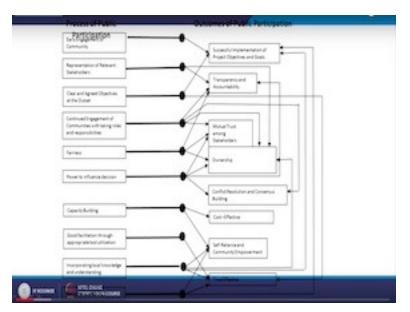
Disaster Recovery And Build Back Better Prof. Subhajyoti Samaddar Disaster Prevention Research Institute Kyoto University, Japan

Lecture – 13 Community Participation in Disaster Risk Governance Voices from Mumbai and Ghana

Hello everyone, Welcome to the lecture series on Disaster recovery and build back better. This lecture focus on participation in disaster risk governance by getting insights from Mumbai, India and Ghana. We already told about that community participation is really a key element in disaster risk governance, we discussed about this in our previous slides previous presentations so, what we need that we need some framework.

And that framework can be divided into two part, one is the process part one is the outcome part. We discussed about that, and with that one we can get these variables of a comprehensive framework of participations.



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One is the process one, another one is right-hand side is the outcome one. I hope this is fine, now let us look that can it really help us to understand what extent how people are participating in

disaster risk management, can it be a helpful tool for us to improve disaster risk management and community involvement.

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This is Mumbai, the financial capital of India, this is also Mumbai at Dharavi area close opposite to Bandra-Kurla complex, and this is Mithi river, mangrove forest and this is Bandra-Kurla and this is Dharavi areas okay, this is our study area.

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In 2005 there was a catastrophic disaster in Mumbai, one day 1000 almost 1000 millimetre of rainfall and it paralyzed the city, 60% of the city were indirectly or directly affected okay. Around 1,000 people were killed due to this flood just one day flood or 2 days flood. (Refer Slide Time: 02:51)



This is one of the picture of Dharavi areas, this is our location close to.

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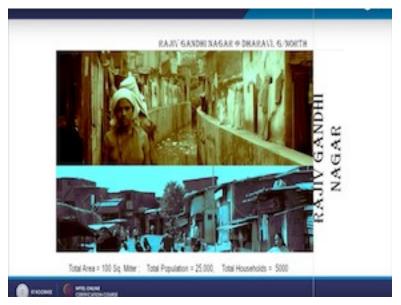
This is Maharashtra, and this is Mumbai you can see Mumbai and then here is our study area Dharavi this is Mithi river coming for Vihar, Powai and this is Dharavi area and this is our study area, two study areas basically Kalaquila and Rajiv Gandhi Nagar in Dharavi.

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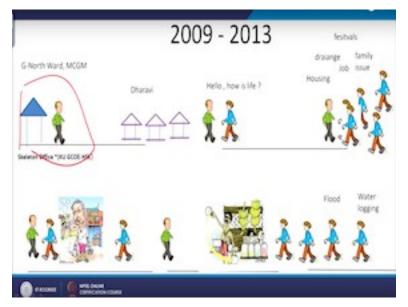
So you can see here more clearly that is encroached land on the settlement on Mithi riverbank it was earlier a mangrove forest.

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These are some of the glimpse of 100 square meter area total population is within this small place 25,000. We had a project there, one integrated disaster risk management for megacity Mumbai by Kyoto University, along with in collaboration with the Municipal Corporation of here in Mumbai and school of planning and architecture and other many Institutes like JJ College of Architecture, Tata Institute of Social Science. They were involved in this project for integrated disaster risk management megacity Mumbai.

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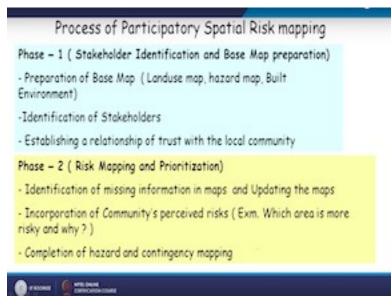


We set up a small office in a ward G-North ward, MCGM, a research hub from there imagine this is a timeline, we started to say used to go to Dharavi and say people hey hello how are you, and then we started to build kind of rapport with the people. People say hello, how are you they are talking about many issues, they are concerned about their livelihood issues, their job, family issues, housing issues.

We have chat over on tea stall and juice shop wherever whatever places we have, then they started talk about the flood and waterlogging problem in this area and we had continuous discussions and we said can we help you? can you help you some manner, before that we did not really put our plan to them we just wanted to know that this proposal should come from them and we should also try to understand them their concerns?

So they said that yes we need some help if you can do to manage better the flood we are facing every year. So we developed risk mapping and then over the period of time we developed an action plan with them.

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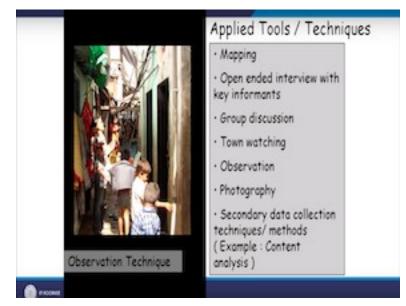
I will talk about that how we involved these communities into this decision-making process. That was the phase one and that we first identified the stakeholder and we developed a base map and also Phase two we developed a risk mapping and prioritisation of work.

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And we started this survey in February and some of my students some of our students are conducting surveys in Rajiv Gandhi Nagar okay.

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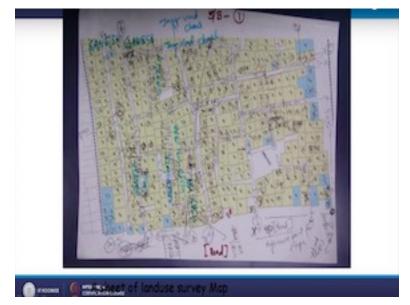
We use different kind of tools like mapping, group discussions, town watching, observations, photographs, secondary data collection techniques and methods were also used like content analysis, documentations okay. So this is some of the photographs during the survey.

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Here is some of the glimpse and picture you can see that we what we conducted open-ended interview, group discussions.

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Here is a transcript of our discussions with the community we develop the map first and then we put the data into it.

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Participating Stakeholders	Level of Participation
GCOE Research Team (including surveyors)	Highly Active
Local Community Members	
MCGM (Field Officers)	
Political/ Religious Organization	-

And here is the level of people different kind of stakeholders starting from our GCOE that is global centre of excellence, human security engineering of Kyoto university team and Local community members and municipal corporations Greater Mumbai especially the involvement of the G-North wards, like we help them in mapping and I say, we also work as the surveyors, and explaining and introducing community the role and objective of the survey.

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Stakeholders	Roles/ Activities
GCOE_HSE Research Team	Mapping Key Surveyors Explaining and introducing community the role and objectives of the survey Co-ordination between different stakeholders
Local Community	 Key Informant (flood , exiting socio-economic conditions, settlement characteristics)
MCGM (Field Officials)	Worked as a facilitator Untraducing GCOE research team to the area Source of information (flood , exiting socio- economic conditions, settlement characteristics) Providing secondary information
Religious / Political	- Key Informants

Local community was the key Informant one of the main actor in this process and MCGM or Municipal Corporations also helped us providing logistics support, helping in building rapport with the people, facilitative say religious and political organizations.

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St	age)
LANDUSE	INFRASTRUCTURE
Residential	Religious Structures
Conmercial	Doctor's Clinic
Industrial	Community Toilet
Public / Semi-Public	Community Tap
Playground / Parks	School / Balwadi
Water bodies / Ponds	Burial Ground
Roods	Drains / Nallas
	Waste Dumping Site
	Water Pipe Line
	High Tension Lines

We collected a lot of data there starting from land-use data, residential, commercial, public, playground, infrastructure what are the infrastructures are there, Doctors clinic, community toilet, community taps, school.

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«Flood Duration «Water Level During Floo «Areas Frequently Affec Built Environment	d ted During Flood
CATEGORY	CODES
Building Height	6, 6+1, 6+2, 6+3
Building Materials	Pa, Sp, Sp
Building Condition	
Plinth Level	In Feet

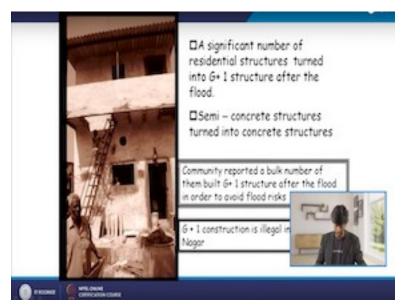
Hazard parameters we considered, flood duration, water level during the flood, areas frequently affected, building height, building materials, building conditions, plinth level these all we collected.

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Now here are some of the facts that in 2006 after 2006 lot of residential areas this is actually a road this is one of the fraction of the Rajiv Gandhi Nagar, many are transferred into commercial areas.

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People started to build G+1 structure in though this is not allowed, but community allowed that community reported that many people are now constructing G+1 structure in Rajiv Gandhi Nagar okay.

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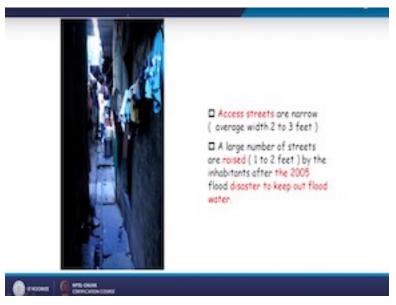
And it could be pucca or semi pucca concrete structure, their infrastructures were not grooved, you can see the drainage quality here.

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Also the electricity supply; it can easily electrified, and current can kill people during emergency or flood inundations.

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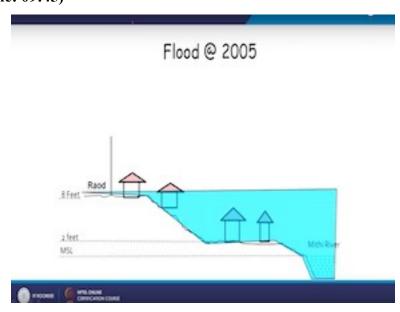


Access roads are very narrow; you cannot evacuate, two people cannot pass easily from this one.

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And the roads are zig-zagged, so when these roads are filled by water and then during the flood or inundations that you cannot step in we do not know where you are putting your leg okay. (Refer Slide Time: 09:45)



So in 2005 it was a Mithi river, and this is the road, and the flood came like this okay gradually and then it was around 8.

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So people could not evacuate during 2005 one reason that there was no designated place there was no early warning and the head of the household was not at house. So the woman cannot take the leadership decision to go to other places or it was sometimes too late when they decided to evacuate entire area, surrounding areas were inundated with water, and they have also the loss fear of losing property or looting kind of questions.

And people do not know where to evacuate how to evacuate these reasons that they could not really evacuate.



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Another one is that before the flood, it was a house and it was like that, then the local government started to elevate the road okay simply elevated the road year after year.

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But as a result what happened they can see that it makes the houses more vulnerable water can easily come to house and it is really risky for them.

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So these are some of the concern they shared.

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There is also an encroachment by on Mithi river some people are encroaching, this is a Mithi river you can see that new constructions arouses. So municipal authority actually demolished these places recently, but again new constructions are coming. So these some of the facts people have shared.

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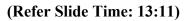
What we found that in 1980 it was a mangrove area totally on Mithi river, that is the road, and this is the Dharavi area, but it was actually a mangrove areas. In 1990 in the early 1990s or late 1980s some settlements have come especially the construction workers they started to build temporary houses, in 1995 that is also increasing you can see again 2000, 2005, and 2013.

So from it was not a very old settlement as such.

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So here is a building height in Rajiv Gandhi Nagar you can see the most of the houses are ground-floor only, but recently particularly close to the roadside people are constructing G+1 structure that is you can see in red here in the right-hand side.





The flood level in 2005 and these areas, the red mark areas close to the Mithi river, these areas were around six to ten feet of water, six to ten feet that is more than a human height okay and also they had two to five feet in most of the parts and close to the road they were not much suffered, only one feet of water.

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In waterlogging, they were facing annual waterlogging in these series, and you can see here that most of the building most of the houses they face this one to two feet waterlogging annually and it continues for around two to three hours most of the cases okay, some are less some are more like that.

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It was the damage to building and damage to household, durable asset due to 2005 flood you can see those houses which are close to the Mahim Creek or Mithi river they were the most affected households by they had total damage okay. A major damage you can see also in the middle and

people who are close to and they have less damage. But people who are close to the Mahim Creek or river they lost everything.

Their house starting from their beds, walls, their houses were damaged so they have a lot of losses.

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Here some of the sketches done by the students.

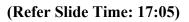
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Process-Based Criteria	
Criteria	SCORE (scale 1 to 10)
Early engagement of community	8
Representation of Relevant Stakeholders	6.1
Clear and agreed objectives at the outset	9
Continued engagement of the community	7
Fairness	8
Power to influence decisions	6.2
Capacity Building	4.7
incorporating local knowledge and understanding	9.5
Good facilitation through appropriate tool utilization	8.3
Resource Availability	4

And so after we finish this exercise of connecting many more mappings and all we ask people that hey please mark us that what how you involved into this project of risk mapping, was it successful or not. So most of the cases we did very well like early engagement, representation of just stakeholder, continuity engagements clear and agreed object. But some cases right we have less resource availability.

And also we could not make improve the peoples power, capacity or also they have less power to influence the decisions because they have less resources. So they cannot carry out their own projects. But what is missing, we ask people that okay these parameters are fine but what did you really think that this exercise did not include. So they said to us that information is fine but a participatory approach is meaningful, our participation is meaningful only when apart from informations you go beyond that you can tell us that what we can do some plan actionable plan.

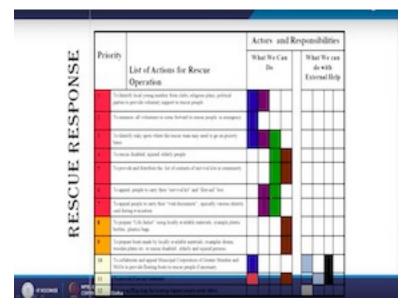
So we need to move from information to improvement and we need to also see some feasible outcome, that is why people can motivate themselves to participate, and the exercise should be a lot of fun it is already a serious matter. But we should involve a lot of fun into this exercise, then more and more people should be involved, you should do it more relaxed way. So considering their request





We started to develop an action plan for reconstruction, and rehabilitation, response, and relief of this area.

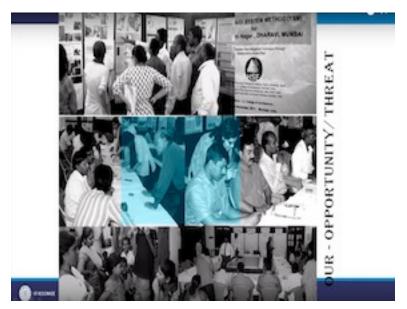
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So we actually listed down the actions for rescue operations. What they can do without external help and what they can do with the external help and these are some of the tasks representing that who will do what kind of task, here you can see the number of actions they had identified like to summon all volunteers to come forward to rescue people in emergency to rescue disabled, injured, and elderly people to provide and distribute the list of contents of survival kits, to appeal people to carry the vital documents. Especially various identity cards during evacuations like that okay.

Also we list of actions for rehabilitation and preparedness like to identifying the pending works BMC identifying the local leaders to look and report local flood problem and vulnerability, preparing list of contacts of emergency services meeting with civil defence, ensuring that nobody is throwing waste in gutters. So that we can do through what we can what they can do by themselves and what they can do with the help of external agencies with lot of actors are involved. so also this list continued,

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And you can see that these are some of the photographs during these brainstorming sessions here are our students and experts and also the community people who are working together.

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				Actors and Responsibilities	
Prior	ity List of Actions for Rel and Preparedness	abilitation	What We Can Do	What We can do with External licip	
H	triaging it analise delite				
19	hilling of streets and closeding with \$540	a bui sat dhe			
	Popule viability of the SHM transience, repri- letting, constantly appellup door pervoid with all a viability method for advisories frammatic team.	all resident and integrap.			
	LIST OF ACTORS Devices Group Devices The Contract Regions, Cultural and Polices Group Contractly volutions	diffikio NGS	rgorator of Dealer Mar and other Academic Inst		

And finally you can see that they also develop many community committees like Core action community, Chawl committees, Community volunteers also they want help from Municipal Corporations, Civil Defence, NGOs and from the researchers and Academic Institutes, what are the priority areas intermitted priority and remote priority.

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So bringing the people into the driving seat is really important this is the celebrations of our after finishing this and Dharavi community led action plan for flood disaster risk management.

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But the question remains in question of participations that why people participate?. (Refer Slide Time: 19:49)

Criteria	Source
Larly engagement of community	Bahna and Yonto Shapard, 1989; Ones and Purcel, 1999 ; Need 2008, Rowe and Prever 2000; Ourr et al. 2014.
Representation of Relevant Stakeholders	Ruhra and Yorts Shepard, 2009; Chase et al. 2004; Rickmark 2007; Awd 2008; Car et al. 2012; Oyer et al. 2014.
Clear and agreed objectives at the outset	Overs and Purcell, 1999, Rowe and Frewer, 2000, Reed, 2008, Doer et al. 2014
Continued engagement of the community	Ased 2008, Rows and Frenew 2000; Oper et al. 2014.
faimess	Rower and Fernier, 2000 , Weblier, 1995, Reed 2004, Blackstock 2007, Chara et al. 2004, Quer et al. 2014
Power to influence decisions	Webler, 1995, Rowe and Annee, 2002, Webler, 2002, Reed 2004, Oyer et al. 2014, Chann et al. 2004, Toppet et al. 2007, Wachsteck 2007.
Capacity Building	Feed 2004, Blackmack 2007.
Incorporating local knowledge and understanding	Chase et al., 2004, Reed, 2008, Over et al. 2014. Topett et al. 2007.
	Chase et al. 2004, Dyer et al. 2004,
Good facilitation through appropriate tool utilization	a management of the second
Resource Availability	Blackstock 2007, Dyer et al. 2014

These are the criterias right and these the right hand side you can see that, left hand side the process-based criteria and right hand side you can see some of the references that from where we can found that this is our proposed argued for community participation.

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Outcome Criteria		
Criteria	Source	
Successful Implementation of the Project Objectives	Rowe and Frwer, 2000. Over et al. 2014	
Transparency and	Blackstock 2007;	
Accountability	Rowe and Frwer, 2000. Webler et al. 2001.	
Mutual Trust	Reed et al. 2008. Dyer et al. 2054	
Ownership	Webler, 2001. Dyer et al. 2007.	
Conflict Resolution and	Dyer et al. 2004	
Consensus Building	Webler, 2000	
Cost effective	Rowe and Frwer, 2000;	
Self-Reliance an	Blackstock, 2007	
Empowerment	Dyer et al. 2014	
Time effective	Reed et al. 2008	1

And the left hand side you can see successful implementation, mutual trust, ownership, conflict resolution, self-reliance this should be the outcome criterion and right hand side you can see the references we give.

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But these criterias either process or outcome-based developed by researchers, project facilitators, local government, NGOs. What is missing is that we are seeking communities participations but community had never been involved in defining what is the meaning of participations. How they would like to participate okay how they would like to participate it is always the outsiders, those who are not the stakeholders real stakeholders, those who are not the victims.

We are looking for someone's participations and we are defining their participations in other perspective other terms. So it means that we are asking community to participate, but we are defining that how and what, when and what extent they can participate. It means I plan you participate, I plan you participate okay.

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So your participation the way I want you to participate that is it. So your participation depends on that how I want you to participate maybe I can say okay you can ask two three questions you can ask three four questions that is it. so I am not allowing you to join here freely.

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So what we did we are looking this thing from a different angle from a different perspective we are saying that instead of we define the criteria of participation is possible that community themselves will define what is the meaning of participations what are the criterias of participations so we call this is user based approach. Those whose participations we are seeking for they will define the criteria of participations.

It is like a kind of taking selfie, it is okay. So we asked the community to define what a successful community participation should have in terms of process and outcome based criteria. (Refer Slide Time: 23:08)



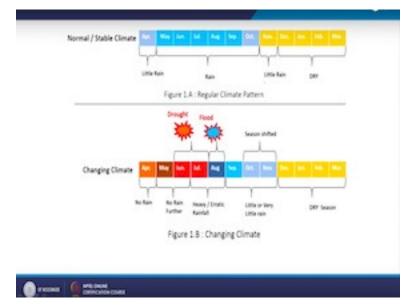
We conducted this study in Ghana a West African country and one of the most climate change impacted a disaster-prone community particularly the upper region, Wa region, the northern part of Ghana is around four hundred kilometre from the Accra their capital city and is one of the poorest region of this country.

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So they have both issues of flood and drought.

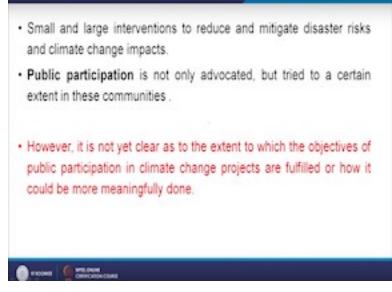
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This calendar were developed by the farmers or the local residents by themselves they are depicting, describing the impact of climate change they can sense they can feel so in normal and stable climate or usual regular calendar there is that they have some onset of rain from May to September and then they have slight rain in October and then they have this dry season from November to March.

But as a result of climate change the rain now the onset of rainfall now moved from rain now move from April to May, sometimes it moves to June even. Until May is still fine but when this move from to June or July no rain then is almost like a drought like a situation and just after the drought they are very erratic rainfall maybe a very intensive rainfall during August and September. So first there is no rain and they were facing water scarcity and drought, and then they have very heavy rain or flat and then again this seasonal shift you can see.

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So therefore we need to prepare them small and large intervention we need to promote there, there are so many projects are going on there in this place and many of this project are focusing on the disaster risk management and climate change adaptations. Most of these projects are advocating the incorporations and involvement of the local people into the projects.

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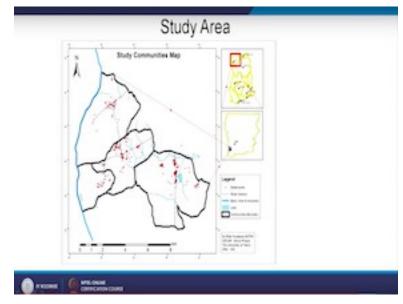
Now we want to see that in these projects on all this climate change and disaster risk management projects, how people see these projects, what are the involvement they have and how they feel that they can better involve into these projects.

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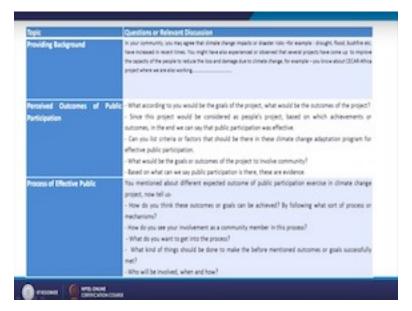
This is some of the photographs during the study they have a chieftainship system, chief decides everything. Traditional king or kind of governance system these are some of the photographs of the study area.

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We conducted this survey in four villages in Wa district, West district, Chietanaga, Bankpama, Zowayeli and Baleowafili.

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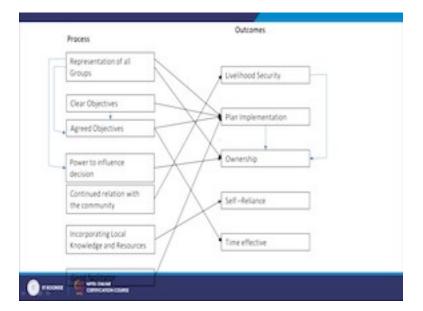
We gave questions to the people and asking them that what they think about the public participations, we wanted to tell them that tell us that what are the outcomes and what are the process they want from public participations.

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So they had a flood in 2007-2010.

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And you can see what people told us they said that process there should be representation of all groups, clear objectives, agreed objectives, power to influence decisions, continued relation with the community, incorporating local knowledge, good facilitator. And outcome; There should be livelihood security, plan implementation, ownership, self-reliance, time effective.

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So livelihood security, they feel that when I am hungry I cannot participate in any projects so livelihood security is critical. Plan implementations; not only that you were talking and talking and talking but we want only see some feasible outcome. Ownership; but most is the self-reliance we have many ideas but we cannot pursue so we should be empowered so that we can

follow our own projects, it should be also time effective and representation of all groups is agreed.

Clear and objectives should be there of the projects, agreed objectives power to influence the decisions, continued relationship with the community. So these are the criterias we found so therefore instead of we define the community participations it should be from the community who would decide that what is the meaning of community participation.

So thank you very much.