



# APPLYING VULNERABILITY AND CAPACITY ASSESSMENT TOOLS IN THE URBAN CONTEXTS: Challenges, Difficulties and New Approach

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# APPLYING VULNERABILITY AND CAPACITY ASSESSMENT (VCA) TOOLS IN THE URBAN CONTEXTS: Challenges, Difficulties and New Approach

## ACRONYMS

ARC	American Red Cross
CBDRM	Community-based Disaster Risk Management
CCA	Climate Change Adaptation
CCCO	Climate Change Coordination Office
DMC	Disaster Management Center
DRR	Disaster Risk Reduction
IFRC	International Federation of Red Cross and Red Crescent Societies
ISET	Institute for Social and Environmental Transition
NGO	Non-governmental Organization
RC	Red Cross
SLD	Shared Learning Dialogue
UCRF	Urban Climate Resilience Framework
VCA	Vulnerability and Capacity Assessment
VNRC	Vietnam Red Cross

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## PREFACE

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This report has been developed based on secondary research information on VCA, and outputs of discussions and analyses in the “*Shared learning workshop on vulnerability assessment tools and approaches for disaster risk reduction in rural and urban areas.*” This document explores the challenges involved in conducting VCA in urban areas and aims to provoke further discussion on how to address them. Participants of the workshop included experts from ISET, the IFRC, VNRC, ARC, and experts from provincial/city level Red Cross of Quang Ngai, Quang Nam, Da Nang, Thua Thien Hue and Ha Tinh. This report analyzes difficulties and challenges in applying the current set of VCA tools in urban areas, and present some broad suggestions of how to improve these tools and apply new approaches for VCA in urban areas.



# 1. INTRODUCTION

*As of December 2013, Vietnam has about 770 cities and towns, with urbanization rate of over 33% (according to report by Vietnam Ministry of Construction). As estimated by the United Nations Department of Economic and Social Affairs (UNDESA) in its World Urbanization Prospect report (2011), urbanization will continue to expand in Vietnam, to reach nearly 56% in 2050. While urban development is planned at the very best to foster exchange, investment, innovation and socio-economic development, urbanization can pose many potential risks to both existing and new-coming urban areas, and make urban residents more vulnerable to growing pressure related to urban planning practices, urban services, environment, and climate change.*

Disaster risk management and reduction is not a new topic in Vietnam. In fact, it has been widely researched and implemented for many years, with government agencies at the national to local levels, NGOs, and civil society all playing an active role. However, in most of the cases, efforts have simply focused on rural areas, and the most widely applied approach and tools have been those developed by the RC society. The RC approach includes four main procedures of disaster risk management, including **preparation, response, recovery, and mitigation**, and highlights five key components: **capacity building, pre-impact, emergency, restoration, and reconstruction**.

The RC's VCA tools have provided the basis for many programs, projects and activities related to vulnerability assessment in Vietnam,

mostly in rural areas. However, due to the complexities of urban populations and systems, and the nature of disasters faced by urban areas, it is much more challenging to apply these tools for urban communities. In the context of a growing urban population, it is essential to develop and organize a system of suitable approaches and tools for DRR and CCA in urban areas, with an initial focus on tools for vulnerability assessment in urban areas.

With its many years' experience in the field of urban climate resilience, ISET has developed a conceptual framework for urban climate resilience. This framework focuses on:

- understanding cities' vulnerability to the impacts of natural disasters and climate change based on three key aspects - **systems, agents, and institutions**;

- shared learning dialogues that try to fully mobilize local knowledge and the in-depth scientific knowledge of all stakeholders involved;
- intervention actions that build resilience of these systems, agents and institutions based on their own distinctive characteristics; and;
- the innovative and interactive nature of these processes.

The “**Refinement and Piloting of an ARC Urban Resilience Methodology Training**” project, supported by ARC, was developed based on the need to renew the disaster risk management approach and tools for the RC society in particular, and for all related stakeholders working in DRR and CCA in general. The project’s aim was to develop tools that work more effectively in urban contexts, based on learnings from ISET’s Urban Climate Resilience Framework.

This report summarizes the experiences, difficulties and challenges with the current approach to DRR and CCA, especially in applying these traditional approach and tools for vulnerability assessment in urban and peri-urban areas in the context of urbanization and climate change. The report also introduces ISET’s tools for vulnerability assessment and building urban climate resilience; and provides suggestions on how to tailor these tools for the urban contexts.

Most information in this report is what was shared and discussed during the technical workshop organized by ISET, IFRC, VNRC and ARC in Da Nang on 5 December 2013, titled “**Shared learning workshop on vulnerability assessment tools and approaches for disaster risk reduction in rural and urban areas.**” The workshop was attended by many RC representatives, including ARC, Da Nang, Thua Thien - Hue, Quang Nam, Quang Ngai, and Ha Tinh

RCs, representatives from DMC – MARD and Central and Central Highlands Flood and Storm Control Center, and other stakeholder organizations in Da Nang including Da Nang Climate Change Coordination Office and Da Nang Women’s Union.



RC representatives and ISET, CCCO Da Nang at VCA workshop in Da Nang, December 5, 2013.

Photo: Huy Nguyen, ISET-Vietnam, 2013

## 2. THE VCA APPROACH AND CHALLENGES IN ITS APPLICATION

### 2.1. The VCA approach

VCA is a participatory process of collecting and analyzing information regarding the vulnerabilities and capacities of a community – a commune or a country. The level of participation might vary based on the scale of the assessment (for example, where there is a larger scale, there may be lower participation). There have been examples of VCAs being done at the national and regional levels, such as in Nepal and Palestine.

The VCA has been applied over many years with the support of VNRC and RCs of other countries as a tool for community awareness raising and CBDRM. The VCA tools are also utilized by many NGOs in Vietnam to serve various objectives, requirements, and target assessment groups of their projects. Together with these tools, the RC society has also developed a pool of experienced VCA trainers and facilitators.

Prior to 2007, the VCA process by the RC society in Vietnam was divided into stages, such as before, during and after a natural disaster event. However, this was not a very effective approach as certain actions had the potential to be useful before, during and after a disaster event. This method is therefore no longer applied.

Instead, assessment is now divided into three areas: physical assets, motivation and society organization, focusing on five aspects,

including livelihoods, people's well-being, self-protection, social protection (such as community flood shelters), and governance (such as the legal system, roles of organizations).

Provincial RC organizations in Vietnam are highly experienced in implementing DRR projects in their own provinces. Although the current VCA is a very systematic set of tools with detailed instructions of the assessment procedures, there are still many difficulties in applying these tools in RC projects, especially in the urban contexts.

### 2.2. General challenges in VCA implementation

The first difficulty comes from the process of developing natural disaster prevention plans. There are currently no standard framework for the development and implementation of these plans, which leads to inconsistency in implementation and coordination among agencies, such as the Committee for Flood and Storm Control and RC, and between different projects.

For instance, the Association for the Blind of Thua Thien – Hue province developed a special set of VCA materials (including natural

disaster prevention plans) for the blind and organized drills for blind people only. This activity overlapped with other existing activities, and lacked linkages to the community as a whole, reducing its practicality and effectiveness.

Moreover, community awareness building is not considered properly in VCA projects. Projects lack consistency and coordination, and different areas have different views and needs concerning capacity building. Nothing has been done to build community self-assessment capacity, and no mechanisms are present for the community to take on the assessment themselves in subsequent years.

There are also several more specific challenges, including:

- Limited awareness about the real meaning of the assessment, which leads to ineffective VCA efforts.
- To ensure an effective VCA process, there must be sufficient time, resources (human, equipment, financial), information, data, coordination and collaboration among different agencies, and appropriate tools available. However, in many cases, VCA was not done properly. For instance, in a project in Da Nang, an NGO finished community surveys after only one day, while in standard VCA procedures, it takes at least 5-7 days and requires suitable tools for the assessment to be accurate.
- The skills and knowledge of facilitators are insufficient, and facilitators do not have adequate experience or understanding of today's increasing challenges from urbanization, climate change and natural disasters.
- Evidence-based policy development and application of results: The last steps of VCA are reporting, monitoring and providing support to implementation, using the VCA results, or integrating them into local socioeconomic development plans. These are crucial steps that determine whether the VCA is to be successful.

However, in many cases, these steps are either missing or not done effectively – while the implementation of the VCA itself typically raises interest and expectations among local people about its capacity to bring about changes and improvements to their lives, there are often no clear plans for follow-up from the beginning of VCA process. In addition, Vietnamese people are often not familiar with evidence-based policy development and there are too few precedents for this type of work. There are often limitations in knowledge, capacity and experience; the necessary networking, collaboration, and stakeholder mobilization are missing; and awareness of stakeholders – especially the poor and marginalized, about their fundamental rights and the potential benefits of VCA – is limited. A long process is often required for local governments to understand, agree, and take on the VCA results. Local government commitments are the needed foundation for designing activities, and help create links between VCA and local socioeconomic development planning.

### 2.3. Challenges when implementing VCA in urban areas

VNRC and many other organizations are more and more interested in completing VCA in urban areas, with some VCA activities already being applied through pilots in several cities. However, pilot implementation has revealed some limitations of the traditional VCA tools, as follows.

- **Quality of information provided by local people:** Urban communities have a higher level of demographic complexity. The bonds that connect urban community members are weaker, and so are those between communities and the areas they live. This is because people living in urban communities often come from many

different places, do not have long-established connections, and often do not know one another or have a strong understanding of the history of natural disasters in their neighborhoods.

- **Difficulties in engaging participation** due to differences in income level, standard of living, and lifestyle of urban compared to rural population. Unlike in rural areas, people living in cities often have to travel longer distances to work, and are more strictly controlled by working hours, whether they are administrative employees or workers.
- **Sensitive systems and communities:** Urban systems are more complicated, and more sensitive to factors outside the direct administrative control of the ward/commune being assessed. For example, when looking at the water supply system of a downstream city, we need to consider influences at the watershed scale.
- **Lack of tools to assess impacts of local institutions,** including laws, regulations, social rules, level of decentralization, and access to information.
- **Difficulties in mobilizing local government support:** Urban local governments are under more pressure and have more priorities, including socioeconomic development priorities. Local government leaders might not agree with adaptive measures suggested because they do not consider them their top priorities.
- **Impacts of urban-specific processes such as industrialization.** Urbanization impacts tend to outweigh those of natural disasters or climate change alone. For example, construction and urban development might be the direct causes of serious flooding when a storm happens. It is very difficult for VCA to keep pace with this rapid urbanization process.

- **Human resources:** There are not enough practitioners and facilitators with experience in urban VCA. Facilitators' skills in applying VCA tools are extremely important, especially when dealing with sensitive issues. Moreover, VCAs in Vietnam are mostly done at the scale of small communities (communes/villages), and the current gaps in capacity make it very challenging to implement VCAs at a larger scale.
- **Methodology and tools:** Tools should be redesigned/adjusted before being applied in urban contexts where systems are more complex, and to better explore institutional and policy related aspects. Limitations in applying specific VCA tools are elaborated in the next section.



# 3. SPECIFIC VCA TOOLS AND LIMITATIONS APPLYING IN URBAN AREAS

VNRC and many other organizations in Vietnam often use a set of key tools. The decision about which tools to use and how to use them depends on the specific needs of each locality, as well as available time and human, financial, and physical resources. Importantly, local actors should be supported in implementing follow-up actions suggested by the VCA findings.

In addition to the general difficulties in conducting VCA in urban areas as described in the previous section, each VCA tool also presents specific limitations. Specific VCA tools and their limitations are described in the table below.

TABLE 1: VCA TOOLS AND LIMITATIONS

Tool	Descriptions	Limitations	Solutions
<b>Information collection tools</b>			
<b>Review of secondary data</b>	This is a prior or early-stage VCA tool, which helps collect supplementary information for the VCA, and provides a basis for evaluating the effectiveness of subsequent interventions. It includes collecting relevant documents such as hazard maps, climate change information, changes in land use, and other reports.	<p>Though urban areas have an advantage over rural areas in terms of information and data, human resources, and education levels of the community, the review of secondary data still faces many challenges because:</p> <ul style="list-style-type: none"> <li>• There is no practitioner group with experience in doing research, assessments and analysis in the urban context.</li> <li>• No clear mechanisms exist for mobilizing data sources, thus information is abundant but very difficult to access and explore, especially highly sensitive information such as land use planning, construction planning, and urban development. On the other hand, the large amount of information from many different sources, sectors and levels is also time-consuming to collect, and difficult to synthesize and analyze.</li> <li>• There is limited information on flood and storm control, and no instructions for long-term flood and storm control. Available information about climate change scenarios is limited, and not detailed enough for community level research.</li> </ul>	<p>Building capacity for facilitators and assessment team; Hiring expert consultants; Coordination and sharing among sectors</p>

<p><b>Historical profile</b></p>	<p>This tool aims at highlighting trends and key points in the history of the community. It helps local people to gain insights into past hazards and changes in hazards' nature, intensity and behavior, and at the same time make people more aware of these changes.</p> <p>Historical profiles are developed based on people's understanding of local situations, to provide important information of hazards and local experience in responding to these hazards.</p>	<p>When researching historical profiles, there are usually more available data in urban than in rural areas. However, when doing surveys, interviews or group discussions, it will be difficult to identify the right group to target due to the greater mobility of urban populations.</p> <p>Urban communities also know very little about the history of disasters in their areas due to short duration of residence. It is also difficult to verify their information.</p>	<p>Research should be based mainly on secondary data, verified by local people through in-depth interviews with the longest-term dwellers.</p>
<p><b>Mapping</b></p>	<p>Creation of maps such as hazard maps, risk maps or resource maps could be a useful tool in determining the spatial distribution of certain aspects of the surroundings. It can be used to approach the community in early phases, or in assessing risks of the community.</p>	<p>Though information and data in urban areas (administrative maps, topographic maps, detailed construction plan) are more available, detailed and well-organized, mapping tools still encounter difficulties when applied in urban areas. This is because cities have higher construction density, with many view-blocking structures. Landscape in urban areas is not as stable as in rural areas, and can alter very rapidly in the urbanization process.</p> <p>Urban people rarely know well about their areas, therefore it is difficult to identify vulnerable areas.</p>	<p>Engaging an assessment team with a good range of skills, including map analysts;</p>
<p><b>Seasonal calendar</b></p>	<p>Seasonal calendars are usually associated with livelihood activities and crop planting schedules in rural areas. Seasonal calendars often represent a large rural area (sometimes a provincial administrative area or larger).</p>	<p>So far, this tool has been applied in rural areas only, and is based on crop schedules. It can still be used for VCA in peri-urban areas. However, for highly urbanized areas, it should be adjusted to focus on specific aspects of livelihoods only, because urban areas are much more complex in terms of labor market structure and types of livelihoods, which makes it challenging to cover every aspect in in-depth discussions.</p> <p>Urban livelihoods are less dependent on seasons, therefore this analysis is not useful in describing livelihoods.</p>	<p>Using reports on labor market structure to learn about livelihoods;</p> <p>Developing a new tool for analyzing complex urban livelihoods structures, or focusing on major areas to avoid thinning out the analysis</p>
<p><b>Transect walk</b></p>	<p>A systematic walk with key-informants through the community to look at the layout of the community to produce a cross-sectional diagram</p>	<p>Due to high density and complexity of urban infrastructure, it is difficult to produce the transect diagram.</p>	<p>Using urban plans and GIS</p>
<p><b>Direct observation</b></p>	<p>The purpose of this tool is to better understand the landscape of the area, especially to collect information and pictures that are difficult to acquire from documents or group discussions.</p>	<p>Similar to the transect walk, a limitation in urban areas is that it is difficult to have an overview of the area by observation from a single direction, while density of urban population and infrastructure is also high and unstable.</p> <p>There are also issues related to safety for assessment staff as the rate of road accidents and crime in cities can be high.</p>	<p>Studying the urban master plan;</p> <p>Engaging an assessment team including people working on urban infrastructure, transportation and civil engineering</p>

<b>Venn Diagram</b>	A Venn diagram shows key organizations, groups and individuals in a community, the nature of their relationships and level of importance, to identify organizations, their role/ importance and perceptions that people have about them. It also helps identify organizations and individuals that can play a role in supporting the community, and identify core issues.	The difficulty in analysis using Venn diagrams is in how to identify roles of the political or social organizations of interest, because the amount and complexity of information in urban areas makes it difficult to collect and analyze. This will lead to differences in people's viewpoints and opinions. Venn diagrams only assess people's viewpoints regarding a specific area, and can be challenging when dealing with the complicated and complex urban systems and sectors.	Improving this tool to assess agents in the urban areas, clarifying roles and linkages between organizations and individuals
<b>Focus group discussions</b>	These group discussions help collect both general and specific information, analyze issues, vulnerabilities, capacities and viewpoints of different groups in the community, because each group can have their own experiences with and perspectives about different issues.	It is difficult to verify information provided and to identify groups because the selection and classification of groups are not the same as for rural areas.  Urban people have busier lives and work schedules, which might create time pressures and can cause assessment to be hasty and ineffective.	Working closely with leaders of residential areas
<b>Interviews</b>	To provide detailed information, or to confirm unclear information collected from related group discussions or documents.	First, it is difficult to meet with the targeted interviewees in urban areas due to the nature of their work and lifestyles. Consumption habits of urban people might also prevent the development of effective adaptive measures. In addition, there is currently no questionnaire developed for urban areas, with consideration of their special contexts.	Raising public awareness while doing assessment;  Working closely with leaders of residential areas
<b>Information analysis tools</b>			
<b>Strengths Weaknesses Opportunities and Threats (SWOT) analysis</b>	This tool can also be used to collect general and basic information about the strengths, weaknesses, opportunities and threats to the local community. It can be done using secondary data, or information from government officials group discussions.	This tool is based mainly on available secondary data and therefore faces similar challenges to those faced with secondary data reviews. However, SWOT analysis can also derive from primary data sources, such as focus group discussions. Although sources of information are many, the level of consistency can be low.	Improving capacity of assessment staff
<b>Livelihood analysis</b>	An analysis of typical livelihoods in the community, which includes information about the population group (women, children) and number of people involved, the condition of work (such as health risks), and related government policies.	Urban populations are dense and highly diversified in terms of livelihoods. They lack stability across time and space. The nature of livelihoods is also different. Therefore, quantify and accuracy of information is lower, and analysis more complicated than in rural areas.	Using reports on labor market structure to learn about livelihoods groups;  Developing a new tool for analyzing complex urban livelihood structures
<b>Other</b>	Some other analysis tools such as problem trees, rankings, and logframe planning are also challenging to apply in urban areas due to complexity in demography, economic structure, institution, and cross-sectoral coordination mechanisms.		

# 4. THE APPROACH TO ADDRESSING URBAN-SPECIFIC CHALLENGES IN VCA

## 4.1. Further discussions on urban-specific VCA challenges – ISET’s perspective

As mentioned above, there are many challenges when applying the traditional VCA approach and tools in urban areas. Many questions have been raised about VCA in urban contexts:

- Can the current VCA approach and tools be applied in urban areas?
- How to effectively mobilize local people’s participation?
- In the urban setting, how can communities or local people be identified?

In Vietnam and throughout the world, there is no standard method for vulnerability assessment – there are several sets of tools being used by different organizations. Among these tools, those by the RC society are the most systematic, well-developed, widely shared and applied tools. RC also has a pool of highly experienced trainers and researchers to support these tools. However, when applied in different projects by different organizations, the tools have been modified on a case by case basis to suit specific assessment areas.

There are many different methods of vulnerability assessment – applied for DRR, CCA, and food security – that we can learn from and make suitable adjustments to.

Vulnerabilities vary through time and space. For example, ten years ago in Vietnam, the issue of hydropower plants did not have the extensive influence it has today. Nowadays, when assessing

vulnerabilities in rural areas, we need to understand that the vulnerability of a commune is affected by factors outside the control of that commune, and these factors are not only related to organizations or systems, but can also be related to regulations such as hydropower reservoir management and operation mechanisms (institutional factors).

When carrying out assessments and other projects in Vietnam, ISET has gathered some practical examples of how new urban areas have taken over the space for water, blocked floodways, and increased flood risks when heavy rainfall occurs. Impacts of the above mentioned factors could sometimes override factors related to characteristics of the assessed locality itself. If we fail to consider them, we could unintentionally end up with an incomplete picture of vulnerability of the area.

In many cases, the current tools fail to fully reflect historical vulnerabilities. Therefore, it is necessary to adjust the current VCA approach and tools to meet the following requirements:

- Include factors originating from outside the administrative constraint of the locality being assessed. For example, the management of Vu Gia – Thu Bon watershed of Quang Nam province and Da Nang city has major impacts on water resource management of Da Nang.
- Fully utilize available sources of data, such as Ministry of Natural Resources and Environment (MONRE) report on climate change and sea level rise scenarios for Vietnam.

- Thoroughly assess sensitive systems and communities that have significant impacts on vulnerabilities of other systems and communities.
- When assessing people's vulnerabilities, understand the close relationship between urban and rural areas, the issue of disaster refugees, the environmental impacts, resettlement issues and livelihoods changes caused by urban development, and learn about all population groups, especially when the hardest to reach people are also the most vulnerable (immigrant labors, informal workers, etc.).
- Identify barriers or impetuses related to policy, regulations, and social customs (i.e. institutional factors). For example, reservoir operation regulations have significant impacts on vulnerability of people living downstream of rivers. Institutional factors like these are the below-surface bulk of the iceberg: they are often the roots of problems that cannot be revealed by assessing only the outward impacts or manifestations.

It is necessary to make timely adjustments to existing approaches and tools to meet these future demands and challenges.

## 4.2. ISET's urban approach

To have a better understanding of the rationale how the above urban-specific challenges in VCAs can be addressed, it is useful to have a look at some of the guiding principles under ISET's urban approach. These principles were established through ISET's experience in urban climate resilience research and implementation in cities across Asia.

**a. Engaging the agents of change**, i.e. organizations and individuals working actively in this area, who need to be equipped with knowledge, skills and methods to analyze and deal with changes in vulnerabilities.

To this purpose, it is necessary to mobilize local knowledge (this is an area in which RC has many available tools). But to deal with the complexity of urbanization and climate change, we also need scientific knowledge such as research results (e.g. MONRE report on climate change and sea level rise scenarios for Vietnam). Practitioners should update themselves with these kinds of research results.

But how do we engage different urban stakeholders in this process? ISET's UCRF includes a process called the Shared Learning Dialogue, which involves local people, local government representatives, scientists, researchers, organizations, civil society, and especially a focal agency (such as a Climate Change Coordination Office [CCCO]) to help gather these stakeholders together. This focal agency has a regular function to mobilize stakeholders for systematic vulnerability assessments at the community level. Climate change and urbanization are cross-cutting, interdisciplinary issues, on which each stakeholder group might have a different perspective. Therefore, this process demands tools to promote open and multi-dimensional sharing to achieve mutual understanding and prevent conflicts of opinions.

**b. The understanding that the nature of risk and hazard in urban areas is different.** For example, extended loss of cellphone service or ATM service in a city could be a major problem, but rural areas might hardly notice. The same case applies for water supply – urban residents expect a much higher level of service, and incur costs that would not incur in rural areas when these services fail.

**c. Assessments should focus on systems, along with agents and institutions, for the following reasons.**

- **Systems** (transportation, electricity, water supply, housing):  
The traditional assessment tools do not explicitly support the

analysis of systems, which often extend beyond administrative boundaries. For example, to identify whether the water supply system of Da Nang city is resilient to future climate change, it is necessary to look at factors related to Quang Nam province's impacts. Why is it that recently Da Nang cannot extract water from the Cau Do intake location, and has to turn to An Trach? Another example involves the housing system in Da Nang: filling and raising of land to build new urban areas in Hoa Xuan and Hoa Quy have influenced flooding in surrounding areas. The traditional PRA tool might not be able to detect these kinds of issues. There are tools that can better analyze and assess these systems such as GIS and flood modeling.

- **Agents** (with capacities to manage and operate the systems): The tools used by RC are quite strong in assessing agents. They include livelihoods analysis, and a “five assets” analysis approach (human, financial, social, physical, and natural).
- **Institutions:** When systems and agents are strong, but there are gaps in existing laws and policies, systems and agents will not work well together. This can be one source of vulnerabilities. For example, some existing urban areas of Da Nang were designed for a five per cent flood scenario (i.e. occurring on average once every 20 years), but when the infilling and development of Hoa Xuan and Hoa Quy areas took place, floodwater would be pushed towards these existing urban areas. Now these areas can only withstand ten per cent of floods (i.e. occurring on average once every 10 years). This is an example of weak institutions. Until now, most institution assessment tools that can look into cases like these have still been underdeveloped.

Vietnam in general and the RC system in particular has a strength in emergency responses (such as responses in the recent typhoon Nari). But there are still gaps in long-term planning that require new approach and tools to fill.

After these analyses and assessments are done, ISET oversees a series of iterative SLDs, each of which allows for further learning and information updates.

Based on the conclusions of assessments, intervention actions will be developed. For example, under ACCCRN, ISET has developed and implemented projects on storm-resistant housing, integrative education, hydrological modeling, and water resource research for Da Nang city.

### 4.3. Current and future vulnerability assessment for urban areas

The current vulnerability assessment approach is already popular and widely used. On the other hand, climate change and urbanization impacts are long-term issues, which demonstrate the importance of thinking about future vulnerabilities. Future vulnerability assessments have to use projection data and information. An important source of projection information is climate change scenarios, which derive from greenhouse gas emission scenarios. The climate change and sea level rise scenarios of Vietnam were developed and issued by MONRE based on three groups of emission scenarios – high, medium and low scenarios – and a lot of other detailed information, scenarios and projections. VA results should be presented in tables/matrices. If the information is presented on a map, it will be useful for visualizing the results, but will not show the contexts and vulnerabilities in details.

As future climate change scenarios are based mostly on uncertain information such as economic, social or environmental changes, they also have a high level of uncertainty. It is important to be aware of this uncertainty when undertaking the assessments and planning.

#### 4.4. Assessing institutions in vulnerability assessment

Institutions are regulations, rules, policies, laws, social norms, and customs that might allow or prevent the process of resilience building and vulnerability reduction. There are two types of institution: formal and informal, and both types can have significant impacts in facilitating or impeding local resilience building. Institutional assessment helps evaluate adaptive capacity and determine adaptive measures to improve on the institutional weaknesses and reduce vulnerabilities.

The adaptive measures of individuals, organizations and social groups largely depend on institutions. Institutions can limit the impacts of climate change on systems and agents, inform the climate change responsive actions of local people, and play an important role in attracting external support to resilience practices. Examples of institutional advantages could be the presence of insurance policies in agriculture, incentive financing policies for the poor, or transparency of information related to hydropower dam management, urban development planning, and stakeholder consulting (especially community consulting) in developing these management and planning mechanisms.

An important area in ISET's institution assessment framework is identifying resilience capacity influenced by institutions, and the role of public institution in strengthening resilience. This can be related to: organizations (with tools such as stakeholder mapping, social network analysis, secondary data collection, in-depth interviews); policies, regulations, and rules (with tools such as policy review and analysis, in-depth interviews, document review); and decision making and implementation procedures (including identifying the strengths and weaknesses of approaches). This is a highly complicated process,

which raises many questions, and requires the participation of highly experienced professionals in managing and guiding the analysis.

ISET has experience related to many existing problems in the urban development decision-making process, such as:

- Lack of engagement of the community and civil society;
- The fact that planning information can either be inaccurate or does not reach the people on the ground;
- When problems occur (e.g. the severe flood in Quy Nhon city in 2009<sup>1</sup>), no organizations or individuals in charge of urban planning take accountability for those problems;
- Policies are developed based on qualitative information, and rarely refer to scientific analysis or resource feasibility;
- Monitoring and evaluation mechanisms are ineffective (low quality construction, no environment impact assessments conducted);
- The private sector has substantial power; and
- Climate change is only recognized and integrated as a priority in documentation, but not in practice, partly because little is known among practitioners about what specific actions should be taken and how.

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<sup>1</sup> See more: Learning from typhoon Mirinae at [http://i-s-e-t.org/images/pdfs/ISET\\_LearningFromTyphoonMirinae\\_Final\\_130419.pdf](http://i-s-e-t.org/images/pdfs/ISET_LearningFromTyphoonMirinae_Final_130419.pdf)

# 5. SUGGESTED SOLUTIONS FOR IMPROVING THE VCA PROCESS

The section below provides a summary of discussions by the workshop participants on how the VCA process in rural and urban areas in Vietnam could be improved to address the existing and new challenges as raised in the previous sections of this report (including solutions for limitations of each VCA tool briefly discussed in section 3.2).

## 5.1. General solutions

Below are some measures suggested by the workshop participants to deal with general challenges.

- For comprehensive VCAs, in-depth analysis of both natural and human-induced vulnerabilities and hazards is needed.
- Local people should be informed early about the value of VCA – with evidence-based policy development before, during and after assessment – and should be apprised of the assessment schedule to support the development of detailed assessment plans.
- VCAs should also involve appropriate local experts with experience in assessment approaches and extensive local knowledge (noting that this also requires sufficient financial resources). This is why capacity building for VCA facilitators and VCA team members both in terms of specialized knowledge and assessment skills is crucial.

- Coordination and sharing between different sectors should be strengthened to promote consensus of the community and agencies about assessment results and necessary interventions.
- There should be close collaboration with local government and residential group leaders. The commitment of the urban government should also be strong enough for research findings to be applicable.
- Before conducting the VCA, it is necessary to clarify plans to build self-assessment capacity for the locality, communicate how the VCA results will be applied, and to assign responsibilities for follow-up. This includes short, medium and long-term priorities based on urgency level and available resources, and integration into local socioeconomic development plans. Final VCA results and suggested interventions should be documented clearly, and approved by local government.

## 5.2. Specific solutions for urban areas

While there are difficulties and challenges in conducting VCA in urban areas, there are also many advantages: there are more sources of documents, maps and other secondary data, and local education levels are higher. However, we cannot automatically apply current VCA tools for urban areas – we must adapt these tools while also

developing new ones. Some recommendations for addressing the limitations of the current VCA tools for urban contexts are as follows.

- A set of tools for urban areas should be developed, building on the traditional tools with suitable adjustments, and including new tools where necessary. For example, the Venn diagram method could be upgraded to create a new urban agent assessment tool. Importantly, there should be institution assessment tools, as institutions have so far not received proper consideration in all assessment efforts in rural areas. This is particularly important for urban areas where institutions are more important and numerous, and where there are many additional forms of interaction and service delivery in which institutions play an important part. Supplementary tools such as those for analyzing complex urban livelihood structures should also be developed.
  - Cities can vary greatly in terms of maturity and dispersion, and can be influenced largely by local character of their neighborhoods, and the nature of its relationships to the rest of the city. It is therefore necessary to have suitable tools adapted and tailored flexibly to suit the context of each city under assessment.
  - Assessments should be comprehensive, focused across levels, sectors, and areas, with data from multiple sources. In order to achieve this, it is the experience of Da Nang CCCO that the role of a coordination agency with adequate authority is very important.
  - Assessments should be supported by science (research reports, downscaled climate change scenarios, transect diagrams, urban plans, GIS). There should also be in-depth analysis of scientific information about hazards, with local people's verification. Technologies such as information technology, Google Earth map tools, or GIS should be mobilized. For example, in Hue city, a pilot flood warning model is being developed, with people's participation in sending SMS messages on flood levels that will be updated on the city's flood map<sup>2</sup>. This is an example of how technologies can be applied to support information collection in urban areas.
- Scale of VCA: To be more effective and comprehensive in analysis, VCAs in urban areas should be done at the district level at least, while also looking at regional level data.
  - As with rural contexts, there should be participation of the community, especially marginalized groups, and deep engagement of the government.
  - To facilitate working in urban areas, we can approach the people from the perspective of man-made disasters (such as those relating to water drainage, the supply of water, electricity, or cellphone services), and conduct in-depth analysis of natural and man-made vulnerabilities and hazards in order to develop a comprehensive understanding of the locality and increase the interest of the local people and government.
  - Finally, it is particularly important for the assessment process in urban areas to consider:
    - policies and organizations that may be outside the assessment target (i.e. the sector or location being assessed) but have relevance or important impacts;
    - differences between what is stated in the policies / regulations and reality;
    - the roles of donors and the private sector; and
    - informal channels that can strengthen the robustness of formal institutions.

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<sup>2</sup> Source: Mekong – Building Climate Resilient Asian cities (M-BRACE) project in Hue

## 6. CONCLUSIONS

It was agreed by all participants of the workshop that conducting VCA in urban areas is a growing need that poses substantial challenges. This report is an effort by the RC society in Vietnam and its peers to contemplate these challenges and begin discussions on how to cope with them. The range of ideas raised shows a high

level of interest and commitment from all stakeholders involved in this difficult task. It is hoped that this report will initiate broader and deeper discussion on this topic, and contribute to the creation of improved methodology and tools for VCA in urban areas.

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