

SUSTAINING URBAN RESILIENCE IN VIETNAM

Lessons from 7 years of ACCCRN

SUMMARY REPORT

Hanoi, Vietnam
24 November 2016



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1 INTRODUCTION

Da Nang, Can Tho, and Quy Nhon cities of Vietnam are pioneering cities in climate change response, which have been adopting many measures to reduce the risks of natural disasters and climate change impacts. This championship role was highlighted in the national workshop “Sustaining Urban Resilience in Vietnam – Lessons from 7 years of ACCCRN” organized on November 24, 2016 in Hanoi by the Institute for Social and Environmental Transition (ISET), the Vietnam Coordinator of the Asian Cities Climate Change Resilience Network (ACCCRN).

The ACCCRN program, funded by the Rockefeller Foundation, has been implemented in Da Nang, Can Tho, and Quy Nhon cities since 2009. After 7 years of implementation, these cities have seen considerable improvements in areas of climate change adaptation and urban climate resilience. The workshop provided a valuable opportunity for sharing the experiences drawn, initiatives piloted, and approaches and tools employed during these seven years to other provinces/cities, towards sustaining and further promoting urban climate resilience in Vietnam.

With the participation of a diverse group of actors, from national ministries, provincial leadership, local champions, research institutions, international agencies, NGOs, and other active practitioners in the field of urban climate resilience, the workshop was also an opportunity for policy engagement at the local and national levels.



[Presentation to introduce ACCCRN program in Vietnam by Ms. Ngo Thi Le Mai, Country Coordinator, ISET-Vietnam](#)

2 WORKSHOP CONTENTS

The workshop consisted of a high-level panel discussion on the topic of building urban climate resilience in Vietnam, with panelists being provincial and national agency leaders, and with six parallel sessions on the following themes.

HIGH-LEVEL PANEL DISCUSSION

Building urban climate resilience in Vietnam

PARALLEL SESSIONS

Session 1. Provincial coordination of climate resilience planning and investment

Session 2. Urban planning and flood management

Session 3. Green infrastructure and resilient urban ecosystems

Session 4. Urban disaster risk reduction and community engagement

Session 5. Lessons learned from stakeholder engagement for building urban climate resilience

Session 6. Urban resilience housing



[Workshop Proceeding](#)

HIGH-LEVEL PANEL DISCUSSION

Building urban climate resilience in Vietnam



Panelists:

- Mr. Dao Anh Dung, Vice Chair of Can Tho People's Committee (PC)
- Mr. Phan Cao Thang, Vice Chair of Binh Dinh Provincial People's Committee (PPC)
- Dr. Tran Thi Lan Anh, Deputy Director of Urban Development Agency (UDA), Ministry of Construction
- Dr. Luu Duc Cuong, Deputy Director of Vietnam Institute for Urban and Rural Planning (VIUP), Ministry of Construction
- Dr. Michael DiGregorio, Vietnam Country Representative of The Asia Foundation (TAF)

Moderator: Dr. Stephen Tyler, Senior Advisor of ISET-Vietnam

QUESTION 1

Climate change is a new phenomenon that is already affecting cities in Vietnam, and will continue to grow in its impact. What are some examples of measures that Binh Dinh province/Can Tho city is taking to respond to climate change?

Mr. Dao Anh Dung (Can Tho PC)

Can Tho is identified as one of the cities most severely affected by climate change and saline intrusion, so climate change is the issue of high concern to the city leaders. The city Party's Committee has issued a number of documents guiding works concerning the issue. The city PC has also issued documents, directives and plans of actions. Can Tho city has developed a 5-year climate change response plan for the period from 2010-2015. The city is working primarily on

intervention projects and awareness raising for the city's staff and the community about climate change, with a view to improve awareness and actions to reduce the negative impacts of climate change. The city was supported by the Rockefeller Foundation in developing a long-term plan for the period from 2015-2030. The city is focusing on supporting the integration of climate change in setoral plans and local level plans, from which to develop a comprehensive socioeconomic development plan that is in line with the climate change context. Specifically, the city will foster communication and education to raise awareness and responsibility of the community relating to climate change and sea level rise; and provide training to the city's staff on this issue

Mr. Phan Cao Thang (Binh Dinh PPC)

Over the past period, ISET has been providing technical support to Binh Dinh Climate Change Coordination Office (CCCCO) of Binh Dinh. The effectiveness of ISET's support can be seen through the development of climate change scenarios for Quy Nhon city, particularly Nhon Binh, Nhon Phu wards, and Thi Nai lagoon, which supported the development of Quy Nhon city urban development plan, to be responsive to climate change impacts, especially floods, droughts and sea level rise. We also received their technical support for integrating climate change response measures into the urban master plan of Quy Nhon city, which was approved by the Prime Minister in 2014. ISET also helped us in the designing of storm-resistant houses for 40

households in the flood-prone areas of Nhon Binh and Nhon Phu wards, which is highly appreciated by the local community. Mangrove planting activities in Thi Nai lagoon have been very effective and will continue to expand in the coming period. We also acknowledged other support to the socioeconomic development of our province. On behalf of Binh Dinh province, I would like to express our sincere thanks to ISET and other donors for their significant support to Binh Dinh

QUESTION 2

What are challenges facing local governments in taking the above-mentioned measures to respond to climate change in the next periods?

Mr. Dao Anh Dung (Can Tho PPC)

From the perspective of a local-level government, climate related

decision-making relating Can Tho is facing many difficulties and challenges. The first is related to policy and planning. Climate change requires inter-provincial, cross-sectoral solutions, and even regional involvement. For example, the Haul (Bassac) River in Can Tho city belongs to the Mekong river system, which originates from Tibet and China, therefore it is influenced by international factors. International and national regulations concerning relationship between regions and sectors are not clear and specific enough, leading to difficulties in enforcement at the local level. The second is that climate change is still a new issue. Knowledge, experience, tools and technologies at the local level are still very limited. In addition, although the climate change scenarios for Vietnam has

been developed, Can Tho city has also received support from the Ministry of Natural Resources and Environment (MONRE) to develop its own climate change and saline intrusion scenarios until 2100, these scenarios are not updated enough. The impacts of climate change in Can Tho had extended beyond the level projected, with complex effects. The third is related to the management structure and capacity of local staff. Three cities participating in the ACCCRN program were supported to

“Climate change requires inter-provincial, cross-sectoral solutions, and even regional involvement.”

- Mr. Dao Anh Dung, Vice Chair of Can Tho PC-

“We need to focus on harmonizing between short-term and long-term benefits for sustainable development.”

*- Mr. Phan Cao Thang, Vice Chair of
Binh Dinh PPC -*



establish CCCOs, to be the local technical agencies for coordinating climate change actions. However, there is no such agency at the local level, which poses difficulties to the implementation of these actions. Local staff are not provided with proper training, leading to gaps and low responsiveness in climate change actions. Another challenge is the huge amount of finance

needed for the implementation of structural measures to respond to climate change and sea level rise, while the financial capacity of the government both at the local and national levels is still limited. These are four problems that I can observe from my perspective being in the city leadership and responsible for these areas.

Mr. Phan Cao Thang (Binh Dinh PPC)

Like Can Tho, Binh Dinh province also encounters some difficulties. The first challenge is due to limited perception of the local government authorities and local communities. The second is the limited capacity of our province in responding to climate change. ISET has provided us with a lot of support. However, the collected data and developed scenarios, orientation for overcoming and coping with climate change challenges in Quy Nhon city is still incomplete and not officially recognized. Thus, we were unable to include much of these results in our provincial economic development program, and Quy Nhon city urban development program. The third problem is related to resources. We have developed the development plans for Thi Nai lagoon and Nhon

Binh and Nhon Phu wards of Quy Nhon city; however, we still lack resources for implementing these plans, and will have to mobilize funding from the Government and ODA sources. As Mr. Dung had mentioned, we face the difficulty in resource mobilization for implementation of climate change action plans as investing into dyke systems and technical infrastructure is very costly. We have reported this challenge to the Government for their assistance in seeking ODA support. The fourth issue is how to harmonizing short-term and long-term, sustainable development objectives, which also needs to be addressed: socioeconomic development goals within each administrative term are relatively clear, while long-term and environmentally sustainable development goals are more or

less neglected. We need to focus on harmonizing between short-term and long-term benefits for sustainable development.

Dr. Michael DiGregorio

I think Mr. Dung and Mr. Thang have focused quite well on two very broad and important issues. The first one is the role of leadership. My experience in Vietnam is that people don't want to deal with climate change, not because they are not afraid of it or concerned about it, but because they really don't know what they can do. And when you don't know what you can do, the response is just ignoring it, because there's nothing you can do about it. I really appreciate what Mr. Dung said about Can Tho. This is a very well-thought up program, I wish other cities were so deeply engaged with climate change. And also, I would like to see much

more communication from the leadership on what they're doing so that people feel that at least there is a structure, there're certain things that the state can do, through large infrastructure projects, through investment programs, through education and training program, but then there are things that the people can do, like adapting rooftop solar energy, or other means reducing GHG emission, or perhaps housing design and community-based projects like the ones that ISET has carried out. The second issue about funding is what we see repeated in every city in Vietnam. I really don't know how to resolve that because it has a lot to do with the way that taxes are registered within the national budget. In other countries, cities themselves have some taxing authority, either through property taxes or others.

But in Vietnam we find that very difficult for some historical reasons. But the funding issue is really a deep and fundamental issue, which leads me to think that the state really means to bring in the private sector to do things that it cannot do and people cannot do. A lot of the private sector activities are actually mitigation and adaptation, revolving around GHG emission. And perhaps one more point to make, about the short-term versus the long-term perspectives. Since the middle of the 1990s, provincial authorities have been growing in the political economy of Vietnam, by that I mean there's more and more decentralization. It's been a very difficult process, however, because it's the decentralization of authority, but not decentralization over funding or budgets. So you end up with provincial authorities

that have much more power than they used to, but have not much funding to do what they want to. The other thing that has been the general trend is that the provincial level authorities have almost always been grown up in the province where they're serving or the city where they're serving. So when we talk about the long-term versus the short-term perspectives, many of the provincial authorities as we see here do in fact care very much about their province or city, and are willing to do anything they can to make those cities prosper, livable and to protect them from the impacts of climate change. So I see that as a very positive trend. But the funding of what they want to do, what they can do is very difficult.

QUESTION 3

What are urban development and planning challenges that cities face in responding to climate change?

Dr. Tran Lan Anh

The Urban Development Agency (UDA) under the Ministry of Construction (MoC) is a state management agency on construction, responsible for implementation of approved plans. We are in the process of implementing these plans according to the procedures set forth by the Government. However, we are also facing difficulties. The most prevalent difficulty is the overlapping of various plans at both national and local levels. We are in need of a ‘conductor’ to organize the implementation from national to regional and local levels. There are two cities present here today,

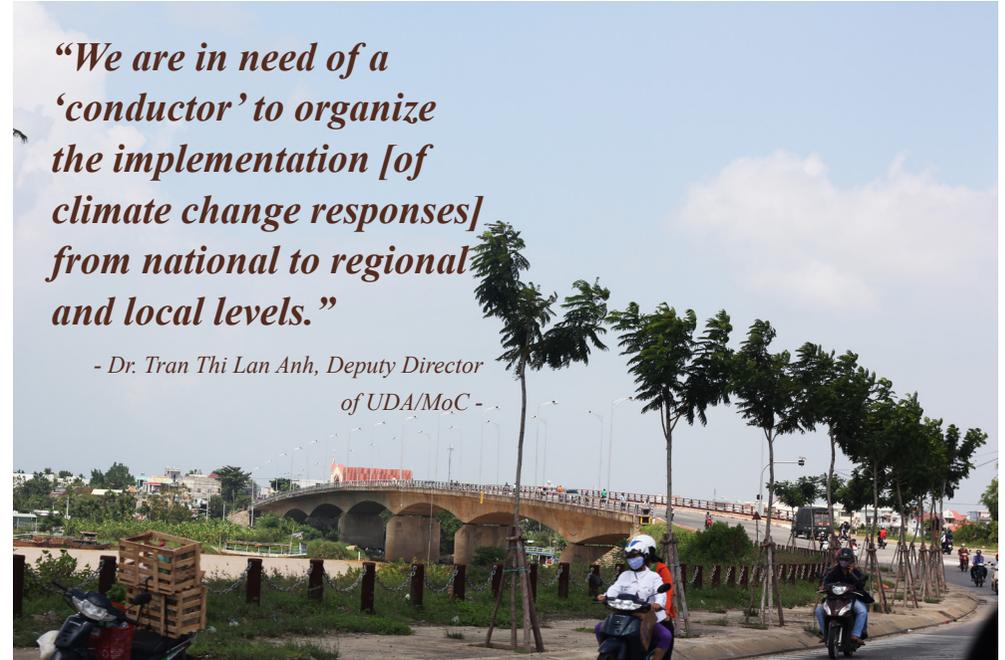
Can Tho which is a provincial level city, and Binh Dinh a regional city. Both central and local agencies need to strengthen coordination and cooperation for better implementation of national and regional plans, particularly those involving infrastructure.

Dr. Luu Duc Cuong

A principle of planning is to ensure space for water, open space, green space, to reduce concrete surfaces, development along riverbanks and coastlines, to extend space for drainage, and to limit development in sensitive areas and floodways. It is necessary to harmonize between immediate and long-term benefits. If the development process only focuses on immediate economic benefits, while underestimating environmental sustainability, we will pay a dear cost. We should be aware of future uncertainties, which

“We are in need of a ‘conductor’ to organize the implementation [of climate change responses] from national to regional and local levels.”

- Dr. Tran Thi Lan Anh, Deputy Director of UDA/MoC -



require planning to be flexible and proposed solutions to be “no regret”. However, the planning systems and methods in Vietnam are too out-of-date, relatively imposing, rigid, top-down, and allow for little feedback and involvement of stakeholders. In the context of climate change and market economy, such rigid methods are no longer appropriate

and require changes from the core. This is one of the barriers hindering climate change response in the process of developing, implementing and managing plans.

As assigned by MoC, VIUP, in collaboration with UDA, is doing a lot of research on integrating climate change into construction planning. We have published

several handbooks on integrating climate change into planning, conducted research on the impacts of climate change on different types of construction and urban technical infrastructure systems. We are also collaborating with UDA to conduct a research to develop an urban Atlas on climate change, expected to provide the database to support departments/agencies in decision-making. Currently, there are about 800 cities and towns nationwide. Each year, ten of thousands of different plans are developed nationwide by different consulting agencies. Planning capacity is relatively good at the national level, but usually poor at the local level due to the gaps in information. Planning in general, and climate change planning, which is a new area, is inadequately informed, leading to poor quality. Here and there, climate change is

still perceived as something very far away, not a practical issues for families or cities to care about. They only see the importance of planning for natural disasters and risks when they already happen and cause damages, otherwise they tend to underestimate or ignore them. I am still concerning about perception of some consulting agencies in Vietnam about climate change integration planning. These are two greatest challenges. In addition, there are other challenges relating funds, long-term benefits, immediate benefits, database, multi-sectoral collaboration, or the need for a conductor, etc., as the others have mentioned.

QUESTION 4

Can you provide some examples of potential measures that can be applied in the planning process in Vietnam in the future?

Dr. Tran Lan Anh

Government funding for urban management and climate change response is still very limited. Besides, there are international funding sources, including those from ISET. ISET introduced the concept of urban climate resilience in Vietnam very early on when our climate responses were mostly around agriculture, rural development, irrigation, and agricultural irrigation. The introduction of the urban element was like an alarm to us, and now Vietnamese cities are implementing projects including those of ISET in resilience planning, organization, and implementation of specific actions. We are also working closely with ISET to develop a guideline to share with all 800 urban centers in Vietnam, 300 of which have high-risk profile. We highly value this work. In addition, we are also doing research, one of

which is an ADB-funded research on risk co-financing with the creation of a fund contributed by municipal governments and residents through insurance purchase. This is a new and challenging model to introduce to Vietnam at this period, but it is necessary for the future as the need for community mobilization in disaster response is increasing.

It is risky to rely on loans, grants and taxes in the context of low tax revenue. Besides, analysis of potential projects and sites is an important task to focus on before suggesting long-term pathways for urban development. There is also support from other agencies to implement projects addressing issues such as resettlement and gender. However, we suppose there need to be a focal point to take all of these efforts forward, preventing project results to end up inside a

“The projects have a long enough timeframe, and are very comprehensive. Especially there is an enthusiastic, dedicated team of experts with high level of expertise to help replicate the results to the whole country.”

- Dr. Luu Duc Cuong, Deputy Director of VIUP, MoC -

closet and not having long-term impact in reality. Therefore, we hope that for this project with ISET, there will be a small fund provided at the end to share the knowledge to other administrative agencies and to scale it up in other communities, other cities and in the entire country.

Dr. Luu Duc Cuong

It is fair to say that for such a long time, I have not seen and been involved in such an outstanding project as the ACCCRN program coordinated by ISET. The projects have a long enough timeframe, and are very comprehensive. Especially there is an enthusiastic, dedicated team of experts with high level of expertise to help replicate the results to the whole country. Not only three cities but also many other municipalities have also benefited from the project. The

MoC itself is a beneficiary of this project. I still remember when the first workshop of the project was held in Hanoi, I had a comment that this Rockefeller-funded program had a focus in funding local level implementation projects. At that time, there were not any activities working with national agencies. They believed that the grassroots approach was the most effective. I pointed out that although implementing projects at the local level was necessary, it is more important to creating more spreading impacts by engaging with national agencies. In that way ISET's projects and ideas would have a better chance to be shared with all other cities nationwide. And today we have accomplished that. Besides, as we all know, there are currently so many climate change projects being implemented, not only by construction sector

agencies but others as well. Mrs. Lan Anh already mentioned some of them, and there are so many others. ADB is now an active donor of climate change projects, mainly on climate change adaptation while the World Bank is both adaptation and mitigation projects. VIUP is now working closely with the Nordic Development Fund (NDF) on green infrastructure projects. It is fair to say that ISET was the one who laid the first bricks, a sound foundation for our work by providing the concepts and approaches on climate change response. The donors will continue to help Vietnam go deeper into details, focus on particular aspects and transform these insights into specific technical measures.

“Urban planning tends to be very rigid, the standards tend to be very rigid. And these can be very difficult when you’re trying to deal with uncertainty and in fact the changing environmental conditions.”

*- Dr. Michael DiGregorio, Vietnam
Country Representative, TAF -*

QUESTION 5

What are some urban development and planning challenges that cities face in responding to climate change?

Dr. Michael DiGregorio

My friends have given me a lot to think about, and fortunately they are things that we have discussed many times in the past. I want to say a few words about something that has not been spoken. It is very true that urban planning tends to be very rigid, the standards tend to be very rigid. And these can be very difficult when you’re trying to deal with uncertainty and in fact the changing environmental conditions. I can give you very clear examples; let say that you’re in charge of constructing a road across seasonally flooded areas. The standard for constructing a road in a rural area maybe that the road will overtop only in a 10-year flood, if it’s in the urban area it maybe 20-year. And the result is that in most floods, the road is dry. The problem is that the land on the other side of the road during the



flood season will be flooded even worse. But that’s not the problem of the Ministry of Transportation, their focus is on making sure that the road is passable during a flood. They have standards to make sure that their roads a passable during floods. The issue about whether land is flooded maybe an issue for the Ministry of Agriculture and Rural Development in rural

areas or Ministry of Construction in urban areas. So those kinds of rigid plans and standards really are serious problems and very difficult to resolve because in some way the standards are part of another problem we talk about, it is lack of technical training. When you talk to very local level planning, planning of maybe city level, and sometimes provincial level, they

tend rely on the standards because they either don't have the judgment or authority to go outside of they standards, and they don't have the technical studies to support them. So coming back to that road example, what you really need to do is a hydrological study and determine what the flood levels area, what the capacity for the bridges needs to be and not to rely on a single standard. When those technical studies don't exist, people tend to just rely on the standards. Another problem that comes from the rigidity of plans and standards is that at the very low level, at the household level, people tend to ignore them because they find it difficult to comply, so you end up with a lot of constructions that are in places that they shouldn't be or that doesn't follow the standards of construction and therefore creates vulnerable housing. And on

the other side, you have the other problem of the extremely powerful developers who can ignore the plans or ignore the standards because they come from the projects whose size is so huge that it is very difficult for any authority at the city or provincial level to say no. So when you're getting confronted with the projects that are 10 million or 20 million dollars, it's hard to say no because that project will create job and do housing and to taxing very well. So it's difficult to hold those people to the standards, so you end up now with this odd system when we have rigid plans and standards, are kind of lack of technical expertise to then modify or make those standards much more contextualized, then at the bottom end, people who either don't know the standards or just ignore them and build where they want or how they want, and then

the very large developers who may know these standards but have very significant financial capacity to get some variance with that, which then leads to me the final point, which is what I said earlier that the process that is taking place in Vietnam during the last 20 years has been one with much more authority that has been decentralized to provinces. We need to increase accountability at the provincial level, particularly with urban planning, so for example when a developer seeks a variance in the standards, that has to become public knowledge, it's not an issue of them having a lot of money and they can do what they want because it's good for the province. It maybe good for the province but one of the costs when we think it's really a public issue and which the public should be aware. I understand that that is a very difficult thing to do,

extremely difficult thing to do, but gradually that has to be built into the planning process.

Dr. Stephen Tyler

These questions and these issues, although they've been talked about in the context of Vietnam, very similar issues that cities all over the world are trying to struggle with. And if I think back to the kind of conversations that we could have had six or seven years ago at the start of the program, this could have been impossible to discuss this kinds of issues in this way, through this kind of sophisticated understanding at both the local government level and at the national level. So this is a big change over the past seven years in the understanding of these challenges of urban resilience in Vietnam.

SESSION 1.

Provincial coordination of climate resilience planning and investment

Climate change is a multi-sectoral, inter-provincial, even cross-border issue. The nature of climate change requires technical and procedural coordination at the local government level. The ACCCRN program has provided support to three cities of Can Tho, Da Nang, and Quy Nhon to establish CCCOs since 2010 to deliver on these requirements. Different from most other local government offices, CCCO:

- Reports to the Steering Committee for the National Target Program to Respond to Climate Change (NTP-RCC) and the PPC, thus, it is of higher level than department-level agencies (such as DoNRE);
- Has no direct administrative authority to implement climate change response measures;
- Has the main role to coordinate (not control), ensure consistency of plans across sectors, conduct studies, advise other departments and the PPC, and contribute to building decision-making capacity for the province;
- Has authority that comes from its role in connecting and sharing information, its technical knowledge, and facilitation and bridging role rather than from hierarchical administration.
- Climate change responses in the city must be taken by OTHER administrative units, not CCCO.

PRESENTATIONS



[Presentation 1: Climate Change Coordination: Challenges and Solutions in Da Nang City, Dr. Dinh Quang Cuong, CCCO Da Nang](#)



[Presentation 2: Climate Change Coordination Offices – Lessons from ACCCRN, Dr. Stephen Tyler - Senior Advisor ISET](#)

Facilitator: Dr. Tran Van Giai Phong, ISET

The above differences create some challenges in the Vietnam system:

- Most departments are not familiar with the approach as designed for CCCO and how to take advantage of this kind of service (flexible, cooperative, responsive)
- The CCCO are not being formally recognized by the Ministry of Home Affairs, and no clear precedent exist, making it difficult to maintain permanent staff and mobilize resources
- Lack of clear policy direction from local government for CCCO's operation

Climate change response at local levels requires technical and procedural coordination as mentioned. These issues need to be addressed.

QUESTION 1

Does the CCCO at provincial level focus mainly on climate change response, or also on disaster response? In the current system in Vietnam, climate change response is under the authority of MONRE, while disaster response is under MARD. Such the mechanism applies from central to grassroots levels, what challenges does this pose to the CCCOs?

Discussion

- Currently, CCCOs address both climate change and disaster risk reduction (DRR) through members of the NTP-RCC working group
- At provincial level, there are two relevant steering committees: the Steering Committee for Flood and Storm Control, and



the Steering Committee to Respond to Climate Change. In Da Nang city, the two committees have the same members, who come from relevant departments/agencies.

- The question is that if we merge the two committees, where will CCCO stand. It is impossible to ensure effectiveness of CCCO if it sits under either DoNRE or DARD. The key to this issue is in the political will of local leaders.

QUESTION 2

Are there any other approaches rather than placing CCCOs somewhere, such as involving enterprises and research institutes?

Discussion

- The idea of establishing a coordination system that includes both state and private sectors is fantastic. Da Nang CCCO is planning to expand its human resource base, currently consisting of those from the PPC office and DoNRE, to involve staff from other departments and agencies.

This would help diversify its technical expertise and further its impacts. Suggestion for inclusion of private sector members would improve effectiveness, making the CCCO model more sustainable in term of human resource and finance.

- This is a capacity building process not only for city leaders but also for lower level leaders and the community. Unless we can promote significant changes in the leadership's perception and political will, we will not be able to produce breakthroughs that go beyond current mindsets.
- To attract private sector involvement, we need to win community's attention. For example, a flood map would support city residents and also investors in deciding whether to build high.

QUESTION 3

Under the city/provincial government structure, there are functional departments responsible for short-term or medium-term actions for the city's development. By conducting assessments to identify long-term measures for climate change adaptation, how can CCCOs involve departments/agencies in project implementation and planning, and encourage their collaboration in the process?

Answer

Other local departments are not concerned enough about the risks associated with climate change. This highlights the role of CCCOs in raising their awareness, and reminding them about possible changes they will need to make in their activities to take climate

change into account. This issue deserves concern of all sectors and all provinces because departments will gradually realize that it is impossible to handle their works unless they resolve climate change related issues. By then, collaboration with a coordination agency like CCCO is inevitable.

QUESTION 4

If the Director of CCCO Da Nang is transferred to another position by the local government, how would that affect the existence of Da Nang CCCO?

Ms. Le Thi Thu Hanh, Da Nang DoFA

- Mr. Cuong's leaving would not have significant influence because we all have a very good working spirit for Da Nang city since the inception of ACCCRN project. ACCCRN project used to have a working group, a pre-CCCO team,

including staff of all relevant departments and all districts in Da Nang city. After the CCCO was established and Mr. Cuong appointed as Director, this collective work continued to be carried out by the same people and it has been working well. If a CCCO staff is transferred to another position, Da Nang CCCO will have a replacement from the working group.

- If CCCOs have difficulty in term of personnel, one solution is to involve staff/experts from research institutes. However, as a CCCO staff is required to have appropriate technical expertise and skills, recruiting people from outside is quite challenging.

SESSION 2.

Urban planning and flood management

Climate change began to attract substantial concern in Vietnam since 2007 after the World Bank (WB) released the report on sea level rise and climate change vulnerability of urban areas in Vietnam. So far, urban areas are facing increasing risks from floods because of urban expansion and increased value of urban infrastructures located in the vulnerable areas. Climate change will increase future flooding risks, but a bigger problem is the risk created by current urban planning practices. We are witnessing very similar processes in different cities: new construction increases flood risks in nearby areas.

The specific factors may vary in different locations, but in general:

- Drainage requirements are underestimated or neglected when infrastructure is built (roads, development zones).
- Urban planners do not consider the impacts on adjacent areas when filling low-lying lands.
- Infrastructure and urban development is not well coordinated: water management, irrigation plans, transportation infrastructure, and urban construction are all planned independently and with limited coordination.
- Local governments have an incentive to over-build in order to encourage development, creating drainage problems from partly built infrastructure and then lack funds to fix the problems.
- The result is that new urban development increases flooding risks for other parts of the city.

PRESENTATIONS



[Presentation 1: Urban development in Quy Nhon City in the context of climate change: Current situation and challenges, Mr. Huynh Ngoc Hoang, Department of Construction, Binh Dinh](#)



[Presentation 2: Urban development in low-lying areas: Lessons learned from An Van Duong urban area, Mr. Dang Minh Nam, Thua Thien Hue UPI](#)

Facilitator: Dr. Michael DiGregorio,
Vietnam Country Representative, TAF

- This requires changes in planning practice to reduce current and future risks.
- However, delay in construction projects could also be an opportunity to for the plan to be reviewed for the better, to overcome current shortcomings, and integrate measures for improved drainage capacity.
- Proposed measures include concentration of development in the urban cores, particularly at location of intersections between major roads, flat areas and industrial zones.

QUESTION 1

Contents presented in the workshop are specific lessons learnt from particular provinces. Can these lessons be generalized to support further research, planning and implementation of plans in other places?

Answer

In the context of climate change, there is no common formula for all cases because different provinces have different characteristics, but we have general principles (e.g.: space for water, more open spaces, less concrete surface, construction of roads paralleling to flood drainage corridors). These issues have been pointed out in these case studies.

QUESTION 2

As the Director of Thua Thien Hue Urban Planning Institute (HUPI), can you update us with the progress of the An Van Duong urban area project, and in your opinion, is it successful?

Mr. Dang Minh Nam, HUPI

Construction in the An Van Duong project did not comply with the original plan; investment phasing



was not appropriate, planning targets were too ambitious, exceeding actual budget available. It is important to take into consideration the issues with drainage and urban waterlogging. More in-depth research should have been done before approval.

Dr. Luu Duc Cuong

There will always be discrepancies in urban development planning and urban development. A great challenge facing urban planners is

to balance immediate benefits (e.g.: economic benefits) and long-term benefits (relating environmental protection, ecosystem protection, DRR management in the future).

SESSION 3.

Green infrastructure and resilient urban ecosystems

Presentations emphasized the impacts of urban development and intensified production systems, which lead to increased impacts from extreme climate events, especially floods and degraded ecosystems, which are natural buffers of these extreme climate events.

The presentations pointed out that:

- It is difficult to protect floodplains, floodways, and flood retention areas from development because the value of these efforts is only clearly appreciated when severe floods occur.
- Most actors, from local residents to city leaders, are only considering short-term economic returns, and neglect the long-term benefits of ecosystem in reducing climate change impacts and improving productivity. Community-based co-management of mangrove ecosystem in Thi Nai lagoon, Quy Nhon city has faced many challenges due to these reasons, particularly in the context when there is a shift in livelihoods, from long-term natural resource-based to urban livelihoods.
- Co-management mechanisms should be flexible to be more adaptive to local contexts. Strong local leadership, community support, and a better mechanism for benefit sharing of the ecosystem's resources are needed.

PRESENTATIONS



[Presentation 1: Mangrove Restoration in a Degraded Peri-Urban Site in Central Vietnam: Variable Success in Different Villages, Dr. Nghiem Phuong Tuyen, ISET-Vietnam](#)



[Presentation 2: Measures for building flood resilience in Da Nang, Mr. Tran Viet Dung, Da Nang DoC](#)

Facilitator: Dr. Tran Van Giai Phong, ISET-Vietnam

- The HUDSIM model (Hydrology and Urban Development Simulation Model) was developed by Da Nang DoC to demonstrate the relationship between flooding and urban development and raise awareness on this issue. The results of the HUDSIM was used to revise the urban plan of Da Nang city, in order to protect riverbank areas, improve flood storage capacity and reduce flood impacts.
- Protecting ecosystems and “green infrastructure” is only a part of the overall flood management strategy. It is necessary to have inter-provincial mechanism for river basin management including headwater forest restoration and DRR measures for vulnerable areas. Da Nang has discussed with Quang Nam province on the management of upstream reservoirs and the river basin for the

benefits of both upstream and downstream areas.

QUESTION 1

What is current situation of this activity? Have these recommendations been discussed or agreed by the PPCs or is project research still in progress?

Answer

From the results of the HUDSIM, Da Nang Urban Planning Institute under Da Nang DoC, the agencies responsible for planning of Da Nang to 2030 with vision to 2050, has reported and recommended to Da Nang PPC to revise the master urban plan considering flood risks associated with development in the southern area of the city. The PPC already agreed, and the revised master plan of Da Nang had been approved by the Prime



Minister. This revised plan revised the treatment of the entire southern area of Da Nang, retaining most of this area from development. Several measures were also proposed relating to building ecological urban areas in between low-lying areas and reservoirs and reserving these areas for flood drainage, water storage and water supply for the city, preventing future shortage of water. Da Nang city is in the process of implementing this master plan.

QUESTION 2

Are you aware that GIZ had some project to support Da Nang city to link the hydrological and hydraulic models developed by DoC and those developed by the Department of Transport (DoT)?

Answer

The HUDSIM developed by DoC is a flood simulation model. DOT's model is the hydraulic model of

the sewage drainage system in Da Nang. GIZ provided funding to link these two models. However, the funding required for completing this work, especially in linking input data, is much larger than what is provided by GIZ, this issue is still unresolved.

QUESTION 3

Some varieties of mangroves are inappropriate to the characteristics and salinity of water in the planted areas. Furthermore, were geological characteristics surveyed prior to selection of varieties?

Answer

Nha Trang Institute of Oceanography has many years of experience with studying the characteristics of the ecosystems in this area. The best quality locations are being used as shrimp farming

ponds. Mangroves are planted around these ponds by the local community. The planting areas of the project were secondary choice, with efforts to choose mainly tidal mudflat locations, but at some places the bottom are steep and deep, considerably affecting seedlings' survival rate.

QUESTION 4

What do the different survival rates mean to mangrove restoration in the province, and to the sustainability and benefits of mangroves reforestation activities?

Answer

Con Chim – Thi Nai Lagoon Ecosystem Management Unit (LEMU) is the official management agency of the lagoon area. The contracts for mangrove planting, forest tending and protection in

the project villages were signed between the households and LEMU (not the project). Therefore, upon project end, these areas are under LEMU's management. LEMU already agree to allow the households to continue to tend and protect the mangroves in the contracted areas. Regarding benefit sharing in the long-term, LEMU hesitates to issue an official document to allow households to continue exploitation because there is no current regulation or precedent on this issue. The issue is still under consideration.

QUESTION 5

Under the Centre for Marinelifelife Conservation and Community Development (MCD)'s model in Nam Dinh province, the district/commune level governments are contracted and thus households benefit from farming or harvesting of aquatic products (clams and other aquatic species) under canopy. In exchange for this benefit, the households are responsible for protecting and taking care of the forests, thus, the project did not have to pay them for forest protection and tending. Can MCD's model be something other mangrove projects can learn from?

Answer

Both projects presented refer to the challenge of maintaining natural ecosystems in the urban context.

The challenge facing us in Thi Nai lagoon is benefit sharing in a peri-urban area where the residents are gradually losing contact with the local natural resources. They are getting more interested in other livelihoods such as working as hired labors, and other short-term economic benefits. Thus, their interest in the long-term benefits of mangroves is limited. Similarly, regarding housing development in Da Nang city, it is difficult to consider flooding risks in the long-term when presented with short-term economic benefits. Therefore, we face the same challenges in promoting ecosystem-based measures in urban areas.

QUESTION 6

Who developed the DUDSIM model? A consulting agency? Where is it housed now, has it been transferred to Da Nang city? What agencies were trained to use the model, updating with new parameters and scenarios for assessment and analysis? Or is all the capacity still sitting with the consulting agency?

Mr. Tran Viet Dung

The HUDSIM model was developed by Da Nang University of Technology (DUT) and is being managed and used by Da Nang DoC. I am one of the members of the model management team. The use of GIS (running on software such as MIKE+, MIKE 11, MIKE 12) is an advantage that makes this model easier to use. GIS training is provided in the training curriculum of DUT. We will provide new flood



levels data as basis for updating the model. However, data update will be costly given the hydrological regime of upstream Vu Gia – Thu Bon river basin. If we have the money, the extension of this model will be very straightforward.

SESSION 4.

Urban disaster risk reduction and community engagement

Flood risk reduction in cities can benefit from stronger community involvement:

- In Quy Nhon city, community-based disaster risk management mechanism was established by the local community to reduce disaster risks by better planning for evacuation and emergency shelter locations, and by drills and community training
- Real-time flood early warning system (EWS) provides rapid information on changing of condition and advance warning of downstream flood levels using SMS. The system also includes a community volunteer group to support local residents in emergency response, such as moving of furniture and evacuation.
- Building multi-purpose community house to serve as safe shelters and communal place for local community.
- Results from the recent floods showed the effectiveness of the EWS, contributing to flood risk reduction
- In Can Tho, increased riverbank erosion caused substantial loss of life and property. Community consultation led to identification of low-cost biological materials and construction techniques to reduce riverbank erosion.
- Community organization and co-management with local governments enabled low-cost solutions. Community contributed labor and some materials for the construction and help to maintain the infrastructure. Level of contribution depends on distance of the riverbank from individual house location and was agreed among the households, with reference to the cost-

PRESENTATIONS



[Presentation 1: Reducing flood risks for people in the downstream area of Ha Thanh and Kon Rivers, Quy Nhon City, Mr. Ho Van Hiep, CCCO Binh Dinh](#)



[Presentation 2: Co-management for riverbank erosion and Salinity monitoring System in Can Tho City, Vietnam, Dr. Nguyen Ngoc Huy, ISET-Vietnam](#)

Facilitators: Michael DiGregorio, Vietnam Country Representative The Asia Foundation

benefit assessment conducted under the project.

- Benefits have been proven to greatly exceed costs, the community is very satisfied with the results.
- In both cases, successful solutions would not have been possible without the consultation and engagement of the affected communities. This may require investment in community organization and facilitation to ensure that vulnerable groups are represented.
- The real-time salinity monitoring system in Can Tho city was proved useful in the recent saline intrusion event of the Mekong Delta. Timely warning helped local community to take appropriate responding actions.

QUESTION 1

Riverbank erosion project: Who decided on the households responsible for making financial contribution and the level of contribution? How did the community reach consensus?

Answer

- Establishing a Community Representative Board
- Conducting Cost-Benefit Assessment (CBA) of riverbank erosion impacts and embankment measures, with support from Can Tho University
- Explaining the CBA results to the community to help them understand who will be affected and how, compared to others. Based on this information to decide on the level contribution for each household. However, this contribution was not obligatory.
- Local community meetings to reach consensus.

QUESTION 2

Riverbank erosion project: Why has the model not replicated effectively?

Answer

Other cities/provinces and organizations (Red Cross at district level) have been provided with information on the project model and its success, but the model has not been replicated effectively yet. There might have some difficulties related to system inertia and resource limitation which delayed the implementation of activities.

QUESTION 3

Salinity monitoring project: Can the salinity monitoring system be expanded to other provinces in the Mekong Delta?

Answer

This salinity monitoring system can easily be expanded and connected

to other monitoring stations in entire Mekong Delta Region (using wireless network).

QUESTION 4

Why did the project quickly decide on the salinity control dam (a construction solution) as salinity increases?

Discussion

- There are a range of solutions corresponding to different salinity levels, including informing community to stop watering the trees during saline intrusion periods.
- The salinity control dam already exists (it was an earthen dam). In this intervention, the dam was reinforced and rebuilt so that it can operate two-way: salinity control in the dry season and water drainage in the rainy season. This solution is selected considering the increasing trend in saline

intrusion as shown in long-term salinity monitoring data, which evidence the growing saline intrusion risk in Can Tho city. Protected areas are agricultural farming areas (fruit tree farming) near the East Sea, thus, the dam plays a critical role in protecting the trees. Moreover, it does not cause any negative impact on the local ecosystems.

- The El Nino phenomenon recently occurs vigorously. Mekong river has many dykes, particularly in China, providing 16% of water to the Mekong Delta areas. As rainfall is down, saline intrusion will become even more serious. In the long-run, saline intrusion get more and more severe. Evaluation of the trend requires long-term data.

QUESTION 5

EWS project: Is the EWS automated or manually operated?

Answer

The system is operated by human, which we think is needed to ensure reliability of warning information. Reliability of traditional monitoring measures (flood marker) and manual calibration proved its effectiveness in recent flood in October 2016. The community received warning messages and proceeded to the safe shelter (304 households stayed at the safe shelter for two days and one night from October 3-4). With timely SMS, households were aware of the severity and persistence of the flood, and so they did not leave the safe shelter too early, which would be dangerous for them.

QUESTION 6

EWS project: What are contents of warning SMS?



Answer

Content of SMS: water levels in different places in the upstream and downstream areas, and 6-hour projection of flood levels: this is concise and useful information for the community's timely response.

QUESTION 7

EWS project: How does the system take into consideration the operation of hydropower reservoirs upstream?

Answer

The Hydromet Center complied with standard procedures, and was also informed by the hydropower plants of reservoir release plans with details of timing and volumes of release. This allows appropriate warnings to be issued to the community. In addition, we also record flood levels shown on the water marker to later use as comparative data.

SESSION 5.

Lessons learned from stakeholder engagement for building urban climate resilience

Stakeholder engagement experience by a national level coordination and technical assistance agency and a local level project implementing agency revealed similar lessons:

- Adaptive measures for cities cannot be implemented by a sole group of experts. Multi-stakeholder involvement is needed—technical departments and agencies, social organizations, communities, households, NGOs—both top-down and bottom-up, to build resilience together.
- At the city level, planning and resilience planning need to involve various departments and sector agencies because only they have the specialized expertise to understand the impacts and adaptation strategies needed in their sector.
- Community groups who are vulnerable to climate hazards sometimes understand problems better than the city level technical staff, therefore, their knowledge is helpful in developing solutions.
- An important tool that used by ACCCRN in community engagement is Shared Learning Dialogue (SLD). These groups need to participate in planning and support the implementation of resilience measures.
- It is important to improve capacity not just in term of technical expertise but also in stakeholder coordination and facilitation.

PRESENTATIONS



[Presentation 1: ACCCRN: Local knowledge, experience and good practice for national level climate change adaptation, Ms. Nguyen Quynh Anh, NISTPASS](#)



[Presentation 2: Development in peri-urban areas and flooding issues: A story from new urban development areas of Can Tho, Ms. Nguyen Thi Anh Ngoc, Can Tho DoC](#)

- The process of planning should be emphasized (not just the final products) to ensure viability of plans.
- The case study of flooding in Can Tho shows that the recent worsening of the flooding problems in Can Tho results from both the city planning process and spontaneous actions of its citizens.

QUESTION 1

The SLD approach is interesting but is it a process or an event? How is the community consulted and to what extent do they contribute their opinions? What are challenges and how does it work in reality?

Answer

- SLD is a series of events through which to propose plans of actions. Outputs of the

first event will be inputs of the second and so on.

- We have great lessons to share from community involvement in climate change action planning in Lao Cai city.

QUESTION 2

This is a great approach and method. What are specific difficulties in applying the SLD tool successfully?

Answer

The difficulty is to ensure uninterrupted involvement of individuals, and that they are the right people to participate. Without continuous involvement, effectiveness of participation will be affected. The SLD process supports individuals to participate actively and share openly, which is normally a difficulty of consultation process.

QUESTION 3

What recommendations relating to city urban planning does the project propose?

Answer

- Can Tho city planning before did not take climate change into consideration. We recommended the integration of climate change.
- The planning process requires inputs from the community, which can be used by the experts in updating the plans.

QUESTION 4

What is waterlogging and what is flooding? Waterlogging is caused by inappropriate infrastructure system, flooding is caused by flood currents related to river flows.

Answer

The research area experiences both waterlogging and floods. For example, when the elevation of Area 4 was raised, it caused waterlogging in adjacent areas, whereas flooding in Area 3 is caused by the local tidal regime.

SESSION 6.

Resilience housing

The housing sector is highly vulnerable to natural disasters and floods, therefore, it is important to prioritize building resilience of this sector. The presentations pointed out that:

- Building storm-resistant houses for the poor is completely feasible based on the capacity of the community themselves. The storm-resistant housing project in Da Nang provided low-interest credit loans to these households, with customized credit package (loan duration, capital and interest payment schedule), which facilitate borrowers in making due payment.
- The success of this pilot housing credit model is attributed to awareness raising and capacity building for local community to improve their understanding of the effectiveness and importance of complying with technical building requirements for storm-resistance. In addition, it is also thanks to close supervision and timely support of Da Nang Women's Union (WU) and WU at all levels to each individual households during the loan term and construction period.

PRESENTATIONS



[Presentation 1: Project results: Storm-resistant housing for a resilience Da Nang City, Ms. Tran Thu Hanh, Da Nang Women Union \(WU\)](#)



[Presentation 2: Undertaking feasibility study for scaling up the model of storm-resistant housing for a resilient Da Nang City, Dr. Tran Tuan Anh, ISET-Vietnam](#)

Facilitator: Dr. Tran Van Giai Phong, ISET-Vietnam

- The replication of this model faces some challenges, such as the lack of a mechanism to transfer the knowledge to the entire city population at the lowest cost. The house design should be customized to the needs, habits and conditions of each household and in each region. No precedent of housing credit insurance exists in Vietnam.
- The project shows that DRR work in Vietnam should pay more attention to providing support regarding the technical requirements for natural disaster prevention, and providing insurance solutions, instead of just focusing on post-disaster relief and recovery.

QUESTION 1

There are three different beneficiary groups: the extremely poor, the poor and the near-poor. Does the project have data of the variation of loan amounts and loan purpose among three groups? What is the capacity of extremely poor households in repaying the loans?

Answer

Our project focuses on these three groups but credit loans are intended only for poor and near poor households. Loan repayment rate for all of these households is 100%. For extremely poor households, we worked with Fatherland Front, who provided each household with 30 million VND of grant from the Fund for the Poor. Together with an additional 5 million VND of grant provided by the project, this help

them to build new houses meeting storm-resistance criteria.

Discussion

- Da Nang WU's experience in management of housing credits, such as with the World Bank project, contributed to their success in managing this credit project. Construction of houses under this project did not only provide storm-resistant houses but also contributed to improving the status of the poor in the urban community. Before, these people lived in weak, degrading houses, but now living in stronger houses, their status in the community is different. They can now escape from the vicious circle of poverty, not having to spend money repairing houses every year. This is the added value of the project.
- To enhance replication effectiveness, it is necessary to develop a regulation document

for natural disaster prevention. When applying for a building permission, people will be given a technical document on building techniques. This would help improve the effectiveness of replication. There should be training for local construction workers, who are directly involved in the construction of houses. When these construction workers learned storm-resistant techniques, they can become advisors to local households and help to promote wide application of storm-resistant construction techniques.

- This housing credit model can be applied not only to households in the urban context but also in other areas. Retrofitting of a storm-resistant room in a house, without having to dismantle other parts of the house is extremely cost-effective.



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