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A REPORT ON FLOOD SIMULATION EXERCISE ON ANTICIPATORY ACTION

Forecast based Action and Shock Responsive Social Protection
in Lumbini and Sudhur Paschim Provinces
29-30 September, 2021

Nepal Red Cross Society

DANISH RED CROSS

handicap international

Climate Centre

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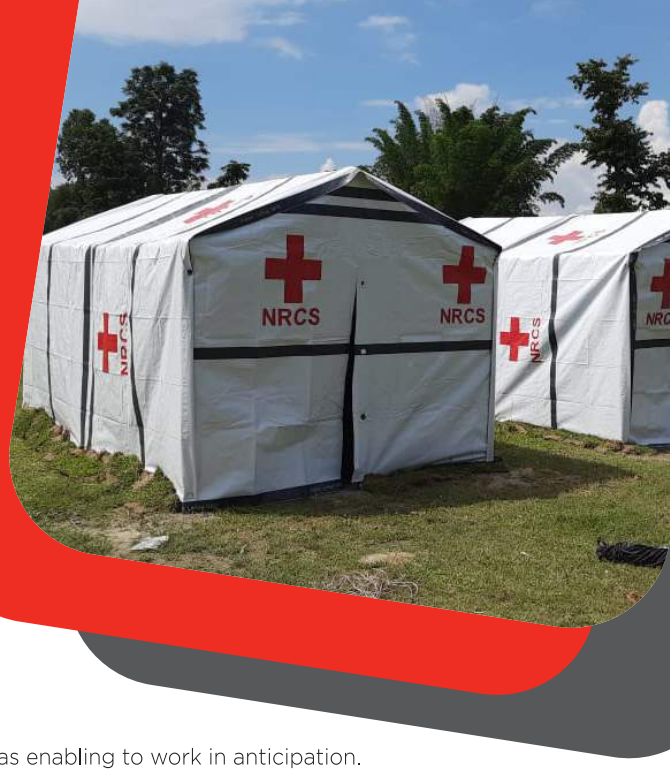


BACKGROUND

As part of the EU Civil Protection and Humanitarian Aid Operations funded project "Forecast-based Action and Shock Responsive Social Protection in Lumbini and Sudhur Paschim Provinces," Nepal Red Cross Society (NRCS) developed a draft Forecast-based Action (FbA) mechanism - impact threshold, trigger, risk indicator and early action, jointly with the government authorities in Nepal. The process was technically supported by the Danish Red Cross (DRC), Red Cross Red Crescent Climate Centre and Humanity and Inclusion. A set of early actions in the areas of livelihoods, WASH, housing and temporary shelter, critical services and Shock responsive social protection was identified and agreed by all line agencies from the two river basins – Karnali and Babai (five municipalities in Bardiya and Kailali districts). Risk indicators were developed to identify households from flood exposed areas that would be at the most risk during a disaster, to prioritize them during and after a disaster. The mechanism is designed to help authorities to act in anticipation of floods. The objective of the FbA mechanism is to ensure that communities are timely informed of a potential flood and are prepared to implement the pre-identified early actions once the triggers are reached. It also explores ways of leveraging government's Social Protection system to carry out the early actions and provide relief in response to the flood. The triggers and early actions were developed based on the concrete experience of past flood events and in close consultation with exposed communities and municipalities.

In this context, the Anticipatory Action Flood Simulation Exercise was organized from 29-30 September 2021. The simulation tested the FbA mechanism and implementation of its corresponding early actions. Based on the lessons learned from the exercise, the FbA mechanism will be further improved. It also provided a good platform to test the understanding of the government officials and NRCS regarding their roles and responsibility, timeline and implementation process against the early actions. This mechanism will ensure that potentially exposed communities are timely informed of a potential flood and are prepared to take the early actions once the triggers are reached. Ultimately the simulation exercise will deliver a set of well prioritized recommendations for required improvements and capacity strengthening in key areas enabling to work in anticipation.

The simulation was organized from 29th - 30th September 2021, in two municipalities – Janaki and Barbadiya, across two river basins – Karnali and Babai respectively. This would offer a comparative perspective between the two Municipalities. Municipality officials from neighboring areas were also invited as observers. The simulation anticipated a flood with a forecast ahead of 15 days. As the early actions are mostly focused at the Municipal level, the exercise also focused at the same level – Municpality office of the government and Sub-chapters of the NRCS. It did include few national coordination elements whereever required. The simulation was followed by a half day debriefing session.

OBJECTIVE

NRCS in close consultation with the local government, developed an FbA mechanism - impact threshold, trigger, risk indicator and early action. The simulation exercise was designed for two major reasons:

1. To test the FbA mechanism itself and ensure that it delivers during a disaster. Lessons learned and gaps identified during the simulation would be used to further refine the mecha nism.

2. To test the understanding of the stakeholders of the mechanism. Gaps identified in their understanding would be used to further build their capacities to identify the trigger and take early action. The simulation tested the following parameters :
1. Understanding of the municipality of triggers
2. Corresponding response to triggers : Early Messaging, Evacuation, Shelter/NFIs component and WASH

3. Coodination capacities of the government line agencies and NRCS at all levels of governance : municipality, district and federal levels for the government and sub-chapter, district chapter and HQ for the NRCS
4. Awareness and receptivity of the municpality towards leveraging Social Protection systems for targeting and taking early actions: utilizing the SSA registry to identify vulnerable groups and prioritize their early evacuation, cash top-ups through SSA bank accounts, use of PMEP (and other cash for work schemes) to take early actions etc.

PARTICIPANTS

The simulation was attended by all relevant stakeholders who have direct or indirect role during a disaster situation. Participants of the simulation exercise were categorized under the following:
1. Actors: Participants who play an active role during a real disaster scenario were under this category. From the municipality level, this included the Mayor/Chairperson, Deputy mayor/Vice Chairperson, DRR focal person, SSA focal person, MIS operator and assistant, IT officer, LEOC representative. From NRCS, this included staff and volunteers. From the community level, this included Disabled Persons Organization (DPO) chairpeson, members of Disability Coordination Committee (DCC) and community members participating in the field-based simulation.
2. Control team: A single control team comprised of members from DRC and NRCS was based at a separate physical location from the simulation venue. The team was connected with both the municipalities virtually. The team released the injects, tracked the responses, provide back up injects if needed and ensure that the simulation is on track.
3. Monitors: At each of the municipality, DRC and HI team members were placed as monitors whose role was to ensure that the injects were received on time, monitor the actor's understanding of the injects and clarify if there is any misunderstanding. They also recorded the decisions and actions taken aginst the injects and communicated all the updates to the control team.
4. Observers: Relevant government officials from all three levels of governance were invited to the simulation as observers. Their role was simply to observe the simulation. This provided an opportunity for government officials from neighboring municipalities to observe and learn from the exercise. It was also a good opporunity for government officials from provincial and federal level to observe the simulation and provide their reflections to the organizers. For detailed participation list, please refer to Annex. 2 Participation List. Table below details the institutions and key positions holders who participated in the simulation.

S.No.	Organization	Position
1	Municipality Office	Mayor/Deputy-Mayor Chairperson/Vice-Chairperson Chief Administration Officer DRR focal person SSA focal person/MIS Operator IT Officer Technical Officer Employment Department Officer
2	MoFAGA	Sr. Officer
2	NDRRMA	Under Secretary Environment Inspector
3	Ministry of internal affairs and communication	Sixth level officer
4	NRCS District Chapter	President Vice-President Joint Secretary
5	NRCS Sub-Chapter	President Treasurer Joint secretary Board Members
6	Ward Office	Ward Chairs
7	Police Office	Constable
8	Disability Network	Chairperson
9	Federation of journalist	Vice-President
10	DDRT	Member
11	Danish Red Cross	Project team members
12	Handicap International	Project team member

METHODOLOGY AND TOOLS

The simulation exercise was conducted simulatenously at the two municipalties. It followed a combination of desktop and field-based modalities. The readiness trigger followed desktop based simulation as the corresponding early actions were mostly coordination, communication, organizing meetings, taking decisions etc. The activation trigger was followed by field based simulation where early actions were taken at the flood exposed communities.

Two stations were established at each municipality. One, at the municipality office where all government officals operated from. It also included the Local Emergency Operation Cente (LEOC). Conducting the simulation from the office made the simulation closer to the real scenario as that is where the officials operate from during a disaster. The other station was at the NRCS Sub-chapter (SC) office, which was playing the role of a District-chapter (DC) during the exercise.

At each of the stations, participants were present physically, while the control team was present virtually and backing stopping the simulations at both the municipalities simultaneously.

This was done for benefits of having a comparative analysis between the two municipalities - their strength or weaknesses in terms of understanding the FbA concept and also their capacities to respond to injects. This will give an idea on how to move forward with the project, and on building and refining the mechanism in both areas. Remaining three municipalities targeted by the project (Gulariya and Thakurbaba in Bardiya district; Tikapur in Kailali district) are also invited as observers to the exercise.

To streamline communication, a Microsoft teams channel was created. All the discussions and decisions were updated in an excel sheet on the channel. Observers, including representatives from NDRRMA were added to the channel so that they could follow live updates. A project team member was assigned at all stations to update the channel. Additionally, a watsapp group was also created for instant coordination and communication.

Injects were provided either through emails, phone calls, print outs or in person role plays. For instance, the proposal from Early Action Nepal was presented by an actor directly to the chairpersons and other government officials.

For injects provided through emails, a back up print out was also prepared to ensure there were no delays due to poor internet connectivity.

SCENARIO

The simulation followed a timeline of flood minus 15 days to 24 hours, and included 22 injects. First day of the simulation followed flood minus 15 – 4 days and was mostly desktop based. Second day followed flood minus 48 – 24 hours. This section will present only the major injects that guided the simulation. For detailed injects and timeline, please refer to Annex 1. The simulation started with weather forecast bulletin and Special Bulletin from NRCS and DHM respectively signaling heavy monsoon activities in the next few weeks (minus 15-10 days).

To test the awareness and receptivity of the officials towards leveraging Social Protection system in delivering early actions, injects were delivered throughout the simulation. First, a newspaper article reported breach of Karnali river embankment in a neighboring municipality. The article detailed how the authorities had mobilized workers from PMEP list to repair the embankment, avoiding a possible flooding. This inject was to prompt the actors to utilize the SP scheme to take similar early actions. Another use of SP program was promoted through a proposal forwarded to the municipality by a made-up NGO, Early Action Nepal. The proposal offered ways of using SSA recipients list and their phone numbers to plan and implement early actions – early warning messaging and evacuations of vulenrable groups. The proposal also offered a possibility of providing cash top-ups to certain categories of the allowance recipients through SSA bank accounts. The readiness trigger was reached on flood minus 7 days. NRCS HQ was informed regarding the trigger followed by special bulletin from DHM signalling upcoming heavy monsoon. An order from District Disaster Management Committee (DDMC) directing the municpalities to provide early warning messages, prepare for evacuation and temporary shelter inclusing WASH and targeting the most vulnerable was issued. This injected was designed to test the

delivery of early actions by the actors. Second day of the simulation started with activation trigger followed by DHM's forecast bulletin signalling water level to cross the danger level in next 48 hours in Karnali and Babai. NRCS HQ directs the DCs to identify and verify at-risk areas and start taking early actions. This is where the field simulation begins. Targeted evacution is prompted when a community member contacts the authorities informing that there are a number of persons with disabilities in their community, who need to be urgently evac uated.

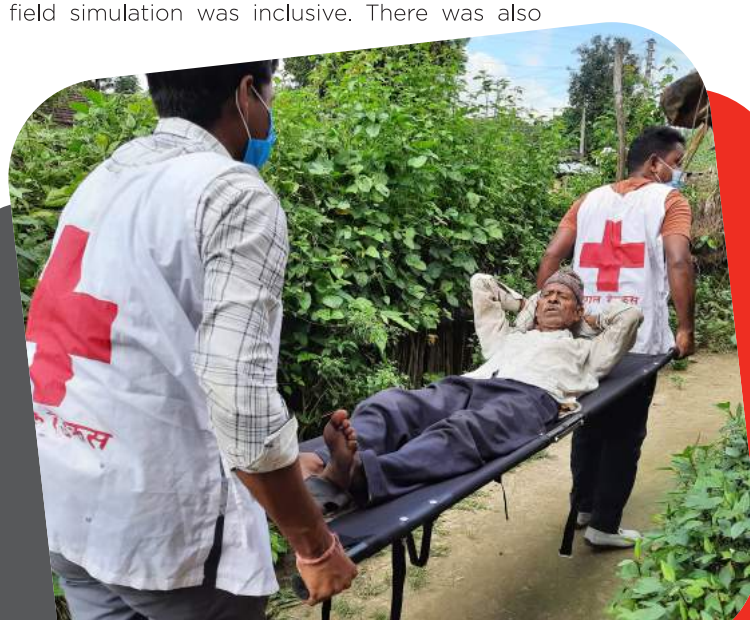
COMPARATIVE ANALYSIS BETWEEN TWO MUNICIPALITIES

1. Response to the injects depend on who is responding. When the proposal from EAN was presented to the Chair person in Janaki, he was open to the idea and easily accepted it, while the same proposal was rejected by the relevant staff in Barbardiya. Elected representatives such as a Chairperson or a Mayor is responsibile for policy formulation and amendements, therefore are more receptive towards new ideas. On the other hand, staff are binded by policies and rules, and are more likely to reject the same. Therefore, it is important to approach position holders with policy and decision making author ity while approaching with new ideas.

GOOD PRACTICES

1. Active participation: The simulation had active participation from key players who have critical roles during real emergencies (the DRR focal person, SSA focal person, MIS officer, Mayor/Deputy Mayor, Ward Chairs, DPO chair, Women and Children Section Chief etc.). Their participation made the simulation realistic in terms of coordination, communication and decision making.
2. Close to real scenario: The simulation followed close to real scenario. Real database of vulnerable population (people with disability) was extracted from the SSA database for evacuations. Meeting minutes were taken reflecting the decisions taken, which is a must to ensure its execution during real scenario. Actors (Volunteers and authorities etc.) played their roles as they would during a real disaster. Injects used for Trigger (readiness and activation) were also close to real scenario.
3. NRCS DC clear about their role: The DCs performed their roles well as they understood the actions that needed to be taken following the injects. There was good communication and coordination with the municipality from their side. They were also more familiar with the early action matrix as they referred to it from their beginning of the exercise.
4. Real location: Both the municipality authorities and the DC were stationed at their own offices which is where they function from uring an actual disaster.
5. Efficient coordination: There was effective coordination between DEOC, LEOC and NRCS. This resulted in timely actions such as information dissemination to the stakeholders, early warning message to the community, mobilization of community volunteers, and Chiragi/Badghars, coordination for shelter management, data management from the PEMP and SSA database, drainage clearance, retrofitting of the vulnerable structures, issue the evac ation order etc.
6. Family members and volunteers were clear about their roles: The actors and volunteers in the field simulation were well informed about their roles.

7. Inclusive participation: The participation of the role players and actors in both desktop and field simulation was inclusive. There was also



good presence of stakeholders from neigh bouring municipalities as observers.
8. Referring the EA matrix: This gave the participants a clear picture of the actions to be taken against the timeline. The participants also realized that referring to the EA matrix was helpful.
9. Creative solutions: During the simulation, the participants were able to come up with creative solutions to practical hurdles. For instance, the Municipality decided that for cases where people did not have national identification cards or land deeds, the relief would be provided based on other ID cards such as student ID, house owner's recommendation etc.

Logistics

1. The facilitators did a good job at briefing the participants about the simulation and whenever the participants got off topic, they intervened to bring the discussion on topic. However, mostly instead of taking actions prompted by the injects, they simply discussed what they would do.
2. The injects created a sense of pressure on the stakeholders that is very realistic. The EAN proposal was presented 15 days ahead of the disaster which the SC thought was too little time.
3. Inviting other municipality stakeholders to observe the simulation was a good idea as it also gave them an idea about the exercise and its benefits.

GAPS

1. Lack of coordination between the LDMC and the GESI focal person (Women children and senior citizen chief): The GESI focal person was unaware about DRR related activities. Disaggregated data (sex, age, disability, cast and ethnicity) managed by GESI focal person is not being used by the LDMC to prioritize marginalized groups during rescue and relief.
2. Use of database: Database such as the SSA beneficiary list and the Risk and Vulnerability data were not referred to while planning for early actions. For instance, the list of persons with disabilities and contact numbers of the SSA beneficiaries could have been used for early warning and evacuation. The open street maps on infrastructures could have been used to identify evacuation sites and centres. This shows that the participants were unaware of utilizing disaggregated data to link with GESI in DRR.
3. Early Action (EA) Matrix: The Early Action Matrix does not reflect key information such as SSA early actions, roles and responsibilities of different departments at the Municipality Office, and roles and responsibilities of the Ward Office. For instance, there was lack of clarity on who had the authority to give evacuation order. Early Action matrix was also not clearly reviewed and followed to understand the timeline and actions to be taken.
4. Participation: The participation of DPO was not up to par. While it was completely lacking in Janaki, DPO chairperson played an active role in raising concerns on behalf of the persons with disabilities during first day of the simulation in Barbardiya. However, in his absence on the second day, there was no participation from the DPO. There was also lower participation of women.
5. Lack of understanding of SSA mechanism for early action: The use of SSA mechanisms such as beneficiary list, bank account etc. to take early actions was a new idea to the participants. There was no understanding of how the mechanisms could help ease the process of taking early action. There was also resistance based on personal opinions as some staff were

not willing to put their jobs at risk to accept the proposal of using the mechanisms.
6. Lack of alternative communication medium: In Barbaridya, due to mobile network problem, communication was delayed and difficult. This showed that an alternative commu nication medium was lacking.
7. Lack of clear understanding regarding EA: First, the participants (both municipality and NRCS) lacked understanding of the early actions to be taken as per the timeline. Especially they were unable to connect the minus 15 days forecast with the need to take preparatory actions. They had a better understanding when they reached minus 7 days forecast. Second, they also did not prioritize early actions as per different sectors such as WASH, livelihood etc. Third, they were more fixed on the mindset of working in response as opposed to taking early actions.
8. Lack of preparation for evacuation sites: Due to lack of discussion and agreement on details of the evacuation site between the community members and NRCS volunteers, the sites was not up to the standard. For instance, ensuring that the evacuation site was gender and disabled friendly, whether temporary shelters were to be allocated as per gender or family, accessibility to toilets etc. The feedback/response mechanism was also not in place at the evacuation site.
9. NRCS organizational issues: First, in real scenario, the Janaki RM relies more on Tikapur Sub-chapter (SC) rather than Janaki SC due to their proximity with Tikapur SC. This was reflected during the simulation. There was also communication and coordination gap between NRCS HQ and the District Chapter (DC). For instance, the HQ did not update the DC regarding availability of the stock, or the DC did not consult with HQ during planning phase.
10. Unclear communication chain at the Municipality level: The communication chain and chain of command was not visible during the simulation at the Municipality level.
11. Visuals and maps: Visuals and maps that could be useful in planning during the exercises would have been easier for the partici pants.

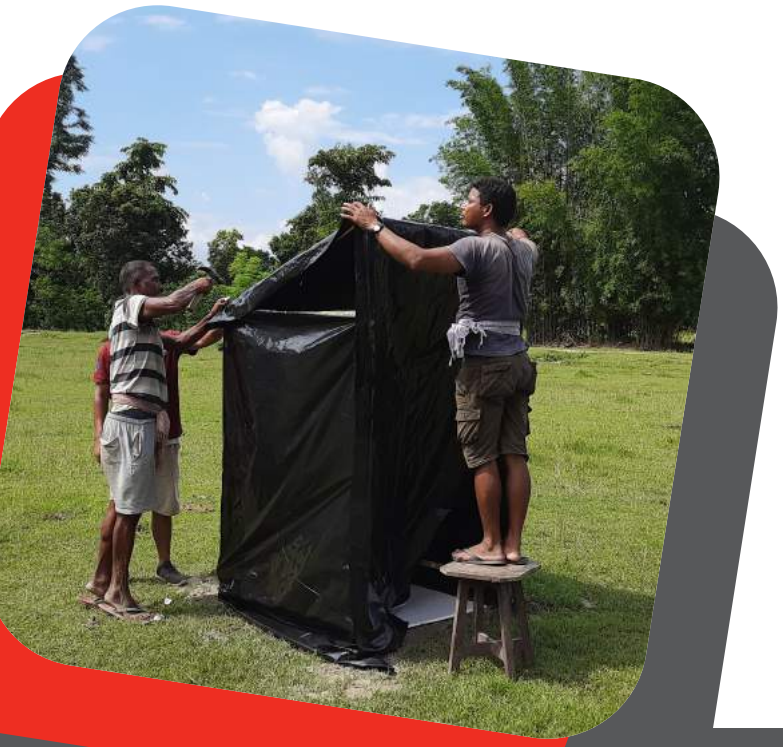
Logistics

1. Some of the participants were not clear regarding the simulation and its objectives. There was some misunderstanding regarding their role during the exercise and whether the information provided in the injects were facts or made-up.
2. There were some gaps in preparation for the simulation. For instance, community members and volunteers received short notice about their roles in the exercise.
3. The project team was also confused regarding some of the injects as there were too many injects in too little time.
4. The NDRRMA suggested that the Inject 8 was not realistic, as damage to the embankment would mean that the authorities would have to be in response stage rather than early action. The inject was based in Karnali and not Babai, but the team assumed it as Babai case.
5. The organizing team was overstretched, organizing two simulation simultaneously. Time was also limited for going through the injects and preparations for the simulation.
6. Meeting hall was too small and crowded.
7. Hybrid modality was not best suited due to technical glitches. It would have been preferable for the control team to be physically present at the venue.
8. Aprons were not distributed beforehand.
9. First inject in English created confusion in terms of the situation and understanding.
10. Conducting the simulation at the Municipal office resulted in the stakeholders getting distracted by their regular work and other programs that were conducted at the Municipal office on the same day.

RECOMMENDATIONS

1. Identify early actions with community members: The NRCS should work together with community members to identify early actions to be taken at the community level. There should also be a discussion with the communities on ways of making the evacuation sites and temporary shelters safe and inclusive for everyone.
2. Delegation of authority: In absence of an authority in any relevant areas such as disaster, SSA, GESI etc., a second person should be identified who can be delegated the authority to ensure that the system is not disrupted in his/her

absence.
3. Increase awareness and understanding on GloFAS: The Municipality needs to be made aware of the importance of the global flood awareness system (GloFAS). The Municipality and the Municipality Assistants should be given training on reviewing and analysing forecast from the GloFAS. The NRCS should also facilitate municipality authorities in understating of the GLOFAS forecasts – interpretating the informa tion in a reader friendly way.
4. EA matrix: The authorities should also be made more aware of the EA matrix. Every time there is an emergency or forecasts warnings, the NRCS can bring the EA matrix and start referring to it with the Municipality. The matrix should also also highlight the distinct roles of Wards and Municipalities, and the roles of each department within the Municipality as well. The LDCRP will clearly define the roles and responsibilities of different levels and agencies. However, in its absence the EA matrix can be helpful. A flex print of the matrix should also be provided to ward offices.
5. Need of a communication tree: A communication tree or a chain of command should be clearly mapped out that defines the roles and responsibilities in terms a disaster forecast. For instance, who will trigger in case of a flood forecast, what will be the communication chain to disseminate trigger or EA information etc. A mapping of the dynamics between the Rural/Municipalities and Sub-chapters (SC) should be charted to ensure that the right SC is being contacted.
6. Re-orientation of the FbA mechanism: The Municipalities, wards, SCs and DCs need re-orientation of the FbA mechanism for better understanding of the trigger thresholds, timeline for anticipatory actions etc.



Logistics

1. Monsoon forecast bulletins should be in Nepali language and presented in a more simplified way for easier understanding of the partici pants.
2. The timeline, injects and actions taken should be clearly displayed on the wall to make it easier for the participants to follow the timeline of the simulation and for final review and reflection.
3. Regular time breaks should be planned in between the injects to help the participants \ review and reflect on the actions taken.
4. Back up injects of SSA data, and risk and vulnerability data should be used in case the participants need to be further prompted to use the database to take early actions.
5. The simulation should be conducted at one location at a time. It could be conducted in one Municipality at a time, or two Municipalities can be brought together at the same location. Instead of conducting the simulation simultaneously, it should be conducted sequentially. This will help the control team to focus on the same location and the team won't have to be spread thin.
6. The scenario should extend till after 2 days of a flood. This will help the participants to clearly realize the benefits of taking EA and its impact on the response that takes place after the flood.
7. A session on review and debriefing should be planned and prioritized as it an important part of the exercise.
8. More visuals and maps should be used for the participants to work on during the simula tion.

9. A short debriefing session should be provided to the Palika regarding the simulation and about the role plays in advance. Their commitment for active participation should also be taken before hand.
10. Each person should be playing only one role i.e., an observer should not be given the role of an actor or a role player (NRCS field team) should not be given logistical responsibilities.
11. Capacity building of local level volunteers is needed. The NRCS also needs to identify whether the gaps in field simulation was due to mobilization of volunteers not trained by the NRCS or is it the same even during an actual disaster where the NRCS volunteers are mobi lized.
12. It is best to mobilize community members, volunteers and local resources as much as possible during disaster and emergencies to build a sense of ownership, avoid conflict and ensure self-reliance.

CONCLUSION

1. The simulation provided an opportunity for the participants to review and reflect on the anticipatory actions needed to be taken as according to the different stages of a trigger. It also helped to shift their perception from acting in response to acting in anticipation. The exercise provided them with clarity in understanding the benefits of acting in anticipation. Especially, in terms of resources required to act response of a disaster is much higher than the resources required to act in anticipation.
2. The importance of inclusion while acting in anticipation or in response was reinforced through various injects. There was realization from all stakeholders regarding the different needs of different people. This has increased the understandig of stakeholders to mainstream protection, gender and inclusion in every aspect of a disaster. However, there is further need to reinforce the messages as there is still room for improvement.
3. The government officials have realized the need to change the SSA policies to ensure more flexibility in leveraging the system to take early action or even in response.
4. As the local level government has the right to formulate and amend policies, they need to take the initiation to work on policies that are favorable towards taking anticipatory action and to make the Social protection system resilient to shocks. The project will need to continous advocate with the local government in the same line.
5. The role of NRCS was also appreciated by the local government. There has been improved coordination between NRCS and the government, which has improved the response efforts. This will also increase the government's receptivity towards accepting the FbA-SRSP mecha nism.
6. The lessons from the simulation will be used to refine the FbA mechanism jointly with the stakeholders. First, a review of the simulation will be conducted with community based networks and organizations that represent most vulnerable groups. The review will help to identify particularly the gaps during the simulation through the prespective of Protection, Gender and Inclusion. The recommendations from this review, combined with lessons from the simulation will be integrated into the early action matrix, jointly with the relevant stakeholders during an Early Actions update workshop.

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