A report of the advocacy efforts by Resources and Livelihoods Group, PRAYAS on the disaster in Konkan
Because of the neglect of the fragile nature of the eco-system during the design and execution phases of these 'development interventions', the ecological health of Konkan region has been weakened to a large extent.

In a nutshell, a natural incident of heavy rainfall (a natural accident) turned into a major disaster in the form of floods and landslides, since the eco-system was unable to absorb this rainfall and other disturbances and maintain a semblance of balance. Further, the damage caused to various life-sustaining eco-systems (such as forests, rivers, agricultural fields) transformed the natural disaster into a social and economic disaster.
Advocating the 'View From Below'
A Report of the Advocacy Efforts by PRAYAS on the Disaster in Konkan

By
Resources and Livelihoods (ReLi) Group,
PRAYAS
Advocating the View From Below

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Preface

This report is a narrative description of the advocacy initiative, and its outcomes, of Resources and Livelihoods (ReLi) Group of PRAYAS. This advocacy initiative was undertaken on the issue of the disaster of unprecedented rainfall, floods, and landslides which struck the Konkan region of Maharashtra State in the monsoon of 2005. The purpose of presenting this report is both to inform the readers about the work done by the ReLi group, as well as to generate a wider discussion on the issue of disaster management.

The report is divided in two parts. The first part describes the background in which the advocacy activities were initiated. Further, it elaborates on the specific strategies adopted and activities conducted, linking them to the observed outcomes. The second part of the report is based on the original report in Marathi written two months after the floods, which was used as the ‘base document’ for conducting the advocacy initiative. In this part of the report, a brief summary of the nature of impact of the disaster on various sections of the population and their livelihoods is presented. An attempt is also made to analyze and present the more fundamental issues (especially ecological and social issues), which led to intensification of the negative consequences of the disaster. There is also a brief discussion on the possible course of action required to address this issue in future. This presentation and analysis is based on the data and information gathered (by the team of researchers, from the ReLi group) by interacting with the local communities, experts, and visits to the affected areas. The demands put forth by the local communities for relief and rehabilitation have also been briefly translated and reproduced from the original report. These demands formed the substantive basis of the advocacy efforts initiated on this issue.

We hope that this modest report would contribute to focusing greater attention of the government, media, business sector, and civil society on the specific problems of the Konkan region, as well as on the issue of disaster preparedness, mitigation, and management.

We gratefully acknowledge the contribution of the local communities in Konkan, the local grassroots organizations (their leaders and workers), other civil society organizations, the members of the mass media, government officers, concerned individuals, political leaders, and academicians (mainly from Konkan). Without their active support, this report as well as the report in Marathi on the Konkan Floods 2005, would not have been possible. The contribution of each person and organization has been equally important, and individual references have been avoided only to maintain brevity.

The ReLi group is completely responsible for all omissions and shortcomings in this report. Suggestions for actions to take this issue forward are welcome.
Resources and Livelihoods Group of PRAYAS

PRAYAS is a registered charitable trust based in Pune. PRAYAS activities cover four substantive areas of Health, Energy, Learning and Parenthood, and Resources and Livelihoods. The Resources and Livelihoods (ReLi) Group of PRAYAS was founded in 2000. The mission of ReLi Group is to apply professional skills and knowledge to empower and build capacities of the disadvantaged sections of the society, as well as organizations and institutions working for/with these sections for their development and empowerment. The members of the group believe that, if these sections are adequately equipped with knowledge and skills, they can develop their own pathways for ensuring their livelihoods, and lead a life of security and dignity.

'Promotion of sustainable livelihoods for the marginalized sections', and 'promoting public interest (including the interests of the disadvantaged sections) by making the process of governance transparent, accountable, and participatory' are the two themes underlying all the activities of the group. The work of the group based on these themes spans two spheres: (a) influencing mainstream discourse and policy on development, and (b) influencing the practice of development by mainstream agencies and institutions and strengthening the work of grassroots practitioners. Within these spheres, the work is further sub-divided into various programs and projects.

Most of the projects and activities are supported through grants from charitable foundations. Some activities are conducted with support from individuals, community, or with government support.
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Advocating the View From Below
Background

The unprecedented rainfall and consequent floods in July 2005 led to one of the major disasters in last two decades in the Konkan region of Maharashtra. All sections of the society in the region, especially in the districts of Raigad and Ratnagiri, were affected by this disaster. The government agencies and various civil society organizations (CSOs) such as NGOs, people's organizations, media, political parties, research and academic institutions responded to this disaster in diverse ways, depending on their capabilities and limitations.

Following the floods in the last week of July and the first week of August 2005, many volunteers belonging to CSOs, worked alongside the government officials in the rescue and relief operations.

The magnitude and seriousness of the disaster can be gauged by the fact that the elected representatives of the state demanded a special session of the state legislative assembly to discuss the issue of floods in Konkan and other parts of Maharashtra.

Immediately after this disaster, there was some discussion in the media, government circles, and civil society regarding the causes and effects of the floods and landslides. However, this debate was overshadowed by the debate on the floods in Mumbai that occurred during the same period and severely affected the metropolis. Subsequently, there was hardly any discussion and debate regarding the causes of the floods and landslides in the rural areas, and their effect on rural people and their livelihoods. Hence, the views of the affected people in the rural areas, their plight, anguish, demands, and aspirations were not heard with due attention by the decision and opinion makers, both within and outside the government.

This observation was reinforced, when members of PRAYAS interacted with the affected people and local grassroots organizations in the region during distribution of relief material. Many senior activists have been working for more than two decades in the region, and had experienced similar floods around a decade and half ago. Interactions with activists indicated that there were many dimensions of the disaster (causes and effects), which were likely to
disaster should be immediately documented. This could then be used as a 'base document' for further advocacy and media campaign efforts.

To gather data for developing this 'base document', the ReLi group undertook a rapid qualitative field assessment. All staff members of the group temporarily suspended their ongoing project-work and engaged in fieldwork. Three teams, each comprising of three members, were formed. Each team comprised of persons having technical (especially agriculture/ecology) and social (especially social work) knowledge and experience.

A rapid assessment tool was developed for data collection. These three teams visited around fifty hamlets in the two districts of Raigad and Ratnagiri. During the data collection, focused group discussions, interviews with key informants, and on-site observations were conducted. Focus of the fieldwork was on reaching out to the most vulnerable sections, such as the tribal people, the dalits, women, and small farmers.

Besides this field-based data collection, around 30 persons (technical experts, government officers, senior activists and media persons) were interviewed and their views on the issue were solicited. This process was conducted during September-October 2005, one month after the floods and landslides. In the next one month, a 75-page report in Marathi was written and printed. The ReLi members then undertook a media and advocacy campaign using this report as the 'base document'.

diminish from public memory and debate, once the initial angst over the disaster had subsided. This could allow the government to easily gloss over the issue and evade its responsibility of providing attention to rehabilitation of the affected. It was also seen that, in the given economic and political situation in the region, the elected representatives were apathetic towards the problems of the farming community, especially the small and marginal farmers. Hence, the possibilities of these representatives taking up the cause of ensuring adequate compensation for crop destruction and adequate assistance for reconstruction of farmlands were very thin.

This realization prompted PRAYAS to devise an advocacy strategy and action-plan whereby it would be possible to highlight the views and demands of the affected communities and other actors working at the grassroots level. The objective was also to pressurize the government, in the post-disaster period, to pay serious attention to rehabilitation and reconstruction. This strategy demanded that the views, experiences, plight and demands of the affected people and the perspective of the grassroots actors on the causes and effects of the
The Advocacy Initiative

The Marathi report was designed in such a manner that it could be readily used for advocacy efforts. Hence, the structure and presentation style of the report is such that it describes the 'positions/views' of both, the affected people as well as the government.

Further, the demands of the people are presented and possible counter-arguments to these demands especially from the government's side are also discussed. This is followed by a re-articulation of the same demands, in a more practical form, taking into consideration the possible counter-arguments. This form of presentation has given rise to the articulation of demands that is balanced and rational, and can be easily implemented. This has helped to increase acceptance of the report and the demands by a wide section of the society, since the form of presentation and articulation conveys that these demands are just and practically sound.

The summarized excerpts from the Marathi report, especially focusing on the demands put forward to the government are presented in Part II of this present report.

The advocacy initiative based on the Marathi report consisted of the following activities: (i) media campaign, (ii) advocacy efforts with elected representatives, and (iii) advocacy efforts in the legislative assembly, and (iv) public discussion events on the issue and report. These activities were conducted sequentially. The advocacy efforts began with a media campaign. This created sufficient awareness about the PRAYAS report among the public and elected representa-
Media Campaign

Though the members of the ReLi group did not have much experience in conducting media campaigns, and though this was their first effort, they made efforts to execute the campaign in a systematic and planned manner. The planning and execution was conducted under severe time constraints, i.e., in a period of around one month. The objective of the media campaign was to create awareness in the civil society and government on various dimensions of the disaster (its causes and effects, both short and long term, as well as the strength and weakness of the government response to the disaster).

The media campaign consisted of the following activities: (i) press conferences to release the ‘report’ and present the findings to the media for wider dissemination, and (ii) follow-up with press reporters and providing them inputs to write articles in the press. Information and analysis of local situation, experiences of local people, particularly disturbing incidents, and opinions of local experts, were some of the important features of the report. Hence, it was important to disseminate the findings of the study primarily in the Konkan region. Considering this, the initial three press conferences were conducted in Ratnagiri, Chiplun, and Alibag. In addition to these, press conferences were also organized at Mumbai and Pune, with an objective to reach out to a wider audience, including policy makers.

The campaign involved considerable preparatory work. This comprised of collecting basic information regarding the newspapers and television channels (such as names and other details of their reporters), developing personal contact and rapport with the reporters, and inviting them to the press conferences. This activity was carried out in six locations, namely Ratnagiri, Chiplun, Mahad, Alibag, Mumbai, and Pune. While soliciting responses, some selected newspapers and television channels, which had the potential to respond favorably and create impact, were targeted in a focused manner.

To increase effectiveness of the press conferences, ‘media kits’ were prepared. The kits consisted of: (a) press release, fact-sheets providing vital statistics, (b) soft copies of the report on a CD along with around 500 photographs, and (c) case studies of affected people describing good practices and local initiatives for
disaster response, and (d) experiences describing pitfalls in government response. All these could be highlighted in the news articles. This kit was appreciated by the reporters and effectively used to present the issue in the media.

The press conferences received an overwhelming response at all the locations. Representatives from local newspapers and weekly publications were present in all the press conferences (ranging from 25 to 45 persons). The representatives and reporters from various television news channels and local 'cable' channels attended the press conferences. Due to the systematic planning of these events, newspapers from Pune, Mumbai, and Konkan region devoted considerable space for news items related to the Prayas report, almost over a period of one month. Around thirteen newspapers published more than thirty news items/articles in different editions and on different dates. In additions to this, all major Marathi news channels telecasted interviews with Prayas representatives regarding the report, including the official broadcaster 'Doordarshan'. This wide coverage given by the media led to building visibility and tempo and helped to initiate discussion in civil society and create a favorable atmosphere for advocacy activities with government officers and elected representatives.

Through these activities, effort was made to motivate the press persons to publish news items and articles regarding the report. They were also asked to provide suggestions regarding the targeting of other advocacy efforts, such as meetings with elected representatives. This gave them the message that we were not seeking only publicity, but were genuinely interested in advocating the issue in the interest of the affected people.

Advocacy Efforts with Elected Representatives

In the first week of December 2005, PRAYAS representatives organized discussions (in the form of personal meetings) with members of the state legislative assembly (MLAs) and members of the state legislative council (MLCs) for presenting them the report and obtaining their views on the issue, and also advocating the demands and recommendations put forward in the Prayas report. During these meetings, Prayas representatives presented a short summary of the report and requested these elected representatives to put forward the demands and recommendations in the winter session of the state legislative assembly, which was held in December 2005.

These meetings proved helpful in various ways for the advocacy effort. Various elected representatives had worked in coordinating relief activities in their respective constituencies during the disaster in July-August 2005. They had a good understanding of the local area, its topography, and the conditions of the people. They put forward their own views with respect to the government's response to the disaster. These personal meetings with the MLA's and MLC's played a crucial role in communicating the recommendations and demands put forward in the report to the government. PRAYAS members met eight MLA's and one MLC's before commencement of the winter session. The MLA's represented various constituencies in the Konkan region. They were also motivated to develop a joint front across party lines to lobby for the demands of the people of the Konkan region.
As in the case of media persons, the targeting of the MLA's / MLC's had to be focused due to time constraints. The focus was on meeting MLA's / MLC's who had worked intensively during the floods in Konkan or were known to be have a pro-people record.

During these meetings, we found that some representatives had already acquainted themselves with PRAYAS report, following the coverage of the report by the media. Surprisingly, some MLAs had read the entire report and were ready with their suggestions. Some of the demands put forward in the report were well received by all political parties. They also recorded the important points and viewpoints in their notepads and helped Prayas representatives to articulate and specify the demands in more appropriate manner. During these discussions, the Prayas representatives highlighted local issues, which were identified during the field visits. This helped increase the rapport with the elected representatives.

Besides these local demands, generic demands and issues, which had wider policy implications, were also discussed. These included the demand regarding reconstruction of farmlands under the EGS and providing food grains to the affected at subsided prices. All representatives accepted these demands, in principle. Demands related to local issues such as recommendations for immediate action by government on the issue of imminent fodder scarcity in the region, recommendations regarding the special rehabilitation program on tribal lands, even the suggestions with respect to the locations, facing risk of landslides, were highly appreciated by the representatives. However, the recommendations regarding approaches and methods of disaster management based on ecological conservation or a suggestions regarding establishment of a people-centered transparent and accountable disaster management system, were not well received during these discussions.

All representatives appreciated Prayas's advocacy efforts and assured that they would make all the possible efforts to raise this issue and demands in the legislative assembly during the winter session.

Besides these personal meetings with MLA's and MLC's, PRAYAS members also made presentations to senior leaders of the main opposition party, prior to commencement of the winter session of the state assembly. Meetings were also conducted with senior bureaucrats, and PRAYAS members, both at the district and state level, presented the report to them personally. PRAYAS members also made a presentation on the findings of the study in a workshop organized by an industry association, in which senior businessmen, intellectuals, and scientists participated. This workshop was held in the town of Chiplun, which was one of worst affected town during the Konkan floods.

Following these meetings, a few MLA's and MLCs invited PRAYAS members to be present during the winter session in Nagpur. This was to personally meet other MLA's and MLCs and lobby with them to take forward the issue and the demands of the local people.
Advocacy Efforts in Legislative Assembly

The advocacy efforts made during the winter session (held in Nagpur) of the state legislative assembly proved crucial in many ways. These efforts helped in highlighting and addressing the long-term issues related to disaster management as well as in prompting the government to take appropriate measures for the flood affected people in Maharashtra. It was apparent, before commencement of the assembly session, that the issue of the floods would be discussed vigorously. Hence, PRAYAS decided to make efforts to lobby with as many MLA’s and MLC’s as possible (keeping in mind various constraints including political positions of various parties and of individual representatives on the issue).

The main objective of these interventions was to help both, the opposition and ruling party leaders to conduct a meaningful discussion in the assembly on this issue. During this lobbying process, some of the generic demands and recommendations emanating from the report were also discussed with MLA’s representing the constituencies where the topography is similar to Konkan region. This strategy helped to mobilize greater support for the demands raised in the report. The second category of MLA’s and MLC’s targeted during the lobbying process were important leaders of various parties, including the leader of the opposition and officially nominated spokespersons of the parties, who have capability and credentials to raise issues in the assembly.

The strategy and focus of the entire process of lobbying and advocacy was on providing leaders with as much information and points for discussion as possible, with the expectation that these points would be raised in the process of negotiations between the ruling and opposition parties. It was possible to speak and lobby with a wide spectrum of MLA’s and MLC’s because many of the generic demands and recommendations raised in the report with regard to disaster preparedness and response appealed to these MLA’s and MLC’s. The perspective underlying these demands and recommendations were understood and appreciated by some of the dynamic and well-studied representatives. They were able to see the value of this perspective, since it was helping them to address issues and problems they were facing in their own constituencies.

In the process of lobbying, the PRAYAS representative tried to meet key leaders of all major political parties, especially those who have distinct pressure groups in the legislative assembly. The PRAYAS representative also met and received a patient hearing from the speakers of the assembly and the council. These inputs were provided, in all, to 22 MLA’s from six political parties. Meetings with ministers in the state cabinet who represent Konkan region were also held and the report and the demands were presented to them.

To supplement the discussions in the meetings and to provide ready-to-use information for the representatives, the MLA’s were presented with ‘Advocacy Kits’. This kit was similar in content to the ‘Media Kit’, but also contained notes on important points in bullet-form, and important demands culled from the report and classified according to the concerned government department / agency capable to address those demands.
The initial round of discussion with MLA’s conducted in Konkan, Pune, and Mumbai provided critical inputs in the design of this kit. This kit was appreciated by the MLA’s, and they gave feedback that these kits helped them in their discussions in the assembly.

The issue of floods in Maharashtra was discussed for five days in legislative assembly and for two consecutive days in the legislative council. During these discussions, the following points raised in the report were highlighted by the speakers:

- The importance of developing region-specific norms (especially for the Konkan region) for disaster management and response, as well as rehabilitation and reconstruction of disaster affected.

- Making effective use of EGS for reconstruction of the damages caused due to floods.

- Ensuring effective and meaningful participation of the affected people in rehabilitation of houses and habitats, and involving them in all stages of the rehabilitation process, including acquisition of sites for new settlements.

- The definition of disaster must be broadened to include not only flash floods, but also excessive and incessant rains, since it affects normal life and damages crops and other assets in the Konkan region.

Other Efforts in Advocacy

As part of dissemination activities, sufficient number of copies of the report were sent to various libraries, publishing houses, academic institutions, colleges, and experts in various subjects. In addition to this, the report was also sent to various charity organizations, activists, voluntary organizations that have been working in Maharashtra. Along with the above activities, one seminar was organized in Ratnagiri with an objective to interact with local experts, professors, senior press reporters, and other stakeholders on the issue of flood disaster. The presence of a broad range of local activists, senior citizens and students was one of the main features of this seminar.

PRAYAS members were also invited for presenting the findings of the report in a national seminar organized by the Bombay Geographic Association at the University of Mumbai. Similarly, the report was also presented in a state level meeting on the floods issue of senior activists, convened by the Bharatiya Gyan Vigyan Samiti at Pune.

Outputs and Outcomes of the Initiative

The key features of the PRAYAS initiative in response to the disaster in Konkan included: the immediate field assessment following the floods, production of the report, its dissemination through the media, and a targeted campaign of advocacy and lobbying with the elected representatives. This initiative led to some direct outputs and outcomes, which are described below. Beyond this, the initiative also led to a definite impact on the government and civil society, which is reflected in the post-disaster actions and decisions.

The major output of the media campaign was that more than thirteen newspapers including all major state level English (viz,
Times of India, Indian Express, Hindustan Times etc) and Marathi (viz, Maharashtra Times, Loksatta, Sakal, Lokmat) dailies covered this issue for four to five consecutive days in all their regional editions. There was an overwhelming response from local newspapers from the Konkan region. These local newspapers published news regarding the Prayas report and other aspects of the floods, landslides, and the rehabilitation of flood affected, for about a week, highlighting different aspects of the issue. In fact, at the time of the release of the report, there were other important news competing for media space such as the split in Shiv Sena, which is a leading party in Konkan, and the bye-elections in Konkan. In spite of these digressions with significant news values, the media provided considerable coverage to the PRAYAS report. Six T.V. channels having high viewership (E TV, Doordarshan, Zee Hindi and Marathi, City channel, Sahara News) and the local cable news-networks broadcasted news items regarding the report. In addition, articles on the issue were published in major weeklies.

The main outcome of the advocacy campaign was that the PRAYAS report was directly referred to and publicly shown by one MLC in the legislative council. Besides this, the major demands and recommendations made in the report were put forward by a few MLA’s in the legislative assembly. Following the assembly session, the Department of Relief and Rehabilitation, Government of Maharashtra convened a meeting of NGO’s and civil society organizations to discuss the issue of rehabilitation of the flood affected. PRAYAS was also invited to this meeting. The government officers acknowledged the advocacy efforts of PRAYAS. They also mentioned that this meeting to discuss the issue of participation of NGO’s and CSO’s in the process of rehabilitation was being called based on demands raised by PRAYAS. Further, the government presented its decision to develop a proposal of a rehabilitation scheme for 90 villages at a cost of around Rs. 200 crores. Of these 90 villages, more than half are located in the Konkan region (Raigad - 30 and Ratnagiri - 36). This indicates that the campaign and advocacy efforts undertaken in such a short time did influence the government actions on this issue.

PRAYAS also received offers from mainstream organizations for collaboration on the issue of disaster management in Konkan. The Geological Survey of India (GSI) has shown willingness to work with Prayas on the issue of landslides. The GSI officials are willing to change their conventional approach and involve local people in gathering data regarding landslides. YASHADA, the state administrative training institute, has offered its cooperation to PRAYAS to organize consultation to learn from the experiences of the disaster response to the Konkan floods and strengthen the Disaster Risk Management (DRM) programme, being jointly implemented by Government of India, Government of Maharashtra, and the United Nations Development Program (UNDP).

Conclusion

The entire effort of developing the report, and using it as a base for further media, advocacy, and lobbying activities enabled PRAYAS in reaching out with this issue to a large section of the society in the entire state of Maharashtra. The role played by the mass media was crucial in the success of the
entire campaign. Some important newspapers and television channels published news items and articles almost continuously in a short duration. This helped PRAYAS in taking this issue to the masses, elected representatives, and other sections of civil society, whose opinion and thinking has a definite bearing on government policy and decision-making.

The strategy of personally meeting MLA's and MLC's before the session and focused lobbying efforts during the session ensured that the report and efforts made by PRAYAS received due attention during the discussion on the issue. These efforts also facilitated in ensuring that many important points/issues relating to both, the current issue of floods, as well as disaster management in general figured in the discussions. These points include: norms relating distribution of relief and compensation, malpractices in distribution of compensation, and effective use of government schemes such as EGS in rehabilitation and reconstruction programs.

In the entire initiative, a balance was maintained between taking an adversarial position on certain issues on the one hand, and facilitating dialogue in a spirit of accommodation, on the other hand. Also, a sustained effort was made to reach out to all sections of the government and civil society and inform them about the issue and the demands and sensitize them to support the demands of the local people. This objective was achieved to a large extent. When contrasted with the initial apathy of the local elected representatives, the active role they played in putting forward these demands in the winter session of the assembly stands out.

The advocacy efforts seem to have made significant contribution to this change. These gains need to be sustained and deepened in the future course of work.
Brief Profile of the Konkan Region

The Konkan region is a narrow strip of land, with a breadth of around fifty to sixty kilometers and a length of seven hundred twenty kilometers on the West Coast of India. This region is bounded by the mountain ranges of 'Sahyadri' mountains on the western side on its east and the Arabian Sea on the west. The region experiences a high rainfall area, in the range of 2000 to 5000 millimeters, in a short period of about three and half months. The region has a large number of streams and rivers flowing in the east-west direction, originating in the mountains in the east and flowing into the Arabian Sea on the west. The slopes of the 'Sahyadri' mountains are densely forested in some areas, and have diverse flora and fauna. The intensity of different natural factors, such as, rainfall, temperature, humidity, biodiversity, and mountain slopes, results in formation of a peculiar eco-system in the region, which is very fragile. The Konkan region is divided into four administrative districts, namely, Thane, Raigad, Ratnagiri, and Sindhudurg. Thane and Raigad districts share common boundaries with the metropolises of Mumbai and New Mumbai. The effect of proximity of urban and industrial center on the local economy and social conditions is visible in some parts of Thane and Raigad. However, this effect is not seen in remote areas.

Of the total population in the region, eleven percent are tribal people. They are mainly situated in the districts of Thane and Raigad. The main occupation of people in the Konkan region is agriculture. However, cultivable tracts of land are scarce because of the peculiar topography dominated by mountain ranges and coastal areas. Availability of irrigation facilities is very low and dispersed. Productivity of the existing agricultural lands is low. Along with agriculture, forest-based activities and fishing are the other two major livelihood activities of the rural people in Konkan.
The question of unequal ownership of land is a serious problem in Konkan. Implementation of land reforms has not been very successful. Hence, iniquitous distribution of land, created by feudal systems of land holding and administration continues to this day, though, in a less intensive form. Non-availability of clear ownership titles to land has resulted in low investment for improving land productivity by the tenant farmers. This has contributed to their deteriorating livelihoods situation.

The rich natural resources in the Konkan have been mainly utilized for industrial development. Logging of forests, mainly for making charcoal, resulted in deterioration of forest lands. This resulted in soil erosion and silt deposition in rivers. This, in turn, resulted in making the river beds shallow. Further, as chemical industries were set up in the region, effluents from these industries were dumped in rivers and estuaries, polluting them almost in an irreversible manner. The pollution of water bodies resulted in loss of fish catch. This greatly endangered livelihoods of fishing communities. Initially, these industries provided employment to local people, however, many small industries shut down gradually, leaving behind them a mass of unemployed people on the one hand, and polluted land and water resources on the other hand. Further, there has been a growing trend to purchase land in Konkan by the urban rich to develop farmhouses, resorts, and hotels. This is because the region has potential for tourism due to its natural beauty as well as proximity to the twin cities of Mumbai and Pune.

Industrialization and urbanization of Mumbai city have also impacted the economy and social conditions of the rural people in the Konkan region. The developing metropolis of Mumbai attracted youths in Konkan to work in textile mills in its initial years of growth. Konkan’s economy largely became dependent on Mumbai with migrants remitting money to their families through ‘money orders’ (hence the Konkan economy was also popularly known as a ‘money-order economy’). Migration of male members of families to the urban areas resulted in increased burden on women to look after the families and conduct farm activities. However, the closure of textile mills in Mumbai on a large scale resulted in reverse migration of many industrial workers to their native villages. This led to increased pressure on land and agriculture in the rural areas.
Immediate Relief and Damage Assessment by Government

The suddenness of the floods and landslides in the months of July-August 2005 called for immediate rescue and relief operations in many part of the region. The government was faced with a great challenge to rescue thousands of people marooned or affected by the flood-waters. Further, immediate help had to be provided to thousands of people due to the general break down of the economic activities and lack of mobility of people due to the floods. Considering the crucial role of immediate relief in disaster mitigation, it is important to examine performance of the government in this regard. When requested, the local people were more than willing to share their experiences about the government relief operation. The government response to the disaster of floods and landslides in Konkan consisted of two measures, besides rescue operations, namely, (i) provision of immediate relief to affected people, and (ii) assessment of both types of destruction, agricultural and non-agricultural.

Immediate Relief to Affected People

The relief package announced by the Government of Maharashtra following the floods consisted of the following items: (a) food grains and kerosene, (b) cash distribution to those families whose houses had been completely or partially destroyed due to the floods or excessive rainfall, and (c) cash compensation to the families whose members had died in the floods or due to landslides. Some important observations made during the course of the study regarding the government relief operations area as follows:

- The relief package announced and distributed by the government was grossly inadequate to meet the needs of the affected people, and considering the massive destruction of property caused due to the disaster. Even this inadequate help did not reach all the affected people. People living in remote and hilly areas, especially the tribal people on a large scale, remained excluded in the process of providing relief material. At some places, dalit (formerly referred to as untouchables or 'lower' castes) families were also excluded. Along with this discrimination, there was an inexcusable delay in distributing immediate help, as reported by the local people. This delay adversely affected efforts of poor families living in deprived and vulnerable situation to cope with the after-effects of the disaster.

- There were many gaps in the instructions given by the higher authorities (through a Government Order  G.R.) to the taluka and district level staff regarding the criteria for selection of beneficiaries / protocol for distribution of relief material. Considerable discretion was given to the local officials for executing this task. To some extent, such discretionary powers were essential to deal with the rapidly changing and difficult situation. However, lack of clarity and high level of discretionary powers entrusted to the local officials also resulted in serious malpractices in the relief operations. Several people reported unequal distribution of cash and large-scale corruption in the process of cash disbursement.
The Government announced financial help to the families, which lost one or more members due to the floods or landslides. However, in the cases in which the earning member of the families had died, a one-time cash payment was extremely inadequate to compensate the loss to the livelihoods of the family. It has been observed (even in case of other disasters, and situations in which cash payment has been made by the government) that this money is often spent on immediate needs, such as, sickness of family members or buying necessary things to recover from destruction, instead of investing in long-term livelihood activities. It is, therefore, essential to rehabilitate such families in order to ensure security and sustain ability of their livelihoods, rather than simply providing cash as a one-time dole.

The temporary shelters created for the purpose of accommodating the people displaced due to the floods and landslides were not of good quality. These shelter lacked basic amenities such as provision of drinking water and sanitation. The special needs of women were not considered while designing these shelters. During a visit to these shelters in the month of March 2006, it was observed that the displaced people were not rehabilitated, and continued to stay in temporary shelters. There was an impending danger that they might have to face the next monsoon, while staying in these temporary shelters only.

Assessment of Damage Caused Due to the Disaster

Apart from providing immediate relief in the form of cash and materials, the government also conducted an assessment of the extent of damage to land, crops, and other properties. This assessment was conducted about a month after the flash floods. Since most of the government officers were involved in relief operations, the assessment began after the relief operations were completed or reduced considerably. However, the local people reported several shortcomings in this assessment conducted by the government.

It was reported that the government took cognizance of destruction caused by floods and landslides, however, the destruction caused by excessive rainfall was completely neglected. Excessive rainfall in the period subsequent to the floods led to large-scale destruction of crops, as well as houses and other structures. The local people also reported that the government did not record the loss of domesticated animals during the assessment process. This was done in spite of the well-known fact that animal play an important role in the agriculture system.

Apart from such exclusion of different types of damages, it was also reported and observed that some sections of the community were also excluded from the interviews conducted as part of the damage assessment process. This was especially true of entire communities living in remote hamlets. The other excluded sections included tenant farmers, persons cultivating encroached forest lands, and some small farmers.

It was widely reported that the teams of government officers involved in the assessment exercises did not visit the farmlands, forests, and also houses for observing and recording the destruction. As a result, the study teams of PRAYAS noted that various other types of destruction to corps, agricultural
lands, forests, houses, and other structures, were not reflected in the government data. Further, due to lack of co-ordination among the agriculture department and the local agriculture university, the government officials could not understand and acknowledge the true nature and scale of the agricultural destruction. Thus, lack of preparation, lack of sensitivity, and the lack of the right perspective on the part of the government undermined the whole exercise of assessment of damage, especially damage to agriculture.

**Demands to the Government**

In the above context, the various grassroots actors from the region made the following demands to the government:

- Inquiry should be instituted in cases of corruption in distributing relief. Immediate action should be taken against people involved in malpractice.

- Affected areas and communities that remained excluded from immediate help should be identified immediately. The government should start the process of reaching out and distributing relief in such areas.

- A special cell should be set up in each taluka (block) for lodging complaints about the assessment process. After investigation, instructions for reassessment should be issued.

- Vigilance committees should be set up at the village level to ensure effective implementation of relief and damage assessment operations.

### Destruction of Agriculture

**Nature and impact of Destruction**

The disaster caused by the floods, landslides, and excessive rainfall, resulted in large-scale destruction of crops and agricultural lands in the Konkan region. A large section of the rural population in the Konkan region is dependent on agriculture for their livelihoods. Hence, destruction of agriculture is bound to have a serious and long-term impact on the rural population of the region.
The Konkan region is characterized by immense geographical diversity. This also results in diversity in the agricultural system within the region. Because of such diversity, the impact of the destruction caused due to the disaster also varies across the region. It is essential to account for this heterogeneity, while adopting restoration measures. Providing uniform solutions to recover the agricultural damage, without understanding its heterogeneous nature, is bound to be a failure.

The destruction caused to agriculture can be classified in the following manner: (i) destruction of farm lands, (ii) destruction of crops, and (iii) destruction of agriculture-related equipments and resources. The broad typology of the nature of damage caused to agriculture due to the disaster is shown below in diagram form.

**Destruction of Farm Lands**

Three types of destruction of agricultural lands were observed: (a) permanent destruction of lands, (b) damage to agricultural lands, which could be repaired, and (c) destruction and damage of farm-bunds.

**Permanent Destruction of Agricultural Lands**

In this first type of destruction, the strong water currents in streams and rivers destroyed agricultural lands permanently by washing the soil away. Hence, the most fer-

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**Type and Nature of Damages**

- **Damage to Farmlands**
  - Permanent
  - Easily repairable
  - Difficult to repair

- **Damage to Crops**
  - Paddy crops
  - Seasonal and long duration crops

- **Damage to Agricultural Resources and Equipments**
  - Domestic animals
  - Natural resources
  - Basic equipments
tile top layer of the soil, which needs a long period to develop, was destroyed. In some cases, gushing rivers transported huge rocks and large amount of mud into the fields, destroying them permanently. In these cases, it is not possible to remove the debris even with machines. Permanent destruction of agricultural land implies a major loss of livelihood resources for many people.

In the case of permanent loss of land, the demands that emerged from the grassroots are as follows:

**Demands to the Government**

- The government should compensate the land lost due to the floods/landslides with equal amount of cultivable land in the same or neighboring village. If necessary, the revenue department should reassess the destruction of lands.
- In case it is not possible for the government to provide land as compensation, the affected farmers should get financial help to buy lands. In the case of unavailability of alternative lands, the government should assist the farmers to pursue other livelihood activities and thereby improve their livelihoods.

**Repairable Damage of Land**

Damage to agricultural lands, which could be repaired and restored was widely reported and observed in the Konkan region. Due to the strong currents of the flood-waters, sand, stones, and mud carried by streams and rivers were deposited in the agricultural lands. Repairing such damage requires considerable investment of money and labor. The nature and amount of work required for restoration differs significantly, based on the nature and scale of damage. In some cases, the damage is comparatively less (i.e., about a feet deep thick layer of mud and sand has been deposited in the fields). In such cases, it may be possible for the farmers to remove the silt deposited, and restore the land for cultivation. However, this restoration work would lead to considerable strain on their livelihoods in terms of both, extra labor and extra monetary investment required.

In cases where the damage caused is substantial (i.e., more than one feet thick layer of pebbled sand and stones have been deposited), outside help in terms of cash and machines would be necessary to clear
debris. If provided with such help, farmers could do the restoration work and the lands could be ready for cultivation before the next sowing season. However, this season will be very tough for the affected farmers. If they do not get timely help from the government, cultivation in the next season would be impossible. Subsequently, it will decrease the area of land under cultivation. In some cases, the damage caused to the lands is so intensive that it would be difficult to restore the lands in spite of considerable amount of investment of money and labor. It is very unlikely that farmers would be able to repair these lands by themselves. Even the funds provided by the government may not be sufficient. In such cases, not only would the farmers be unable to cultivate their fields for some seasons, but also the additional burden of restoring their fields would restrict their opportunities for engaging in outside wage labor. In such situations, farmers would prefer to engage in wage labor even if it implies migrating to areas outside the region. Cumulatively, all these factors will tend to increase the apathy of farmers towards agriculture.

### Damage of Farm-Bunds

The strong current of the flood waters resulted in breaking and washing away of farm bunds in many farms. In many cases, the bunds have collapsed, broken, or become weak. Hence, considerable amount of investment in the form of labor, money, and time is required for repairing these bunds. The destruction of the bunds is expected to have a negative effect on rice cultivation. The bunds help hold water in the rice fields, but due to the damage caused to these bunds, water will drain off the farms affecting the paddy crop. It will also result in erosion of fertile soil and drain-off of the fertilizers applied to the fields. Less storage of water in the fields will affect growth of crops, resulting in decreasing resistance power of crops. It may lead to greater insect attack on crops. Consequently, growth and production of crops will be greatly affected.
Demands to the Government

In this context, the following demands were put forward by the local people:

- The responsibility of rehabilitating should be borne by the government. Restoration and regeneration of natural resources should be accorded prime importance in the task of rehabilitation of the agricultural lands.

- It is essential to run rehabilitation programme effectively, efficiently, and in a transparent manner. The human resources available in government administration will not be adequate for this work considering its vast nature. Hence, the government should seek and ensure participation of local self-government agencies and local people in designing, implementation, and monitoring of the rehabilitation programme of agricultural lands.

Destruction of Crops

The disaster resulted in an extensive destruction of the monsoon crops. In addition, it is feared that the winter crops, seasonal vegetables, fodder crops, and horticultural plants/trees will also be affected due to the damage caused to the agricultural lands as well as to the standing horticultural plants/trees. The paddy crop mainly was washed away in the floods or decayed in the fields, which remained flooded for many days. The transplanting of the rice seedlings had just been completed when the floods struck. Hence, the crop could not withstand this nature's fury. It is feared that the yield from crops, which survived the disaster will also be severely affected. Even after the water receded, additional soil/silt deposited in the fields by the flood waters is likely to hamper the growth of crops. Moreover, surviving crops faced a greater risk of pest attack.

The large-scale destruction of crops will lead to decrease in rice production, which will result in food scarcity. Families completely dependent on agriculture will face food shortage. The landless farmers will face great challenge as employment opportunities in the region will also be reduced. They will not get any compensation as they lack ownership of land. They will be compelled to migrate in search of employment. The question of food security will become acute for this section of the population. Fur-
ther, the destruction of paddy will also lead to shortage of fodder during summer, because the paddy straw (hay) is one of the main source of fodder for the cattle during summer since the pastures would be dry.

**Demands to the Government**

In this context, the demands of the local people were as follows:

- The local people, including all farmers (having big size farms as well as small size farms) were of the opinion that the compensation announced by the government for the destroyed crops was grossly inadequate as compared to the real value of the economic loss they have suffered. The government must increase the compensation and it must take into consideration all aspects of the economic loss the farmers have suffered.

- The compensation should be given to those who are cultivating the lands, even if they do not possess legal titles to the land.

- The government should undertake measures to overcome the future shortage of fodder.

**Destruction of Agriculture Related Equipment and Resources**

The agriculture system is organically linked with and dependent on several other resources such as, domesticated animals, local natural resources like forests (for biomass) as well as other basic equipment such as ploughs and carts. The floods also caused damage to domesticated animals like bullocks, cows, buffalos, sheep, and hens. The loss of bullocks and cows will affect the agricultural operations of the farmers. Essential equipments required for agriculture, such as, farm implements, sheds for domesticated animals have been damaged in the disaster in many places. Local natural resources such as forests and grazing lands provide basic inputs to agriculture. The damage caused to these resources will also impact agriculture, though to a limited extent, in many places in the region.

Thus, impact of destruction on agriculture is very crucial, considering the important role agriculture plays in sustaining a majority of population. It is essential to adopt measures for recovering from the damage and destruction caused to the agricultural system and also for restoring the natural resources. It is necessary that the local people participate meaningfully in this process. Hence, the government has to design the rehabilitation and restoration programmes in a participatory manner and ensure their implementation in a transparent manner. Failure on the part of the government to restore the agricultural systems back to its original status will grossly erode the confidence and faith of the farmers in the government. Further, it will provide an impetus to the growing apathy towards agriculture, especially towards paddy farming in the Konkan region.
Non-Agricultural Destruction

Loss of Human Life

The death toll due to the disaster in the Konkan has been high, as compared to the other parts of the Maharashtra state during this disaster. Death of a family-member is an irreversible loss for the family. The destruction of material goods and the stress in to normalizing livelihoods on one hand, and the agony of death on the other hand, proved to be a traumatic experience for flood-affected people of Konkan. The government provided financial help in case of death of a family member. However, payment of a one-time cash compensation will not help people to overcome the loss of a family member, especially an earning member of the family. It is a general experience that such amount is rarely invested for ensuring continuous flow of income to support the livelihood of the family in future. Often, such money is used for consumptive expenses such as marriage or building a house, or buying household durables.

Hence, the local people as well as PRAYAS demanded that, instead of providing a one-time financial compensation, the government should ensure rehabilitation of the families affected by death of a member, in such a manner that their livelihoods are restored. In order to be sustainable, the rehabilitation plan should be compatible with rural economy and the earlier livelihood activities of the family. Active participation of local civil society organisations, such as self-help groups, youth groups, and voluntary organisations should be sought to ensure effective implementation of the rehabilitation plans.

Destruction of Houses

Floods, excessive rains and landslides have resulted in destruction of houses to a large extent. Floods destroyed many houses and washed away valuable household items and important documents. The government provided some financial help based on a rapid assessment of the destruction. However, this help was meager compared to the intensity of destruction. Excessive rains resulted in leakages in the houses, dampened floors, and destroyed roofs. However, such type of damage and destruction was completely neglected by the government in its assessment process. The government did not provide any help to repair damaged houses, and hence the local people continue to stay in partially damaged, unsafe houses in many places in the region.

Landslides also destroyed many houses. There is an imminent danger of more landslides occurring in the forthcoming monsoon. People living in such landslide-prone areas need to be relocated to safer places. It is also important to adopt long-term, preventive measures to address the question of landslides.

Demands to the Government

In this context, the demands put forth to the government were as follows:

- The government should take appropriate steps to rehabilitate the people whose...
houses have been completely or partially destroyed,

- The government should provide help for repairing houses damaged due to excessive rains,

- The government should appoint a committee to decide rules regulating the construction activities in village/hamlet settlements. Safety of houses and other structures should be given due consideration, and construction in disaster prone areas such as riverbanks and hill-slopes should be avoided.

**Destruction of Basic Infrastructure**

The disaster in Konkan in the monsoon of 2005 led to destruction and damage to basic infrastructure services such as roads, drinking water installations, and electricity distribution system. Many instances of damage to wells were also observed. Hence, the demand of the local people is that new wells should be dug where wells were destroyed or severely damaged. Repairing the damage caused to the basic infrastructure should be undertaken immediately. Semi-skilled but technically experienced local people should be involved in repair work.

**Impact of The Disaster on Adivasi People**

Adivasis (or tribal people) in India are one of the most vulnerable sections of the society. For generations, adivasis have been earning their livelihoods, using surrounding natural resources, as well as their labor, skills, and traditional knowledge. The process of marginalization of adivasis began with the introduction of modern development based on large-scale usage of natural resources. The traditional rights of adivasis to natural resources have largely been denied by the modern industrial society. While the unregulated use of natural resources resulted in eroding their livelihood base, the industrial society could not integrate adivasis into its fold as they lacked the necessary knowledge and skills. Eventually, they have had to either depend on less productive natural resources for satisfaction of their livelihood needs or perform risky, tough physical jobs as unskilled labourers in the industrial system.

Subsequently, the social and political marginalization resulting in deprivation and powerlessness became the permanent characteristic of the adivasis in independent India. Today, adivasis all over India largely live in miserable conditions marked by poverty, illiteracy, malnutrition, high infant mortality, and lack of basic amenities. Considering the special situation of adivasis, the
impact of the disaster experienced by them is vastly different from impact on the mainstream society, and, hence, need to be treated as a separate/special matter.

Some of the important findings of the study in this regard are as follows:

- The nature of destruction of agriculture, crops, domesticated animals, and houses in adivasi hamlets is similar to that in the non-adivasi villages. However, considering the original deprivation and vulnerability of adivasis, it is expected that the impact of disaster would be more intense for them. Because they lack assets or cash, which can be used as back-up during periods of crisis, the adivasis will find it difficult to cope up with such a disaster.

- The destruction of food stocks and unavailability of farm and other forms of wage-employment will lead to severe shortage of food grains for adivasis, especially women and children. The question of food security will be critical for the adivasis, leading to severe malnutrition.

- The destruction of the local natural resources will severely affect livelihood activities of adivasi people, such as, cultivation, collecting and selling of forest products, fishing, wage labor, and animal husbandry. This is because they are heavily and critically dependent on local natural resources for their livelihood activities. This will lead to higher level of migration, i.e., more number of people and for longer duration.

In this background, the demands put forth to the government with special reference to the adivasis are as follows:

- The government should provide immediate wage-labor work to the adivasis under the Employment Guarantee Scheme. This may include repairing and rebuilding of the basic infrastructure, restoration and regeneration of natural resources and agricultural land.

- All adivasi people should get food grains and other necessary items through public distribution system at subsidized prices.

Impact of the Disaster on Women

Women represent the most deprived and marginalized sections in the society. While they generally lack economic resources, social status, and political power, the main responsibility of livelihood activities along with domestic drudgery falls on them. The upbringing and socialization process of women tend to make them feel inferior to men, physically and mentally. These processes have serious repercussions for women, in formation of their self-image and responses to crisis. It is essential to view the problems faced by women during and after the disaster, considering this special situation of women.

The following are some of key observations made during the course of the study in this regard:

- Immediate relief in terms of cash and food grains provided by the government did not reach the women, especially, the single women.

- The lack of gender sensitivity was reflected in the process of shifting the affected people to safer places. Various spe-
cial needs of women were largely neglected in makeshift shelters.

- During and after the disaster, the hardships experienced by women were far greater than men. For single, pregnant, or old women, it was very difficult even to take refuge in a safe shelter. Feeling of helplessness and concern for security of family members led to severe psychological stress for women. The disaster also increased mental and physical responsibilities of women. Spread of epidemics affected many people after the disaster. Taking care of sick family members was an added responsibility on women.

- The problems caused by the disaster will have great impact on women. The shortage of food generally affects women more than men. It is likely to increase mal-nutrition among women. While the destruction of agriculture will increase burden of physical labor for women, they are likely to become more dependent on men to restore their lands. Moreover, permanent damage of agricultural lands will result in loss of employment for landless women labourers and marginal women farmers. The destruction of means of livelihood will affect women significantly as they share a greater responsibility to earn livelihoods for their families. In addition, damage to basic infrastructure services, such as, water distribution system, electricity, roads, and communication network will increase problems for women. It will lead to added work burden, resulting in greater health problems for women. As loss of employment at local level compels poor families to migrate in search of employment, it is likely to result in more exploitation and insecurity for women.

- The burden of livelihood activities is largely borne by women, both during and after disaster. This fact increased severity of problems for women in general and for single women in particular. In the Konkan region, migration of male members to cities in search of employment leads to increased burden (on women) of taking care of the young and old ones staying back in homes in the village.

Demands to the Government

In this context, the demands put forth to the government are as follows:

- It is necessary to appoint a committee to study impact of the disaster on women. The committee should take a review of special problems faced by women during and after the disaster and recommend measures for necessary changes in the long-term rehabilitation plan and disaster management programme of government. The committee
should provide recommendations for making the disaster preparedness and management program sensitive to the gender needs and concerns of women.

- Women should be given due representation in the village level committees being established to deal with disaster.

- All compensation monies should be given to women in the families.

- All affected women should be provided with nutritious food. Free and regular health check-up should be conducted for women in the Primary Health Centers.

**Ecological Roots of the Disaster**

**Introduction**

The unprecedented devastation caused by floods and landslides in Konkan underlines the need to trace the roots of this disaster. 'Heavy rainfall resulted in floods and weak mountain parts slipped in the form of landslides' was an oft-provided, simple explanation of the disaster. However, interaction with farmers, local people, and experts shed light on the complex picture of disaster and the need to adopt more holistic approach to understand and analyze the causes and effects of this disaster.

**Viewing the Disaster from an Ecological Perspective**

The Konkan region is characterized by a complex, yet fragile ecology\(^1\). Different natural and human interventions have considerably affected changes/disturbances in this ecology.

The Konkan region is characterized by steep hill slopes with high gradient, seasonal but heavy rainfall, small but continuous shocks of earthquakes, and the resultant specialized and irreplaceable ecological elements. All this makes the Konkan region ecologically very fragile. Any major change in this fragile eco-system makes it difficult to maintain the natural balance. However, diverse development interventions, such as roads, railway, quarries, and horticultural plantations have been carried out in Konkan on a large scale, without acknowledging this fragility.

Because of the neglect of the fragile nature of the eco-system during the design and execution phases of these 'development interventions', the ecological health of Konkan region has been weakened to a large extent.

Excessive rains in July and August of 2005 severely affected this weak eco-system, resulting in permanent damage of ecological balance at several places.

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\(^1\): The totality of organic relationships of living organisms and non-living elements in nature with each other and with their environment is called as ecology. Different elements in nature (for example, mountains, rivers, plants, animals, etc.) have close relationships and interaction with each other. The change in any one element affects all other elements. The interaction among different elements gives rise to several natural processes. The natural processes provide life-sustaining services to the living world, such as clean air, drinkable water, cultivable land and a natural sewage system. This complex, interactive existence of different elements is known as ecology. Fragility of an eco-system denotes an inadequate capacity of the eco-system to adapt to external changes and maintain the natural balance in the face of these changes which is very crucial for the living world.
Thus, in a nutshell, a natural incident of heavy rainfall (a natural accident) turned into a major disaster in the form of floods and landslides, since the eco-system was unable to absorb this rainfall and other disturbances and maintain a semblance of balance. Further, the damage caused to various life-sustaining eco-systems (such as forests, rivers, agricultural fields) transformed the natural disaster into a social and economic disaster. These linkages are shown below in the diagram form.

Two important (sub) eco-systems in Konkan, viz., the mountain eco-system, and the river eco-system have been severely affected by the disaster.

Damage to the Mountain Eco-System

The Konkan region is characterized by high mountain ranges, which play an important role in ensuring high precipitation during the southwest monsoon period. The heavy precipitation sustains forests, which ensure con-
servation of rainwater and gradual release of water to rivers and streams.

The large-scale destruction of mountain eco-system is visible in Konkan at several places. Heavy rainfall resulted in landslides and rock-fall. Large masses of soil and rock, saturated with rainwater, came tumbling down the mountain slopes.

The construction of roads and railway tracks (by cutting through the mountains) had already loosened rocks, leading to instances of rock-fall. At some places, the similar processes created cracks and cavities in the land, which could be clearly observed. Heavy rainfall brought some parts of the mountains on the verge of landslides. These active slides may collapse in near future. This damage to the mountain eco-system will have long-term impact on ecological health of the region and subsequently, on the living world in the region. Some of these impacts are mentioned here briefly.

- In the event of permanent erosion of soil from mountain crest and slopes, restoration of vegetation cover is difficult. Absence of vegetation cover is likely to result in further erosion of land in future.

- It is feared that eroded soil and weathered rocks will be deposited in the nearby streams and rivers, thus reducing their water-carrying capacity.

- The streams and rivulets will dry up early (due to lack of gradual release of water retained in the soil) where mountain slopes have collapsed or destabilized. It will lead to shortage of water in summer.

- Landslides will result in burying of hamlets, leading to a high death toll and destruction of property.

While exploring the causes behind the disaster of landslide, several natural as well as man-made factors were reported by the people and experts.

**Natural Factors Responsible for the damage to the Mountain Ecosystem**

Konkan is a high rainfall area where rainwater weathers and decomposes rocks substantially. Such rocks can be eroded very easily. Due to the heavy rainfall, water permeated into the weathered material and soil. Then, this saturated material slid away from the underlying rocks. The steep mountain slopes in Konkan increased the severity of this process. Small but frequent earthquakes in Konkan also result in loosening of rocks and destabilizing the slopes. Thus, the
fragile natural system in Konkan increased the intensity of the impact of excessive rains. Besides, it was also found that various human interventions played a major role in the making of the disaster.

**Human Factors Responsible for Disaster**

- The large-scale logging of evergreen and moist deciduous forests in Konkan resulted in destruction of natural vegetation, allowing more water to penetrate the soil and rock. The reduction of bushes and grass also hastened the process of topsoil erosion.

- Development projects such as roads and railway further aggravated the situation. The artificial steepening of slopes due to rail or road construction led to increased destabilization of slopes and possibility of landslides. It also destroyed the trees and bushes, which have unique capacity to hold soil together through their roots. At many places, huge heaps of debris made up of rocks and stones were left near railway tracks or roads. These heaps collapsed due to heavy downpour and destroyed nearby agricultural lands. Moreover, altered mountain slopes, terraced for construction, resulted in slowing down of water flow and more penetration of water into the land, making these slopes unstable. The vibration caused by high-speed railway trains also results in loosening of soil or rocks.

- Quarrying is an important activity in the mineral-rich Konkan region. Use of heavy drills, landmines in quarries creates vibrations that weaken mountains. Moreover, construction work in the form of dams, factories, and tourist resorts on the mountain slopes aggravated the destabilizing process.

**The Damage Caused to the River Eco-System**

Streams, rivers, and estuaries form an important component of eco-system in Konkan. They provide various life-sustaining services, such as, maintaining ground water table, purifying water through aquatic animals and plants, and providing fertile silt to animals, plants, and agricultural land. Narrow streams and rivers in Konkan appear very small and mild in summer. However, in the monsoon, heavy rainfall increases the water flow in these streams immensely, creating flood-like situation every year. Because of the unprecedented rainfall this year, several streams, rivers, and estuaries flooded, crossing the usual flood-line. Rapid-flowing rivers descending from the steep slopes destroyed agriculture land. At some places, riverbanks were washed away. The destruction of river eco-system will have long-term
impact on people and nature in Konkan. Some observations in this regard are mentioned here.

- Heavy land erosion filled up the rivers and streams with silt. At some places, new water currents emerged, while earlier streams disappeared. The carrying capacities of rivers and streams are likely to reduce because of silt deposition. This increases the possibility of floods spilling out to the adjacent lands at the time of heavy rainfall in the future.

- Lands alongside riverbanks are filled with silt. A lot of waste, including plastic, was deposited near the banks.

- Riverbanks were washed away in the floods, widening the riverbeds. Damaged and unstable riverbanks will lead to more erosion of nearby lands in future.

- Changing currents of rivers and streams are likely to destroy biodiversity in the region. Loss of fish, and especially of fish-spawn, which is crucial for the process of breeding, will affect fish availability in future. The destruction of reptiles like snakes and lizards, as well as plants in riverbank has also been reported.

- Along with natural system, destruction of human-made structures is also widespread. Overflowing of estuaries destroyed the adjoining lands. The destruction of embankments due to erosion and cavities in land will lead to filling up of nearby fields with saline water. The canals, roads, and railway tracks have also been largely affected.

Natural Factors Responsible for the Damage Caused to the River Eco-system

- Heavy tides coinciding with heavy rainfall obstruct drainage of storm water. This causes severe flooding in the region. The water carrying capacity of rivers and estuaries in Konkan is already low as they are filled with silt because of severe land erosion.

- The rivers in Konkan are narrow and fast flowing as they descend from the steep slopes. The velocity of water flow is greatly increased by the steepness, resulting in heavy erosion of soil. As plain areas are limited in Konkan, the flooding water swells up to high levels.
Human Factors Responsible for the Damage Caused to the River Eco-system

- The dense, evergreen, moist deciduous forest in Konkan is logged for commercial purposes, leaving the mountains bare. The mangroves, bushes, and plants alongside estuaries and rivers have also been destroyed. Several ponds and lakes in Konkan have been filled up for construction work. As a result, the natural safeguard measures that help prevent soil erosion and floods have been eliminated over a period of time.

- There are several instances of construction of buildings and other structures that neglect flood-line restrictions. Blockages of streams and rivulets due to construction have resulted in destruction of the natural drainage system. Artificial blockades created by railway tracks, roads, and bridges are now acting as big obstacles to the natural currents, increasing the intensity of floods. Uncontrolled extraction of sand from riverbed worsened the situation, as sand helps to sink water into the earth and slows down the water current.

- The hydropower plants in the Western Ghats have increased the water load in the rivers in Konkan as additional water is diverted to them after electricity generation.

Preventing Disaster

Thus, it could be stated that the fragile eco-system in Konkan and invasive encroachment in the local ecology in the name of ‘development’ are the two important root causes of the disaster. While the natural factors cannot be eliminated, the role of human intervention in the disaster could be minimized to decrease the intensity of disaster. Thus, restoration and regeneration of eco-system in Konkan on one hand, and restrictions on the un-controlled and un-regulated human interventions on the other hand, are urgently required. Considering the role played by human interventions in aggravating the impact of disaster, it is imperative to rethink the development process in this fragile region.

On this background, it is important to adopt measures not only for management of the disaster but also for prevention of disaster. In this regard, the demands put forth to the government are as follows:

- An interdisciplinary committee, with participation of local people and experts, should be set up to explore causes of disaster in Konkan. Where development projects are responsible for increasing the destruction, remedial action should be immediately taken. The owners or proponents of such projects should be held responsible for the loss and should be compelled to pay compensation to affected people.

- In order to ensure protection of the fragile eco-system of the region, it is essential to formulate norms and indicators for development projects in the Konkan region, which could be specific to the region. The harmful operations like quarrying should be stopped in fragile mountain areas. There should be strict regulation of extraction of sand from the riverbed. The regulations on cutting of forests should be stringently enforced. Construction work in riverbed and flood line area should be strictly prohibited.
The state government should prepare a list of fragile and endangered locations and immediately take preventive action, for example, unstable mountain slopes should be listed and the process of strengthening such slopes should be started with the help of experts.

There are many suggestions to adopt 'engineering' solutions for prevention of flood, such as, construction of storage reservoirs or dams, diverting additional rainwater to another river basin, anti-erosion walls and dykes, and use of dredging machines for removing silt. Considering the ecologically destructive impacts of these engineering solutions, biological measures should be adopted. It is essential to view the disaster from an integrated (ecological) perspective. Special efforts should be taken to evolve biological measures, and an independent system should be set up to promote development of such measures.

Towards the Comprehensive Solution

This analysis of the genesis of the disaster itself would help identify and design solutions for prevention of such disasters in the future. There is a need to radically change the perspective and functioning of the government, which miserably failed at the time of the calamity in Konkan. There has been a lot of discussion at the state-level on plans to deal with such disasters, especially after the tragic earthquake at Latur in 1996. However, despite this, the government machinery was unprepared to face such a large-scale disaster, which occurred in Konkan. There was a serious lack of information and capabilities among the government functionaries to cope with a calamity of such a magnitude.

As far as the initial relief is concerned, it proved paltry in view of the enormity of the tragedy. There were no criterions laid down to identify people eligible to get the relief or for amount of relief. The government declaration to provide relief only to the ‘flood-affected’ have left out thousands of those who lost everything due to the excessive rains. The rural hamlets, especially in the inaccessible areas, were neglected in comparison with the urban centers. There have been no special efforts to reach out with the relief to the tribal people, women, landless, and other deprived sections. There have been many instances of corruption and political one-upmanship, in which the relief operation was used for meeting petty political ends.

Beyond Relief : The Loss and Remedial Measure

The losses due to the heavy rains and floods in Konkan have been varied: i) the loss of agriculture produce, land, food stocks, cattle, and houses, ii) loss of natural resources, damage to railway tracks, roads, and other infrastructure, and iii) losses inflicted on the raw material and finished products of industry and trade. Apparently, there may not be large-scale ‘general’ devastation, however, different areas experienced diverse types of losses of varying intensity. Agriculture suffered in every part of the region to a different extent. The farmers and farm laborers have been affected the most. Therefore, a systematic survey of the extent and magnitude of the losses should be carried out expeditiously, followed by a range
of remedial measures. People expect the government to help them in reclaiming their damaged lands, restoration of the damaged natural resources and livelihoods, exploring the alternative livelihood opportunities for severely affected families, protecting the damaged or eroded riverbanks, restoring the houses and farms destroyed due to landslides and other damages due to the excess rains; all these issues need to be addressed without further delay. Special attention should be given to the weaker sections of society, viz., the tribal people, landless dalits, women, and other vulnerable sections. For them, the natural calamity has become the social-economic disaster. In short, the people expect the government to look beyond the temporary relief and initiate steps for a comprehensive rehabilitation of the affected sections and area.

**Addressing the Root Cause of the Disaster**

The indiscriminate human intervention into the fragile natural ecology of the Konkan made it further vulnerable to a natural accident such as heavy rains. The damage caused to the ecology of the region is the root cause of the disaster. Hereafter, it is imperative that all the efforts of livelihood restoration and 'development' will have to be relevant and suitable to the unique ecology of Konkan. There should be clear and definite guidelines for 'do's and don'ts for development projects, and there is an immediate need to restore the ecological damage. A list of the vulnerable and disaster-prone villages and places can be prepared for executing the preventive measures accordingly. Here, the emphasis should be on the biological/natural measures rather than the engineering solutions. Instead of treating the mere symptoms such as constructing dams and bunds, it is more important to address the root cause of the disaster, i.e., to reclaim the damaged ecosystem in that area.

There is a need for a paradigm shift to address the challenge of the disaster prevention and management. It consists of understanding different aspects of the disaster in an integrated manner. With such an integrated approach, it becomes clear that the issue of food security will become important not only for the deprived people but to all the calamity-affected persons, as most of the food-producing resources such as land, forest, water-sources, mountain have been damaged or affected by the disaster.

The destruction and degradation of natural resources will adversely affect the already scarce opportunities of livelihood, status of nutrition and health, and may lead to increased indebtedness, migration, insecurity, which, in turn, would threaten the physical, social, and psychological-emotional security of affected people. Therefore, the objective guiding disaster management work should not merely confine to the 'compensation' of the losses, it should include security of livelihoods through the restoration of agricultural lands and natural resources. This can be effectively implemented through the existing government schemes such as the Employment Guarantee Scheme (EGS). Thes disaster management and prevention can be one major component of the EGS. The state government too has demonstrated commendable urgency in this regard, by issuing useful government resolutions (GRs) for adopting EGS for rehabilitation work. Such a measure
should be implemented in a practical time frame, and through a participatory and transparent process.

**Strengthening The Government Measures**

The government’s disaster management plan does not contain basic minimum provisions and measures for anticipating the floods in the pre-monsoon season itself and then preparing a plan to face them. It has been the experience that the non-governmental organizations could not get the information about the government disaster management plan in their regional languages. The disaster-management committees required to be set-up at the village level in the fourteen districts in Maharashtra, which is mandatory according to the joint programme of UNDP and Government of India, were absent in Konkan districts.

While these lacunae continue at ground level, the State and union governments are said to be working on the National Disaster Management Bill and state-level ‘Calamity-Management Act’, without consulting the citizens and organizations in the disaster-prone areas or experts from those regions. Such a top-down approach and process may meet the same fate as other ‘progressive’ measures, which have hitherto failed to produce the desired results. In such a situation, a few steps could be immediately undertaken for a pro-people, participatory, and sustainable approach to disaster management, which are briefly mentioned below:

- The disaster management plan of every district must be published through the regional/local newspapers.
- The reports regarding disaster management preparations in the respective districts must be published.
- The Government must immediately start the process of consultations from the village level to regional level with citizens, experts, intellectuals, and people’s organizations.

**Conclusion**

In conclusion, the study by PRAYAS emphatically brings out some major issues.

- Instead of mere disaster management, there should be substantial effort for disaster prevention.
- Instead of mere symptomatic engineering solutions, there is a need to explore the ecological origins of the disaster and importance must be given for organic, natural measures.
- The magnitude and complexity of such disasters require people’s meaningful participation, proactive role of local and regional experts, and non-governmental organizations, in the overall government plan.

The disaster was followed by routine government announcements of populist measures and inadequate, amateurish relief operations by the government. This was accompanied by the work of non-governmental organizations and the media glare in the initial months. However, barely three-four months after the disaster struck in Konkan, there seems to be a mood of complacency and more so of apathy. The
disaster-affected people are still reeling under its adverse impact. There is still no clear picture with the government or the non-government actors or media about the needs and expectations of the people or the actual response at the field-level. At this juncture, there should be concerted and coordinated efforts by the people's representatives, bureaucracy, political activists, media, non-governmental organizations, local schools, colleges, universities, and agricultural institutions, along with the people in Konkan. This alone would provide a long-term and sustainable livelihood security to the affected people and provide an avenue to convert the process of disaster mitigation into an opportunity for developing an appropriate development model for the Konkan region.
This report is a narrative description of the advocacy initiative, and its outcomes, of Resources and Livelihoods (ReLi) Group of PRAYAS. This advocacy initiative was undertaken on the issue of the disaster of unprecedented rainfall, floods, and landslides which struck the Konkan region of Maharashtra State in the monsoon of 2005.