

## Guidance Sheets

# FOR USE OF PRA TOOLS & FIELD SURVEY

Prepared by:

Dr. Nguyen Duy Can  
Cantho University, Vietnam

In collaboration with:

Dr. Seak Sophat, Royal University of Phnom Penh  
Mr. Sok Khom, Cambodian National Mekong Committee

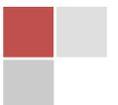


Sustainable Mekong  
Research Network



CNMC  
Cambodian National  
Mekong Committee

JUNE 2011



## GUIDANCE SHEETS FOR USE OF PRA TOOLS & FIELD SURVEY

*This is only draft ideas about tools to be used for gathering information and sharing experiences among researchers within the framework of the Project “Vulnerability assessment of livelihoods in Lower Mekong Basin: Adaptation options for enhancing capacity of people living in the most vulnerable flood-prone areas in Cambodia and Vietnam”. The Project team may create more information needs and depend on the circumstances at the study sites, then you may adjust it to fit with the real situation.*

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# I. GUIDANCE FOR USE OF PRA TOOLS

## 1. Inception Workshop

### 1.1 A checklist

The below is a checklist to guide the Team to work with related institutions for gathering information during the reconnaissance survey (before holding inception workshop):

- Name of stakeholders involved in CSFC/CDM at provincial/district levels
- Their roles, interests and activities regarding flood management
- Agro-ecosystem (zones with focus on flood prone areas)
- Topography
- Hydrology and flood regimes
- Historical patterns of floods
- Areas most vulnerable to floods
- Social groups/households most vulnerable to floods
- Which districts are suggested for study sites
- Which villages/communities are suggested for survey

### 1.2 Guide for meetings/inception workshop

- Introduce the purpose of meeting/workshop (funder, collaborating organizations)
- Introduce Project objectives, activities, expected outputs
- Stakeholders analysis (see guideline on other page)
- Suggestion of study sites for survey (based on agro-ecosystem and flood vulnerability information gathering from reconnaissance survey)
- Plan for in-depth interview of main stakeholders at provincial/district/commune levels

## 2. PRA Tools and Field Survey

### 2.1 Guide for agro-ecosystem analysis

#### Agro-ecological map

- Prepare a base map of the village area (needs some important landscape features, like rivers and hills; infrastructure like houses, roads, irrigation canals, dykes/levees, pumping stations; border of village)
- Elicit local perceptions of agro-ecological niches (Common agroecological niches like cropland, watercourses, topography, wetlands can provide a place to start. Exploring places of interest should include common property and access resources)
- Determine boundaries of each agroecological niche (based on above information)
- Share the agroecosystem map with others for their views and input, so as to verify its accuracy

#### Social map (alternative)

- Prepare a base map of the village area (needs some important landscape features, like rivers and hills; infrastructure like houses, roads, irrigation canals, dykes/levees, pumping stations; border of village)
- Elicit local perceptions of social groupings (people in rural villages might also distinguish differences between themselves due to wealth or kind of work they do. In our case, we may explore differences between groups due to vulnerability to flood, or due to differences in wealth, access to key resources, institutions and networks)
- Determine boundaries of houses and resources controlled by each group
- Share the social map with others for their views and input, so as to verify its accuracy

### Guide for Transect Walk

- Clarifying soil types and water resources
  - The agroecosystem transect is best used after mapping exercise as it is primarily a tool for capturing and sharing the large amount of information elicited during the mapping exercises. You will certainly have more information than can be clearly mapped.
  - Visit each agroecological niche and confirm its local name and characteristics.
  - Ask questions about the soil types within the niche and what they are called.
  - Ask about the water resources not forgetting to check there seasonality.
- Generating list of species used:
  - Crops
  - Animals
  - Vegetables
  - Trees
  - Forages
- Sketching topographical cross sections
- Constructing the transect matrix, including a row on "Flood features and impacts". The impact can be "positive" and "negative" and all these ideas would be recorded in the row. The guidance for this point might be that the facilitator asks participants to "think of all the things that benefit from flood". The facilitator may probe more about "ecosystem service" (e.g. enrich soils, more aquatic resources, diversity of production systems, etc.).
- Sharing the transect (The accuracy of the transect is checked by sharing the diagram with others in the community).

## 2.2 Guide for Local Histories/ Timelines Analysis

This technique taps informants' memories, to recall important histories events which have taken place in the area. This can be extremely important in highlighting some of the causes of certain problems or how changes have occurred. Informants are often the older members (both men and women) of the community. Checklist for local histories can be:

- Major flood events, damages, how the local people coped with the flood over time, key changes in flood patterns
- Other disasters and how the local people coped with them over time
- Changes in arrival time of floods
- Migration, or temporary migration to avoid flood?

- Changes in farming practices over time - introduction of irrigation, double/triple cropping?
- Using new varieties, crops, plants, animals
- Infrastructure and services (local schools, medical clinics, markets)
- Development of canals, dikes
- Introduction of safety house, safety place project in flood zones (e.g. in Vietnam, Government has big program on flood protected residential clusters)
- Changes in land ownership
- Changes in administration/organization of village over time
- Major events of political or policy changes
- Social activities during the flood season

### 2.3 Guide for Trendlines Analysis

This technique shows quantitative changes over time in different aspects of village life such as yields of crops, the level of serious of flood over time, area of cultivation, livestock/ fish population, rainfall, level of water depth, etc. In case of our study, we may focus on:

- Level of serious floods (very serious, serious, not serious) (e.g. in certain of serious floods: 2000, 2001, 2005, and future; or in the past, recent and future)
- Levels of damages from floods (very serious, serious, not serious) (e.g. in certain of serious floods: 2000, 2001, 2005, and future; or in the past, recent and future)
- Increasing water depth (very deep, deep, not deep) during flood season over time (past, recent, future)
- Production of fish captured (high, medium, low) during flood season (past, recent, future)
- Income generation activities (many, average, less) during flood season over time (past, recent, future)

The important of this exercise is to know the reason why it is changed, and how people adapt to these changes. The facilitator can ask questions why it was serious? or why it was high? or why it was low?, ... A team member will record all ideas from discussions.

### 2.4 Guide for Pie Charts (Chapatti Diagrams)

Can use proportional piling as alternative. This technique also show quantitative changes over time of people life, e.g. sources of incomes.

- Elicit local perceptions of sources of incomes, then the facilitator can list all ideas of participants regarding incomes sources on large flip-chart paper
- Ask participants what proportion of each income source that contributes to total income
- This exercise can be done for a certain of flood events , e.g. before flood, during flood and after flood

### 2.5 Guide for Seasonal Calendars

Seasonal calendars are simply extended versions of crop calendars, which have long been used in farming systems research. All the major changes that occur within the rural year are presented, including those concerned with climate, cropping patterns, livestock, labor

and food demand. Different aspects of rural life can be reflected through seasonal diagramming. In our case, checklist for seasonal calendars can be including:

- Rainfall and drinking water availability
- Flood start and end
- Flood serious and warning
- Fishing (catching fish from nature)
- Cropping patterns
- Pests/diseases on crops
- Livestock raising
- Fish raising
- Off-farm/ non-farm income opportunities (especially during flooding season)
- Receive relief
- Cash flows
- Food availability
- Illness
- ...

## 2.6 Guide to do Venn diagrams

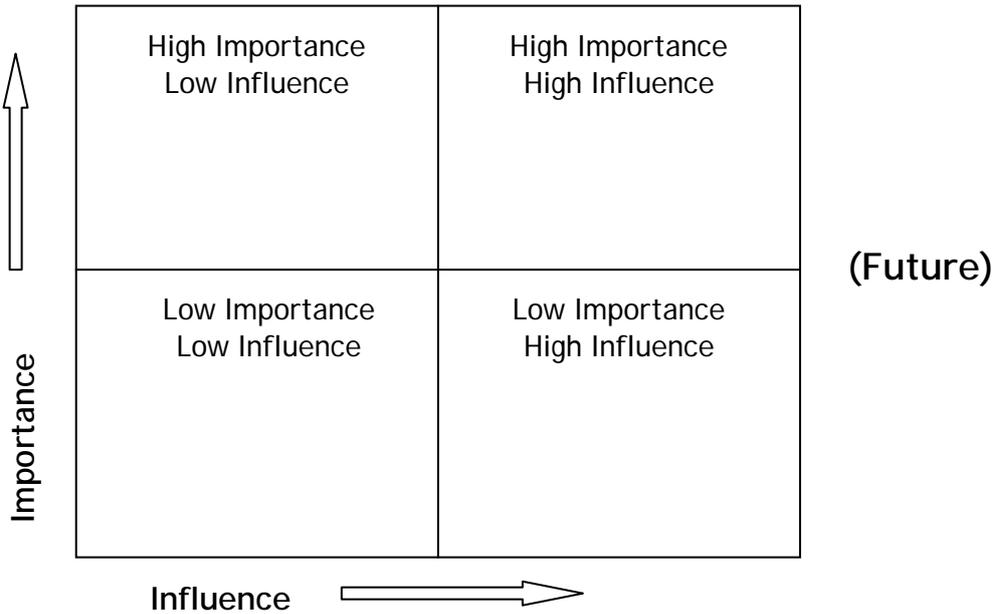
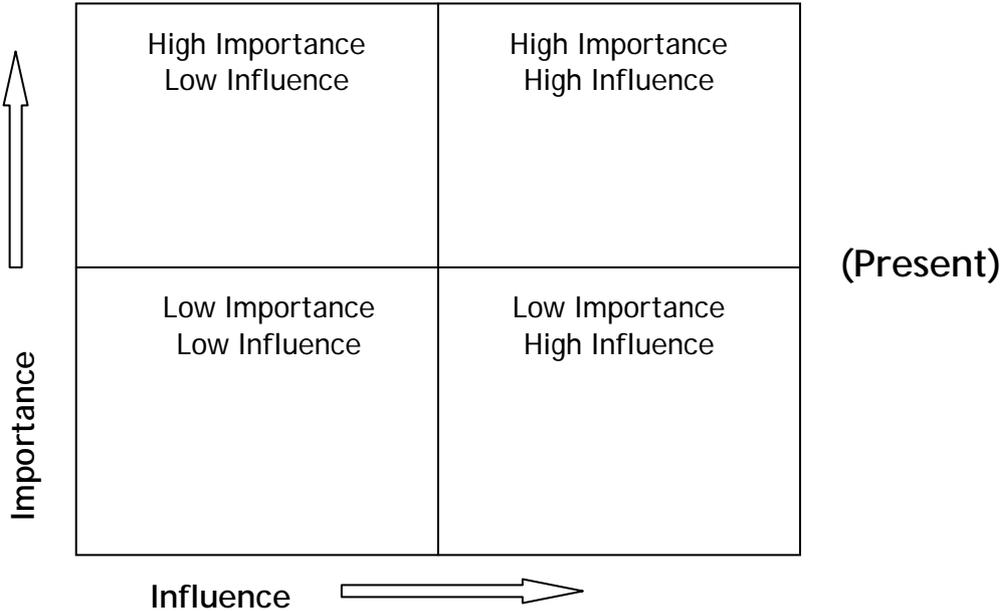
Social linkages or institutional relationships can be mapped out by means of Venn diagrams, which show the interactions and social organization within a community, or a community's links to outside institutions, as set of overlapping circles. Venn diagrams are not meant to provide for a precise "road map" of the community's institutional network. The goal of the institutional exercise, in this case, is for understanding the roles of local organizations and the perceptions people have about them, and for local people to become more aware of the roles that local institutions play in community development, particularly in terms of coping with and recovering from floods.

Steps:

- Participants are asked which organizations/ individual they interact with regularly, regarding preparations for, coping with and recovering from floods
- Participants are asked to select circles (circles are prepared in advance with different sizes) representing various organizations
- The circle size is to be proportionate to the importance they attach to each organization (i.e. the bigger the circle, the more important is the organization/ institution to them)
- Once overall agreement on this is reached amongst the group a circle (different color paper can be used) is made on the large size paper representing their community.
- Then participants are asked to place the circles in or near the circle of community. The closer to the "community circle" the circles are placed the more the relationship/ or more the influence the organization has.
- The facilitator should ask questions each time the group makes key decisions, such as: *why is that organization important, not important? How does that organization have influence?* Etc. Another person will record the discussion.

An alternative to the Venn diagram is the "Stakeholder influence & importance matrix". In this exercise participants are asked to place the relative position of organization/ individuals (use stick-on paper and written down name of selected organization) in a

matrix of high and low *Importance* and *Influence*. Figure below illustrates the "Stakeholder influence & importance matrix".



Note: Importance is distinct from influence as:

- *Importance means:* the stakeholder objectives/ interests converge most closely with the intervention's objectives (this issue)
- *Influence means:* the stakeholder is able to persuade or coerce others into decision making and/or implementation of action.

## 2.7 Guide for Conducting SWOT matrices

SWOT stands for Strengths, Weaknesses, Opportunities and Threats. We can consider that strengths and weaknesses are attributes of oneself or one's household - in essence one assets. However opportunities and threats are externalities - the context in which livelihoods are made - in essence the vulnerability context and policies, institutions and processes that affect livelihoods (J.Barr et al., 2000).

This exercise is NOT a standard part of PRA methodology, though it is very common in business management. The common approach is, within a group discussion, to ask the participants to brain-storm all the things that affect the livelihoods. These ideas would then be laid out in a SWOT matrix, with a facilitator asking participants where they though each particular concept should be put in the matrix:

<b>Strengths</b>	<b>Weaknesses</b>
<b>Opportunities</b>	<b>Threats</b>

This approach will be employed in our project. If some of the stakeholder groups are large (>10 or 12 people), then they can be sub-divided into smaller "buzz-groups" for brain-storming. Brain-storming ideas can be recorded on a flip-chart. The guidance for start this exercise might be that the facilitator asks participants to "think of all the things that affect the lives and the way they make a living, either in a good or a bad way".

After the brain-storming, the facilitator would then help people allocate their ideas to the four boxes. To help them, the four boxes can be explained as:

- Strengths:** All positive or beneficial resources and skills that you and your family can draw on to make a good living and/or living with flood.
- Weaknesses:** All the resources and skills that you and your family are lacking in order to make a good living and/or living with flood.
- Opportunities:** All those things outside your own control which could be taken advantage of to improve your household's well being and/or living with flood.
- Threats:** All those things outside your own control which prevent your household from making a good living or reduce its well being and/or living with flood.

For example, the type of ideas we may have that might be mentioned by our participants are below (these may not all be from one person or group - hence some inconsistencies). This is just example, it should not be used as a guide.

<b>Strengths</b>	Concrete house Member of farmer association Skill in fishing Have 2 ha of rice land Have big boat Son works in City
<b>Weaknesses</b>	Lack of knowledge on growing 2nd rice crop Lack of cash to build dikes Land too small No boat
<b>Opportunities</b>	Low interest bank loans  Policies on disaster management High price of rice
<b>Threats</b>	Low prices of rice Early onset of floods Government policy to build dams Illness in the family

The belows are some ideas for a general SWOT checklist:

**Strengths:** Have good education  
Skilled & knowledgeable  
Healthy, many labours  
Membership of groups & associations  
Good social networks  
Strong family & kin networks  
Have good house  
Have land/tenure  
Have trees/ have many aquatic resources  
Have boat  
Have good electricity & water supplies  
Own agricultural & fishing equipment  
Wealthy - good income  
Relative send remittances  
Have savings in bank

**Weaknesses:** Lack of the above

**Opportunity:** High levels of biodiversity  
Good stocks of wild resources  
Area is not serious flood prone  
Good transport infrastructure  
Local traders  
Good support organisations (Govt. & NGOs) regarding adaptation to flood

**Threats:** As well as the converse of the 'opportunities' situation (e.g. area is serious flood prone),  
Reduction in environmental quality  
Declining commodity prices  
Declining yields  
Occurrence of cyclones & storms  
Crop & fish epidemics  
Lack of markets

## **2.8 Guide for Identifying Household Coping Characteristics Exercise**

This exercise aims to identify the coping characteristics of households. In a small group you explain the aim of the exercise and then list the three categories of households that 'cope well', 'just cope' or 'don't cope well' with floods. Through a discussion the group identifies different human, social, financial, physical, or environmental features of the household that might determine whether they cope with floods or not. Important to not only identify features (e.g., house location, number of children) but also what things people do (strategies), such as: savings, fishing, temporary migration, relationships with others, etc.

Then the facilitator can ask questions about the list to get a sense of how many people in the village fall into each category, where they are located, and whether the number in each group is increasing or decreasing, and why?

## **2.9 Guide for "Building Scenario" Exercise**

This exercise wants to know how things will be changed in the next 20 or 50 years as climate change, then for each of those scenarios what need to change. Scenario building exercise with key stakeholders at community level will be applied to generate future scenarios and back casting exercise will be done as to understand how that impacts community livelihoods.

In a small group you explain the aim of the exercise and then list things will be changed in the next 20 years. In corresponding with thing of change, ask participants what need to change to adapt to this change (strategies). The same procedure will be applied for scenario in the next 50 years, and this exercise can be worked with three different social groups (rich, medium and poor).

## **2.10 Semi-structured interviews (SSIs)**

The SSIs are intended to supply the answer to the question "why?". The PRA tools are essentially descriptive. The SSIs provide an opportunity to probe more deeply about the reasons behind different situations and observed phenomena. This type of probing is likely to happen as matter of course, for example in constructing the timelines and calendar charts with the participants. Explanations should be recorded by the researchers during the PRA. However this activity involves having discussions with one or two of the participants in the group-work, who seem best informed. Having completed the PRA tools, probably on the second day of the exercise, the researchers can do the interviews on the third day of the exercise, after they have had time to study the outputs from the PRA, and identify the areas about which more questions need to be asked.

## 2.11 Guide for Open Questionnaires (in-depth interview)

Open questionnaire for in-depth interviewing is usually based on small sample sizes. Convenience sampling refers to the sampling of subjects for reasons of convenience. In-depth interview is a good method and is applied in different fields. It is used to collect and to probe more information or help interviewers reach their objectives. In practical, it is used flexibly, and depends on each field. Also, the interviewee has more opportunity in an in-depth interview to share detailed and related information, while in a survey where there are more limited and closed-questions.

### Checklists for interviewing of CSFC/CDM provincial/district levels:

- Which institutions are members of and collaborate with CSFC/CDM ?
- What is frameworks/ structure of organization?
- What activities of CSFC/CDM at different times during the year (flood cycle, flood event)?
- What roles of members of CSFC/CDM regarding preparing for, coping with and recovering from floods?
- Are there any coordination activities and links to other organizations?
- What relevant and recent policies, decrees, regulations?
- What are the planning for, coping with and recovering from floods (before, during, after)?
- How do they plan?
- How do they implement their plans and monitoring? What constraints do they encounter?
- How do they send messages to communities in urgent cases? How do they ensure they reach the poorest, most vulnerable in communities?
- What support do they provide communities (e.g. equipments, trainings, reliefs)?
- Are there any ongoing or recent studies or projects/programs related to coping with floods?
  - If any: what is topic? Place? Target group?
  - What results? What negative or positive impacts?
  - what does it need to improve?
  - what are experience was gained during working with these projects?
- What lessons were learnt?
- To enhance the CSFC/CDM to work more effectively, what are your suggestions/ ideas?
- What are the present plans/ strategies in coping with flood and improving people's livelihood?
- What are the future plans/ strategies for coping with flood and improving people's livelihood?

### Checklists for households interviewing/ social groups:

#### *a) To investigate livelihood asset:*

Natural capital:

- What change has there been in land ownership of household (1990, 2000, 2010)
- What change has there been in total size of land holding (1990, 2000, 2010)

- What change has there been in cropping patterns, rice production, non-rice production, aquaculture, capture fisheries and seasonality (1990, 2000, 2010)
- What change has there been in land ownership of household (1990, 2000, 2010)

Human capital:

- What change has there been in labors available of household (90, 00, 10)
- What is age of household head, main occupation, farming experiences

Physical capital:

- What change has there been in accessing to means of life (TV, radio, boat, motobyke, type of house, safer place) (90, 00, 10)
- What change has there been in accessing to production equipments (pump, tractor, sprayer, thresher,...) (90, 00, 10)

Social capital:

- What change has there been in networking of household (member of any organizations, trust,...) (90, 00, 10)

Financial capital:

- What change has there been in total net household (HH) incomes (90, 00, 10)
- What change has there been in source of incomes, including non-farm activities (90, 00, 10)
- What contribution of each source to total HH income (recent only, not in the past)

***b) To investigate the vulnerability and coping capacity:***

Vulnerability:

- What year/period of serious flood (big flood), normal flood and non-flood in the areas?
- What impacts of flood on HH and their assets (serious flood, normal flood and non-flood)
- Housing conditions and impact of flood on housing (serious flood, normal flood and non-flood)
- Direct loss of possession by flood (serious flood, normal flood and non-flood)
- What impacts (damages) of flood to crops (serious flood, normal flood and non-flood)
- Income and sources of income before, during and after flood (only apply for normal flood)
- Activities and occupation of household members before, during and after flood (only apply for normal flood)
- Place of house and location of place of work before, during and after flood (only apply for normal flood)
- What negative or positive impacts of the dams that built on upper-stream, if any, are you aware of?
- What negative or positive impacts of the dykes to prevent flood, if any, are you aware of?
- If negative impacts - what mitigation measures have been taken since the dykes/dams constructed?

#### Coping capacity:

- How did District/Village/Commune (Hamlet) officials inform HH about the implementation (preparedness) of flood protection?
- How did District/Village/Hamlet officials inform HH about the predicted impacts of the flood?
- What are social network at local to cope with the flood situation?
- What are knowledge/experiences that local people know to cope with the flood situation?
- What training, if any, was given to HH to cope with the flood situations?
- What sources of information and media that HH access to information (e.g. radio, TV, local speaker)?
- Has any extra resource or special allowance or loan been given to the HH affected by the flood, to help them cope with the damages?
- What are your suggestions/ ideas to be proposed to enhance the organisation and CSFC/CDM to work more effectively,
- What are the present plans/ strategies in coping with flood and improving people's livelihood?
- What are the future plans/ strategies for coping with flood and improving people's livelihood?

#### Intervention tools:

- Has any programs for relocation of housing and infrastructure to higher place (e.g. in Vietnam has a program on "Flood protected residential clusters")?
- Has any program of "Early warning systems" for flood control?
- What are insurance preparedness/preparedness activities was helped local people to cope with the flood situations?
- Migration/ temporary or permanent to safety zone
- etc...

## II. APPENDICES

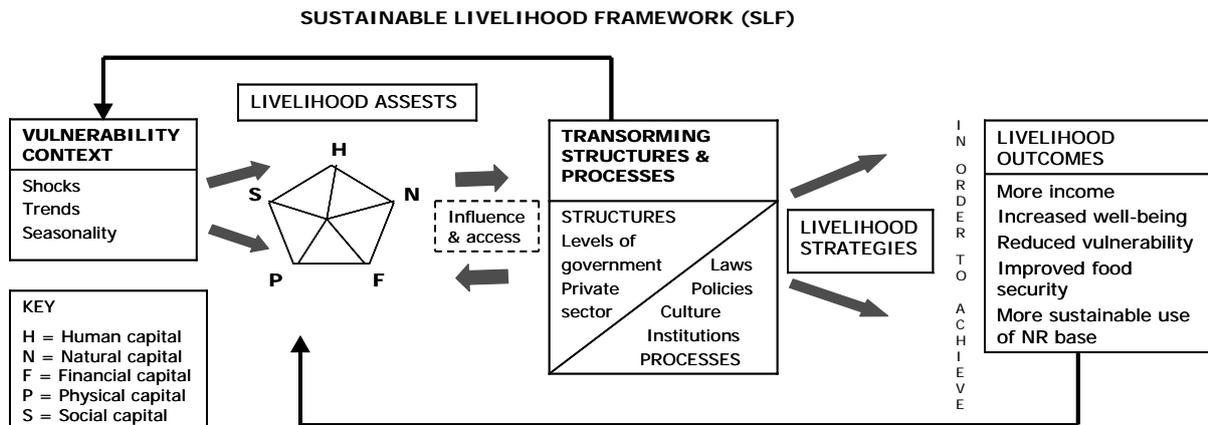


Fig. 1: Sustainable livelihood framework (Source: DFID, 1999)

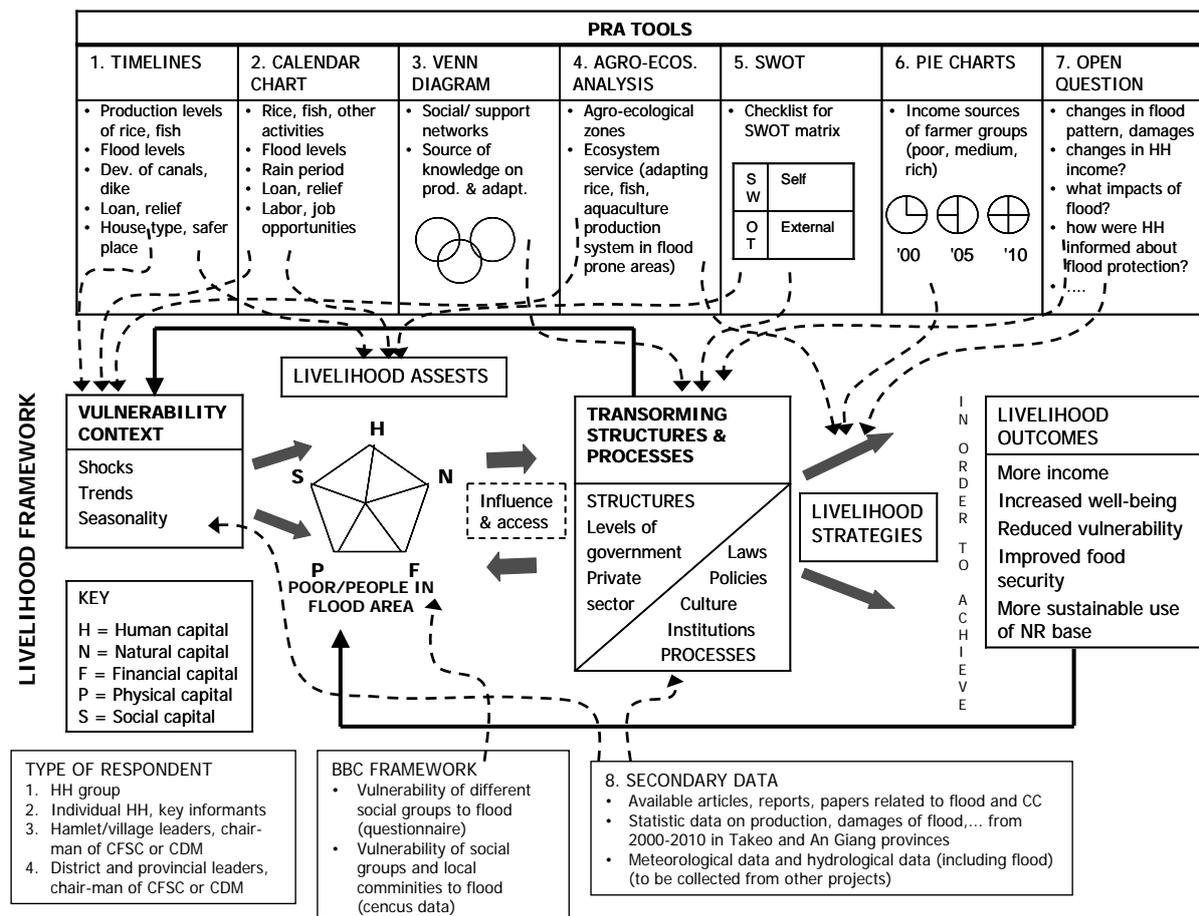


Fig. 2: The SLF and combination of different methods in gathering data