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Presentation: Danang CDS addressing climate change within urban planning system in Vietnam: innovations and challenges

NGO, Viet Hung

Abstract:

Danang is one of the cities in Vietnam that recognized the important of having CDS for its development. Despite of the fact that the CDS has no position in current planning system of Vietnam, it has been implemented indirectly by city leaders and local professionals. Along with the raising awareness of having CDS for the development in cities, climate change is raising issue in Vietnam as well in Danang but there are challenges facing to that. It is because of top down planning, limited financial resources, limited human resources, lack of coordination and vulnerability to climate change and rapid urbanization.

Keywords:

CDS, climate change, Danang, urban planning, Vietnam

1. Overview of urban planning system in Vietnam

Vietnam is one of the fastest urbanizing countries in the East Asian Pacific (EAP) region. Its 2009 population was approximately 87 million (preliminary result of the 2009 Population and Housing Census), and the urban population was estimated to be 25.4 million—nearly 30% of the total. The rate of urbanization is expected to remain above 3% per annum (the current rate is 3.06%) until 2020, after which it is likely to decline to 2.5% from 2025 to 2030.[1] Based on these growth rates there will be approximately 35.5 million urban residents by 2020, or 37% of a total population of 96.7 million. Most urban growth is in the metropolis of Hanoi and Ho Chi Minh City, followed by Hai Phong, Da Nang, and Can Tho.

During the last two decades Vietnam has been experiencing great changes, especially rapid urbanization and high pace of industrialization, which has led to conversions of a large area of agricultural land and other types of land for non-agricultural purposes. (ADB, 2006).

However, the government seems to apply not well-developed urban planning. The master plan has been designed without scientific evidence base for a sustainable development. The situation is getting worse with short term, inconsistent, and overlapped planning. Urbanization process has been undergone without a good support system at different levels (central, provincial/city, district, and community). (Nguyen, 2002)

The Decision 445/QD-TTg dated April 7th, 2009 of the Prime Minister on Adjustment of Urban Master plan Orientation of Cities system in Vietnam to 2025 and vision to 2050 predicts an urbanization level of 45% by 2020, a full 10% higher than the UN rate. (World Bank, Urbanization Dynamics and Policy Frameworks in Developing East Asia, 2005)

Vietnam is a unitary state, thus central agencies have significant powers in coordinating urbanization. The Ministry of Construction (MOC) has been formally designated as the lead Ministry on issues of urban development. The MOC continues to master plan the urban system, planning for an urban system composed of two national “megacities”, three smaller national cities, eleven regional cities, 50 provincial cities, 1,867 district towns, and 20 new towns by 2020 with a total population of 46 million. This official plan encourages urbanization in smaller settlements, rather than the dominant national cities.

[1] Urbanization Dynamics and Policy Frameworks in Developing East Asia. World Bank. (Compared with the urbanization increase of less than 1% (19.17% to 19.79%) during whole period of 1980-1989

In Vietnam, the institutional framework for planning was defined with the following main planning instruments: socioeconomic planning (policy and strategy), sectoral planning (orientation of professional sector) and physical planning (giving spatial orientation to the investment decisions). These three planning fields are equally applicable at the national, provincial, and district levels. Socioeconomic, sector and physical planning tasks also were conducted for regional level, but lacking an administrative framework for plan implementation. (Nguyen,2003).

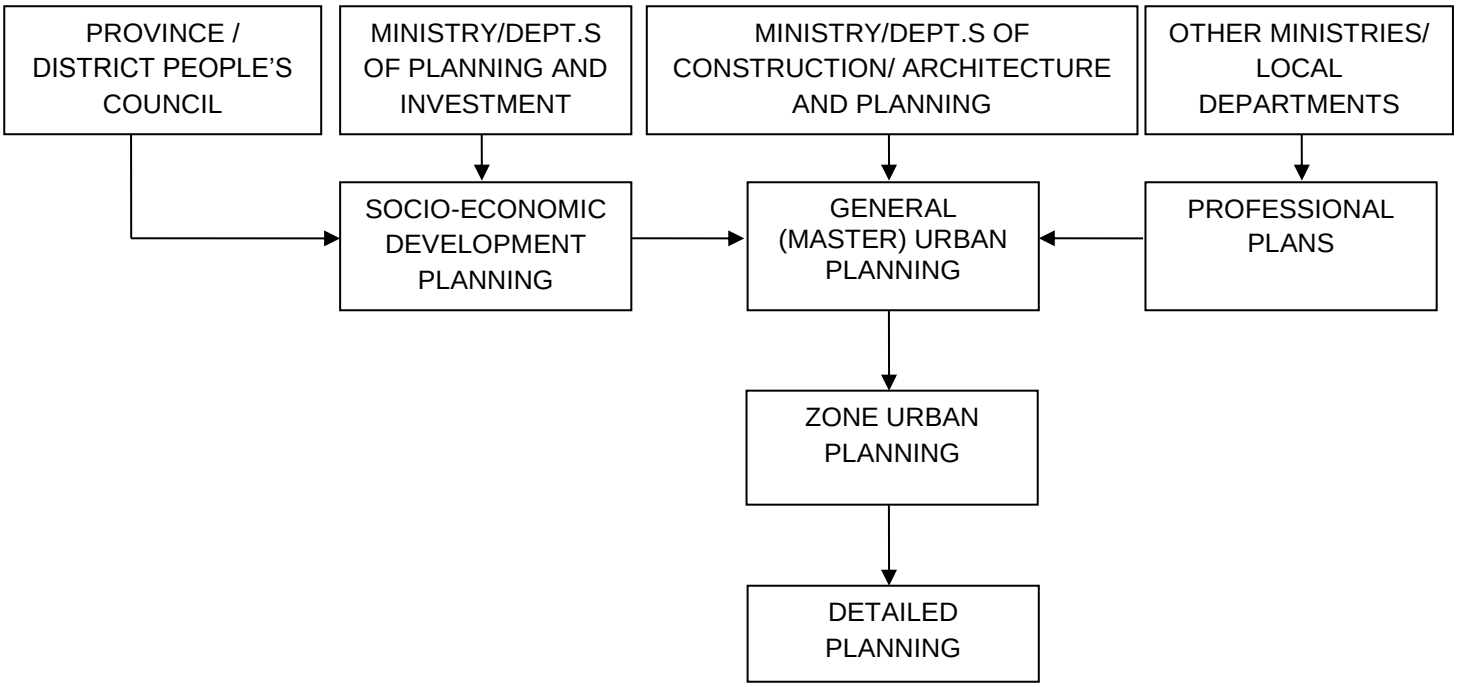


Figure 1. Urban planning steps

Note: The professional plan which is influenced most to the Master Urban Plan is Land Use Plan prepared by Ministry of Natural Resources and Environment

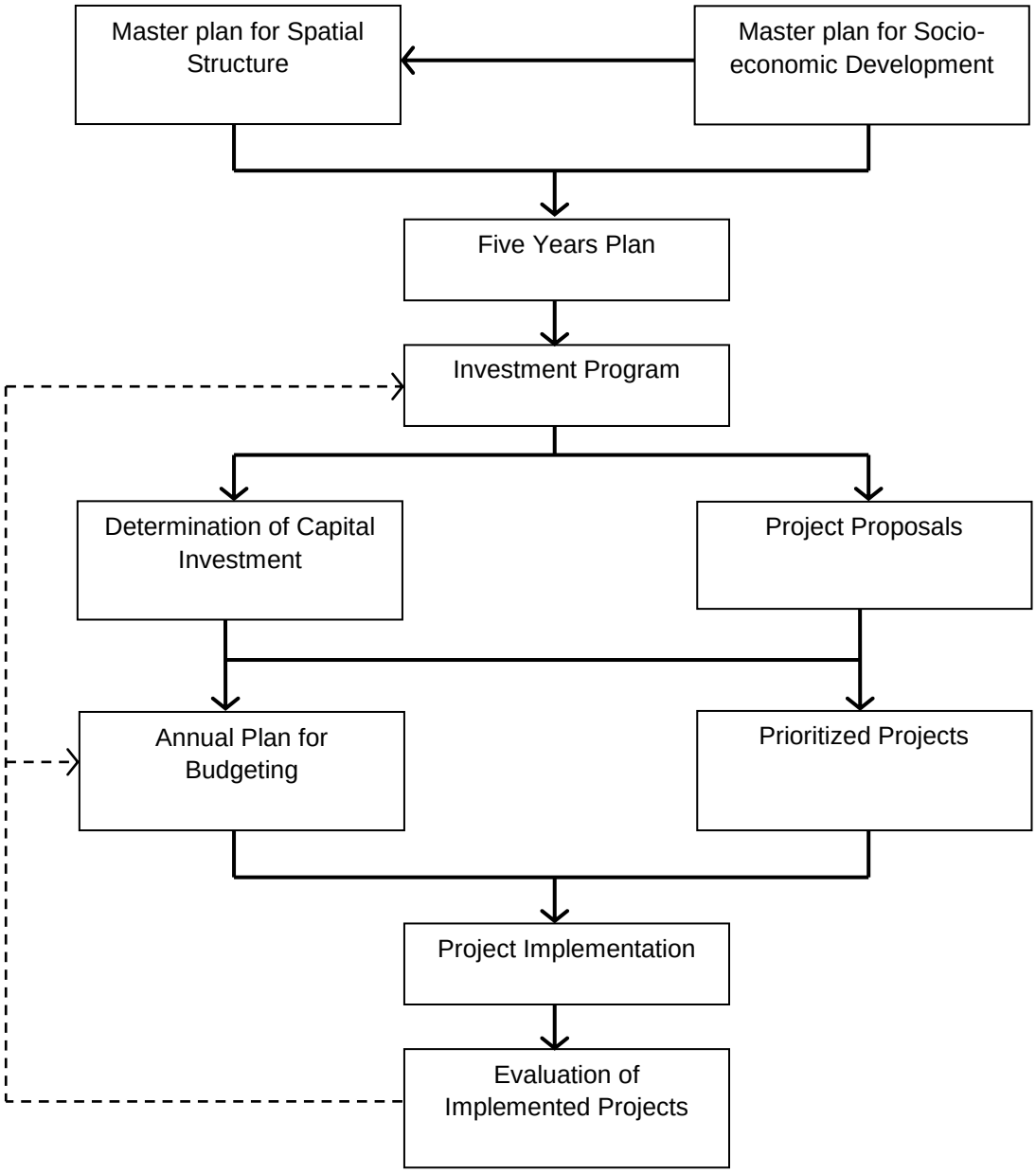


Figure 2. Current Procedures for Planning Investment development Projects (source: Nguyen 2003)

The urban planning framework is embodied in the Master Plan Orientation for Viet Nam's Urban System Development to 2025 and vision up to 2050.[2] This makes provision for infilling and raising the density of

[2] Master Plan Orientation for Viet Nam's Urban System Development to 2025 and vision up to 2050 is the Government's policy framework for urbanization. This plan sets out a strong emphasis on Vietnam's urban transition, with a well-structured understanding of the role Vietnam's cities are playing in integrating the country's economy into the international economic system,

existing urban areas, development of the urban fringes of large cities, satellite cities. According to Law on Urban planning, spatial planning in Vietnam is classified as general planning, zoning planning and detailed planning. Under the regulation of legal documents related to planning in Vietnam, there is no place for City Development Strategy. Therefore, all CDS prepared in the cities of Vietnam have not been approved at any level and they are have not been officially implemented.

2. Danang CDS and climate change issues

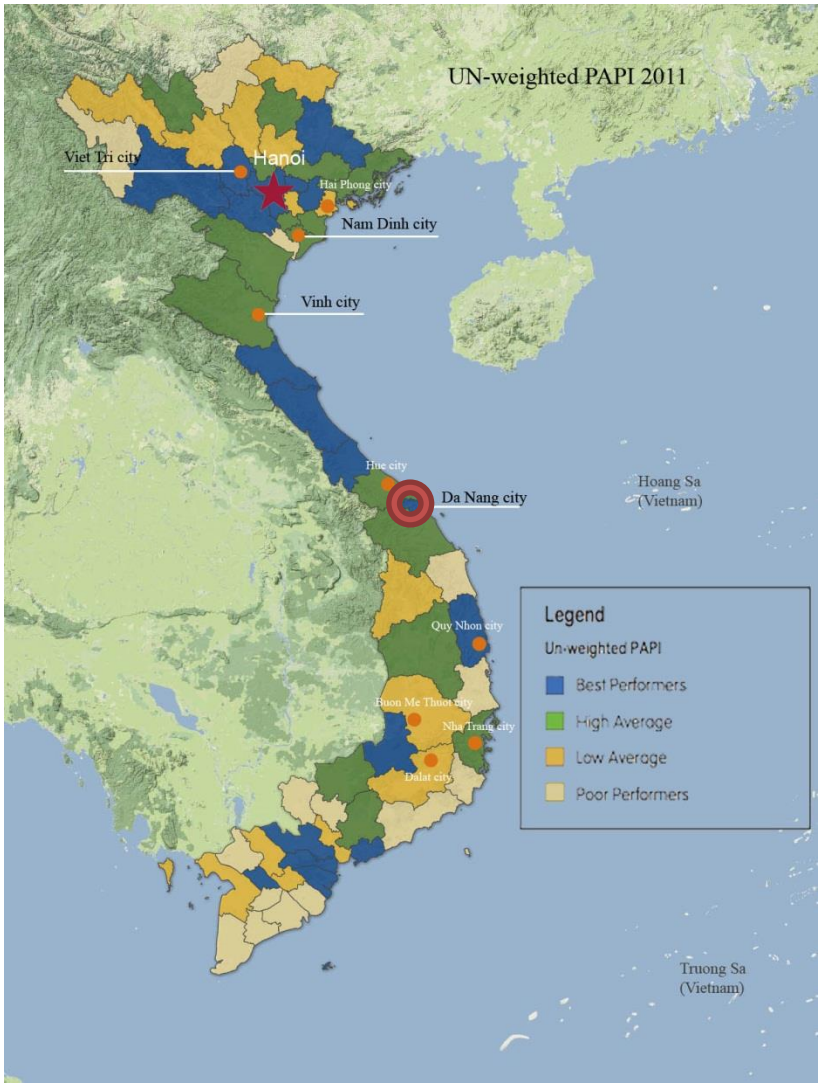


Figure 3. Location of Danang city

Danang City is located in central Vietnam far from Hanoi capital city and economic center of Hochiminh city by 700km to 900km. It has the area of 1255.53 km2 and population of 890,000 (in 2009). Danang city has the strategic position as it is the major growth center in the center of Vietnam . While this physical distance has been a handicap for growth, the growth of Danang City is crucial and decisively important for integration of the north and south as well as the entire country. On June 23 of 2009, the Prime Minister decided to revise the Danang Construction Plan to 2025 (Prime Minister Decision No. 882/QD-TTg). The decision provided a base to revise its Construction Plan and Danang People's Committee is expected to authorize the results

while also propelling growth at a more focused regional scale within the country. The objective of the plan is to achieve balanced and strategic growth, through a national urban system consisting of urban centers of various scales and types distributed throughout the country

from this DaCRISS[3] Study with appropriate zprocess. It is in this context that the Government of Vietnam (GOV) requested the Government of Japan (GOJ) to conduct a study on the comprehensive urban development of the city to ensure that it follows an appropriate and a sustainable urban development. The Consultant Team, comprising ALMEC Corporation and the International Development Center of Japan, was selected and dispatched to carry out the study.

In the Danang CDS, since the suggested vision for Central Focus Economic Zone is to become an "eco-tech region" which promotes economic development, ecological balance, and harmonious coexistence of different ethnic groups based on the maximum use of technology, it is expected that Danang City, being the region's center, should take the lead in realizing such vision. Hence, the vision for Danang City, which is for it to become an "environment city" has been further elaborated as follows : **Danang to be an Internationally Competitive Environmental City beyond being Pollution-free.**

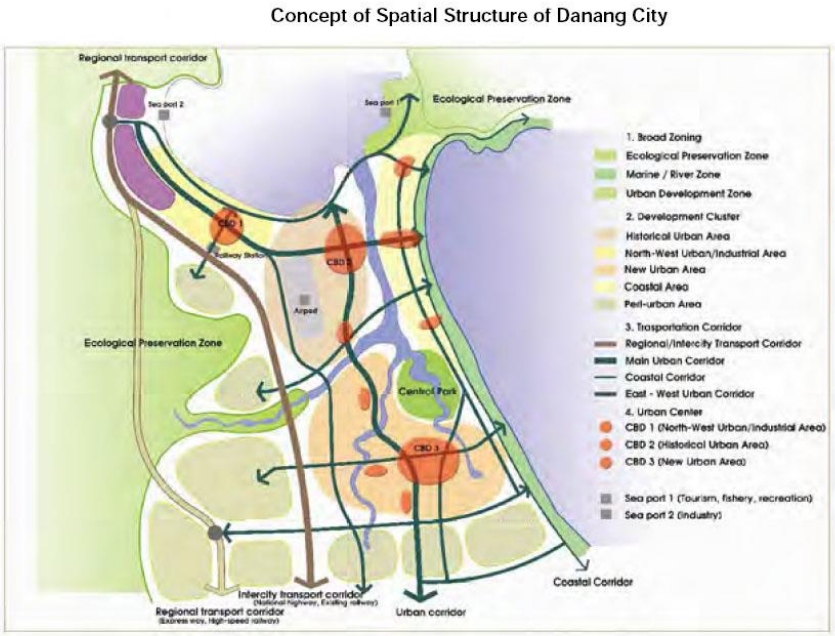
Based on the above-stated vision, it can be assumed that the city will have the following characteristics:

i. Free from air, water, and soil pollution;
ii. Ecosystems and cultures are preserved;
iii. Green businesses take the lead in economic growth;
iv. People's awareness of the environment is high;
v. Socioeconomic activities impose a small load on the environment; and
vi. People and investments are protected against natural and man-made disasters.

As the leading city in development in recent years, Danang is the first city in Vietnam focused on the liveable city and it is a frontrunner in sustainable urban development. These ideas are supported by the city leaders as well as the Danang inhabitants.

As mentioned above, CDS in Vietnam has no legal status. But the city leaders in Danang city have recognized the advantages of it and they try to implement it indirectly. Although it has not been officially approved, it have been using as the major input and important reference for spatial planning of the city as well as decisions of city leaders. The CDS is used as the major input for the Spatial Master Plan to the year 2030 and vision to 2050 of Danang city which has been submitted to be approved by the Prime Minister. It is can be clearly seen as proposal for spatial development in CDS is used in proposed Master Plan with some adjustments; Form of city developed in CDS is applied in the Revised Spatial Master Plan of Danang; Result of population calculation in CDS is used in the revision of Spatial Master plan of

[3] The Study on Integrated Development Strategy for Da Nang City and Its Neighboring Area in the Socialist Republic of Vietnam



Source: DaCRISS Study Team

Figure 4. Concept of Spatial Structure of Danang city
(Source: DaCRISS)

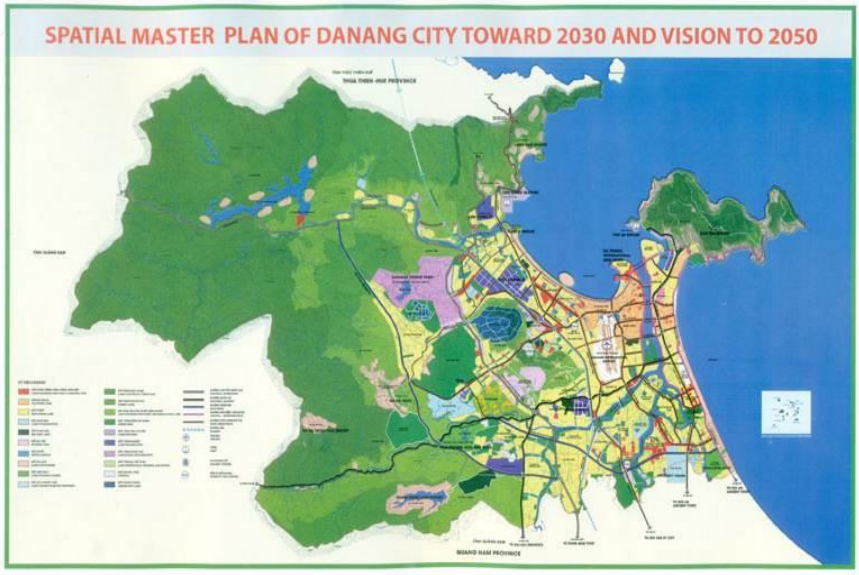


Figure 5. Spatial Master Plan to the year 2030 and vision to 2050 of Danang city
(Source: Danang People's Committee)

Danang city and One of the scenarios of sea level rise in CDS is chosen for the study of Revised Spatial Master Plan of Danang. Other departments also use CDS as the reference for their policy and management program. Especially, public transportation development programme in Danang now is completely followed the transportation development strategy in CDS.

However, climate change issue is not mentioned much in the CDS as it is not the concern of Danang city Leaders in the time of preparing CDS. There is only a part of Environmental Management of Da Nang in the CDS mentions the issues relating to climate change. In the Strategic Environmental Assessment, it is pointed out that Danang City is vulnerable to typhoons and/or tropical low pressure. Between 2002 and 2006, typhoons hit Danang 10 times and

tropical low pressure four times, and every time, the damages became more serious. On the other hand, droughts took place continuously. Rice crops were often affected by saltwater intrusion and extreme coldness due to climate changes.

Flooding is the most serious disaster in Danang City and its vicinity. In order to mitigate this disaster, the "Water Drainage and Environmental Sanitation Project" (WDESP) was implemented in 2006 to construct 37 km of sewerage pipeline and install 20 main sewerage systems. Through this project, damages from floods have considerably lessened, although there remain 156 flood-prone sites, 40 of which are road sections in Hai Chau District and in the central business district (CBD)

A future focal issue is how to substantially decrease, if not eliminate, flooding in the city. Appropriate and durable drainage and sewerage systems should thus be adopted. WDESP is expected to further expand its coverage to remove the remaining flooding problems in the city. In association with such an infrastructure, a community-driven maintenance mechanism should be introduced to maintain the facilities in the long run.

The combined measures with respect to addressing climate change issues can be seen in the Strategies for Environmental Management.

Objectives	Strategies
(i) Establish an effective system to remove and prevent from pollutions;	• Attend to hotspots urgently • Provide anti – pollution measures • Establish effective monitoring system
(ii) Preserve ecosystem and develop eco-tourism;	• Designate ecosystems for preservation • Establish environmental zoning • Expand eco – tourism in farther integration with environmental management
(iii) Strengthening of disaster preparedness and prevention measures;	• Improve drainage system • Develop flood free urban lands • Establish early warning system
(iv) Commitment to global climate change;	• Promote reducing carbon dioxide in all related subsectors • Prepare for the impact of global warming such as rise in sea level and frequent flooding, etc.
(v) Enhance social awareness and	• Incorporate environment issues in curriculum of

knowledge on environmental issues; and	primary / secondary education • Conduct adequate campaigns and public information • Facilitate access by stakeholders to necessary information
(vi) Develop institutional and organizational systems to manage the environment sustainably	• Establish adequate institutions to oversee and promote environmental activities • Strengthen inter – sectoral and inter – department coordination

Together with the rising awareness of climate change since 2010, many activities related to climate change issues have been organized. There are two prominent projects:

a) Storm Resistant Housing Idea Competition and Storm Resistant Housing Program.
The Programme helps to build capacity among competitors, program participants and community members, train local builders to design, and construct clime resistant housing and establish Loan Fund for Storm Resistant Housing.

b) Develop and Connect 1)Hydraulic model for drainage system of prioritized infrastructure and 2) Hydrological model of urban development simulation.
It helps to develop a database on climate change impacts on socio-economic development and urban planning, prepare a multi-agency guidance document regarding urban development under forecasted future climate conditions and increase awareness of local staffs and people on the potentials impacts of climate change in urban development.

With the support from JICA (Japan) in preparing CDS for Danang city, it is the first attempt to have participatory planning in Danang with city-wide exhibition on planning. However, the participatory approach in planning has not been matured yet as there is no feedback mechanism. So it limits the decision making power of the people. But it also gives positive results as the awareness of the local people and businesses about sustainable development has been increased. And it gives opportunities as well as challenges for participatory approach of increasing awareness about climate change in Danang.

3. Challenges for climate change issues in Danang

Due to its geographical location, Da Nang is one of the cities in Vietnam most affected by natural disasters (typhoon, flood, drought, erosion, saline intrusion, etc.) and extreme weather (extremely hot

spell, heavy rain, etc.). There is an annual average of 1 – 2 typhoons and 2 - 3 floods of level 3 or higher directly hitting the city.

Among three climate-related factors (change in precipitation, sea level rise, and temperature increase) in Danang City, change in precipitation has the largest impact on types of disaster and dangerous weather, followed by sea level rise and increase in temperature.

Although have not been addressed much in the CDS, the challenges faced while dealing with 'climate change related topics' in the existing CDS of Danang are:

- *Institutions and policies*: Vietnam launched the National Target Programme to Respond to Climate Change, yet there have not been detailed policies or guidelines on the approach and method of resilience planning and incorporating climate change into development plans, programmes, or projects at the city level. Although, Da Nang has formulated Climate Change Coordination Office but there is very limited funding sources for that office activities. Additionally, a mechanism for monitoring and evaluation of adaptation practices is not available. Besides, the current planning system is too much top-down and participatory approach in planning is very limited.

- *Capacity*: Decision-making and professional capacity for climate change resilience of government offices is limited. Due to the high uncertainty of climate change coupled with low precision of climate model projections, the local authorities have to make decisions on development plans under uncertain conditions in which scope, intensity and frequency of disasters (typhoons, floods, droughts) are beyond forecast.The existing early warning system for extreme climate related disasters such as flash flood, storm has limited capacity in terms of technical availability, coordination and communication among related actors, available and accurate information. In the context of climate change, this challenge will grow.

- *Budget*: Climate change is a long-term and uncertain issue complicating other urgent issues facing the city. Because the city's financial resources are limited, balancing resources for short-term, medium-term and long-term priorities is a challenge. To address this, support from the Central Government and domestic and foreign organizations is needed. The funding resource from city budget is only for salary payment of office's staffs. There is no budget for other activities.

- *Organization and coordination mechanism:* Climate change adaptation requires a cross-sector and multi-agency approach—whereas currently, the collaboration and cooperation among sectors and authorities at all levels is constrained and not comprehensive. Although there are several projects related to climate change issues but the coordination of activities among projects are lacking.

Danang City faces the challenge of ensuring environmental sustainability which is currently being threatened by the lack of effective environmental management systems, the increasing numbers of industries and development moving to the city, and the low awareness of the people and establishments on the need to preserve and protect the environment. While the reduction and control of air, water, and soil pollution, as well as noise levels, is urgent and important, the city must likewise pay attention to the need to preserve the natural environment and the biodiversity of ecosystems because they are the very foundation of tourism. Da Nang's CDS was prepared with the combined measures with respect to addressing climate change issues. It can be seen from the Objectives of environmental management which are more specifically as follows:

(i) Establish an effective system to remove and prevent from pollutions;
(ii) Preserve ecosystem and develop eco-tourism;
(iii) Strengthening of disaster preparedness and prevention measures;
(iv) Commitment to global climate change;
(v) Enhance social awareness and knowledge on environmental issues; and
(vi) Develop institutional and organizational systems to manage the environment sustainably.

A weakness in urban development planning in many Vietnamese cities is seen in the uncoordinated implementation of policies and projects among them. Lack of coordination brings about not only wastage of limited resources but also ineffective outputs. Therefore, for Danang City to promote its envisioned development in the most effective manner, there is a need to integrate strategies and closely coordinate among implementation bodies. Under the vision of an environmental city, the environment should not merely be an appendage to development; rather, it should be the driving force to promote the city's sustainable development. To realize this, strategies for each urban subsector should have environment components in synergy with those in other subsectors.

4. Conclusion

Danang is one of the cities in Vietnam that recognized the important of having CDS for its development. The Danang's CDS has been well prepared by an international consultant with SWOT analysis, participation of many stakeholders at all levels but Climate change issue is not mentioned much in the CDS as it is not the concern of Danang Stakeholders in the time of preparing CDS. Despite of the fact that the CDS has no position in current planning system of Vietnam, it has been implemented indirectly by city leaders and local professionals. Climate change is raising issue in Vietnam as well in Danang but there are challenges facing to that. It requires supports from international and national organizations, clear policy from Central government as well as the effectiveness coordination of activities at local level.

Abbreviations

ADB	Asia Development Bank
CBD	Central Business District
CDS	City Development Strategy
DaCRISS	The Study on Integrated Development Strategy for Da Nang City and Its Neighboring Area in the Socialist Republic of Vietnam
EAP	East Asian Pacific
GOJ	Government of Japan
GOV	Government of Vietnam
JICA	Japan International Cooperation Agency
MOC	Ministry of Construction
WDESP	Water Drainage and Environmental Sanitation Project

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The author(s):

MSc. Architect

Hung Viet, NGO

PhD Candidate

Institute for Housing and Urban

Development Studies

Erasmus University of Rotterdam

Email: nvh1976@gmail.com; ngo@ihs.nl

Bio:

NGO Viet Hung is a senior lecturer in the field of housing and urban management in Faculty of Urban Management of Hanoi Architecture University (Vietnam). His background is an architect and he gained his MSc degree in Institute of Housing and Urban Studies of Erasmus University of Rotterdam – the Netherlands (IHS) which is one of the European leading institutions in urban studies. He is now one of the PhD candidates in IHS. He has participated and published many reports and articles related to urban issues such as urban environmental planning and management, land administration and management. He has been invited to present reports in many seminars and workshops in Korea, Spain and the Netherlands.