeit (Climate Change) 2014.

14 Deutsche Gesellschaft für Internationale Zusammenarbeit (Empowerment) 2014.

15 Ibid.

16 Ibid.

1.5 Political framework for the environmental commitment of the European Union in NE India and SW China

The framework for the cooperation in the field of environment policy of the EU with India and China is the “Joint Action Plan” for India and the “EU-China Partnership on Climate Change”, both from 2005.¹⁷ The Indo-European cooperation focuses on the preservation of livelihoods as well as to a much smaller extent on energy efficiency. The cooperation between the EU and China, in contrast, has a clear focus on energy efficiency and renewable energies. A difference can be seen in the regional focus. In contrast to the German cooperation that has a regional focus on several states in NE India, the EU cooperation has no regional focus and rather refers to the whole country. The involvement of the civil society in the climate change adaptation programs of the EU in the region is done by capacity development, sensitization activities in individual projects and the strengthening of the International Centre for Integrated Mountain Development (ICIMOD) as a regional partner.

1.6 A valuable partner in the region: the International Centre for Integrated Mountain Development (ICIMOD)

A valuable partner in the Himalayan region, that is already a partner of the BMZ and the European Union and could be also interesting as a partner for local NGO's, is the International Centre for Integrated Mountain Development (ICIMOD). ICIMOD is a regional intergovernmental learning and knowledge sharing center serving the eight regional member countries of the Hindu Kush Himalayas: Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan – and is based in Kathmandu, Nepal.¹⁸ The network aims at improving the living standards of the Hindu Kush Himalayan region by supporting regional transboundary programs that help the rural population to understand climate change, adapt to it and create new opportunities.

The German Federal Government supported the strengthening of ICIMOD as an organization and service provider for the region in cooperation with GIZ until 2012.¹⁹ The aim was to support ICIMOD in his role as the voice of the Hindu Kush Himalayas in the global negotiation processes on natural resources and climate change. The EU is currently working with ICIMOD as a regional partner in the 2013–2017 ongoing project “Rural Livelihoods and Climate Change Adaptation in the Himalayas initiative (Himalica)”. The project budget amounts to 12.5 million Euros, of which the EU contributes 10 million Euros.²⁰

2 Requirement and needs analysis

In the following, some important deficits of existing projects and initiatives in NE India and China, especially Tibet and Yunnan, are outlined and analyzed. The assessment of the sample projects taken is largely based on a project database, which the working group generated in the process of the task force seminar.

Climate change will inevitably lead to climate migration. Bangladesh, China and India are already among the states with the most climate change migrants worldwide, and it is predicted that by 2050 there will be an estimated number of 150 to 200 million environmental refugees.²¹ Climate change will cause strong changing weather conditions, like deficit rainfall and high temperatures or severe droughts in the NE Indian states of Manipur, Nagaland, Meghalaya and Assam,²² and water engulfs Bangladesh – a so-called “downstream effect” whose long-term impacts are still unknown.²³

17 European Union 2005.

18 International Centre for Integrated Mountain Development 2014.

19 Deutsche Gesellschaft für Internationale Zusammenarbeit, URL: <https://www.giz.de/de/weltweit/14259.html>.

20 International Centre for Integrated Mountain Development 2014.

21 Bundesamt für Migration und Flüchtlinge 2012: 32.

22 Das 2009: 33–34.

23 Eriksson 2009: 13.

In both cases, i. e. India and its northwestern states as well as China's Southwest, a number of bilateral and multilateral projects between the EU and the German Federal Government with India or China, intended to promote the impacts of climate change on the regional level, have been worked out. Despite national (China) and regional (India) climate change action plans, it can be said that there is still little effort from both Germany and the EU to implement such programs and projects in the Himalayan region concerned. One of the many projects between Germany and India is in cooperation with India's MDON-ER and the BMZ²⁴ on CCA-NER²⁵, a GIZ project mentioned above. Although the program covers a wide range of topics, it is taken as one example for the requirement and needs analysis showing that not only China, but also India lacks initiatives on wide-ranged water, waste and disaster management initiatives. Furthermore, a cross-linked cooperation between Indian and Chinese governments,²⁶ and a support securing of the population concerned, e. g. women, children or disabled, is still missing.

2.1 China

Concerning disaster management, China's government has promulgated and implemented the "National Disaster Prevention and Mitigation Plan" (duration: 2011 to 2015).²⁷ Still, there is no evidence that Tibet and Yunnan are dealing with glacial melting and floods in the Himalaya region, although those two threads are serious climate change results²⁸ that negatively affect peoples' lives. China shows deficiencies with regard to the content of the programs and dealing with climate change impacts in Yunnan and Tibet, in general. A reason for these problems could be that project work in Tibet might be difficult to realize due to the political situation. However, Yunnan province could be a "bridgehead" on a sub-regional level for implementing new ideas as well as for engaging with Myanmar, India, Laos and Vietnam.²⁹ The working group has not found any local or regional measures that were supported by the German Federal Government.

Although China's Government has recently initiated programs on waste management, there aren't any projects in rural and urban areas that are elaborated well enough and cover Tibet or Yunnan. "World Bank (2005) indicates that China has surpassed the U. S. in 2004 and became the world's largest municipal solid waste generator".³⁰ A case study was conducted by World Bank in 2007 in the county of Eryuan, Yunnan Province, on behalf of the Government of Yunnan Province to prove whether there is willingness among the population to pay for an improved solid waste collection and financially support projects regarding waste management. The study clearly demonstrated that even the poorest households were willing to pay in favor of a solid waste collection and disposal. Although the collected amount of money could probably not cover the total costs for a project, it "can still justify for project implementation".³¹ Despite some small local Chinese initiatives and NGOs that work on waste and water management situated in the Himalaya region, there is no evidence of any projects supported from the EU or Germany.

In the case of China it is important to stimulate awareness of the society and of local governments for climate change and its impacts. Unfortunately, despite China's strenuous efforts to engage the public society, NGOs and the media,³² there are no signs that the goal of sensitizing the public, local stakeholders and government employees has been reached. The interview, taken by the authors with Oxfam Hong Kong, showed that the organization doesn't even know or has heard of any climate change adaptation or mitigation measures taken by the EU or Germany.³³ Still, "local government's awareness of climate

24 In India, BMZ is running at least two main projects in cooperation with Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and some more small initiatives, as well as working together with ICIMOD on four programs regarding climate change adaptation and mitigation.

25 CCA-NER = Climate Change Adaptation in India's North East Region program, implemented by GIZ.

26 Rana 2012: 319.

27 The National Development and Reform Commission 2012: 15–16.

28 Eriksson 2009: 3.

29 Rana 2012: 65–66.

30 Wang 2011: 6.

31 Ibid.: 15.

32 The National Development and Reform Commission 2012: 21.

33 Survey interview with Binbin Wang, OXFAM Hong Kong (February 25, 2014).

change is low and sometimes they resist the policy released by the central policy-makers.”³⁴ Chinas local cadres need professional support in formulating and implementing climate change regulations and rules³⁵ in order to be able to start a dialogue between different policy planners. Civil society actors can play a part in this process by providing advocacy work.

2.2 India

Concerning climate change adaptation measures for local agriculture, GIZ is working together with Nagaland Empowerment of People through Economic Development (NEPED) on the mentioned initiative “Indigenous Rice Development Rice Seed Exchange” within the framework of CCA-NER. This initiative aims at fostering the exchange among farmers in four districts of Nagaland. Another example for effective adaptation measures on climate change is the initiative of “Trout Farming”, lead by the Government of Meghalaya, but without foreign support. Here again, the adaptation of local agricultural production in NE India, e. g. high crop yields, fishery and silkworm breeding, with the goal for a growing resilience in case of economic losses due to climate change, is still not satisfactory.

Applicable to almost every program is that focal points for projects led or supported by the German Federal Government are the Indian states of Meghalaya, Nagaland and Sikkim,³⁶ with exclusion of other northeastern parts of India. Despite of a nationwide climate-induced threat, India still has an unequal distribution as well as insufficient extend of projects that deal with causes and consequences of climate change. Only a few projects on a regional level are initiated by EU or Germany.

3 Recommendations and conclusion

In order to address demand as well as to improve and encourage further potential of development and cooperation, we will furnish recommendations of action for the adaptation and mitigation of climate change and its consequences in the following section. The recommendations of action are restricted to measures that are feasible especially by means of local as well as regional or international non-governmental organizations and to problem areas that can be directly influenced by the mentioned actors. For reasons of applicability and comprehensibility, the recommendations of action will be divided into local, regional and international level advocacies, mainly focusing on NE India and SW China.

3.1 The local level in NE India

As shown in the needs assessment, the regional distribution of climate change adaption programs is not in conformity with the occurrence of climate change induced events in NE India. Therefore, the integration of the federal states of Arunachal Pradesh, Assam, Manipur and Tripura in already existing initiatives and at the setup of new projects respectively is to be recommended. Especially governmental undertakings such as the CCA-NER lobbying at the local German GIZ office in Shillong, seems to be meaningful.

In addition, the stronger incorporation of local and responsible functional elites in order to ensure necessary infrastructure for projects can be recommended. Some areas in NE India such as Assam, Manipur, Mizoram, Nagaland and Tripura are characterized by weak statehood, separatist movements and security issues.³⁷ These circumstances make the identification of corresponding (maybe even unofficial) partners and appropriate forms of cooperation, the contention for processing non-transparency in order to achieve an efficient and effective project output, as well as assuring the safety of project staff, highly advisable.

The sensitization of the NE Indian population regarding climate-induced migration in the federal state of Assam can be recommended as it may facilitate mutual understanding and social inclusion. Since the 1970s, the conflict between the local Hindi population and the mostly Muslim immigrants from Bangladesh is simmering and reached another peak in 2012 leading to the death of 30 and the displacement of

34 Survey interview with Binbin Wang, OXFAM Hong Kong (February 25, 2014).

35 Ibid.

36 e. g. Climate Change Adaptation in the North Eastern Region (CCA-NER) program.

37 Lehmann/Lehr/Mitra 2001.

about 100,000 people.³⁸ Appropriate measures in order to de-escalate the conflict and to foster mutual religious and cultural awareness could be, for instance, different common workshops between the Bodo³⁹ as well as other local communities and immigrant municipality, information campaigns, as well as the establishment of a community center and an arbitration board.

3.2 The local level in SW China

The provincial and sub-provincial administrative tiers, especially in such sensitive areas as Yunnan and Tibet, favor economic growth and social stability over environmental issues,⁴⁰ as the central government evaluates cadre performance according to goal attainment. This often results in ignoring and delaying of the implementation of environmental regulations and legislature. Therefore, a sensitization of local cadres in Yunnan and Tibet for the consequences of climate change and their potential negative impact on economic performance and stability, as well as the stimulation of realization of already existing legislation seems to be important. Furthermore, the conduct of optional workshops and training seminars as well as campaigns addressing accountability for violations of law and environmental wrongs is highly advisable.

Apart from that, the drafting of community-based action plans⁴¹ concerning climate change adaptation at the local level in Yunnan and Tibet is to be recommended. Despite the potential of local Environmental Protection Bureaus (EPB) to implement environmental legislature independently,⁴² these institutions often lack necessary financial and personnel resources.⁴³ In order to facilitate a code of conduct regarding environmental issues and a minimum of climate change adaptation policies for the specific needs of different communities within the provinces of Yunnan and Tibet, cooperation between the local EPBs, the community members and civil society organizations is commendable.

3.3 Shared recommendations for the local level of NE India and SW China

The extension of training measures in the communities in NE India and SW China concerning the causes as well as impacts of climate change and the corresponding adaption opportunities, especially for the most vulnerable groups such as children and women can be recommended. Recommendable measures would be school projects like “environmental weeks” or the visit and support of nearby environmental initiatives as well as lessons at local community centers.

In addition, the diffusion of local and subject-specific knowledge is to be recommended. Since NE India and SW China are characterized by a high linguistic and cultural diversity as well as widespread illiteracy, the translation into local languages and the reconditioning of information material for illiterates seems to be helpful in this regard.

Another important factor is the capacity development of the project realizing local and non-governmental actors.⁴⁴ This requires advanced training of staff, the learning of new action forms and project approaches as well as the endeavor for further cooperation.

3.4 The regional level

On the one hand, an intensification of the interregional interconnectedness of actors in order to achieve a more effective and efficient planning and implementation of measures is to be recommended. Due to some structural, political and communicative obstacles there is still a great potential for cooperation between non-governmental and semi-governmental⁴⁵ organizations in the field of climate change and environment.⁴⁶

38 Bhattacharyya/Werz 2012: 37.

39 Bodo are a minority group in northeastern Indian states of Assam and Meghalaya, and in Bangladesh.

40 Lo/Tang 2006: 202–203.

41 Brot für die Welt 2013.

42 Mertha 2005.

43 Hofem 2010, Heberer/Senz 2011.

44 Survey interview with Binbin Wang, Oxfam Hongkong (February 25, 2014).

45 In the case of China that refers to actors such as government organized non-governmental organizations (GONGOs).

46 See also the contribution of Sroka, Minnetian, Nawid, Pilorz und Roemer in the same tome.

On the other hand, the working group recommends the setup of issue-specific, border-crossing projects between NE India, SW China, Bangladesh and Myanmar. Especially in the healthcare sector, the integration of the state of research regarding climate change induced impacts on health⁴⁷ into border-crossing national as well as non-governmental programs should be ensued, as for example a shift of weather pattern and climate zones has led to a change of the habitat of mosquitoes that could transmit malaria or dengue fever in the whole region. Most of these rapidly developing problems seem only resolvable if all concerned areas and actors work together on a solution.

3.5 The international level

As for the international level, stronger lobbying concerning the agreement of China and India on international environmental and climate protection conventions, especially regarding the installation of a post-Kyoto regime, would be important. Indeed, both states have pointed out that they are interested in a new climate protection agreement, starting 2020, but they are still referring to their status as non-industrial countries in negotiations and their need of higher production and emission rates in order to gain on. As a consequence, local non-governmental organizations should take the opportunity to sway local governments towards a more favorable position, and regional as well as international non-governmental organizations should ally and implement awareness campaigns.

Bibliography

Bhattacharyya, Arpita / Michael Werz (2012): Climate Change, Migration, and Conflict in South Asia. Rising Tensions and Policy Options across the Subcontinent. Center for American Progress, Heinrich Böll Stiftung. [online] http://www.americanprogress.org/wp-content/uploads/2012/11/ClimateMigrationSubContinentReport_small.pdf (Accessed on March 16, 2014).

Brot für die Welt (2013): Gemeindebasierte Aktionspläne zur Anpassung an den Klimawandel. Bangladesch, [online] <http://www.brot-fuer-die-welt.de/projekte/projektliste/bangladesch-cdp.html> (Accessed on March 1, 2014).

Bundesamt für Migration und Flüchtlinge (2012): Klimamigration. Definitionen, Ausmaß und politische Instrumente in der Diskussion. Working Paper No. 45, [online] https://www.bamf.de/SharedDocs/Anlagen/DE/Publikationen/WorkingPapers/wp45-klimamigration.pdf?__blob=publicationFile (Accessed on February 27, 2014).

Das, Anup et al. (2009): Climate Change in Northeast India: Recent Facts and Events – Worry for Agricultural Management. ISPRS Ahmedabad Workshop: Impact of Climate Change on Agriculture, [online] <http://www.isprs.org/proceedings/xxxviii/8-W3/B1/2-114.pdf> (Accessed on February 20, 2014).

Deutsche Gesellschaft für Internationale Zusammenarbeit (Climate Change) (2014): Climate change adaptation in India's North East Region (CCA-NER), [online] <http://www.giz.de/en/worldwide/16041.html> (Accessed on March 17, 2014).

Deutsche Gesellschaft für Internationale Zusammenarbeit (Protection) (2014): Protection of sustainable policy initiatives in the management of natural resources in the Hindu Kush Himalayas, [online] <https://www.giz.de/en/worldwide/14259.html> (Accessed on March 17, 2014).

Deutsche Gesellschaft für Internationale Zusammenarbeit (Empowerment) (2014): Socio-economic empowerment of tribal and rural poor and protection of natural resources. Tripura, [online] <https://www.giz.de/en/worldwide/16609.html> (Accessed on March 17, 2014).

Deutsche Gesellschaft für Internationale Zusammenarbeit GIZ / Ministry of Development of North Eastern Region (2012): Focal Areas, [online] <http://cca.ner-india.org/focal-areas> (Accessed on March 17, 2014).

Eriksson, Mats et al. (2009): The Changing Himalayas – Impact of Climate Change on Water Resources and Livelihoods in the Greater Himalayas. International Centre for Integrated Mountain Development

47 Survey interview with Dr. Helga Fink, GIZ, Office Shillong, India (January 23, 2014).

- (ICIMOD). [online] http://www.worldwatercouncil.org/fileadmin/wwc/Library/Publications_and_reports/Climate_Change/PersPap_01_The_Changing_Himalayas.pdf (Accessed on February 21, 2014).
- European Union (2005): The India-EU Strategic Partnership. Joint Action Plan. [online] http://eeas.europa.eu/india/docs/joint_action_plan_060905_en.pdf (Accessed on March 17, 2014).
- Federal Ministry for Economic Cooperation and Development (China) (2014): China, [online] http://www.bmz.de/de/was_wir_machen/laender_regionen/asien/china/ (Accessed on March 17, 2014).
- Federal Ministry for Economic Cooperation and Development (India) (2014): India, [online] http://www.bmz.de/en/what_we_do/countries_regions/asien/indien/index.html (Accessed on March 17, 2014).
- Federal Ministry for Economic Cooperation and Development (Indien) (2014): Indien. Situation und Zusammenarbeit, [online] http://www.bmz.de/de/was_wir_machen/laender_regionen/asien/indien/zusammenarbeit.html (Accessed on March 17, 2014).
- German Federal Foreign Office (China) (2013): Bilateral Relations China, [online] http://www.auswaertiges-amt.de/sid_4F1937135E0D84DDA3CC293CE56EBF30/EN/Aussenpolitik/Laender/Laenderinfos/01-Nodes/China_node.html (Accessed on March 10, 2014).
- German Federal Foreign Office (India) (2013): Bilateral Relations India, [online] http://www.auswaertiges-amt.de/EN/Aussenpolitik/Laender/Laenderinfos/01-Nodes/Indien_node.html (Accessed on March 10, 2014).
- Heberer, Thomas/Anja Senz (2011): Streamlining Local Behaviour Through Communication, Incentives and Control: A Case Study of Local Environmental Policies in China. In: *Journal of Current Chinese Affairs*, No. 3, 77–112.
- Hofem, Andreas (2010): Zwischen Zielsetzung und Umsetzung. Lokale Akteure und Institutionen im chinesischen Umweltschutzsystem. [online] http://www.chinapolitik.de/resources/no_79.pdf (Accessed on February 16, 2014).
- International Centre for Integrated Mountain Development (2014): About ICIMOD, [online] <http://www.icimod.org/?q=abt> (Accessed on March 17, 2014).
- KfW Entwicklungsbank (2011): Programm – Anpassung in Indien. Gegen abrupte Wechsel des Klimas gewappnet, [online] <https://www.kfw-entwicklungsbank.de/Internationale-Finanzierung/KfW-Entwicklungsbank/Umwelt-und-Klima/Projektbeispiele/Programm-%E2%80%93-Anpassung-in-Indien/> (Accessed on March 18, 2014).
- Lehmann, Hendrick/Peter Lehr/Subatra Mitra (2001): Autonomie- und Sezessionsbestrebungen in Nordostindien. In: *Jahrbuch für internationale Sicherheitspolitik*, 87–100.
- Lo, Carlos Wing-Hung/Shui-Yan Tang (2006): Institutional Reform, Economic Changes, and Local Environmental Management in China. In: *Environmental Politics*. Vol. 15, No. 2, 190–210.
- Maikhuri, R. K. et al. (2011): Managing Natural Resources through Simple and Appropriate Technological Interventions for Sustainable Mountain Development. In: *Current Science*, Vol. 100, No. 7, 992–997.
- Mertha, Andrew C. (2005): China's 'Soft' Centralization: Shifting Tiao/Kuai Authority Relations. In: *China Quarterly*, Vol. 184, 791–810.
- Rana, Kishan S./Patricia Uberoi (2012): India's North East States, the BCIM Forum and Regional Integration. In: *ICS Monograph*, No. 1. Delhi/India: Institute of Chinese Studies.
- Ravindranath, N. H. (2012): Tools and Methods for Vulnerability Analysis. Indian Institute of Science, [online] <https://www.kfw-entwicklungsbank.de/migration/Entwicklungsbank-Startseite/Development-Finance/Sectors/Water/Events/Ravindranath2012.pdf> (Accessed on March 18, 2014).
- Stewen, Marcus/Nand Kishor Agrawal (2012): Nötige Anpassung. In: *E+Z Entwicklung und Zusammenarbeit*, Vol. 9. [online] <http://www.dandc.eu/de/article/nordostindien-ist-ein-globales-vorbild-fuer-anpassung-den-klimaschutz> (Accessed on March 18, 2014).

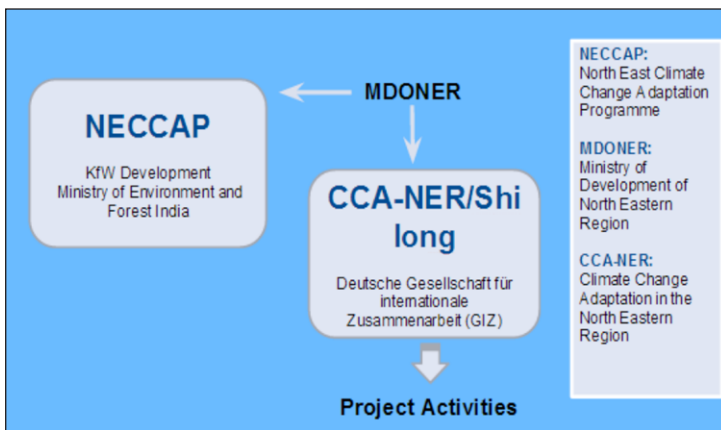
The National Development and Reform Commission (2012): The People’s Republic of China: China’s Policies and Actions for Addressing Climate Change, [online] <http://www.ccchina.gov.cn/WebSite/CCChina/UpFile/File1324.pdf> (Accessed on March 2, 2014).

Unterstützung von Partnerländern bei der Implementierung der Konvention der Vereinten Nationen gegen Korruption (UNCAC) Team (2008): Ein Überblick – Korruption und Antikorruption in der Nachbarschaft. Länderfactsheets und Informationsquellen. Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ), Working Paper. [online] <http://www2.gtz.de/dokumente/bib-2008/gtz2008-0606de-laenderfactsheets.pdf> (Accessed on March 16, 2014).

Wang, Hua et al. (2011): Municipal Solid Waste Management in Small Towns: An Economic Analysis Conducted in Yunnan, China. Policy Research Working Paper, No. 57, Vol. 67. Washington, D.C.: The World Bank, [online] <http://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-5767> (Accessed on March 3, 2012).

Annex

Figure 1: NECCAP, MDONER, and CCA-NER



Source: Own research

Figure 2: GIZ sub-projects

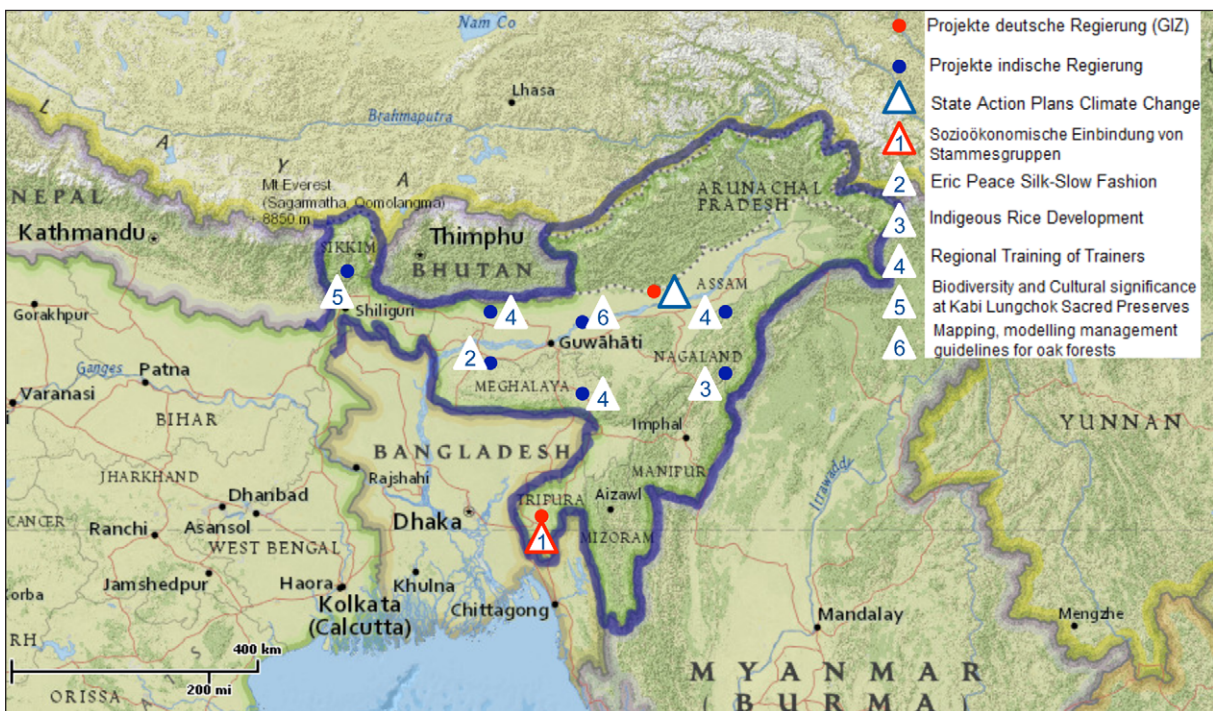


Table 1: Project Database

Time frame (e. g. project period, year of signing)	Name of the intervention	Type of intervention	Level of intervention (national/regional/local)	Country	Initiated by / executing agency (EU / Federal Republic of Germany / national / local)	Cooperation partner	Budget
since 2001	Special Climate Change Fund (SCCF)	Program support initiative	National	China, India, Myanmar, Bangladesh, Nepal	Global Environment Facility (GEF)	BMZ, UNDP, UNEP, WB	US\$ 299.1 m. (German contribution 2011: US\$ 25 m.), 27 % to Asia
2003–2010	Strengthening capacity building for decentralised watershed management	BMZ project	National	India	German Federal Ministry for Economic Cooperation and Development (BMZ)	Indian Ministry of Agriculture, Government of India	not specified
2004–2008	European Commission (EC) – India Disaster Preparedness Support Program	Program	National	India	EU / National	UNDP, Government of India	EC contribution: € 10 m. (92 % of total)
2005	EU-India Joint Action Plan	Cooperation agreement	National	India	EU / National	Government of India	not specified
2006	EU-China Partnership on Climate Change	Cooperation agreement	National	China	EU / National	Government of China	not specified
2008–2012	Protection of Sustainable Policy Initiatives in the Management of Natural Resources in the Hindu Kush Himalayas (ICIMOD)	BMZ project	National	India	German Federal Ministry for Economic Cooperation and Development (BMZ)	International Centre for Integrated Mountain Development (ICIMOD)	not specified
2008–2013	Umbrella Programme on Natural Resource Management	BMZ project	National	India	German Federal Ministry for Economic Cooperation and Development (BMZ)	National Bank for Agriculture and Rural Partner Development (NABARD)	In the first two years, NABARD sanctioned investments of over € 19 m. in 50 projects in 11 states and one union territory
2009–2012	Policy Options to Engage Asian economies in a post-Kyoto regime (POEM)	Binational project	National	China / India	EU	Among others: Indian Institute of Management, Tsinghua University	Total cost: € 1.089 m. / EU contribution: € 971,500
2009–2013	Socio-economic empowerment of tribal and rural poor and protection of natural resources, Tripura	BMZ project (GIZ)	National	India	German Federal Ministry for Economic Cooperation and Development (BMZ)	Government of Tripura	not specified
2009–2014	Climate change adaptation in rural areas of India	BMZ project (GIZ)	National	India (Madhya Pradesh, Rajasthan, Tamil Nadu and West Bengal)	German Federal Ministry for Economic Cooperation and Development (BMZ)	Ministry of Environment and Forests (MoEF)	not specified

Approach	Thematic area	Working method / Instruments for the implementation	Contact	Homepage
Programmes are to be country-driven, cost-effective and integrated into national sustainable development and poverty-reduction strategies	support adaptation to climate change, technology, capacity building, energy, transport, industry, agriculture, forestry and waste management; poverty-reduction; and economic diversification	Loans, Public-private programs, capacity development	Ms. Saliha Dobardzic; Phone: (+1)(202)4735943; E-mail: sdobardzic@thegef.org / Mr. Rawleston Moore; Phone: (+1)(202)4738231; E-mail: rmoore1@thegef.org	http://www.thegef.org/gef/SCCF
Institutionalization consortiums of service providers for capacity building in three pilot state governments (Uttarakhand, Rajasthan and Karnataka), in order to support the large centrally sponsored watershed management scheme	Watershed management	Capacity building for decentralised watershed management, consortiums with Department of Agriculture and Cooperation (Ministry of Agriculture), the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), and the National Institute for Agricultural Extension Management (MANAGE)	Vera Scholz, E-Mail: vera.scholz@giz.de	http://www.giz.de/en/worldwide/16067.html
Develop & institutionalize earthquake preparedness / response plans & practices	Awareness building, education, disaster management/prevention/preparedness	Research/studies/developed & institutionalised earthquake preparedness /response plans & practices	not specifield	http://ec.europa.eu/echo/policies/prevention_preparedness/dipecho_en.htm
EU-India Environment Forum, Joint Working Group on Environment, EU-India Energy Panel, EU-India Initiative on Clean Development and Climate Change	Energy efficiency, reducing environmental damage	High-level consultations, research, knowledge sharing, awareness building	Delegation of the EU to India; 65, Golf Links, New Delhi – 110003; Phone: +91-11-49496565; Fax: +91-11-49496555; E-mail: delegation-india@eeas.europa.eu	http://ec.europa.eu/clima/policies/international_cooperation/india/index_en.htm
China-EU Seminar “Towards a Global Carbon Market: Using Market-Based Mechanisms to Combat Climate Change”, bilateral consultations, workshop on “the development of clean coal policy for China”, Memoranda of Understanding were signed between the European Commission and Ministry of Science and Technology (MOST) of China	Energy efficiency, energy conservation, renewable energies, clean coal, collection of carbon dioxide	High-level consultations, research, knowledge sharing, awareness building	EU Delegation of the EU to China; 15 Dongzhimenwai Daijie, Chaoyang District, Beijing – 100600; Phone: (8610)84548000; Fax: (8610)84548011; E-mail: delegation-china@eeas.europa.eu	http://ec.europa.eu/clima/policies/international_cooperation/china/index_en.htm
ICIMOD and its partner organizations develop regionally consistent approaches and strategies for adapting to climate change and for sustainable resource management and apply them	Management of natural resources	Data collection, promotion of ICIMOD’s priority programme Environmental Change and Ecosystem Services (ECES)	Manfred Seebauer; E-mail: manfred.seebauer@giz.de	https://www.giz.de/en/worldwide/14259.html
Improve the effectiveness of selected public and private investment programs in conservation and management of natural resources	Management of natural resources	Loans, Public-private partnerships, capacity development	Hansjoerg Neun; E-mail: hansjoerg.neun@giz.de	http://www.giz.de/en/worldwide/16606.html
Develop a portfolio of policy options including both international and national policies as well as institutional frameworks for international cooperation	Socio-economic development, energy efficiency, poverty alleviation	Research, field work, surveys, studies	Administrative contact: Camilla Jacobsohn, Göteborg, Sweden; Tel: +46-317723504; Fax: +46-31821928	http://cordis.europa.eu/projects/226282
Planning, implementation and monitoring of public and private investment programs in Tripura have been improved in a way that natural resources are used more effectively than in the past and are used for the sustainable economic development of the region	Livelihood, management of national resources	Investments at the village level in two of the state’s tribal districts, participatory planning, institution building, improvements in the productivity of degraded land, natural resources management and livelihood promotion	Hansjoerg Neun; E-mail: hansjoerg.neun@giz.de	https://www.giz.de/en/worldwide/16609.html
State-level vulnerability and risk assessments, Developing and testing adaptation measures, Climate proofing of public investments and rural development programmes, Development of financial instruments for adaptation, Information and knowledge management, State-level action plans on climate change (in four of India’s federal states)	Adaptation to climate change	Multi-level approach: public investments, financial instruments, knowledge management	Peter Saile; E-Mail: peter.saile@giz.de	http://www.giz.de/en/worldwide/16603.html

Table 1 (continued)

Time frame (e. g. project period, year of signing)	Name of the intervention	Type of intervention	Level of intervention (national/regional/local)	Country	Initiated by / executing agency (EU / Federal Republic of Germany / national / local)	Cooperation partner	Budget
2009–2014	Agreement on the Cooperation on Addressing Climate Change	Memorandum of Agreement	Regional	China / India	China / India / National	NDRC (China) and MoEF (India)	not specified
2009–2015	Management of natural resources and community forestry	BMZ project	National	Bangladesh	German Federal Ministry for Economic Cooperation and Development (BMZ)	Ministry of Environment and Forests (MoEF), Integrated Protected Area Co-Management (IPAC) – Projekt von USAID	not specified
2009–2015	Wetland Biodiversity Protection Project	BMZ project	National	Bangladesh	German Federal Ministry for Economic Cooperation and Development (BMZ)	Department of Fisheries (Ministry of Fisheries and Livestock), Bangladesh Water Development Board (Ministry of Water Resources)	not specified
2011–2014	Urban Reduction of Green House Gas Emissions in China and Europe (URGENCE)	International project	National	China	EU / Chinese Government	Among others: University of Exeter (coordinator), UK / City of Stuttgart, Germany	not specified (EU funded)
2011–2014	Climate change adaptation in India's North East Region (CCA-NER)	BMZ project (GIZ)	National	India	German Federal Ministry for Economic Cooperation and Development (BMZ)	Ministry of Development of North Eastern Region (MDONER)	not specified
2011–2014	Sustainable development and biodiversity conservation in coastal protection forests	BMZ project	National	Bangladesh	German Federal Ministry for Economic Cooperation and Development (BMZ)	Ministry of Environment and Forests (MoEF)	not specified
2011–2016	Memorandum of Understanding on Conservation of Sundarban	Memorandum of Understanding	Regional	India, Bangladesh	India, Bangladesh, National	Government and non- government agencies	not specified
2011–2017	Bangladesh Climate Change Resilience Fund	Sector policy support programme	National	Bangladesh	EU / National	Ministry of Environment and Forests, World Bank	€ 140 m.
2012–2015	Preserving biodiversity in the Kailash region	BMZ project	Asia supra-regional	Asia supraregional	German Federal Ministry for Economic Cooperation and Development (BMZ)	International Centre for Integrated Mountain Development (ICIMOD)	not specified
2013–2018	Myanmar Climate Change Alliance	Project	National	Myanmar	EU / National	Ministry of Environmental Conservation and Forestry, Department of Meteorology and Hydrology (Ministry of Transport), Department of Planning (Ministry of National Planning and Economic development), UN Habitat, United Nations Environment Programme (UNEP)	€ 4.065 m.
Year depending on the state	India's State Action Plans on Climate Change (SAPCC)	Action plan	Local	India / all seven states of northeast India	The Indian Ministry of Environment and Forests (MoEF)	GIZ, UNDP, World Bank, other members included Principal Secretaries, Commissioners, Secretaries of the various line departments, research institutions, NGOs, academia	not specified

Approach	Thematic area	Working method / Instruments for the implementation	Contact	Homepage
Strengthening the bilateral dialogue and practical cooperation on climate change	Climate change mitigation, programs, projects, technology development, greenhouse gas emission reduction (energy conservation efficiency, renewable energies, clean coal, methane recovery and utilization, afforestation and sustainable management of forests and ecosystems, transportation and sustainable habitat)	High-level consultations, research, knowledge sharing, awareness building		
Support the implementation of Bangladesh's Climate Change Strategy and Action Plan, provided to support local services, forest management and the development of alternative sources of income	Implementation of the Climate Action Plan of Bangladesh, management for effective monitoring of forest areas, decentralization in the forestry sector, developing alternative sources of income	Trust-building campaigns related to income-generating activities, interest-free microcredits, awareness building, first forestry congress in Bangladesh	Otilie Mooshofer; E-mail: ottilie.mooshofer@giz.de	https://www.giz.de/en/worldwide/14858.html
Strengthening participation by the poor in the decision-making process for wetlands management.	Biodiversity, water, food safety	Training courses on income-generating activities and social issues, awareness-raising and sensitisation activities, strengthening of partnerships between the stakeholders	Otilie Mooshofer; E-mail: ottilie.mooshofer@giz.de	http://www.giz.de/en/worldwide/14855.html
Assessment of the overall risks and benefits of alternative greenhouse gas (GHG) emission reduction policies.	Health risk assessment, urban energy demand, urban planning and supply scenarios	Research, development of a modeling platform and a related database for urban impact assessment	Clive Sabel, PI; E-mail: c.sabel@exeter.ac.uk and Nicky Cocksedge, Project Manager; E-mail: n.cocksedge@exeter.ac.uk	http://www.urgenche.eu
Among others: Strengthening of Meghalaya draft water policy; Disaster preparedness management plan, Sikkim; Mapping, modeling and management guidelines for oak forests, Sikkim; Community forest management in Mawlyngbna, Meghalaya; Biodiversity and cultural significance at Kabi Lungchok, Sacred Preserves, Sikkim; Umiam water resource management and land use modeling, Meghalaya; Preparation of village water security plans in Tendong Hills, Sikkim	Water, forest, livelihood	Knowledge exchange, capacity development, development of a policy framework	Regional Office in Meghalaya, Dr. Helga E. Fink, Project Director, GIZ/CCA-NER; Kench's Trace Laban, Behind Sankardev College, Shillong – 793004, Meghalaya; Phone: +91(0)3542501105; E-mail: helga.fink@giz.de	http://cca.ner-india.org/
implementation of the Bangladesh Climate Change Strategy and Action Plan especially regarding disaster management, capacity building and institutional strengthening	Fisheries, agriculture, ecosystem management, conservation of biodiversity, protected area management	Advice and training, knowledge management, skills development, mediation	Otilie Mooshofer; E-mail: ottilie.mooshofer@giz.de	http://www.giz.de/de/weltweit/14867.html
Strengthening the management of the Sundarban across the two countries	Biodiversity, forest	Information and knowledge sharing, capacity building, education promotion, trainers' training and exchange	not specified	http://pmindia.nic.in/MOU-%20Sundarban%20_Final_.pdf
Support Bangladesh in implementing the Government's Bangladesh Climate Change Strategy and Action Plan	Agriculture, coastal management, infrastructure, land management, natural resources, education, development, poverty reduction	Adaptation to climate change, disaster risk reduction	The World Bank Office; Plot No. E-32, Agargaon, Sher-e-Bangla Nagar, Dhaka, Bangladesh; Tel: +880-2-8159001-28; E-mail: bccrf@worldbank.org	http://bccrf-bd.org/Default.aspx
Requirements for the cross-border protection of biodiversity in selected ecosystems in the Kailash Sacred Landscape are created	Transboundary protection of biodiversity	Regular meetings and joint field trips, advisory services, the deployment of experts, surveys and materials and equipment	Manfred Seebauer; E-mail: manfred.seebauer@giz.de	http://www.giz.de/en/worldwide/14266.html
Mainstream climate change into the Myanmar policy development and reform agenda	Development, poverty reduction	Adaption to climate change, mainstreaming of climate change	EU Delegation to Myanmar; E-mail: EU-Office-Yangon@ceas.europa.eu	http://www.gcca.eu/national-programmes/asia/gcca-myanmar
In line with the objectives of the National Action Plan on Climate Change (NAPCC) and ensure its implementation at state level.	In line with the objectives of the National Action Plan on Climate Change (NAPCC) and ensure its implementation at state level.	In line with the objectives of the National Action Plan on Climate Change (NAPCC) and ensure its implementation at state level.	Ministry of Environment & Forests; Paryavaran Bhavan CGO Complex, Lodhi Road, New Delhi – 110003, India; Phone: +91-11-24361669	http://moef.nic.in/ccd-sapcc