

**COMMUNITY-BASED DISASTER RISK REDUCTION and  
COMMUNITY RISK ASSESSMENT  
Four MAIN APPROACHES  
Methodologies and Tools**

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**COMMUNITY RISK ASSESSMENT VULNERABILITY ANALYSIS**

**There are four well-developed approaches: PVA, VCA, PDRA, Vulnerability Assessment**

**(1) PVA – Participatory Vulnerability Analysis (ActionAid)**

Multi-level approach; ‘PVA information needs analysis’

Four steps

- i. Analysis of vulnerable situation - e.g. indicators
- ii. Analysing the causes of vulnerability – key determinants
- iii. Analysing community action & capacity -resources and activities
- iv. Action from the analysis

PVA uses a step-by-step approach to systematically analyse the causes of vulnerability by:

1. **Tracking hazards** to determine the level of exposure to risk, causes and effects.
2. Examining unsafe conditions (factors that make **people susceptible to risk** at a specific point in time).
3. Tracking systems and factors (**dynamic pressures**) that determine vulnerability, resilience and root causes.
4. **Analysing capacities** and their impact on reducing vulnerability.

**PVA information needs analysis**

<b>Steps in the analysis</b>	<b>Information needed</b>
<b>Vulnerable situation</b>	<ul style="list-style-type: none"><li>— prevalence/ extent of vulnerability</li><li>— how different people are able to cope</li><li>— analyse present threats ‘ vulnerabilities</li><li>— characteristics of vulnerability</li></ul>
<b>Causes of vulnerability</b>	<ul style="list-style-type: none"><li>— unsafe conditions</li><li>— dynamic pressures</li><li>— root causes.</li></ul>

**Community action & capacity**

- establish the sources, assets and entitlements used to reduce vulnerability
- external assistance used to reduce vulnerability

**(2) VCA – Vulnerability and Capacity Assessment (IRFC)**

VCA as a diagnostic tool

Helps to understand problems – symptoms & causes

Systematically look at potential solutions and resources for solutions

Encourages Focus on local conditions – locational specificity – threats risks vulnerable groups local perceptions, local resources, etc.

Highlights different areas of responsibility – for finance, planning, implement, participation, etc. Who will do What

solutions to local problems

VCA as Planning Tool

Helps to prioritise for long run and time sequence & time plan, responsibilities, ...

Planning allows prep for monitoring and adaptation to changing circumstances and changes brought about by (partial) solutions

**(3) PDRA Participatory Disaster Risk Assessment**

Both dialogue and negotiated process

(ADPC Asian Disaster Preparedness Centre, Thailand)

**7 steps**

1. Describe hazards in community
2. Hazard mapping
3. Describe vulnerabilities and capacities of community
4. Determine (calculate) disaster risks
5. Rank disaster risks
6. Decision on acceptable level of risks
7. Decisions to : Prevent? Reduce? Transfer ? Mitigate? Live with ? Risks

Step 1. Describe hazards in community

Identify, name hazards -

which to include (e.g. safety & security (drugs, violence, robbery, mobs, women's safety, domestic violence, )

which groups, locations, frequency,

Also: knowledge, preparedness, etc. “describe a disaster in recent past” - discussion, open ended interview, drawings, theatre

Step 2. Locations and Dynamics of Hazards:

Locations – hazards, resources, & capacities - maps,

Dynamics – long term history, frequency, regularity, repeatability, seasonality. One-off ?

Maps of hazards, recent and potential,

thus, topography, slopes, water, fire hazards, hazardous industry, hazardous material storage,

locations of populations, vulnerable populations,

dynamics – historical tracks of floods, fires,

infrastructures – especially

access and mobility – roads, tracks, bridges

water sources, stands, canals, wells,

secure buildings, shelters  
 open areas (vs. earthquakes & fires)  
 public (formal) resources (besides infrastructure) – civil, public services of medical, 1<sup>st</sup> Aid (primeros auxilios), police, civil guards, colonia leaders, alcalde, etc.  
 resources (informal) – churches, community institutions,  
 eg.s of family & clan & traditional networks

Step 3. Vulnerability (of community, neighbourhoods, groups, households, individuals)  
 vulnerability of different groups in different locations – esp. gender, age, handicapped.  
 “what things threaten you and your family?” - by gender, and age, threats to people and to personal property, animal stock etc. buildings infrastructure  
 Identify the vulnerable – what characteristics?

rich and poor? Savings? Insurance? Family support? Land ? alternative locations?,

Coping Strategies – traditional reduction of vulnerability.

Social community, family, savings, using stock, borrowing, mortgaging, illegal methods,

Coping strategies have sequences starting with:

- i. non-erosive activities, (risk minimising and loss management) then
- ii. disposal of productive assets (erosive coping) leading to
- iii. the final stage of destitution of total non coping.

#### (4) Vulnerability Assessment Approach

Cf. *Vulnerability Scoping Diagram*

8 steps approach:

1. define a specific area
2. learning about the specific place
3. Vulnerability of groups of people/ and the Drivers behind the vulnerability
4. Causal model of Vulnerability
5. indicators of 3 elements of vulnerability
6. operationalise models of Vulnerability
7. projections future Vulnerability.
8. communicate Vulnerability. (including the uncertain)

Ref. Polsky, Neff, Yarnal (2007) Global Environmental Change

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#### A Comparison of concepts and terminology

ISDR Approach		Vulnerability Assessment (Polsky et al)
Hazard	=	Exposure to hazard
Vulnerability	=	Sensitivity
Coping capacity	=	Adaptive capacity
Risk	=	Vulnerability