Communities’ Awareness and Perception of Natural Hazards in Jimma Zone, Southwest Ethiopia

Project Team

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Acknowledgements

First and foremost, we would like to express our sincere gratitude to the Global Disaster Preparedness Center and Response to Resilience (R2R) for funding this project. In addition, we would like to thank Jimma University for supporting the data collection by providing vehicles, stationary, and office space. The university’s Finance Department deserves gratitude for managing our finances. We are also grateful to the Ethiopian Red Cross Society, Jimma Zone branch office, for its valuable support from inception to completion of the project. We would also like to thank the Jimma Zone Administrative Office and District Administrative Offices for providing letters of support for the data collection. Our gratitude also goes to Desta Hiko, who translated the questionnaire into the local language and trained the data collectors. Last but not least, special thanks go to the data collectors and to the community members and key informants who were willing to participate in the study.

Project Summary

**Background:** Natural and human-induced hazards and associated disasters continue to pose a serious threat to Ethiopia, mainly because of widespread vulnerability and climate change. The most common hazards affecting the country are drought, floods, landslides, human and animal diseases, pests, earthquakes, and urban and forest fires. The purpose of this study was to assess the level of awareness of rural communities of the most common hazards and the communities’ perceptions of their risk, vulnerability, and resilience.
**Methods:** The study employed a community-based cross-sectional survey. Both quantitative and qualitative data were collected. A sample of 661 household heads was interviewed using an interviewer-administered structured questionnaire. Ten key informants were also interviewed using interview guides. Descriptive statistics were computed. Summary values such as mean, median, and percentages were used to summarize data and presented in tables and figures. Bivariate analysis was computed to explore associations between dependent and independent variables, and multivariate analysis was done to determine independent predictors of the dependent variables. Qualitative data were analyzed thematically and used to triangulate the quantitative findings.

**Results:** A total of 661 participants responded to the questionnaire, for a response rate of 82%. Most (85.5%) of the respondents were aware of at least one disaster/hazard. Family or friends were the main sources of information about disaster (42.2%), followed by radio (35.9%) and health extension workers (8.4%). More than 36% of the respondents reported that their localities were vulnerable to one or more natural or man-made disasters. Flooding, car accidents, and disease outbreaks were the most frequently reported disasters/hazards, with flooding mentioned by 66.2% of the study participants. Respondents’ age and training on disaster were found to be associated with their level of awareness. Respondents 50 years and older were 3.6 times more likely to be aware of disasters than respondents 18 to 24 years old. Respondents who had attended short training on disaster were twice as likely to be aware of the most common disasters/hazards as those who had not.

**Conclusions:** The level of awareness of rural communities of common natural and man-made disasters was high. However, their level of preparedness for future disasters was low. Most of the community members had been affected by disaster at least once. It is recommended that responsible government and non-governmental organizations design and implement interventions to improve communities’ preparedness.

1 **Introduction**

Natural and human-induced hazards and associated disasters pose a serious threat to Ethiopia, mainly because of widespread vulnerability and climate change. The most common hazards affecting the country are droughts, floods, landslides, human and animal diseases, pests, earthquakes, and urban and forest fires. The purpose of this study was to assess the awareness of rural communities of the most common hazards and the communities’ perception of their risk, vulnerability, and resilience.

The study was conducted in Jimma Zone southwest of Addis Ababa, the capital. The zone is bordered on the south by the Southern Nations, Nationalities, and Peoples Region (SNNPR), on the northwest by Illubabor Zone, on the north by East Welega Zone, and on the northeast by West Shewa Zone. According to a 2007 census, the population of the zone was 2,486,155, of which 89.69% was rural (CSA 2007). The temperature ranges from 12° to 25° C, and the average annual rainfall is 1,800–2,300 mm.
The objectives of the research were to 1) describe the common natural disasters faced by the rural inhabitants of Jimma Zone, 2) assess communities’ knowledge and perception of common hazards/disasters, 3) identify their experience of these disasters and their coping mechanisms, and 4) assess the factors affecting their knowledge and perception of common hazards/disasters.

2 How Did You Go about Achieving the Outputs/Outcomes?

This study was a community based cross-sectional survey. A multi-stage sampling technique was used to select 661 household heads living in rural areas of Jimma Zone. In the first stage, three out of the 17 districts in the zone were selected by lottery. Five kebeles\(^1\) were then chosen from each district, for a total of 15 kebeles. Households per kebele were allocated proportionally to population (household) size (PPS). Households were selected from each kebele using systematic random sampling, and household heads were approached for interview.

Quantitative data from household heads were collected using a structured questionnaire pretested among 5% of the sampled households. The questionnaire had three parts. The first part included questions about the socio-economic and demographic characteristics of respondents. The second part included questions related to perception and awareness of common natural hazards, their underlying causes, and the communities’ perceived vulnerability to the hazards. The last part of the questionnaire included questions about coping mechanisms the communities had adopted to mitigate the impact of common natural hazards. The questionnaire was prepared in English, translated into Afan Oromo and Amharic, and back-translated into English by a different translator to ensure consistency.

Ten data collectors and two supervisors with previous survey experience were recruited and trained on the data collection tool and procedures. Supervisors and investigators monitored the data collection process.

The quantitative data were edited manually immediately after collection. They were then coded and entered into Epi-data and exported to SPSS 20 software. After data cleaning, descriptive statistics were computed and summary values such as frequency, percentage, mean, and median were computed to describe the study findings. The results were presented using frequency tables and graphs. Bivariate analysis was employed to explore the association between each exposure versus outcome variable. To control for the effect of confounding factors or to obtain independently associated variables, each variable that was statistically significant at p-value < 0.2 in bivariate analysis was entered into a backward stepwise multiple logistic regression model. P-value < 0.05 was considered statistically significant for all the independent variables in the final model.

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\(^1\) The smallest administrative unit of Ethiopia, part of a woreda, or district, which is usually part of a zone.
To supplement the quantitative findings, qualitative data were collected from experts at the Jimma Zone Early Warning and Preparedness Office, zonal and district Agriculture and Health Office staff, local administrators, and nongovernmental organizations working in disaster preparedness. Seven key informants were interviewed to explore common natural hazards and community risks and vulnerabilities. An interview guide was developed to guide the key informant interviews, which were conducted by researchers with experience in qualitative data collection and analysis.

Qualitative data obtained from key informant interviews were transcribed from audio records by facilitators. The transcripts were then exported to ATLASi 4.1 software for coding and analysis. Thematic analysis was used to summarize key findings on major themes. Two research sub-teams worked independently to analyze the qualitative data, and their reports were synchronized jointly in the final report. Data were triangulated to enhance the credibility of the results.

Ethical clearance was obtained from the Jimma University Ethical Review Board. Support letters were secured from the Zonal Administrative Office and District Administrative Offices. Data collectors explained the objectives of the study and obtained verbal consent from survey respondents and key informants. Confidentiality of the data was ensured.

A workshop was held to disseminate the study findings and recommendations to relevant officials from government and nongovernmental organizations and other stakeholders working in disaster preparedness.

3 What Did You Learn?

Most of the respondents (85.5%) reported that they were aware of natural disasters/hazards. Flooding was the most commonly mentioned natural disaster/hazard, reported by 66.2% of respondents, followed by fire (61.2%), drought (51.2%) and disease outbreaks (45.3%). Among manmade hazards, car accidents were the most commonly mentioned (25.7%). A few respondents mentioned electrical accidents and war.

More than 36% of the respondents reported that their localities were prone to one or more natural or man-made disasters, including flooding (35.5%), fire (27.8%), and disease outbreaks (24.5%). Car accidents were reported as the most frequent disaster, followed by flooding. Disease outbreaks, earthquakes, landslides, and fires were reported as rare. Nearly one-half (48.0%) of the respondents had experienced at least one natural or man-made hazard/disaster. The most commonly experienced disasters/hazards were flooding (51.0%), disease outbreaks (41.7%), fire (39.2%), drought (32.5%), car accidents (30.7%), and earthquakes (22.3%).

The major sources of information on natural and man-made hazards were family or friends (42.2%), followed by radio (35.9%) and health extension workers (8.4%). Asked about training on hazards or disaster-specific issues, 19.6% of the study participants reported that
they had participated in such training, lasting from 1 to 15 days. The most common training topics were disaster preparedness (51%), common hazards/disasters (27%), what to do in a disaster (10%), and disaster mitigation (3%).

The majority (62.4%) of the study participants said that deforestation was the cause of drought, while 36.7% attributed it to climate change and 34% interpreted it as God’s punishment. Asked about early warning signs of drought, 53.6% mentioned decreased rainfall and irregular rainfall, 68.2% mentioned high temperatures, and a few mentioned strong wind, dry vegetation, and cold weather. Asked about the cause of disease outbreaks, 80% mentioned poor environmental hygiene; 61% mentioned poor personal hygiene; nearly 10% mentioned failure to be vaccinated, food shortages, and lack of clean water; while 22% interpreted disease outbreaks as God’s punishment.

4 Immediate Impact

The research project created a knowledge sharing environment for research team members and all who participated directly or indirectly. It provided practical knowledge in the field and created an opportunity to work in a team and share knowledge and skills. The research also strengthened collaboration between Jimma University and other organizations in Jimma Zone, including the Ethiopian Red Cross Society (ERCS) of Oromia Region, the Jimma Zone Branch Office, the Jimma Zone Disaster Prevention and Preparedness Office, and other government offices.

5 Future Impact

The project findings on disaster awareness and experience of rural communities will be disseminated to relevant actors/stakeholders who are involved in disaster preparedness and response to improve their understanding of associated community awareness factors. The results will help planners and implementers design appropriate projects to address gaps in awareness and disaster preparedness and serve as a resource for researchers in the future.

6 Conclusions

The level of awareness of rural communities about common natural and man-made disasters was high, but their level of preparedness for future disasters was low. Most community members had been affected by disaster at least once. The most commonly cited natural disaster was flooding, and the most commonly cited man-made disaster was car accidents. Respondents’ age and participation in short term-training on disaster were associated with their level of awareness.
7 Implications for the Future

The research project provided baseline information about the awareness of the community of disaster and their level of preparedness. This information can be used by different government and non-governmental organizations in the locality to design appropriate projects to improve community disaster awareness and preparedness. If funding is available, the research team, together with the Ethiopian Red Cross Society and other key stakeholders, can design interventions based on the research output to improve communities’ level of awareness and preparedness.

9 Publications

The research output will be submitted to a peer-reviewed journal for peer review to contribute to the body of knowledge related to disaster preparedness and response.

References

Appendix 1. Structured Questionnaire

JIMMA UNIVERSITY

Structured Questionnaire

Informed Consent Form

Instruction: Read and give a copy of the full information sheet to the participants.

Good morning/good afternoon! My name is ____________ and I am working for Jimma University. Researchers from Jimma University are conducting an applied research on Disaster Preparedness and Response in collaboration with the Ethiopian Red Cross Society (ERCS) Oromia Region, Jimma Zone Branch Office. The purpose of the study is to assess communities’ awareness and perception towards natural hazards in Jimma zone, southwest Ethiopia. So, I am serving as a field researcher to collect the required data from selected health facilities and Woreda Health Offices.

You are one of the eligible participants for this interview which may take around 20 minutes. You do not have to take part in this research if you do not wish to do so or withdraw at any time after starting the interview, and refusing to participate will not affect you in any way. If you feel uncomfortable about sharing any of the information, you have the right to decide not to answer any question. This will not result in you being treated differently during the study or any other time. The information provided in this study is strictly confidential.

This research has been reviewed and approved by Jimma University Ethical Review Committee. If you have any questions about your rights or any as a research participant, you may contact the Principal Investigator, Professor Kifle Woldemichael; Telephone number +251935123168.

Therefore, do you agree to participate in this discussion? Yes _____ No _____

If yes, continue interviewing but if no, say thank you and go to next.

Structured Questionnaires to Assess Communities Awareness and Perception of Natural Hazards in Jimma Zone, Southwest Ethiopia

Part 1: Socio-demographic and economic information

Questionnaire ID__________
Woreda______________
Kebele______________
Village______________

Instruction: Fill in/circle answers to the following questions:

<table>
<thead>
<tr>
<th>S. no.</th>
<th>Item</th>
</tr>
</thead>
</table>


<table>
<thead>
<tr>
<th>101</th>
<th>Age in years</th>
<th>-----------</th>
</tr>
</thead>
<tbody>
<tr>
<td>102</td>
<td>Sex</td>
<td>1. Male   2. Female</td>
</tr>
<tr>
<td>104</td>
<td>Educational level</td>
<td>1. Illiterate 2. Read and write 3. Literate, grade completed______</td>
</tr>
<tr>
<td>106</td>
<td>Religion</td>
<td>1. Muslim 2. Orthodox 3. Protestant 4. Other (specify) ________</td>
</tr>
<tr>
<td>108</td>
<td>Annual income in ETB</td>
<td>__________</td>
</tr>
</tbody>
</table>

**Part II: Knowledge and perception about natural disaster**

**Instruction:** Fill/circle answers of the following questions

<table>
<thead>
<tr>
<th>201</th>
<th>Do you have information about natural and man-made disasters?</th>
<th>1. Yes  2. No  3. I don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>202</td>
<td>If yes, could you mention some of the natural and man-made disasters you know? (Probe)</td>
<td>1. Drought 2. Earthquake 3. Flood 4. Fire 5. Disease outbreak 6. Other (specify) ____</td>
</tr>
<tr>
<td>204</td>
<td>Have you been given any training about disaster? (Probe.)</td>
<td>1. Yes 2. No 3. I don’t know</td>
</tr>
<tr>
<td>205</td>
<td>If yes, for how many days did you get the training?</td>
<td>________days</td>
</tr>
<tr>
<td>206</td>
<td>If yes, what was the topic? (More than one response is possible)</td>
<td>1. Common disasters 2. Disaster preparedness 3. What to do in time of disaster 4. Disaster mitigation 5. Other (specify) ____</td>
</tr>
</tbody>
</table>
207. Do you think your place of residence is prone to any of the natural and man-made disasters you heard?

1. Yes  
2. No  
3. I don’t know

208. In your opinion, which of the following natural or man-made disasters occur in your community?

1. Drought  
2. Earthquake  
3. Flood  
4. Fire  
5. Disease outbreak  
6. Other (specify) ___

209. Rate how frequently the following disasters occur in your locality:
(Fill 1= for ‘frequently’, 2= for ‘sometimes’, 3= for ‘rarely’, 4= for ‘none’)

<table>
<thead>
<tr>
<th>No</th>
<th>Disaster type</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequently</td>
<td>Sometimes</td>
</tr>
<tr>
<td>209.1</td>
<td>Drought</td>
<td></td>
</tr>
<tr>
<td>209.2</td>
<td>Disease outbreaks/epidemics</td>
<td></td>
</tr>
<tr>
<td>209.3</td>
<td>Floods</td>
<td></td>
</tr>
<tr>
<td>209.4</td>
<td>Earthquake</td>
<td></td>
</tr>
<tr>
<td>209.5</td>
<td>Land slide</td>
<td></td>
</tr>
<tr>
<td>209.6</td>
<td>Fire Accident</td>
<td></td>
</tr>
</tbody>
</table>

210. In your opinion what is the cause of drought? (multiple answers are possible)

1. God’s punishment  
2. Climate change  
3. Deforestation  
4. Other (specify) ____  
5. I don’t know

211. In your opinion, what are the early warning signs of drought?

1. Decrease rainfall  
2. High temperature  
3. Unpredictable rain  
4. Other (specify) ____

212. What are the common negative effects of drought in your locality

1. Food shortage  
2. Livestock death  
3. Drinking water shortage  
4. Other (specify) ____  
5. I don’t know

213. Did you perceive any change in the climate of your locality in the last 10 years?

1. Not changed  
2. Changed negatively  
3. Changed positively  
4. I don’t know

214. In your opinion, what causes epidemics/outbreaks?

1. God’s punishment  
2. Poor personal hygiene  
3. Poor environmental sanitation  
4. Lack of EPI services (immunization)  
5. Other (specify) ____

215. Did you perceive any change in the rainfall of your locality in the last 10 years?

1. Not changed  
2. Increased  
3. Decreased  
4. I don’t know

216. Did you perceive any change in temperature of your locality in the last 10 years?

1. Not changed  
2. Increased  
3. Decreased  
4. I don’t know
Part 3: Experience and coping mechanism towards natural disaster

**Instruction: Fill/circle answers of the following questions**

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>301</td>
<td>Did you have previous experience of a natural or man-made disaster?</td>
</tr>
<tr>
<td>302</td>
<td>If yes, list the types of natural disasters you have experienced</td>
</tr>
<tr>
<td>303</td>
<td>How do you rate the severity of the occurred disaster? (Write the type and its degree of severity if more than one disaster has occurred.)</td>
</tr>
<tr>
<td>304</td>
<td>Any physical damage due to any of the disasters in you or your family</td>
</tr>
<tr>
<td>305</td>
<td>Any psychiatric problem due to any of the disasters in you or your family?</td>
</tr>
</tbody>
</table>

307. What actions did you take during the last emergency? (May include requesting assistance from an emergency response service)

____________________________________________________________________________________________
____________________________________________________________________________________________

308. How did you cope with the disaster?

____________________________________________________________________________________________
____________________________________________________________________________________________

309. Did you participate in any natural disaster prevention (prevention, recovery, assisting other people)? Explain how.

____________________________________________________________________________________________
____________________________________________________________________________________________

310. Are you ready to cope with the negative impacts of disasters in the future? 1. Yes  2. No
311. If yes, how?

____________________________________________________________________________________________________

__________________________________________________________________________

Thank you for your time!!!
Yuunivarsiitii Jimmaa
Guca Gaafannoo

Guca fedhii/eeyyama hirmaannaa kan gaafatamaa irraa fudhatamu

Qajeelfama: Odeeffannoo guutuu armaan gadii dubbisii gaafatamaaaf kenni


Qorannoon kun “koree xiinxaltuu safuu” kan Yuuniversiitii Jimmaatiin xiinxallamee sakkoon/safummaan isaa ragga’ee jira. Atis akka hirmataa qorannoo kanatti waa’ee mirga keetiis ta’ee kan biroo Odeeffannoo dalabataa yoo barbaadde, qorataa muummee kan ta’an, qorataa mata-duree ta’e Piroofeesara Kiflee Woldamikaa’el lakkoofsa moobaayilaa +251935123168 fayyadamantii kallattiddhaa qunnamuu ni dendeessu. Kanaafuu, qorannoo kanaa irratti hirmaachuuf ni barbaaddaa?

Eeyyee___Lakki_________

Eeyyee yoo ta’e, gaaffii gaafachuuf itti fufi. Yoo Lakki ta’e, galatoomaa jedhii gara gaafatamaa itti aanutti darbi.

Guca gaaffii kan hubannoo fi ilaalcha hawaasni Godina Jimmaa kan Kibba-lixa Itiyopphiyaatti argamu balaa uumamaa fi nam-tolchee irratti qabu ilaalchisee qorachuu haalaan qophaa’e.

Kutaa I: Odeeffannoo hawaas-naannoo fi diinagdee
Lakkoofsaa gucaaa kan addaa _______
Aanaa______________
Ganda______________
### Village____________________
### Araddaa____________________
### Qajeelfama: Gaafilee armaan gaddii barreessuun yooakaan irra-maruun deebisi

<table>
<thead>
<tr>
<th>T/Lakk.</th>
<th>Gaafii</th>
<th>Deebii</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>Umrii waggadhaan</td>
<td>---------------</td>
</tr>
<tr>
<td>102</td>
<td>Saala</td>
<td>1. Dhiira</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Dubra</td>
</tr>
<tr>
<td>103</td>
<td>Haala ga’ila</td>
<td>1. Kan hin fuune/kann hin heerume</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Kan fuudhe/kan heerumte</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Kan abbaan manaa irraa du’e/kan haati manaa jalaal duute</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Kan biroo (adda-baasii barreessi)______</td>
</tr>
<tr>
<td>104</td>
<td>Sadarkaa barumsaa</td>
<td>1. Kan hin baranne</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Kan dubbisu fi barreessuu danda’u</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Kan barate/tte, kutaan xumure/te barreessi______</td>
</tr>
<tr>
<td>105</td>
<td>Gosa/sanyii/qomoo</td>
<td>1. Oromoo</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Amaaraa</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Yeem</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Kan biroo (adda-baasii barreessii)___</td>
</tr>
<tr>
<td>106</td>
<td>Amantii</td>
<td>1. Musliima</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Ortodoksii</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Pirootestaantii</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Kan biroo (adda-baasii barreessi)______</td>
</tr>
<tr>
<td>107</td>
<td>Dalagaa</td>
<td>1. Qotee-bulaa</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Daldalaa</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Hojjataa mootummaa</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Kan biroo (adda-baasii barreessi)______</td>
</tr>
<tr>
<td>108</td>
<td>Galii waggaa qarshii Ittiyoophiyaatiin</td>
<td>_______</td>
</tr>
<tr>
<td>109</td>
<td>Haala jireenyaa</td>
<td>1. Qonnaan bulaa</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Qotee-horsiise bulaa</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Horsiise bulaa</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Kan biroo (adda-baasii barreessi)______</td>
</tr>
</tbody>
</table>

### Kutaa II: Hubannoo fi ilaalcha hawaasni balaa uumamaa fi nam-tolchee irratti qabu ilaalchisee

### Qajeelfama: Gaafilee armaan gaddii barreessuun yooakaan irra-maruun deebisi
| 201 | Waa’ee balaa uumamaa fi nam-tolchee ilaalchistee wanti beektu jiraa? | 1. Eeyyee  
2. Lakki  
3. Hin beeku |
| 202 | Yoo deebiin gaafii 201 Eeyye ta’e, balaa uumamaa fi nam-tolchee muraasa ta’an naaf tarreessuu dandeessa? (sirritti qorii gaafadhu) | 1. Balaa caamaa/ongee  
2. Balaa sochii/dhoqdhoqa  
3. Balaa galoo/Lolaa hamaa  
4. Balaa ibiddaa  
5. Balaa weerara dhukkubaa  
6. Kan biroo (adda-baasii barreessi) |
| 203 | Yoo deebiin gaafii 201 Eeeyyee ta’e, waa’ee balaa uumamaa fi nam-tolchee ilaalchisee odeeffanoo essaa argatta? | 1. Hojjattoota eekisteenshiinin fayyaa irraa  
2. Qondaala/abbaanaa/raayyaa misoomaa irraa  
3. Raadiyoo irraa  
4. Maatti/Hiriyyaa koo irraa  
5. Kan biroo (adda-baasii barreessi) |
| 204 | Waa’ee balaa uumamaa fi nam-tolchee ilaalchisee leenjiin siif kenne jiraa? (sirritti qorii gaafadhu) | 1. Eeyyee  
2. Lakki  
3. Hin beeku |
| 205 | Yoo deebiin gaafii 204 Eeyyee ta’e, waa’ee balaa uumamaa fi nam-tolchee ilaalchisee leenji guyyaa meeqaaf leenjifamte? | Guyyaa______ |
| 206 | Yoo deebiin gaafii 204 Eeyyee ta’e, mada’reen leenjichaa maal ture? (deebii takkoo ol-ta’e deebisuun ni ta’a) | 1. Balaa bebeekamoo/waliigalaalaa ilaalchisee  
2. Qophii duraa kan balaa ittisuuf godhamu ilaalchisee  
3. Yeroo balaan argame maaltu akka hojjatamu ilaalchisee  
4. Erga balaan argamee booda ejjannoo fudhatamu ilaalchisee  
5. Kan biroo (adda-baasii barreessi) |
| 207 | Bakki jireenya kee balaa uumamaa fi nam-tolcheetti kan saaxilame jettee yaaddaa? | 1. Eeyyee  
2. Lakki  
3. Hin beeku |
| 208 | Akka ilaalcha keetti, balaa uumamaa fi nam-tolchee armaan gaddii keessa kamtu hawaasa kee keessatti argame/uumame? | 1. Balaa caamsaa/hongee  
2. Balaa sochii/kirkira/dhoqdhoqa lafaa  
3. Balaa galoo/lolaa hamaa  
4. Balaa ibiddaa  
5. Balaa weerara dhukkubaa  
6. Kan biroo (adda-baasii barreessi)___ |

**Balaan uumamaa/nam-tolchee naannawa keetti ta’an yeroo/si’a/al meeqaaf akka ta’an/mudatan tarreessi**

<table>
<thead>
<tr>
<th>T/ Lakk.</th>
<th>Gosa balaa</th>
<th>Yeroo/si’a/al meeqaaf</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yeroo baay’ee</td>
</tr>
<tr>
<td>209.1</td>
<td>Caamsaa/hongee</td>
<td></td>
</tr>
<tr>
<td>209.2</td>
<td>Weerara dhukkubaa</td>
<td></td>
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<tr>
<td>209.3</td>
<td>Galoo/lolaa hamaa</td>
<td></td>
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<tr>
<td>209.4</td>
<td>Sochii/dhoqdhoqa lafaa</td>
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<tr>
<td>209.5</td>
<td>Jigoo/mucuca lafaa</td>
<td></td>
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<tr>
<td>209.6</td>
<td>Balaa ibiddaa</td>
<td></td>
</tr>
</tbody>
</table>
| 210     | Akka yaada keetti, caamsa/hongee kan fidu maal? (deebiin baay’een ni danda’ama) | 1. Adabbii waaqaatiin/Rabbiitiin  
2. Jijjiirama haala qilleensaatiin  
3. Bosona ciruudhaan/gubuudhaan  
4. Kan biroo (adda-baasii barreessi)___  
5. Hin beeku |
| 211     | Akka yaada keetti, mallattooleen jalqabaah/duraa caamsa/hongee akeekkachiisan/mul’isan maal fa’i? | 1. Hammi roobaa hir’achuu  
2. Hoo’ina qilleensaa ol’aanaa ta’uu  
3. Rooba haalli isaa raagamuun hin dandeeyeh  
4. Kan biroo (adda-baasii barreessi)___ |
| 212     | Naannawa keetti miidhaan caamsaa/hongee bebeekamoon maal fa’i? | 1. Hanqina nyaataa  
2. Du’a horii/loonii  
3. Hanqina bishaan dhugaati  
4. Kan biroo (adda-baasii barreessi)_______  
5. Hin beeku |
| 213 | Naannawa keettiw aggoota 10 darban keessatti jijjiirama haala qilleensaa irratti wanti hubatte/argite/teejjabde jiraa? | 1. Jijjiiramni wayiituu hin jiru
2. Jijjiirama gaarii hin taane
3. Jijjiirama gaarii
4. Hin beeku |
| 214 | Akka yaada keettti, weerara dhukkubaa kan fidu maal fa’i? (deebiin baay’een ni danda’ama) | 1. Adabbii waaqaa/rabbitii
2. Hanqina Qulqullina qaamaatiin
3. Hanqina Qulqullina naannnootiiin
4. Talaallii fudhachuu dhabuun |
| 215 | Naannawa keetti waggoota 10 darban keessatti jijjiirama haala roobaa irratti wanti hubatte/argite/teejjabde jiraa? | 1. Jijjiiramni wayiituu hin jiru
2. Ni dabale
3. Ni hir’ate
4. Hin beeku |
| 216 | Naannawa keetti waggoota 10 darban keessatti jijjiirama haala hoo’inaa irratti wanti hubatte/argite/teejjabde jiraa? | 1. Jijjiiramni wayiituu hin jiru
2. Ni dabale
3. Ni hir’ate
4. Hin beeku |

**Kutaa III: Mudannoo fi mala balaa uumamaa/nam-tolchee jala dhaabbataniin/shaagalaniin/falmii godhaniin ilaalchisee**

**Qajeelfama: Gaafilee armaan gadii barreessuuun yookaan irra-maruun deebisi**

| 301 | Balaan uumamaa/nam-tolchee asiin dura si mudateereaa? | 1. Eeyyee
2. Lakki
3. Hin yaadadhu |
| 302 | Eeyyee too ta’e, balaa uumamaa/nam-tolchee asiin dura si mudatee naaf tarreessi | 1. Balaa caamsaa/onjee
2. Balaa sochii/dhoqdoqqa lafaa
3. Balaa galoo/lolaabishaanii
4. Balaa ibiddaa
5. Balaa weerara dhukkubaa
6. Kan biroo (adda-baasi barreessi) |
| 303 | Cimina balaa uumamaa/nam-tolchee asiin dura si mudatee akkamitti ilaalte? | 1. Laafaa
2. Giddu-galeessa
3. Baay’ee cimaa |
| 304 | Miidhaan qaamaa sababa balaa kanaattiin sirra ga’e yookaan maatii kee irra ga’e jiraa? | 1. Lakki
2. Manni diigamuudhabamu
3. Horin/loon dhumuu yookaan qabeenyi manca’uu
4. Lubbuun namaa du’uu |
<p>| | | |</p>
<table>
<thead>
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</thead>
<tbody>
<tr>
<td>5.</td>
<td>Kan biroo (adda-baasii barreessi)______</td>
<td></td>
</tr>
<tr>
<td>305</td>
<td>Rakkinni sammuu sababa balaa kanaatiin sirra ga’e yookaan maatii kee irra ga’e jiraa?</td>
<td>1. Eeyyee 2. Lakki</td>
</tr>
</tbody>
</table>


308. Balaa uumamaa/nam-tolchee yoo si mudate akkamitti dandamatta/miidhaa irraa of baraarta?

309. Balaa uumamaa/nam-tolchee kamiinuu haata’uu ittisu irratti hirmaattee beektaa? (Ittisu, deebisani ijaaruu, nama biroo kan balaan kun tuqe fa’a qarqaaruu) haala isaa bal’inaan naaf ibsi.

310. Gara fuul-duraatti miidhaa balaa kan hin barbaadamne jala-dhaaabbachuuuf/ falmuuf /ittiin shaagaluuf qophiidhaa?
   1. Eeyyee  2. Lakki

311. Eeyyee yoo ta’e, akkamitti?

Yeroo kee naaf kennuu keetiif galatoomi!
Appendix 2. Interview Guide for Key Informant Interviews

JIMMA UNIVERSITY

Interview Guide for key informant interviews

Informed Consent Form
Instruction: Read the information sheet to the participants.

Good morning/good afternoon! My name is ___________ and I am working for Jimma University. Researchers from Jimma University are conducting an applied research on Disaster Preparedness and Response in collaboration with the Ethiopian Red Cross Society (ERCS) Oromia Region, Jimma Zone Branch Office. The purpose of the study is to assess communities’ awareness and perception towards natural hazards in Jimma zone, southwest Ethiopia.

As your organization is one of the key players in disaster preparedness and response, we have planned to interview you about disaster preparedness and response activities of your organization. The interview may take around 45 minutes. The information you give us will not in any case be linked to you as well as your organization. It will be used to substantiate the finding from the quantitative survey. The information provided in this study is strictly confidential. If you don’t mind, we will record the interview with tape recorder not to miss important points.

This research has been reviewed and approved by Jimma University Ethical Review Committee. If you have any questions about any as a research participant, you may contact the Principal Investigator, Professor Kifle Woldemichael; telephone number +251935123168.

Therefore, do you agree to participate in this discussion? Yes _____  No _____

If yes, continue interviewing but if no, say thank you and go to next.

Background characteristics
Zone ___________
Woreda_________
Organization__________
Level of education_____
Position of the respondent_____
Service year in the current position_____
Total service year in the organization_____

Questions
1. What are the most frequently occurring natural and man-made disasters in Jimma Zone? Could you explain why they are common?
   - How frequently do the disasters occur?
     __________________________________________________________
     __________________________________________________________
   - When was the last time these disasters occurred?
     __________________________________________________________
     __________________________________________________________

2. Did your organization participate in any of natural/man-made disaster prevention and response in the past (prevention, recovery, etc.)? Explain how.
   __________________________________________________________
   __________________________________________________________

3. When was the last time your organization was involved in responding to natural and man-made disasters? What was the outcome/result?
   __________________________________________________________
   __________________________________________________________

4. How do you rate the preparedness of your organization to respond to commonly occurring disasters? Explain.
   - Preparedness with regard to logistics, supplies
   - Training, human resources
   - Collaboration with other government sectors
     __________________________________________________________
     __________________________________________________________

5. How do you rate your organization’s efforts to improve the awareness of the community about disaster responses? Do you have awareness creation programs for the community? Is the community willing to participate in disaster preparedness and response awareness creation sessions?
   __________________________________________________________
   __________________________________________________________

6. Could you mention some of the achievements (success stories) of your organization in preventing and responding to commonly occurring disasters?
7. Could you mention some of challenges you faced in responding to disasters in the past? How did you tackle those challenges?

8. In your opinion how do you rate the awareness and preparedness of the rural and urban community to respond to the commonest natural and man-made disasters? Do you think the community has adequate information on how to respond to frequently occurring disasters? Is the community involvement adequate? Explain.

9. In your opinion, what things should be improved to better prepare to prevent and respond to natural and man-made disasters in the future?

10. Is there any additional point you want to make regarding disaster preparedness and response of your organization and the community at large?

Thank you for your time!!!