

CHAPTER I

INTRODUCTION

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1.1 Introduction:

Flooding is regarded as a chronic disaster in many part of World. A combination of soft and hard measures is required for flood management, although due to resource constrain, the efforts are mostly restricted to soft measure. Community-based initiatives are found to be more effective in most of the developing countries like India, with specific focus on empowerment of local communities, and link the community based activities to local development policies. Community based flood management programs are often faced with two vital questions: issues of sustainability, and issues of upscaling. The current study analyzes the community-based approaches of flood management in Assam with special reference to Cachar District, which has history of multi disaster strike. The common findings in this regard are: 1) local institutions (both formal and informal) play a critical role in sustaining the efforts; 2) integration of community initiatives in the government policies and practices is important to up-scale the efforts, 3) local change agents play crucial role in grass-root implementation, and 4) synergy of grass-root efforts with the development policy is regarded as a major tool of community based flood management in Assam.

Asia is the most disaster-prone regions of the world. Statistics show that 38% of the world's disasters between 1975 and 2000 occurred in Asia. 57% of total casualty in past 25 years belongs to Asia. (ADRC Data Book, 2002). During the same period, flood events contributed to 31% of the total number of events, followed by cyclone or typhoons, contributing 28%. Thus, hydro-meteorological disasters (consists of floods and cyclones) are the most prominent hazards in the Asian region. Asia has several major river systems, which contributes to this high hazard. Asian region is the concentration of high population, and thus, the exposure to natural hazards is also high. Poverty and lack of resources at different levels make people vulnerable. Human sufferings, both in terms of mortality and affected people are prominent in the region. The high toll from floods in the region arises from the interaction of the following factors: living in the flood plains which are suitable to rice and other agricultural products, tropical inter-convergence region subjected to high

dynamic atmospheric interactions, and the high population density in the region (Herath 2003).

Over a period of time, settlement patterns and the development of land and infrastructures in flood-prone areas have dramatically increased flood frequency, extent of the problem in India especially in Assam,

Increasing numbers of flood disasters are reported in the region, which cause significant financial losses, due to concentration of assets in the flood plains. Thus, not only the life loss, floods have become the most costly natural disasters worldwide (Hewitt, 1997; Palm, 1990).

Traditional approaches to flood control have relied on structural works, including building dykes, floodwalls and levees or modifying river channels (e.g. widening, lining with concrete, or straightening by cutting through channel meanders to shorten the flow distance). These structural approaches, however, have failed to reduce flooding or to reduce ever-increasing economic losses from floods, as economic losses are merely postponed and continue to rise (Mileti, 1999, Musiak, 2003). Embankments further complicate the situation by causing siltation of the river channel and the resultant lowering of its carrying capacity, drainage congestion and water-logging, as evidenced in the Brahmaputra river basin (Gupta 2005). In addition, only focusing on structural approaches is not environmentally sustainable and can cause severe environmental degradation locally and downstream (Burby et al., 1988), including the loss of wetlands and animal habitat. Moreover, prolonged stagnation of the flood and storm water not only affects people's lives, but causes damages to agriculture, and generates health problems due to contamination with the ground water (Gupta 2003). Recent experiences increasingly point out that only structural measures are not enough to reduce the flood losses. Therefore, in many developed countries like Japan, USA, non-structural approaches, such as land use and zoning regulations, land acquisition, and environmental restoration programs, are found to be effective and more sustainable (Gruntfest, 2000, Bechtol and Laurien, 2005).

In developing countries, the flood related problems are far-reaching, affecting the environment and development of the region. Impacts of flood on livelihood have been a major issue, especially in the rural areas, where agriculture, aquaculture are the

major livelihoods (Few, 2003, Wisner et al., 2004, Moench and Dixit, 2004). Impacts on health caused by flood have been a topic of major discussion for several years. A recent analysis by Few et al. (2005) has suggested that improving coping response of the communities is the key to the success to reduce health risk, and this is closely linked to economic and cultural issues. For these reasons, flood management in developing countries should be considered as a combination of hard and soft measures. In this connection, restoring the natural functions of rivers and floodplains, planning and management practices, involving the local communities in the river basin management, capacity development of the local institutions are found to be effective measures of sustainable flood management.

e.g., flood water brings fishes to fisherman, brings new fertile soil for agriculture. Therefore, while it is important to reduce the negative impacts of flood, the positive aspects of flood have urged people and communities in the vulnerable areas to develop the notion “living with flood” or “coping with flood”. Participatory flood management with both hard and soft measures is becoming the key focus area.

In this study, a few aspects of community based flood mitigation are discussed with studies from Bangladesh as well as its relates in similar lines. Based on the study experiences, some common findings are summarized, which are considered as the critical factors for effective community based interventions for flood management..

Definition of community varies based on its perspective. Many people describe community in different ways. MacMillan and Chevis (1986) described community as “a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members’ needs will be met through their commitment to be together”. This definition is preferred in the current context because of its general nature. Community includes not only the people living in a certain location, but also incorporates the local government, local business sectors, local academic bodies and non-government organizations.

As more research on development are conducted in various fields in recent years, the approach to disaster management is becoming more and more community-based (Blaikie et.al (1994), Quarantelli (1989), Mileti (2001), and much more effort

has been put into incorporating disaster management aspects into the holistic development of communities (Twigg and Bhatt, 1998, , Shaw and Okazaki 2003). Maskrey (1989) has rightly pointed out that, disaster management should not be treated as one single issue but should be incorporated into the socioeconomic activities of local people. The rationale for community involvement or community-based activities is now well rehearsed (Twigg, 1999). Because community-based activities (and community-based organizations) are deeply rooted in the society and culture of an area, they enable people to express their real needs and priorities, allowing problems to be defined correctly and responsive measures to be designed and implemented. Twigg (1999) also argues that existence of community-based organizations allow people to respond to emergencies rapidly, efficiently and fairly, and therefore available community resources (even it is small in amount) will be used economically. Maskrey (1989) pointed out that 'top-down' programmes in which communities are not involved tend not to reach those worst affected by disaster, and may even make them more vulnerable. This is found to be similar in both developing and developed countries, as argued by Shaw and Goda (2003). In Japan, in many rural mountain communities, shift damage risk of one community makes other communities vulnerable. In a river basin system, upstream community should be strongly linked to the downstream community, and communication regarding community level interventions should be well coordinated. Most disaster management systems are fashioned using command and control management structures, one that is top-down and with logistics centered responses. It can be highly bureaucratic and frequently operates under explicit or implicit political constraints that impinge on the effective delivery of emergency services. Due to this, engagements of the community under this scheme were characterized by the following: a) lack of participation that results to failures in meeting the appropriate and vital humanitarian needs; b) unnecessary increase in requirement for external resources; and c) general dissatisfaction over performance despite the use of exceptional management measures.

1.2 Need for Bottom – Up Approach in Flood Management:

Recognizing these limitations, the CBFM approach promotes a **bottom-up approach** working in harmony with the top down approach, to address challenges and difficulties. To be effective, local communities must be supported to analyze their hazardous conditions, their vulnerabilities and capacities as they see these.

It is common knowledge that the people at the community level have more to lose because they are the ones directly hit by disasters, whether it is a major or a minor one. They are the first ones to become vulnerable to the effects of such hazardous events. The community therefore has a lot to lose if they do not address their own vulnerability. On the other hand, they have the most to gain if they can reduce the impact of disasters on their community. The concept of putting the communities at the forefront gave rise to the idea of community-based flood management (CBFM). At the heart of the CBFM is the principle of participation. Through the CBFM, the people's capacity to respond to emergencies is increased by providing them more access and control over resources and basic social services. Using a community-based approach to managing disasters certainly has its advantages.

Any local population would have local knowledge regarding vulnerabilities and capacities. They are sources of traditional coping mechanisms suited for their specific environment that they have developed from previous experiences in dealing with disasters. Due to exposure and proximity to hazardous conditions, a local population responds first even before assistance from aid givers arrives at times of crisis. By using what is available locally, a timely response is possible. Timeliness in emergency response is critical because this determines how many lives would be saved or how many properties can be prevented from being damaged.

CBFM strengthens social cohesion and cooperation within the community and society. It builds confidence among individuals, households, communities for any undertaking including disaster preparedness and mitigation. Through CBFM it is hoped that communities would be strengthened to enable them undertake any programs of development including flood preparedness and mitigation. However, community involvement often faces the problem of sustainability over a longer period

of time (Shaw 2004). Government, non-government and international organizations implement various programmes before and after the disasters. Many of them are very successful during the project period, however, some of them gradually diminish as the years passed. There are many reasons for gradual decrease of people's involvement in a project. The most common elements are partnership, participation, empowerment and ownership of the local communities. Unless the flood management efforts are sustainable at individual and community level, it is difficult to reduce the losses and tragedy. While people should own the problems and, consequences and challenges of any mitigation and/or preparedness initiative, it is necessary to see people's involvement in a broader perspective, which is related to policy and strategy.

The other issue of community based flood management is the up-scaling of the initiative. There have been too many good practices, however, most of the good practices have remained confined to their local communities only. Their potential in influencing attempts to reduce vulnerability in other parts of the world is enormous. While, an innovative approach is found to be effective in one village, one district, the challenge is how to disseminate the best practices widely.

It has been a common notion that grass root initiatives are the responsibilities of the non-government organizations. NGOs have been the leading actors in this field for several years, and contributed to the development of the field (Jegillos, 2003, Murshed, 2004, Delica-Wilson, 2005). However, many of the NGO activities face the problem of sustainability over a longer period of time, especially once the NGO withdrew from the field. Many of the NGO programs are poorly designed and so they are unable to either attract continuing support or transfer project ownership to communities. Continuation of community activities over a longer period of time needs a policy environment at local level, as well as local institutions to continue the activities. Thus, even though the initiatives are started with the NGO interventions, it is important to link them to the local government activities, and incorporate them into policies to ensure its sustainability and replication of innovative efforts to other parts of the disaster prone areas. Thus, the major challenges of the community based flood management (CBDM) are: 1) sustainability of the efforts in the community level, and 2) incorporation of the CBFM issues in the policy level. To be effective and to create sustainable impact, the application of the CBFM must go beyond the initiative of

communities, NGOs and a handful of local governments. As part of an advocacy for more responsive and effective governance, national and state level governments should look at integrating CDFM in their policy and implementing procedures (Shaw 2004).

1.3 Floods in Indian Context

Flood is a temporary inundation of large regions as the result of an increase in reservoir, or of rivers flooding their banks because of heavy rains, high winds, cyclones, storm surge along coast, tsunami, melting snow or dam bursts. Most of the floods in India are caused by rivers overflowing their banks. Flash flood occur in areas near foot hills. Floods are also caused by delay in the drainage of the rain water due to high stages of the river at the outfall and stagnation of water behind embankments. In coastal areas, floods are caused by cyclones and typhoons. Other causes include backing up of waters in tributaries at their outfalls into the main river often with synchronization of floods in them; ice jams or landslides blocking stream courses resulting in the backwater overflowing river banks. The root cause of flood is excessive rainfall which occur mainly in the monsoon months of July to September. Most of the major rivers causing flood in India flow down the slopes of the Himalayan mountains which have friable soil mantle. Hence, the flood water flowing through them carry considerable amounts of sediment which result in silt accumulation in reservoirs and in the flood plains. The central India and peninsular rivers, on the other hand rise and flow through geologically more stable areas and receive much less rainfall also. These rivers, therefore, carry less sediment and cause less flood problems. Floods also occur in areas which have been provided protection against flood. Such floods are caused mainly by breaches in or overtopping of embankments or excessive release of water from the reservoirs. In the absence of sluice gates, accumulation of rain water behind the embankments further adds to the problem. Floods in the protected areas cause more havoc than those in the unprotected areas because of the additional land use activities undertaken in such areas. Following are the various types of floods that are witnessed in Indian context.

1.4 Flash Floods: These are events with very little time lapse between the start of the flood and peak discharge. They are often associated with short intervals between storm occurrences and arrival of the flood wave. Floods of this type are particularly dangerous because of the suddenness and speed with which they occur. Flash floods are more common with isolated and localized intense rainfall originating from thunderstorms. Debris torrents are generally created in the hills from such flash floods. Rivers originating from the Siwalik range of Nepal are characterized by a sharp rise followed by a rapid recession often causing high flow velocities and damaging crops and properties.

1.5 Monsoon Floods: Monsoon is a rainfall phenomenon typical to this region which is characterized by intense rain during four months of June to September accounting for about 80 percent of the annual rainfall. This widespread and intense monsoonal rain causes flood and associated damages. Not all the inundation of land or damage to physical property, however, are from this hydrological phenomenon alone. Often other factors operate either to exacerbate an already occurring flood problem or to create entirely a separate flood problem. These factors are associated most often with the promotion of hydraulic surcharge in water levels. They include the presence of natural or manmade obstructions in the flood path such as bridge piers, floating debris, weirs, barrages and embankments constricting the flow path. Monsoon floods from the major rivers generally rise slowly in the southern Terai plains and the period of rise and fall may extend up to 12 to 24 hours or more. Inundation of large areas due to floods overflowing the river banks causes extensive damage. The flood water erodes the banks causing permanent damage to the adjacent agricultural land.

1.6 Local Floods: High localized rainfall of long duration in the monsoon season often generates water volume in excess of local drainage capacity causing localized flood. The drainage congestion resulting from man made infrastructures such as roads, embankments and bridges often exacerbate the situation. This type of flood is common in the southern Terai part, inner Terai and in the valleys.

1.7 Glacier Lake Outburst Flood: Glacier lakes are common in the Northern Himalayan part of the country. The hilly River Basin within the territory of Nepal, Indian Himalayan States have potentially dangerous glacier lakes. These lakes contain huge volumes of water and remain in an unstable condition. As a result, they may burst at any time and a natural catastrophe may cause great loss of life and physical property.

1.8 Flood Prone Areas :

With reference to flood, India can be divided into four regions.

- 1) **Brahmaputra and Barak river** basins comprising states of Assam, Arunanchal Pradesh, Meghalaya, Mizoram and northern parts of West Bengal, Manipur, Sikkim, Tripura and Nagaland.
- 2) **Ganga river basin** along with its numerous **tributaries** like Yamuna, Sone, Ghaghra, Gandak, Kosi, Mahananda, comprising states of Uttaranchal, Uttar Pradesh, Bihar, West Bengal, South & Central parts of Haryana, H.P., Rajasthan, M.P. and Delhi.
- 3) **North West** river basins consisting of rivers like Sutlej, Ravi, Beas, Jhelum and Ghaggar covering states of Jammu and Kashmir, Punjab and parts of Haryana and Rajasthan.
- 4) **Central India and Deccan** river basins comprising of rivers as Narmada, Tapi, Mahanadi, Godavari, Krishna and Cauvery covering Central and Southern India. Of these, the state of Orissa is the most flood prone. Flood in the first region, is severe and quite frequent with very high silt charges in the rivers. Some of the rivers like Teesta, Torse and Jaldakha have a tendency to change their courses while in flood. Flooding in the second region is more or less an annual feature which is aggravated by drainage congestion. The major problem in the third region is that of inadequate surface drainage which causes inundation and water logging over vast areas. The fourth region does not have very serious problem of flooding except for some of the rivers in Orissa. The

delta areas of some of these rivers on the east coast periodically face flood and drainage problems in the wake of cyclonic storms. Assam, Bihar, West Bengal, U.P. and Orissa are the worst flood affected states. The percentage of flood prone area to total area of the state is highest in Bihar followed by Assam and West Bengal.

1.9 International and Interstate Dimensions of the Flood Problem :

Most of the major floods are caused by rivers which are international or interstate. For example, flood damage in Bihar is caused mainly from rivers flowing from Nepal such as Kosi, Gandak, Bagmati, Kamala Balan etc. Similarly most of flood damages in Assam is due to rivers coming from China, Bhutan and other states. Yamuna and Ganga which cause damage in UP, Bihar and West Bengal are interstate rivers. This peculiarity hinders the ability of any state government to take up most appropriate measures for moderating floods and add to the complexity of the flood problem in India.

Besides inundation, many rivers also cause bank erosion resulting in loss of land resources and the consequent perpetual loss of production from the land. The Brahmaputra river is notorious for this. The Brahmaputra Board has estimated that in the Majuli Island, the annual loss of land due to erosion could be about 3.9 sq. km. Apart from year-wise flood damages to crops, houses, cattle, human beings etc., there is a long term effect on socio-economic backwardness of flood prone areas. Farmers in these areas have little incentive to make long term investment in farming since fertilizers used in the fields get washed away whenever a flood occurs. Investments on roads and railways also suffer due to floods. Hence, entrepreneurs are less willing to have long term investment in flood prone areas. Consequently, such areas continue to remain poor and backward.

1.10 Measures of Flood Management:

Flood Management is a process entailing responsibility for the effective and efficient planning and regulating the operations of a community or society to deal

with the sufferings arising out of floods in that given society or community. Such responsibility involves the following:-

- (i) Installation and maintenance of proper procedure to ensure adherence to flood plans
- (ii) Guidance, integration and supervision of the personnel comprising the flood management process and
- (ii) To carry on the operation of a flood management in a community or society.

This definition makes all the three elements very clear. They are planning, executing and reviewing, Flood Management has been correctly as a social process because the efficiency or other wise of a safety concern of people is directly reflected in the level of growth and welfare of a society. Since protection of goods and services determines the level of growth and welfare, the efficiency of flood management. The performance is based on management which is reflected in the rate of socio-economic growth and pace of social welfare.

Flood Management is concerned with laying down specifically the object and the polices which could be implemented and regulated effectively and deficiently. In order to ward off the possibility of deviation of proper management and its activity from the set plan, the management has to take two steps : one, to devise a procedure which enables the persons concerned with execution to adhere to flood plans ; in the event of any deviation they may take suitable measures to correct the cause of deviation ; two, managing the personnel on scientific lines ; it includes among other things scientific selection and Components of Community Based Flood Management :

Measures taken for flood management are often classified as **structural or non structural**; the former aim at modifying the flood while the latter aim at modifying the susceptibility to flood damage as well as modifying the loss burden. Both types of measures have been adopted in India.

1.11 Structural Measures :

a) Embankment : Embankment has been the most widespread method adopted so far even though its inadequacies had been pointed out from the very beginning. Its main advantage lies in providing quick and visible results to localized areas particularly against moderate floods which come quite frequently. As per available records, 16,800 km. of new embankments have been constructed between 1954 and 1998(Ministry of Water Resources, Government of Assm). Barring occasional breaches, these embankments have given reasonable protection to an area of about 15 million hectare, apart from about 3 million hectare protected prior to 1954. Spurs and revetments which are needed for anti-erosion works are used mainly for protecting urban areas and often form part of town protection schemes.

b) Reservoir : India has got about 4300 large dams with reservoir capacity of more than one million cubic meters. Most of them, however, have been constructed for irrigation and hydel power. Flood cushions have been specifically provided only in the chain of reservoirs on the Damodar river in Jharkand State and Ukai multipurpose project in Gujarat. Other reservoirs having flood cushion are Rengali Dam and Bhimkund project in Orissa and Baigul reservoir in U.P. Hence, the flood storage capacity as a percentage of live storage capacity has been negligible in India, even though its desirability has been emphasized in several policy pronouncements/ official reports.

c) Other Structural Measures : Other structural measures are not extensive. Catchment area treatment is taken up in the upper reaches of reservoirs to moderate the sediment flow in them. During the last ten years, increasing attention is being paid to watershed development programmes. The best example of natural detention basin is in the state of Jammu & Kashmir. Channel improvement has not been resorted to widely because of high cost involved. Drainage improvement measures have been taken on a localized basis in several areas which is also used in Assam.

1.12 Non-structural Measures :

The 1954 National Policy on Flood, which initiated an era of systematic approach to flood management in India, had given vent to a feeling that the problem of flood could be solved. This optimism, however, soon gave way to a more realistic assessment that complete immunity from flood was not possible with the technologies developed so far. Hence the damages caused by flood can at best be minimized and not altogether eliminated. Such a view was articulated as early as 1957 by the High Level Committee on floods which recommended for giving due emphasis to measures like flood plain zoning, flood forecasting and warning particularly as these do not require large capital investment. Similar views have been reiterated again and again at some point or the other. Their progress is described below.

Flood Forecasting & Warning : A national flood forecasting and warning system has been established by the Central Water Commission (CWC). Government of India. This system issues flood forecasts at 157 stations of which 109 cover Ganga-Brahmaputra - Meghna river basins. On an average, about 6000 flood forecasts are issued every year with a maximum of 7943 forecasts issued during the year 1998. The system under CWC is largely on major inter-state rivers. States often supplement this by their own efforts at other stations. According to the present CWC norms, a forecast is considered to be reasonably accurate if the difference between forecasts and corresponding observation levels of the river lies within 15 cm. In case of inflow forecasts, variation within 20 per cent is considered acceptable.

1.13 Components of Flood Preparedness Plan (FPP) : A Key Aspect of CBFM :

A flood preparedness plan (FPP) which is an integral component of the multi-hazard disaster management plan, is an action oriented document detailing specific actions to be undertaken prior to floods, which set the ground for effective execution of emergency response and recovery activities during and after floods. The components of a FPP are:

1. Assessment of probable needs: Based on historical data from previous flood disasters, officials at the State and district levels compile a list of likely needs and available resources. Gaps between needs and resources are identified in advance

and also ways to mobilize them.

2. Institutional Mechanism for implementation of FPP: The Flood Preparedness Plan outlines the institutional structure of the States, District or Community level Committees for Disaster Management, its roles and responsibilities before, during and after floods. The Plan also establishes the coordination among the line agencies and other stakeholders in implementation of priority activities identified in the plan.

3. Activating early warning and disaster response systems: The FPP defines how to warn the whole community, based on the forecast received from the national and regional agencies and what they should do in advance. The plan ensures ways of involving all stakeholders, according to their roles and responsibilities, and outlines these in the plan.

4. Resource mobilization and allocation. Responding to a flood requires resources; therefore the plan specifies what resources are already available at the State, district, community and village levels. The plan also specifies what resources will be needed and where to find those resources.

5. Communication within and outside the community. To ensure clear and effective messages in an emergency, the plan specifies how communication will take place and via what media (radio or indigenous systems, etc.)

6. Sectoral components. A flood preparedness plan outlines standard operating procedures (SOPs) for specific measures such as search & rescue, emergency medical assistance, provision of water supply and sanitation, food and nutrition, logistics and transport, health, agriculture and environment management, temporary shelter, evacuation procedures; protection and security.

1.14 Why Community Organization for CBFM:

In a country like us where mostly poor people live in the flood affected area, vulnerability to flood is high because of inadequate knowledge in the field of flood management. Social Work Profession by virtue of its nature tend to help the people at individual, group and community level focuses on community organization which is considered as one of the vital methods of Social Work. Most of the activities during the flood are carried out on an individual basis which constraints the scope of minimizing loss of lives and damage to properties. If these activities are carried in an organized manner involving the community at large, risk and vulnerability due to flood can be minimized to a substantial level. It is quite recently in Nepal that the role of communities in flood related activities has been recognized. The river training works that the government and local bodies carry out are often form users' groups involving the beneficiaries. The users' groups are involved only during construction. But organized communities for nonstructural measures are almost nonexistent although some efforts are now being made such as this by NGOs. The need of organized effort is clearly felt during the time of flood. It is observed that most of the coping practices are done on individual basis. People prepare themselves for flood to the best of their individual capacities. Therefore the wellto- do families in the community are better prepared for the flood than the poor ones who are poorly prepared and often face various difficulties in getting outside assistance. Furthermore, it is difficult to arrive individually at a collective decision for the solution of the flood related problems. If a coping strategy on communal basis is adopted, the coping mechanism will be more effective and efficient.

In general, outside assistance reaches the community only in the late post-flood situation and that too is not sufficient, and proper distribution of relief supplies is always in question in the affected community. It is therefore the community itself that has to prepare itself and act till such time as outside help reaches it. It is again at this time, during the flood and immediately after, that the loss of lives and damages to properties reach the maximum and the community's action can significantly reduce the damages. Institutions are often criticized for partiality and for not reaching out to the needful community. The community can help in identifying the needy and facilitate the institutions reaching them. Having described all the benefits of

community involvement in flood management; how to involve community in it? It must have a representing organization. This organization will speak for the community. We already have experience of having such organizations in irrigation, drinking water, forest and many other development activities. If we are affected by the flood, then we are in need of one more organization. We can give different names to the organization. We have suggested the name “Village Disaster Management Committee”, in short VDMC. Government of Assam as per National Disaster Management Act, 2005 allows recognition of such a committee and attains legal status.

Benefits of having VDMC as follows:

1. Better preparation for facing the flood event,
2. Immediate response during flood,
3. Better coordinated effort to fight flood,
4. Ease in bringing external support,
5. Making community’s voice heard,
6. Channelise government support,
7. Establishment of legal body and recognition.

1.15 Importance of Management as a Discipline in Community Based Flood Management:

Recognizing the limitations of **top- down approach** , the CBFM approach promotes a **bottom-up approach** working in harmony with the top down approach, to address challenges and difficulties. To be effective, local communities are lacking in managing the innovative and indigenous ideas of flood management. The basic principles of management must be taught to the communities to support and to analyze their hazardous conditions, their vulnerabilities and capacities as they see these. Management is not merely the monopoly of business concerns. It is

indispensable for every kind of decision making. In fact management is used advertently and inadvertently by everybody born as human being on this earth. Everyone from the lay man to General Manager either in Government or non government uses management principles and techniques to take decisions in his area of operation. From the trivial activity of going to the movie or the play field to the highest activity of saving life of a person uses management to ensure achievement of object. In other words each one of uses management in our daily life and the communities of Assam also. Only a few know that they are using management while a vast majority do not know that they are really making use of management. For CBFM the ignorance of management does not allow them to get the full fruit of management. In other words the management establishes a network of relationship between the superior and subordinates, senior and juniors, experienced and non experienced so as to achieve the objective of flood management with maximum efficiency.

The objectives cannot be achieved with efficiency unless these exists systematic cooperation between different components of communities which is known as coordination. Cooperation among the components of a community. Hence no objectives can be achieved with efficiency unless there exists systematic cooperation or coordination among different components of community. Similar coordination is indispensable in every type of organisations, government or educational institution of the community -which has laid down a specific object to be achieved and create a community free from flood or flood resilient.

Coordination has got to be supplemented by motivation. Unless the people or the members of the Flood Management Committees of the village are properly motivated, the desired object cannot be achieved with efficiency. The members may be motivated by monetary and non-monetary incentives.

All these steps may not ensure completely the achievement of desired objectives of flood management. The object has to be protected against the future demand so that the activity does not deviate from the set course of action. This technique is called 'control' is management. Control is that technique by means of which the gap between planning and performance may be reduced to minimum. For instance if a students has fixed his object of getting the first class in the university

examinations and if he gets 59% marks, he loses his object because nothing could be done at this stage. What was lacking in this student was that he did not put himself to pre-test so as to find out the pockets of deficiencies in him. Once he could identify his deficiencies he could take suitable corrective measures before taking up the university examination. Similarly in case flood management ore test is called as mock drill for flood management wherein all the members of FMC or VDMC play their respective to test their level of preparedness and it is called flood mock drill.

It means that management is not only relevant to the business concerns but it has universal applicability. Planning is an indispensable function of flood management. It determines the objects to be achieved and the course of action to be followed to achieve that object. In short it lays down (i) what is to be done ? and (ii) how it is to be done ? In other words planning includes the objectives and the policies. Planning provides the edifice to raise the structure of management activity. It is not merely the primary function but pervades the entire gamut of management activity.

Planning may be defined as “a thinking process, an organized foresight and the vision based on fact and experience that is required for intelligent action”. The object to be achieved in future since it is uncertain and that the resources in man and material are scarce in nature it becomes necessary to devise a technique of achieving the object in the perspective of future uncertainty. One can only ward off the element of uncertainty if the planner is involved continuously in the thinking process. By thinking constantly over the subject matter he develops a foresight which is systematic and organized. He foresees future clearly because he has been constantly thinking over problem and involving himself deeply in the subject matter. Such an organized foresight leads to the development of a vision through which he perceives future with crystal clarity. The vision is not based on intuition or day-dreaming, it is based on fact and experience. If a person develops vision and organized foresight he will be able to take quick and correct decision regarding the objective and policies which are the basic components of planning.

Organisation is the process of establishing relationship to achieve the objectives of plan framed. This relationship is in the form of authority and responsibility. Each member of the organisational structure is assigned with well defined authority and responsibility so as to help achieve the desired object of the

business enterprise. Authority is defined as the right of a person to guide and direct the actions of others and to exact from them responses which are appropriate to the performance of organisation's purpose.

Responsibility on the other is defined as the duty, obligation or even authority. It may be defined as the obligation of the subordinate to perform the task as required by the superior.

Authority and responsibility go hand-in-hand. There may not be any authority without responsibility and vice-versa. It may however be borne in mind that there should not be any gap between authority and responsibility. If there is any gap between the two, it may give rise to two-set of situations. One, there may be more authority than responsibility and two, there may be more responsibility than authority and two, there may be less authority than responsibility. In the former the person is apt to misuse authority and in the latter he cannot fulfil the task assigned to him because he does not have the authority to take any decision.

There is another term accountability which also forms part of the whole process of response to flood management. Accountability implies liability for the performance of duty assigned to various Disaster Management Teams (DMTs). Accountability possesses two characteristics : one, it flows upward contrary to authority which flows downward and two, it can never be delegated.

Organisational structure in FMC / VDMC on the other hand implies the staffing pattern. It includes selection of persons at different levels of flood management. There are five levels of authority : (i) Top Management, (Government Officials at District level responsible for flood management) (ii) Upper Middle Management, (Government Officials at District level responsible for flood management) (iii) Middle Management, (Government Officials at Block level responsible for flood management) (iv) Supervisory Force, (Government and Non Governmental Officials at Gram Panchayat and village level responsible for flood management such as Sarpanch (G.P President), School Teachers, local Volunteers from NGOs) and (v) Operating Force (Government and Non Governmental Officials, volunteers at Gram Panchayat and village level responsible for flood management such as members of Disaster Management Teams (DMTs), local NGOs etc). This

structure cannot function unless a pattern of relationship in the form of authority is well defined. This relationship constitutes organization and base for effective community based flood management in a particular community.

Coordination, it has been pointed out earlier is systematic cooperation among different components of the organisation. Unless the work of each individual of a group is very well defined and systematically put together, the object of the group cannot be achieved. Similarly if more groups are functioning, the work of all such groups have to be properly coordinated to help achieve the object of community to deal with floods specifically designed in Gram Sabhas or Village Disaster Management to manage the flood.

Coordination in flood management rather can be defined “as the process whereby VDMC/ Gram Sabha develops an orderly pattern of group effort among the members of DMTs and secures unity of action in the pursuit of common purposes to deal with flood collectively”.

The experience gained in terms of lack of motivation of community people in holding meetings, awareness programmes etc for flood management has highlighted the role of motivation factor in CBFM. Motivation is an important function of management. By nature, it is difficult for a man to put his mind and heart in the work unless he is properly encouraged and enthused by his superiors and employers. It is a highly required component for the preparation of FPP or disaster management plan. As it is carried out by community people thus the motivation lacks so encouragement is needed to prepare and carry out the implementation of flood management planning. Without encouragement he may only perform his duties ceremoniously. Such a performance is of no use to the enterprise where he is employed because it is fraught with the danger of wastages. The worker in the absence of proper encouragement can only ensure his physical presence or the production to norm but not the efficiency. If he produces 8 units in 8 hours time of his employment which he is expected to produce, it is not sufficient unless the level of wastage is kept under control. Accordingly it is essential that the moral of the employee is kept intact so that he could put his mind and heart in work which is advantageous to all concerned.

Motivation refers to the way in which “urges, drives, desires, aspirations, strivings, or needs, direct, control or explain the behaviour of human beings”. Motivation may thus be perceived through psychological perspective. The human behavior will be normal if his drives, desires, aspirations and urges find positive, coordinated and systematic channelisation toward creative purposes. It become the responsibility of the executive to create such environments within the enterprise that each of the employees is voluntarily prepared to put of himself into the task entrusted to him.

Control is the one of the most vital functions of flood management. The object of control function is to guarantee adherence to plans so that the object may be achieved in accordance with the norms laid down.

Control may be defined as that management technique by means of which the gap between planning and performance may be reduced to minimum. In case of preparation of flood management plan the control part rests with the Government machineries and the responsible official take care of it so that FPP is properly implemented and the official also take the Motivation technique of flood management to implement the Plan with the help of community people.

In conclusion it can be stated that flood management may decide the extent of centralization and decentralization of authority at community, family and individual at large.

Community participation has been recognized as the additional element in flood management necessary to reverse the worldwide trend of exponential increase in flood occurrence of and loss from small- and medium-scale floods, build a culture of safety, and ensure sustainable development for all. This study gives a brief orientation on the why, what, who, when, how, and so what of community based flood management. Recent experiences and practices, particularly those in the Assam, showcase significant elements from which lessons are drawn. Positive impact affirms the validity of the community based approaches to flood management, notwithstanding the difficulties, complexities and challenges faced to initiate, sustain and replicate. Major benefits of the community based risk assessment, mitigation, planning and implementation processes underscored include building confidence,

pride in being able to make a difference, and enhanced capabilities to pursue flood preparedness, mitigation as well as bigger development responsibilities at the local level. Additionally, individual and community ownership, commitment and concerted actions in flood management, including resource mobilization produce a wide range of appropriate, innovative and do-able mitigation solutions, which are cost-effective and sustainable. Good practices in the community based approaches to flood management highlight key success factors such as applying best practice methodologies of community development to community based flood management (CBFM), tapping traditional organizational structures and mechanisms (including formal and informal community leaders), and capability building activities with the community disaster management committees and volunteers. The importance of various forms and channels of public awareness and education using local dialects, values and culture and partnerships of the community with various stakeholders such as community based organizations (CBOs), community leaders, local government units, higher level government officials, NGOs, less vulnerable groups, donors, experts are highlighted.