CLIMATE PUBLIC EXPENDITURE AND INVESTMENT REVIEW (CPEIR) – PERIOD 2016-2020 - CAN THO

1. Climate change in Can Tho

General introduction

As a centrally run city, Can Tho (TPCT) is the economic, cultural, social, medical, and educational centre of the Mekong River Delta. It is situated 169 km from Ho Chi Minh City, 150 km away from Ca Mau city and about 120 km from Rach Gia city. The province is more than 80 km from the sea.

In 2018, Can Tho's population was estimated at 1.3 million with a Gross Regional Domestic Product (GRDP) per capita of VND 80.5 million (USD 3,500). The total GRDP of the TPCT is VND 103.2 trillion (USD 4.48 billion). The GRDP growth rate in 2019 and 2020 is about 7.5%, higher than the GDP growth rate of the whole country.

The economic structure of the TPCT is gradually shifting towards reducing the proportion of the agriculture-forestry-fishery sector and increasing industry-construction and services. In 2019, the agriculture, forestry and fishery sector increased by approximately 0.44% (accounting for 7.7% of overall GRDP); industry-construction by 8.26% (accounting for 32.96%); services by 8.19% compared to 2018 and accounted for 59.34% of the city's GRDP structure[1].

The impacts of climate change on Can Tho

Can Tho is considered one of the five cities most severely affected by climate change. This is increasingly evident in the increase in air temperature, rainfall, inundation, drought, saltwater intrusion and other natural disasters.

- Temperature rise: Actual and forecast data both show overall increases in average temperature. Average annual air temperature of Can Tho city from 1978 to 2012 increased about 0.7 - 0.8^{o}C, to an average of 27.3^{o}C. Temperature increases have affected public health, reduced crop yields, and increased demands on the energy system due to higher costs of cooling, ventilation, as well as maintenance and operating of equipment.
- Average annual rainfall in Can Tho city has decreased by about 200 mm. From 2010 to present, rainfall ranges from 1,200 to 1,500 mm. Along with decreasing rainfall, drought is an additional concern.
- Saline intrusion: Historically, the Can Tho city was almost entirely unaffected by saline intrusion as it was more than 65 km from the sea. However, in recent years, saline intrusion has begun to affect the river water resources of Can Tho city.
- Inundation: There is currently no specific study on this issue, but the hydrological regime has changed. This variation may be due to human activities, but can also be subsidence or the effects of sea level rise.

[1] https://baocantho.com.vn/can-tho-tang-toc-phat-trien-kinh-te-a115760.html

Since 2011, the city has experienced more tidal flooding. Every year, observations of seasonal floating water from August to November, the rural areas of Can Tho city flood from 0.5 to 1 m.

- Riverbank landslide: Due to a shifting hydrological regime, serious riverbank erosion has been observed in Can Tho city, affecting the quality of waterway and road traffic works, caused home collapse, and led to home robbery .
- Storms and hurricanes: Storms are increasing locally both in frequency and intensity are a permanent, immediate and long-term threat to all sectors, regions, and communities. The Mekong Delta, including Can Tho city, is an area assessed by the national target program to respond to climate change as an area vulnerable to severe storms and cyclones due to its flat topography.
- Some other challenges: Not actively controlling water resources and a decrease in on-site rainfall. Meanwhile, countries upstream of the Mekong River are building more hydroelectric dams, water demand for development is also increasing, making the Mekong River Delta region, including Can Tho city unable to take the initiative in quantity and natural water source regimes.

Activities to respond to climate change in Can Tho

Responding to climate change is identified by the Government of the Can Tho city as a political priority. The city has issued Resolution No. 07-NQ/TU on "Natural resources management, environmental protection and response to climate change in Can Tho city". In implementing the Resolution, investments have been put into place in automatic monitoring stations in order to improve the capacity of forecasting, warning, proactively preventing, avoiding and mitigating natural disasters to adapt to climate change. To step up measures to prevent, combat and limit the impacts of high tide, inundation, and saltwater intrusion as a result of sea level rise,the implementation of climate change adaptation projects include constructing proactive works to prevent and limit saline intrusion, sea level rise, etc.

The Plan to Respond to Climate Change for the period 2015-2030, issued together with the Decision No. 1334/QD-UBND dated May 8, 2015 of the City People's Committee has set out several responses on climate change adaptation as follows:

- Climate change adaptation will include all structural and non-structural activities aimed primarily at mitigating impacts, based on a cost-benefit calculation that takes the environment into account and a “no regrets” principle.
- Sustainable climate adaptation based on building a green economy, using green response as a basic driving force for economic development, enhancing living standards, people's livelihoods and incomes, increasing density, and strengthening the social capacity in the community.
- Integrating priority projects into annual local socio-economic development plans.

2. Summary of Data on Climate Change Investment in Can Tho

2.1 Budget sources for climate change investment

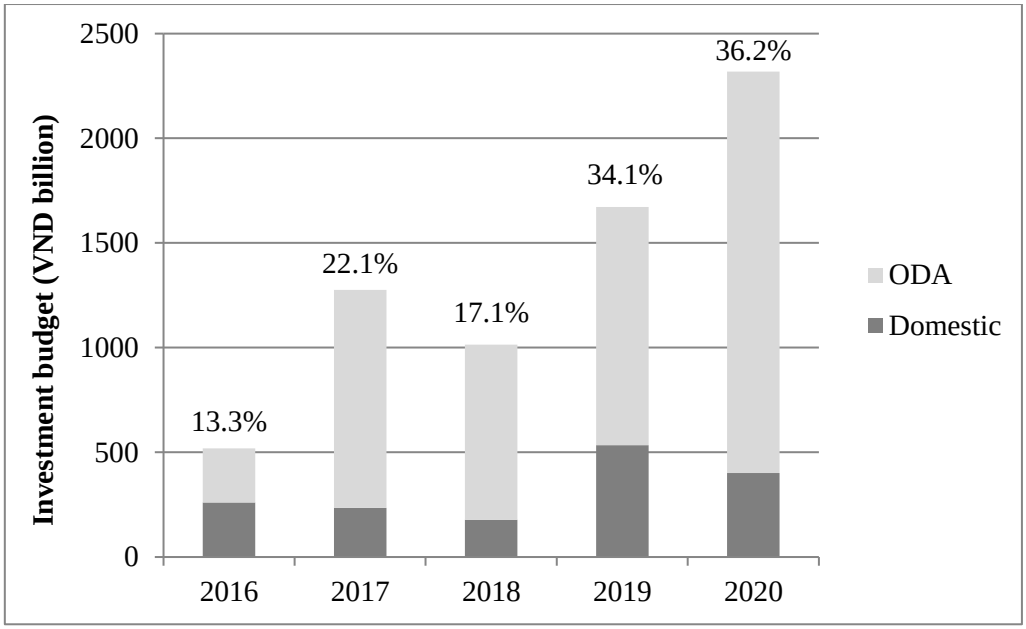


Figure 1: The total investment budget for climate change at Can Tho *– the percentage that the climate change budget represents of the total Provincial development investment budget is shown as a % on the top of each bar.*

Table 1: Investment for climate change in Can Tho by year from 2016 to 2020 and by capital source

Year	Domes. Invest. in climate change (billion VND)	Foreign investment in climate change (billion VND)	Total invest. in climate change (domes. + foreign capital) (billion VND)	Rate of domest. Invest. in climate change (%)	Rate of ODA Invest. in climate change (%)	Total public invest. of the province (billion VND)	Ratio of investment in climate change to total public investment of the province (%)
2016	259.8	258.4	518.3	50.1	49.9	3,888.9	13.3
2017	234.2	1,041.7	1,275.9	18.4	81.6	5,772.2	22.1
2018	177.6	836.6	1,014.2	17.5	82.5	5,918.4	17.1
2019	533.9	1,137.5	1,671.4	31.9	68.1	4,896.4	34.1
2020	400.7	1,917.6	2,318.2	17.3	82.7	6,401.1	36.2

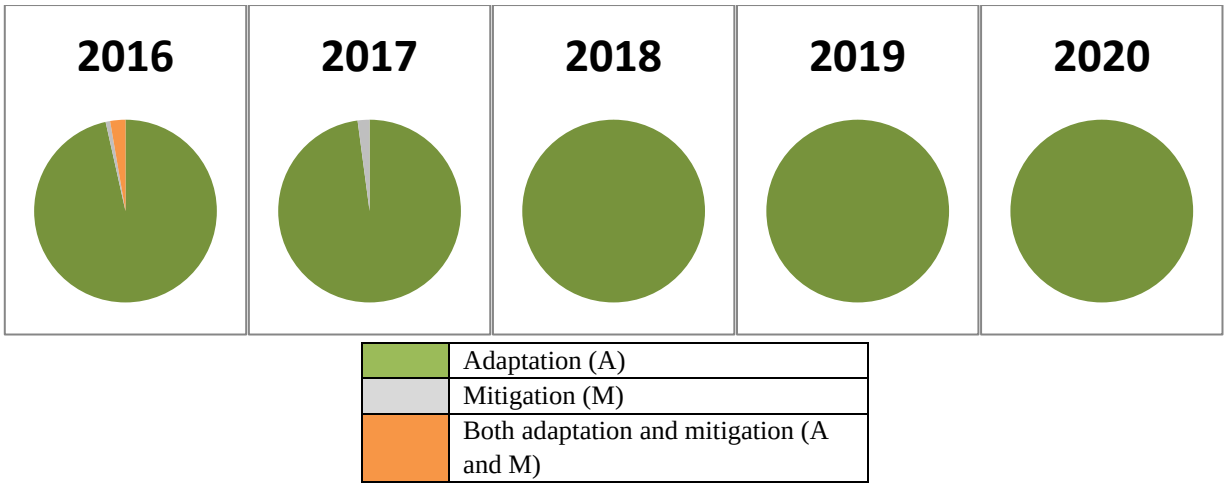
As for the Can Tho city, the average investment in climate change for the 2016-2020 period is about VND 1,360 billion/year. The climate investment budget was highest in 2020 (more than VND 2,300 billion), the year the medium-term plan ended. On the other hand, investment was lowest in 2016 (VND 518 billion), the first year of the plan. This indicates a trend towards increasing overall climate-related investment expenditure.

In the 2016-2020 period, the average annual domestic expenditure on climate change investment was VND 321 billion, accounting for 23.6% of the total investment expenditure. ODA contributed nearly VND 1,040 billion, accounting for 76%. ODA plays a vital role, accounting for between 50% in 2016 to 82.7% in 2020.

The investment spending on climate change (measured as a proportion of total development investment expenditure) increased from 13.3% to 36.2% (average 25.3%) for the province.

2.2 Purpose of the investment budget for climate change

a) The "adaptation" or/and "mitigation" project type distribution:



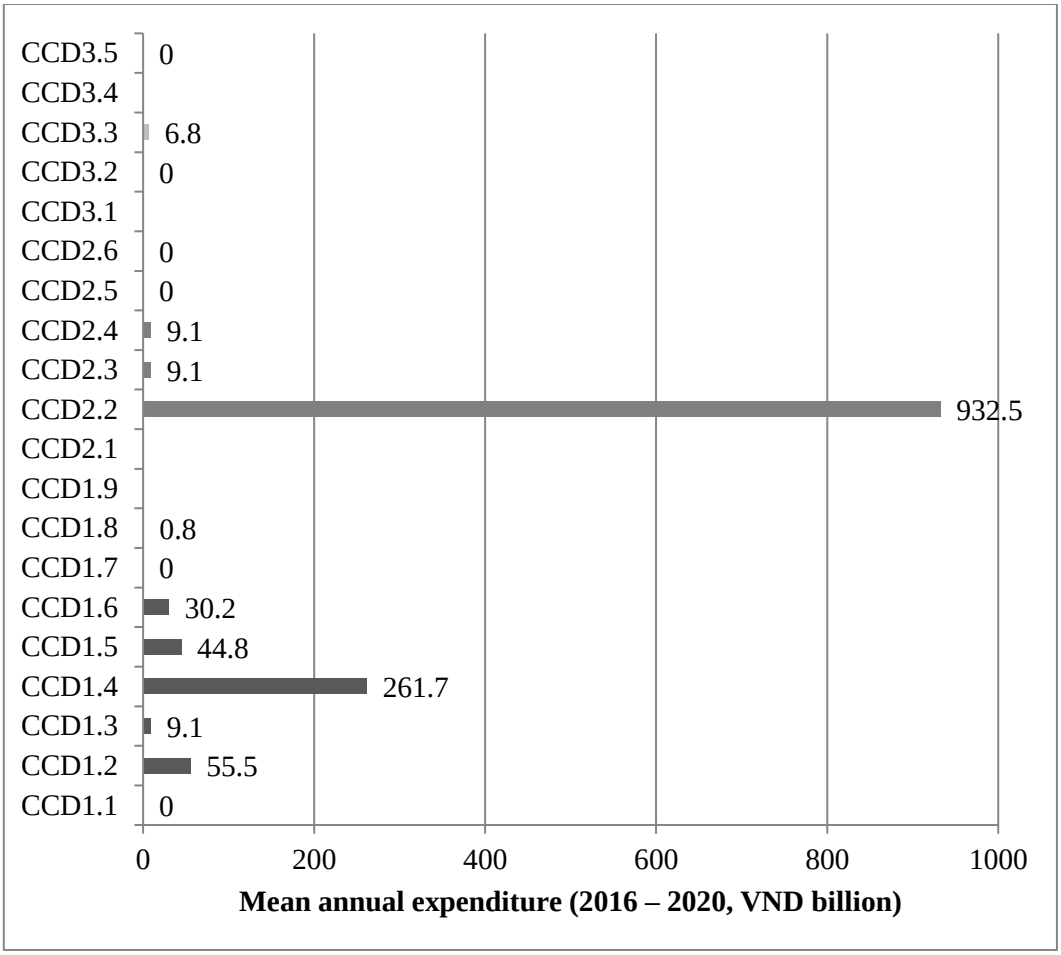
Detailed investment data for climate change adaptation and mitigation

Billion Dong	2016		2017		2018		2019		2020	
Adaptation (A)	499.8	96.5%	1,249.3	97.9%	1,014.2	100.0%	1,671.4	100.0%	2,318.2	100.0%
Mitigation (M)	4.4	0.8%	26.6	2.1%	-	0.0%	-	0.0%	-	0.0%
Both adaptation and mitigation (A and M)	14.1	2.7%	-	0.0%	-	0.0%	-	0.0%	-	0.0%

The above results show that most, if not all, investment related to climate change is directed towards adaptation, accounting for more than 99%. There are several projects in the mitigation, specifically related to domestic and hospital waste treatment projects, with an average spending of about VND 10.5 billion/year (mainly in 2016 and 2017). Projects related to both mitigation and adaptation address the city's drainage and wastewater treatment projects with an average annual expenditure of VND 6.5 billion.

Though mitigation efforts are almost negligible, in Plan for Implementation of Paris Agreement (PIPA) at the local level, there are a significant list of actions that also match any localised Green Growth Action Plan (GGAP) and Climate Change Action Plan (CCAP), should those be available. As such, there is no clarity on what kind of public sector investment might trigger private sector investment in mitigation efforts.

b) Allocate investments in response to climate change (CCD) according to specific tasks (Average annual spending in the 2016-2020 period; Unit: billion dong)



Climate change investment in Can Tho city is mainly focused on CCD 2.2, in terms of enhancing resilience of urban areas and the population, with an average investment of VND 932.5 billion/year (accounting for nearly 70% of climate change delivery budget). This includes Can Tho city development that enhances urban resilience and management of urban floods and landslides. CCD 1.4 makes up the second largest area (dyke and river embankment protection, investing VND 261.7 billion/year, accounting for 19%).

The remaining areas focus on projects on controlling saline water intrusion through dykes and dredging canals to prevent saltwater intrusion drought (CCD 1.2) with an average expenditure of about VND 55.5 billion/year, followed by water supply sector (CCD 1.5) with VND 44.8 billion VND/year, agricultural and rural development (CCD 1.6) with VND 30.2 billion VND/year.

CCD 2.2 field, improving resilience of city areas and population occupies a large proportion compared to other areas. This is consistent with local conditions because of rapid urbanization. Inundation and traffic jam are common in Can Tho, and may worsen due to the effects of climate change in the Mekong Delta and Can Tho city in particular. The other investment areas are in line with Can Tho's conditions.

2.3 Budget expenditure from ODA

Here are the 05 (five) biggest ODA projects for climate change (Project name, funding source, investment period, share of total ODA investment):

1. Develop Can Tho city and enhance urban resilience: 3 components (2016-2020, 73.6%)

   + HP1: Flood control and environmental sanitation

+ HP2: Urban corridor development

+ HP3: Strengthening the urban management to adapt to climate change

2. Urban Upgrading in Mekong Delta - City subproject. Can Tho (2016-2020, 16.0%)
3. Can Tho river embankment - Responding to climate change (2016-2020, 6.7%)
4. Can Tho City Sustainable Agriculture Transformation Project (VNSAT) (2016-2020, 2.5%)
5. Project on strengthening environmental quality monitoring and analysing capacities for state management of environmental protection (2016-2020, 0.6%)

2.4 Policy and planning instruments

Instrument	Yes (√) or No (X)
Local NTP-RCC, report period to 2015	√
Climate Change Action Plan	X
Green Growth Action Plan	X
Plan for Implementation of Paris Agreement	√
Others: none	