

Strengthening Urban Resilience and Engagement (“SURE”) Programme

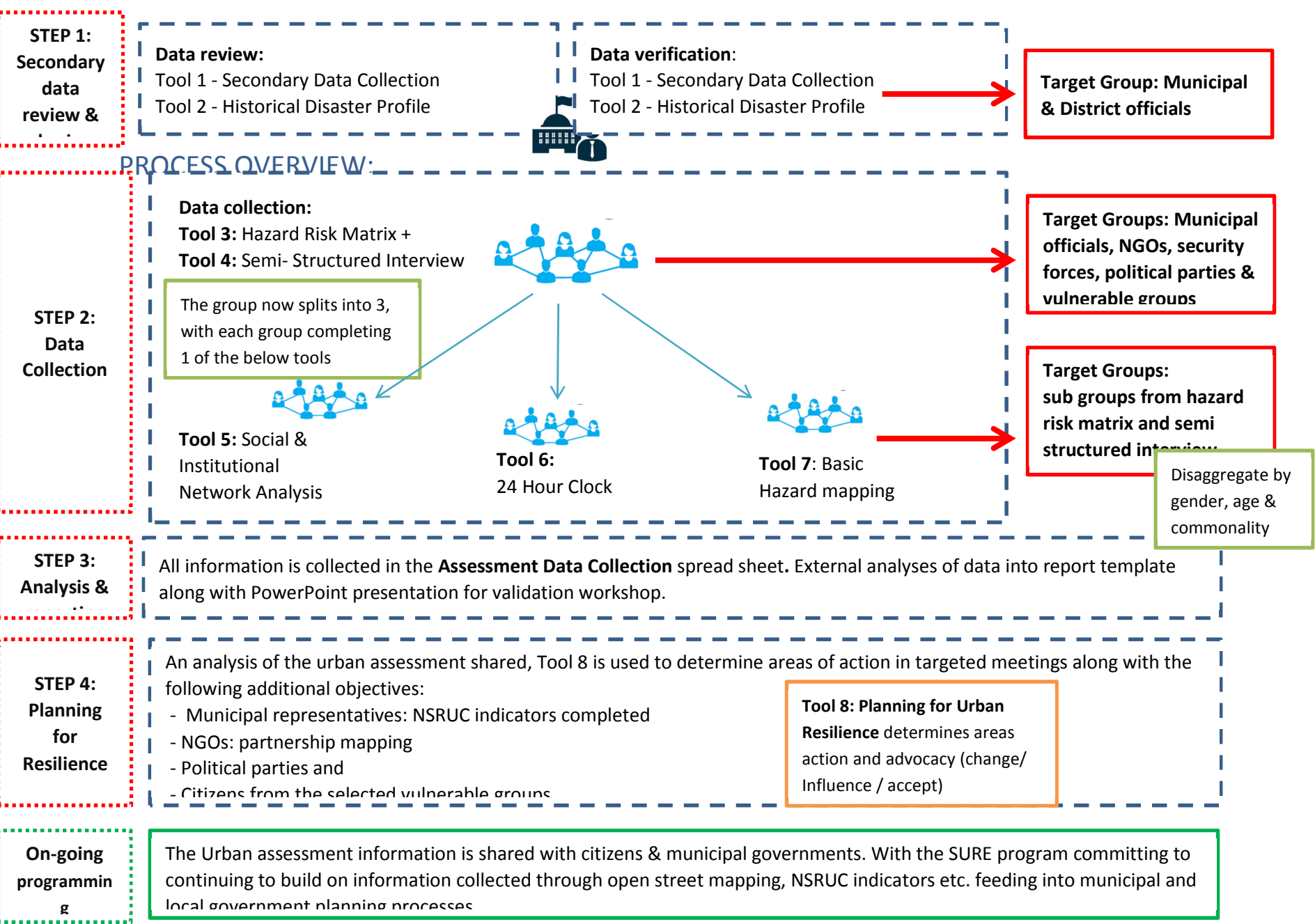
URBAN ASSESSMENT (VCA) TOOLS

May 2017

Kathmandu, Nepal

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TOOL 1+2 COLLECTION OF SECONDARY DATA + HISTORICAL DISASTER DATA

OBJECTIVE

Collect, combine and analyse information available from official reports and existing data on natural hazard events and disasters that have happened in the municipality over the past 20 years.

Output

Overview of historical disaster risks, climate change issues, impacts and capacities of the municipality to manage and respond to these risks.

TIME REQUIRED

Preparation work

At least one week is needed to collect and collate information before the start of the discussions with municipality, ward citizens forums, L/CDMCS and CDOs. Availability of information greatly varies between municipalities in Nepal, as well as language which information is available in.

Validation

Approximately, 60-90 minutes is necessary to verify information and add additional information with municipality, ward citizens forums, L/CDMCS and CDOs.

MATERIALS REQUIRED

- Computer with internet access
- Folder for paper documents, and a computer folder (possibly open access such as drop box) for soft copies of documents
- Computer program such as excel,
- **Data Collection Excel File and template Power Point Presentation**
- Volunteer or staff hours (this includes per diems, and snacks if volunteers support)
- Template for reporting information
- USB stick for safe keeping back up of information
- Printed map of municipality

ACTIVITIES

Preparation – data collection

NRCS develop a plan for key content and information, which must be collected. This should not be limited to resources and documents within the community. It needs to consider outside resources related to the content of the assessment. In the **Data Collection Excel File**, a checklist is provided for types of documents to look for under the tab labelled 'Guidance for 1+2'. This can include information on:

- Disaster risks
- Climate change risks
- Changes in land use that may have adverse impacts on river flows,

- Related development plans (National strategy for Urban resilient communities)
- Related infrastructure plans
- other assessments (JICA KTM valley risk assessment, World Bank schools assessment in the KTM valley, INGOs)

Review existing data and identify what information needs to be added with municipality, ward citizen forum, LCDMCs, CDO. Analyse this data and identify what extra information needs to be collected from the community during the urban disaster resilience assessment. Information should be entered into the **Data Collection Excel File on the tab labelled 'Tool 1: Secondary Data'**. This is an overview of the information.

Collection of secondary data should be done by a SURE staff member, and reviewed by SURE program coordinators or PMER.

For the primary data collection for the Historical Timeline/ Disaster Data the below query is used:

| |
|--|
| Source: |
| Query Code: Base Query |
| 1) select all disaster types in drop down menu |
| 2) select location (Region- District- Village) |
| 3) leave cause blank |
| 4) select time line (1996-2016) |
| 5) ' View query' and/ or ' view data' -- depends on version being used. |
| Parameters: |
| Date: 1996-2016 was used as this is the same timeline used for the municipal selection. |
| All disasters: chosen as SURE is a multi-hazard program |
| Limitations: |
| Dates: historical information before 1996 will need to be verified with citizens and municipality, 20 years of data was chosen as this is in line with people re-call of information period. |
| Dates: Data base information from 2013- 2016 is limited due to reporting timeframe from districts-- this time span will need to be added, including 2014 EQ |
| Data collection: data collection ranges from municipality to Municipality depending on the information gathering officers |
| Municipal boundaries: Municipal boundary/ administrative areas were changed in 2014; some municipalities which we work in will have new boundaries. |

Once the query is done, the file should be down loaded into the **Data Collection Excel File** under the tab labelled **'Tool2: Historical Disaster Data'**. Once the information is in the excel file, it is useful to sort the information and scroll through the entries to look through the data. When looking through the data, it is important to 'clean' the data. To do this you can sort the information and look for double entries, or similar dates with the same disaster— check to see if this is possibly the same event but reported as the event progressed.

Once the query is complete a simple analysis can be done to show the:

- 1) most frequently occurring disasters (top 5)- can be showed in pie chart
- 2) the disasters which caused most loss of life
- 3) the disaster which caused the largest loss to livelihoods
- 4) The disasters which affected the largest number of people

Once the information is collected and checked over and input into the **Data Collection Excel File**, you can use the **Power Point Template** to input your information form Tool 1: Secondary Data and Tool 2: Historical Disaster Profile for your presentation and validation workshop.

Discuss within you team who will, present at the work shop and well as who will take notes.

You are ready to hold a validation workshop with the Municipalities and others.

Validation Workshop

Objective

To share information a summary of all the secondary information gathered; including disaster hazards, risks, livelihood impact, vulnerabilities and Government plans and priorities.

Output

Validated information on disaster risks, climate change issues, impacts and capacities of the municipality to manage and respond to these risks. Increased awareness of participants of the disaster risk and capacities within the municipality.

TIME REQUIRED

Preparation: Approximately 2 hour meeting to run through the data and discuss with officials.

Step 1: Verification (municipal): When presenting historical data to municipality, ward citizens forums, L/CDMCS and CDOs for preliminary verification, time will be needed to print off hand outs for group, or put information into a PowerPoint, or on a poster board. This process will take 45 minutes to 1 hour.

TEAM REQUIRED:

This meeting is to be held with government officials, therefore it is important leadership for the Distrust Chapter and the Program is involved. The following roles and responsibilities should be covered during the meeting:

| Position | Person | Role |
|-------------|--------------------------------------|--|
| Facilitator | DC Leadership or senior member of DC | Introduce the meeting and the objective of the work shop and well as programme objectives. At the end of the meeting let participants know the next steps and when you will engage with them after the assessment to share the information. |
| Presenter | SURE Program Coordinator | Present the information and be the technical expert to answer questions, as well as ask probing questions to collect further information |

| Position | Person | Role |
|------------|------------------------------|---|
| | | Once the meeting in complete check over the notes, and oversee the entering of information into the Date Collection Excel File by the PMER Officer |
| Note taker | PMER Officer | Take notes on the meeting, after the meeting in put notes into the Data Collection Excel File . If any additional documents are mentioned during the meeting which you should review, collect documents. |
| Logistics | Team Assistant or Volunteers | Help set up the room for the meeting, assist with transporting materials, sending invites to meeting, making name cards. |

MATERIALS REQUIRED

- Computer with internet access and program such as excel.
- Volunteer or staff member to query data and input into excel
- Material for sharing this information (hand outs or PowerPoint or poster board and pens)

Steps

Municipality meeting (using Tool 1&2)

When sharing data with municipal stakeholders in workshop, create a short power point slide of the key findings. **Power point template available in annex 2**

Present key findings in PowerPoint presentation. The Power point Presentation can be co-presented by the municipality, and is encouraged if you have been collecting data alongside this partner. The following questions can

- 1) Are there any key issues missing?
- 2) Is there anything you are currently working on which is not included?
- 3) Are there specific areas of the municipality which are you focus for disasters?
- 4) Are their key groups of citizens which you feel are most vulnerable?

As part of the initial meeting where the secondary data is reviewed, it is important to begin discussing what vulnerable group exist in the municipality.

Next, ask the group if they have any information about disasters that occurred between 2013- present, as this secondary data is unavailable.

Use the table in the **Data Collection Excel File** labelled '**Tool 1 Secondary Data**'. To input information as well as any additional information which is been brought up in the meeting.

TOOL 3 HAZARD RISK MATRIX

Objective

This tool identifies the hazards affecting the VDC/ Municipality, their frequency and impact. The outcome of the tool is the prioritization of the hazards, in order to best allocate resources for the planning.

This tool is used first, before the semi structured interviews with all groups.

Output

The tool will produce a list of hazards that have been identified by the participants, ranked in order of hazards that are of the most concern to participants.

TIME REQUIRED

Plan to have about 60 minutes to collect information from urban citizen individuals or groups (municipal and DC).

MATERIALS REQUIRED

Large board or large sheets of paper (A0), pens, long ruler.

TEAM REQUIRED

3-4 Volunteers

| Position | Person | Role |
|-------------|--------------------------|--|
| Facilitator | Team Leader Volunteer | Introduce the meeting and the objective of the meeting and well as programme objectives. Facilitate and ask questions and probe for further information. At the end of the meeting let participants know the next steps and when you will engage with them after the assessment to share the information. Check the information collected by the note takers- make sure it is complete and readable. Check the attendance sheet to make sure all information is completed. Give the completed information to the SURE PMER Officer and answer any queries about the information. |
| Note taker | 2 Volunteers | Take notes on the meeting, observe the group. Make sure all information is collected even if it does not seem relevant to the question |
| Helper | Volunteer | Take attendance sheet, Make sure the attendance sheet is completed, including age and gender information |

Using the outlined definitions for impact and likelihoods, categorise identified hazards for the VDC.

Measuring Impact

The following impact table analyses the impact of the risk in terms of the possible effects on built environment, local economics, human and natural.

| | |
|-------------------------|--|
| Catastrophic 85-100% | Substantial impact on government and community resources, Significant human losses and injuries Critical lifelines destroyed Numerous Public and private property destroyed Agricultural losses, significant impact on local economy. Response from district, regional and national level government. External resources needed for response / recovery. Long term recovery plan needed |
| Major 50-84% | Some human losses and injuries Some lifelines partially or completely destroyed Some public and private property destroyed / damaged Some impact on local economy Response needed from district and regional levels |
| Moderate 25-49% | 1-2 human losses per year and some injuries Partial damage to lifelines Damage to public / private property Specific impact on local economy Response from district level |
| Minor 0-24% | No human losses, but injuries incurred No damage to lifelines Minor damage to public / private property Limited damage to public / private property Some support from district level, but mainly VDC / community level response |

Measuring Likelihood (frequency)

In order to measure the likelihood of a risk, first it's important to differentiate between the chance of that risk actually happening. This is achieved by identifying the frequency of the event as shown the following relativity scale.

| | |
|-------------------------|---|
| Almost certain > 75% | Hazard occurs frequently (on average a yearly basis). |
| Likely 30-74% | Hazard will occur on multiple occasions over the course of a 10 years |
| Unlikely 0-29% | Hazard has not yet occurred, but may do in the coming years. . |

Hazard risk matrix

Complete the following table – Using F for female and M for Male perception of both livelihood and impact of hazards.

| | IMPACT | | | |
|----------------|--------|----------|-------|--------------|
| LIKELIHOOD | Minor | Moderate | Major | Catastrophic |
| Almost Certain | Box G | Box D | Box B | Box A |
| Likely | Box J | Box H | Box E | Box C |
| Unlikely | Box L | Box K | Box I | Box F |

Output Table

| Priority | Hazard Name – To Plan Against | Group |
|------------|----------------------------------|--------------------|
| Priority 1 | Name in Box A | (Ex. single women) |
| Priority 2 | Name in Box B | |
| Priority 2 | Name in Box C | |
| Priority 3 | Name in Box D or E or F | |
| Priority 3 | Name in Box D or E or F | |
| Priority 4 | Name in Box G or H or I | |
| Priority 5 | Name in Box J or K or L | |

Once the hazard risk matrix is completed use the **minimum standards for climate smart DRR** to ask the following questions to determine if any of the effects of these disasters are due to climate change¹:

- 1) Is this hazard increased by a change in weather patterns, has it increased over time?
- 2) Are we able to receive information about hazards affected by weather changes in advance of them happening?
- 3) Are there any reliable organizations which we can receive forecasts for the municipality from?

Where hazards in the risk matrix are identified as effected by climate change and changing weather patterns collect information in a chart like the below:

| Priority | Hazard | Group | Change in weather over time (Q1) | Can we receive information (Q2) | Organizations with forecasts (Q3) |
|----------|--------|-------|----------------------------------|---------------------------------|-----------------------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

The Team Leader Volunteer is to check over the information, and then the information will be added to the **Data Collection Excel File** under tab **'Tool 3: HAZARD RISK MATRIX**

¹ Questions are based on the minimum standards for climate smart DRR standards 1.1, 1.2, 1.3. Minimum standards 1.4-1.6 are included in the planning and analysis in Tool 8.

TOOL 4 SEMI STRUCTURED INTERVIEWS

OBJECTIVES

Considering natural hazards and the impacts on urban citizen, also to gauge citizen engagement and voice and perception of influences. Multiple semi structured interviews to be conducted to better understand (municipal and citizen relationship areas)

OUTPUT

To capture per interest group the vulnerability they face to disaster hazards, their capacity and the potential gaps. This includes further understanding of livelihood security and identification of collaborative partners.

TIME REQUIRED

Plan to have about 45-60 minutes to collect information from urban citizen individuals or groups (municipal and DC).

MATERIALS REQUIRED

Large board or large sheets of paper (A0), pens, long ruler.

TEAM REQUIRED

3-4 Volunteers

| Position | Person | Role |
|-------------|--------------------------|---|
| Facilitator | Team Leader Volunteer | <p>Introduce the meeting and the objective of the meeting and well as programme objectives.</p> <p>Facilitate and ask the semi-structured questions and probe for further information.</p> <p>At the end of the meeting let participants know the next steps and when you will engage with them after the assessment to share the information.</p> <p>Check the information collected by the note takers- make sure it is complete and readable. Check the attendance sheet to make sure all information is completed.</p> <p>Give the completed information to the SURE PMER Officer and answer any queries about the information.</p> |
| Note taker | 1 Volunteers | Take notes on the meeting, observe the group. Make sure all information is collected even if it does not seem relevant to the question |
| Helper | Volunteer | Take attendance sheet, make sure the attendance sheet is completed, including age and gender information |

STEPS

Preparation:

1. Confirm sampling number needed for interviews per group- **Focus groups discussions should be 10-15 persons**
2. Using list of vulnerable groups gathered in tool 1&2 **identify participants**. Method can include snowballing affect and 'going to the citizens' approach
3. Focus group discussions need to be segregated so there is single 'type' of participants eg. By gender, profession, age, disability, minority group.
4. Conduct interview using semi structured interview questions. Encourage participants to elaborate.

Use the questions in tab '**Guide for tools with groups**' found in the **Data Collection Excel File** according to what group you are discussing with. They are also noted below.

| Group or individual | Questions to Ask | Type of interview | Type of volunteer to Lead |
|--|---------------------|-------------------|---|
| Citizen groups (people with disability, elderly, landless people, Dalit, taxi drivers, ethnic minorities, students, women's groups) | Urban citizens | FGD or KII | Lead volunteer should be similar to group (Gender or ethnicity and language) |
| Municipal staff | Municipality | FGD or KII | Lead volunteer should be a senior volunteer |
| Local organizations (formal or informal), NGOs | Local organizations | FGD | Lead volunteers should be a senior Volunteers |
| Political parties | Political parties | FGD or KII | To be led by Program Staff of DC Leadership |

Questions

| | Key Hazards (day-to day concerns + disasters) | Underlying causes | Impacts including livelihoods | Ways of coping / preparedness | Response capacity | Further identifying vulnerable people (snow ball effect) | CEA strategy development | Further actions |
|--------------------------------|--|---|---|--|--|---|---|--|
| Urban Citizens | What hazards do you feel you are at risk to? Why? (Why do they feel at risk?) | Q2 Why do these hazards occur? | Q3: How do they impact you? Q4: Do these hazards impact other people? | Q5: Is anything being done to address these hazards? | Q6. In the most recent disaster, looking back, what would have been helpful in the time immediate after the disaster? | Q7: Who is the most vulnerable to disaster? Why? | Q8.who do you receive information from about disasters? Eg. Newspaper, TV, school, word of mouth (friends, family?) | |
| Municipal and Government Staff | Q1 what does the municipality's consider to be the key hazards affecting the citizens? | Q2: why do these occur? What are the root causes? Q3: What groups or parts of the city are most vulnerable to these concerns or hazards? | Q4: Is there anything being done to protect peoples livelihoods to these hazards? | Q5: How does the municipality assist people to manage these disasters? | Q6: What are the current skills and capacity in the municipality to deal with these hazards? Are there any policies or programme in place? Q7: What challenges does the municipality face in addressing these issues? | | Q9: how do you communicate about these hazards with communities? How do you hear back from them? | Q10: How could these issues is best addressed in the future? What do you see as the role of the red cross in assisting to address these? |

| | Key Hazards (day-to day concerns + disasters) | Underlying causes | Impacts including livelihoods | Ways of coping / preparedness | Response capacity | Further identifying vulnerable people (snow ball effect) | CEA strategy development | Further actions |
|-------------------|--|--|---|--|---|---|---|--|
| Organizations | What hazards are you addressing in the area? | What do you feel is the main cause of these hazards? | How are people being affected by these hazards? | | What disaster preparedness / response activities is your organization supporting? | Do you target any vulnerable groups in the area? | Do you coordinate with other organisations / Government to implement your activities? | Is anything else needed? |
| Political Parties | Q1: What are the major hazards faced in the area? | | | Q3: How do you assist people manage these hazards? | | Q5: Are there any vulnerable groups that need support? | Q6: How has your party been involved in addressing hazards in the past? | Q7: What are your future plans to address these hazards? What do you see as the role of the Red Cross? |

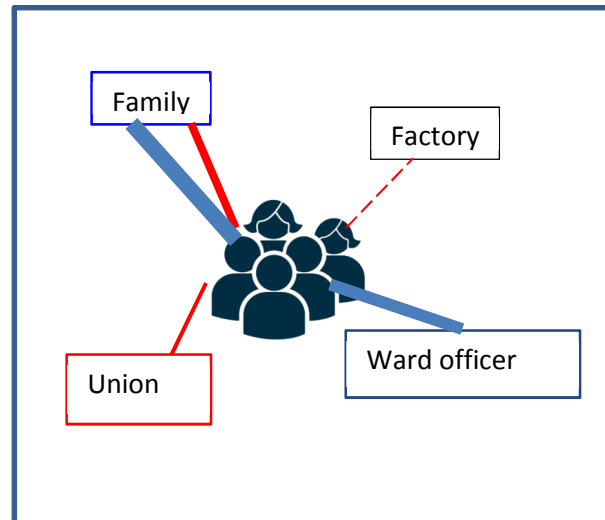
Questions should be kept to 4-8 questions per interview, interviews can be done, in small groups or with individuals based on their role as a citizen or official.

Note that data collection in the excel spread sheet provided needs to be disaggregated by gender, disability and age

TOOL 5 SOCIAL NETWORK AND INSTITUTIONAL ANALYSIS

Objectives

To understand the social networks of individuals and institutions by examining the frequency and importance of the tool looks to examine the importance individuals and institution place on stakeholders and the corresponding frequency of interaction both 'regular' week v post disaster.



This tool is to be implemented in a small group after the semi structured interview with a larger group concludes. The 'sub group' should be on more than 5 people.

Output

It will highlight the social and institutional networks active in municipalities and vulnerable groups and how these vary between 'normal' time and post disaster.

TIME REQUIRED

Plan to have about 30 minutes to collect information from participants and 30 minutes to combine and analyse information by the facilitators.

MATERIALS REQUIRED

Multiple sheets of paper, and pens (at least three colours)

TEAM REQUIRED

2 Volunteers, which are similar to the group in gender, age, caste, and language.

| Position | Person | Role |
|-----------------------|-----------|--|
| Facilitator | Volunteer | Introduce the activity, know the activity very well, and explain the exercise. |
| Note taker/ Drawer | Volunteer | Draw out the social map as participants give information. |

Activity

Explain to **participants (3-5 people)** that the exercise is to show who they interact with and how important those ties are to them on a daily basis versus post a disaster.

STEP 1 - Everyday day interactions

- Draw their group in the middle of a piece of paper

STEP 2-Importance ranking

Ask participants to

- Write down around the groups what individuals, groups (formal or informal), organizations or officials which they interact with.
- Then ask 'who are the most important groups or individuals you interact with on a daily basis'?
 - High importance – red pen
 - Medium importance – blue pen
 - Low importance - black pen
- Ask participants to articulate why they noted that the person / group was highly important to them.

STEP 3- Frequency ranking

Ask participants to

- Draw a line between the groups
 - Thick line for most interaction between 1-3 days.
 - Thin line for interaction between 4-10 days
 - Dotted line for those that they only interact with every 11-30 days.

STEP 4- Proximity ranking

Ask participants to

- Mark a number next to the line to highlight the proximity of the group to them (ie. Estimating the amount of travel needed)
 - 1= within municipality.
 - 2 = within district
 - 3 = within country
 - 4 = outside the country

STEP 5 – During / post disaster

- Draw their group in the middle of a piece of paper

STEP 6-Importance ranking

Ask participants to

- Write down around the groups what individuals, groups (formal or informal), organizations or officials which they interact with after a disaster. Note any additions or deletions from the first chart.
- Then ask 'who are the most important groups or individuals you interact after a disaster'?
 - High importance – red pen
 - Medium importance – blue pen
 - Low importance - black pen
- Ask participants to articulate why they noted that the person / group was highly important to them.

STEP 7- Frequency ranking

Ask participants to

- Draw a line between the groups
 - Thick line for most interaction between 1-3 days.
 - Thin line for interaction between 4-10 days

- Dotted line for those that they only interact with every 11-30 days.

STEP 8- Proximity ranking

Ask participants to

- Mark a number next to the line to highlight the proximity of the group to them (ie. Estimating the amount of travel needed)
 - 1 = within municipality.
 - 2 = within district
 - 3 = within country

Once the groups have completed the exercise, have 1-2 groups present their picture.

Record information

At the end of the exercise, take the pictures from the participants and take a photograph of the paper. The Team Leader Volunteer is to check over the information and make sure it is full. Then the information can be given to the PMER Officer and will be put into the **Data Collection Excel File**, tab '**Tool 6: Social Analysis**'.

Ranking networks

Give a number to the lines used to illustrate the strength of connection.

- thickest lines with a '3'
- thin lines '2'
- the dotted lines '1'

Output table

| | | Everyday life "normal" | | | | |
|-------------------------------|--------|---|--|---|--|--|
| Group | | Stakeholders identified | Importance ranking | | Frequency ranking | Physical distance |
| (what is drawn in the middle) | Gender | | High, medium, low (shown by 3 nominated colours) | Explanation of 'high' level of importance | 3 = Thick lines. Most interaction (between 1-3 days). 2 = Thin lines (4-10 days). 1= Dotted line (11-30 days). | 1 = within the ward. 2 = within the municipality 3 = within the district 4 = outside the district. |
| Example: construction workers | M / F | Eg. Family. | | | | |
| | | Eg. Shops | | | | |
| | | Eg. Bank, security, facilities, pharmacy, hospital, | | | | |

Note. The excel version of this table includes columns for municipality, ward, disaggregation by age and then pre and post disaster columns.

TOOL 6 24 HOUR CLOCK (MOBILITY MAPPING OF GROUPS)

Objective

To analyse urban citizens mobility/tasks at different places during day and night time, keying in on differences in gender groups and issues of safety.

This tool is to be implemented in a small group after the semi structured interview with a larger group concludes. The 'sub group' should be on more than 5 people.

Output: mobility mapping of individuals and urban citizens groups, key analysis to be done to show movement patterns across municipalities and districts and to and from urban centres, key areas of gathering, the amount of each day spent on different tasks (work at the home, traveling between destinations, time spent on livelihoods, as well as differences in daily movement between males and females.

TIME REQUIRED: 30 Minutes

MATERIAL

Brown paper, markers, different colour signature pen and white paper, computer.

REQUIRED:

TEAM REQUIRED

| Position | Person | Role |
|-----------------------|-----------|--|
| Facilitator | Volunteer | Introduce the activity, know the activity very well, and explain the exercise. |
| Note taker/ Drawer | Volunteer | Draw out the social map as participants give information. |

Preparation

The facilitator need to take following preparation:

- Gain idea on of different groups of mobility
- The venue should be suggested by the participants
- Invite the participants at least 2 days before
- Prepare all material and carry them to the venue before the participants arrive

Activity

Facilitator informs the urban citizens about mobility mapping and its objective is to capture the dwellers' mobility for different groups to understand the locality and movement throughout the urban area.

Note: it is important to set the scene for the urban citizens, let them know a day of the week you want them to work with (likely a working day), ensure that they start the clock when they wake up (this will be different for different groups) and complete the clock 24 hours later.

Facilitator then divides the participants into different groups-gender group, children, merchants/professional group, labour etc. to conduct the mobility mapping exercise.

Facilitator then request participants to fill the clock given based on day and night time. Around circle that represents a clock is a great tool, make sure every hour is listed.

Facilitators would try to get answers from participants in case of people are 'at home' what are they doing? Are they collecting water, cooking food, buying wood, prayer time etc.? If people are at work, when are they leaving, when do they return to the community, what are the daily duties they take part if or social events (ex. Man meet at tea shop after work etc.)

Each group can then present their 24hour clock/ mobility map. Once groups have completed their map, ask key questions:

- 1) *At what points during the 24 hours' time period do you feel the least safe, what do you feel impedes your safety, mark this on the clock*
- 2) *What parts of the day are most important for your livelihood? How does this change throughout the year?*
- 3) *Are there points of the day where you are available for social activities, mark this on the clock*

There is no need to come to consensus as each group will have very different use of their time and mobility throughout the day.

Once the activity is complete the Team Leader Volunteer is to check over the information, and verify it is complete. The data will then be put into the **Data Collection Excel File (see following table)** by the staff team. Information is to be added into tab '**Tool 6: 24 hour's clock**'

Output table

| Tool - 24 hour clock analysis | | | | | | |
|--------------------------------------|------------------|------------------------|----------------------|--|--|--|
| S/N | 2 | | | | | |
| Location | | | | | | |
| Ward | | | | | | |
| Group: | | | | | | |
| Gender | | | Age | | | |
| M | F | | 0-5 | 6to15 | 16to59 | more than 60 |
| | | | | | | |
| | | | | | | |
| Hour | Activity | Travelling from | Travelling to | Travel time | Mode of travel | Distance |
| | | | | 1 = less than 30minutes. 2 = 30-60 minutes. 3 = 1-2 hours. 4 = more than 2 hours | Eg. Public transport, Motorbike, walking, school bus | 1= within ward, 2= Within Municipality, 3= within District, 4= out of district |
| Example | Travel to office | Tarkeshwor -19 | KTM metro -13 | 2 | motorbike | 3 |
| 1.00 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |

TOOL 7 HAZARD MAPPING

Objectives

To have a general overview of the hazard which citizens are aware of in the municipality, and community perception of hazards and risks to share with the Municipality through Open Street Mapping

This tool is to be implemented as on- going process throughout a programme, starting with the assessment phase, although regular data collection and updates through OSM should continue. This allows the programme to show trends and further analyse hazard perceptions.

Output

| |
|---|
| Open Street Map data layer on citizen's perceptions of hazards. |
|---|

TIME REQUIRED

Multiple updates, at least a half day for the first data collection

MATERIALS REQUIRED

- Smart phones with OSM downloaded as an app
- Printed map of area (optional for referencing)
- Laptop with access to internet (not necessary for in the field but for uploading information)

TEAM REQUIRED

| Position | Person | Role |
|---------------------------|-----------|---|
| Facilitator | Volunteer | Introduce the activity, and run through the process for collecting information via smart phones. With community members |
| Organizer/ focal point | Volunteer | Be available by phone for tech support to groups as well as checking in with mapping pairs |

Steps

Preparation

For the on-going OSM there are a number of preparation steps which need to be undertaken.

Part A: Software and Hardware

- 1) Preparing the Smart phones
 - Down load OSM tracker to the Smart phone (either your organization or individuals phones)- This can be done through an App Store
- 2) OSM Account
 - Go to <http://openstreetmap.org>
 - Sign-up for an account (follow instructions on website)
 - Confirm Email

- Sign-in to <http://openstreetmap.org> to make sure your account is valid and working.
- 3) Now as you have an account and the app downloaded, test the software and ensure you can collect data points in both online and offline status

Part B: organizing for volunteer data collection

- 1) Decide on area of town which you will map through OSM, or if you will have volunteers and citizens map the areas they know best
- 2) Print a paper version of the area to map for reference
- 3) Ensure all phone are charged and the OSM app is working
- 4) Ensure volunteers and community members are safe and secure as they walk through the municipality to do OSM.- it may be necessary to have visibility gear for mappers

Collecting the data

With the small group of volunteers and citizens, go over the area which is to be mapped, and hand out Smart phone devices and a paper copy of the map to pairs.

Run through the use of the app with the group; ensure they are aware of how to store the data, what type of point information to collect, as well as a number to call if they are having any issues. Also ensure all mappers are aware of the meeting point and time line in which they will be mapping- this is crucial so you can retrieve the Smart phones but also so no pair of mappers goes too far as cannot make it back to the agreed meeting point.

Have each pair practise geo tagging the location which you have met at. Ask the pairs to geocode the location, and name it 'starting point'. Once the pairs have done so, the facilitator is to check each pair and see if it is done correctly.

Once the pairs are comfortable with the smart phones, let them collect data by walking through the municipality and geo-coding hazards. The following list is the suggested hazards to collect information on:

- a. Areas with poor lights
- b. Areas of open drains
- c. Areas which flood
- d. Areas where agriculture land (might be possible in some peri-urban areas) is effected by climate change
- e. Areas of landslides
- f. Areas where roads are dangerous (car accidents)
- g. Areas where structures are not stable
- h. Areas where crime occurs
- i. Areas prone to fire
- j. Areas where large amount of solid waste accumulate

Once the pairs are finished and everyone has arrived safely to the meeting point, ask the volunteers and citizens:

- How did the mapping go, was there any issues?
- How there anything unexpected or any areas we should re- visit?

Note down any issues or areas which need to be revisited.

Collect the smart phones and share with the GIS team to upload information. to open street maps online.

This tool is not a onetime activity, but information should be collected throughout a programme to show trends.

Information from this tool is not added to the **Data Collection Excel File**, but is kept in **GIS**.

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TOOL 8 PLANNING FOR DISASTER URBAN RESILIENCE

****This tool is to be used AFTER the information from the tools above is collected and analysed through the UA report. This tool ‘Planning for Resilience’ is a tool to validate the information in the report with the municipality and citizens. Along with validating information, it is also a tool to engage the municipality and citizen on ways to build resilience in their areas.**

Objectives

Use information from the UA report, to determine what risks and issues the group perceives they can **change, influence** and **accept**.

For those risks and hazards that the municipality and/ or citizens determine as being able to be **change**, actions should be included on how to change this as part of an action plan.

If there are areas which are determined as areas of **influence, this should be discussed as part of an advocacy strategy to advocate to those who can make changes** to reduce risks or hazards.

Where it is determined by the municipality and citizens that the hazard or risk needs to be **accepted (not changeable), then community engagement activities should be added**, in order to raise awareness of this risk or hazard, this should become part of the **Urban Engagement and Accountability Strategy**

Output

Identified actions and points of influence or mitigation that can reduced risks and build resilience in the municipality.

TIME REQUIRED

About 90 minutes. This tool will need to be used with key individuals from the municipality, as well as selected individuals from the focus group discussions. This can happen as one meeting together if appropriate, or two separate meetings, one with the municipal staff, and authorities, and one with citizen representatives.

TEAM REQUIRED

| Position | Person | Role |
|--------------------|--|--|
| Facilitator | District Chapter Leadership or SURE Programme Team | Present the UA findings from the report using the provided template. Facilitate group discussion and answer questions on the report Explain that from the report finding we will know look at how we can address the concerns. |
| Note taker/ Drawer | Volunteer | Draw out the chart below, while facilitator goes through the presentation of UA result, write down the main issues (this can be done in advance as well) Write down the ideas of the group to address the issues presented. |

MATERIALS REQUIRED

Presentation of UA results and print outs of the UA report

Board, A0 paper, pens, ruler.

Activities

1. As part of the validation process with municipalities and urban citizens, use the **template for UA Reporting**, provided by the consultant which assisted in analysing the UA information.
2. Review the information in the UA report, present the main issues which have been summarized
3. Ask participants what influence they have over changing each individual cause of the risk.

Key questions to ask include:

1. *What can we do to change the causes of these issues? What actions can we take?*²
2. *What issues do we have influence over? How can we best advocate for these issues and to whom?*³
3. *What issues will continue and we need to accept? Are there any mitigation measures which might make us safer?*

In the chart below capture the issues and if the group feels they *can Change/ Influence/ Accept* the issue or risk.

- **Change (C)** = **action** can be taken by citizens or municipality
 - **Influence (I)** = issues that complicated and need to be **advocate** for.
 - **Accept (A)** = will never go away but possibly can be mitigated or we can engage communities and increase awareness- this can be the basis for issues and hazards to include in the **urban engagement and accountability strategy** (eg. Heavy rains during monsoon)
4. Identify possible action or advocacy that can be taken to reduce / mitigate the risk, as well as who in the municipality will benefit.
 5. Identify the possible length of time require to complete the action or advocacy
 - Long term = more than 5 years.
 - Medium term = 1-5 years.
 - Short term = less than 1 year.
 6. Identify stakeholders and citizens who can **support this action** or who can use their **voice and influence to advocate** or **areas for an awareness and engagement**.

This information will allow us to plan potential supportive activities, once can see what activities we can support within our own time frame, resources and capacities.

*Duration of action required = timeline. Long term = more than 5 years. Medium term = 1-5 years. Short term = less than 1 year.

² Minimum Standard of Climate Smart DRR 1.4, 1.5

³ Minimum Standard for Climate Smart DRR 1.6

| Issues identified through UA report | Cause | Change/ Influence/ Accept* | Possible actions | Who will benefit? | Duration of action required (L/M/S*) | stakeholders to support |
|--|---|----------------------------|--|-------------------|--------------------------------------|-------------------------|
| EXAMPLE 1: flooding in low lying areas | EAM- Garbage and rubble collects in drain | Change | Citizen group clean ups and awareness campaign | | | |
| | SOA- there is no organization to remove garbage or rubble | Influence | Engaged citizen to discuss with municipality as part of municipal services | | | |