CLIMATE PUBLIC EXPENDITURE AND INVESTMENT REVIEW (CPEIR) – PERIOD 2016-2020 – BAC LIEU PROVINCE

1. Climate change in Bac Lieu

General introduction

Bac Lieu is located in the Ca Mau peninsula, the southernmost part of the country, with a coastline 56 km long.

In 2018, the population of the province was estimated at 0.879 million and a gross regional domestic product (GRDP) per capita of VND 42.1 million (USD 1,826). The province's GRDP stood at VND 37.7 trillion (USD 1.64 billion) and the GRDP growth rate reached 8.36% in 2018, the highest since 2015 and even higher than the previous year (2016 growth was 5.38%, in 2017, growth was 6.5%). Bac Lieu's economic development vision is built on 05 pillars: advanced technology applications to agriculture; improving the efficiency of shrimp and rice production; expanding renewable energy (wind and solar) as well as gas power; tourism development; developing high-quality commerce in services, education, and healthcare sector; developing the marine economy; and ensuring national defence and security.

The economic structure of Bac Lieu has been shifting, with the service sector surpassing the agricultural sector in size. Agricultural restructuring has involved the construction of a new countryside, replication of effective production models; particularly greenhouse-enclosed intensive shrimp farming using advanced technology, net houses, large field models, and producing high quality rice for domestic consumption. These models have been making an important contribution to the total export turnover of the province. Investment from the private sector has strongly grown in the energy sector, with many wind and solar power projects situated along coastal areas and inland areas of the province registered for investment . Of note, the province attracted USD 4.3 billion for the LNG Bac Lieu Gas Power Plant project, with a capacity of 3,200MW.

The impact of climate change on Bac Lieu

- Adjacent to the East Sea, Bac Lieu is considered as one of the most localities affected by climate change (CC), especially high tides and saline intrusion[1].
- Storm surges are increasing in frequency and penetrating inland, causing inundation in many places in the coastal areas and the inner-city area of Bac Lieu city.

[1] Source: Bac Lieu, Proactively responding to climate change: http://baobaclieu.vn/nong-nghiep-nong-dan-nong-thon/chu-dong-ung-pho-voi-bien-doi-khi-hau-61671.html

- Saline intrusion is negatively affecting the ecosystem in the freshwater basins of the production area north of National Highway 1A; inadvertenly creating pressure in developing local production .
- Water resources are severely affected: changes in precipitation and distribution regionwide have led to a series of changes in the flow of rivers and canals, increasing the frequency and intensity of floods as well as drought. During the dry season, if combined with a sea level rise, it is likely to cause a freshwater shortageand saltwater intrusion into the interior fields, affecting the quality of water sources andexacerbating living conditions.

Activities to respond to climate change in Bac Lieu[2]

The promulgation of legal documents for the direction and implementation of mechanisms and policies on climate change response of Party and State in the province:

- The response to climate change that has been of interest to the Party committees, authorities, and local communities. The Provincial Party Committee and the Provincial People's Committee have promulgated many programs, plans, directives and decisions which have made positive changes and achieved some important initial results.
- Departments have also advised the Provincial People's Committee to promulgate many programs and plans according to management fields, ... including integrating tasks into the implementation of Resolution No. 120/NQ-CP, Planning Plan No. 78/UBND. The documents promulgated by the Provincial People's Committees, departments, People's Committees of districts and cities in accordance with the direction of the Central Government and the given context of the locality, creating favourable conditions for implementation. However, addressing climate change is still novel, so the promulgation of documents still depends on guiding documents of the Central Government.

Bac Lieu has made many efforts in the response and adaptation to climate change.

- Issue and implement the Resolution No. 04-NQ/TU dated December 19, 2016 of the Executive Committee of the Provincial Party Committee (term XV) on strengthening response to climate change and prevention and control of natural disasters in Bac Lieu province for the period 2016 - 2020. Plan No. 37/KH-UBND dated May 15, 2017 of the Provincial People's Committee on the implementation of the National Target Program to respond to climate change for the period 2013-2015 in Bac Lieu province; Plan No. 98/KH-UBND dated October 31, 2017 of the Provincial People's Committee on the implementation of Decision No. 2053/QD-TTg of the Prime Minister's on the promulgation of the Plan for implementing the Paris Agreement on climate change in Bac Lieu province; Plan No. 78/KH-UBND dated June 3, 2019 on proactively responding to climate change and strengthening natural resource management and environmental protection in Bac Lieu province; Plan No. 79/KH-UBND dated July 6, 2020 of the Provincial People's Committee on the implementation of Resolution No. 120/NQ-CP dated November 17, 2017 of the Government on sustainable development of the Mekong Delta to adapt to CC.
- Public awareness campaigns, public statements, and disseminating laws about responding to climate change through information on newspapers, radio, televisions, news agencies. Issued a set of documents on sea level rise and saline intrusion maps to monitor climate change developments and proactively prevent and respond.

[2] According to: https://moitruong.net.vn/bac-lieu-cang-minh-thich-ung-voi-bien-doi-khi-hau/ và https://baotainguyenmoitruong.vn/bac-lieu-khong-de-bien-doi-khi-hau-lam-cham-buoc-phat-trien-239638.html

- At District level: Dong Hai District Party Committee issued Program No. 25/Ctr-HU on September 3, 2018 on proactively responding to climate change, strengthening resource management, and environmental protection.
- The Centre for Meteorology and Hydrology in coordination with the Standing Office of the Steering Committee for Natural Disaster Prevention and Search and Rescue of Bac Lieu province regularly informs, disseminates, and warns of developments of natural disasters and climate change-induced events affecting people in the province.
- To treat environmental pollution and conserve biodiversity with an appropriate budget. At the same time, policies to encourage incentives and support for businesses and people to participate in climate change response activities; supporting people to plant and protect forests, especially coastal mangroves.
- 101 projects on response to climate change with a total budget of more than 20,000 billion VND have been approved by the People's Committee of Bac Lieu province. In which, 16 projects in the period of 2012 - 2020, with a budget of more than 3,000 billion VND are being implemented to minimize the impact of climate change, especially sea level rise such as: East Sea dyke upgrading project, erosion control sub-project in Nha Mat estuary area, Bac Lieu city, pilot sub-project "soft dyke" to induce sedimentation to restore coastal protection forests in the area Nha Mat estuary.

2. Summary of Data on Climate Change Investment in Bac Lieu

2.1 Budget sources for climate change investment

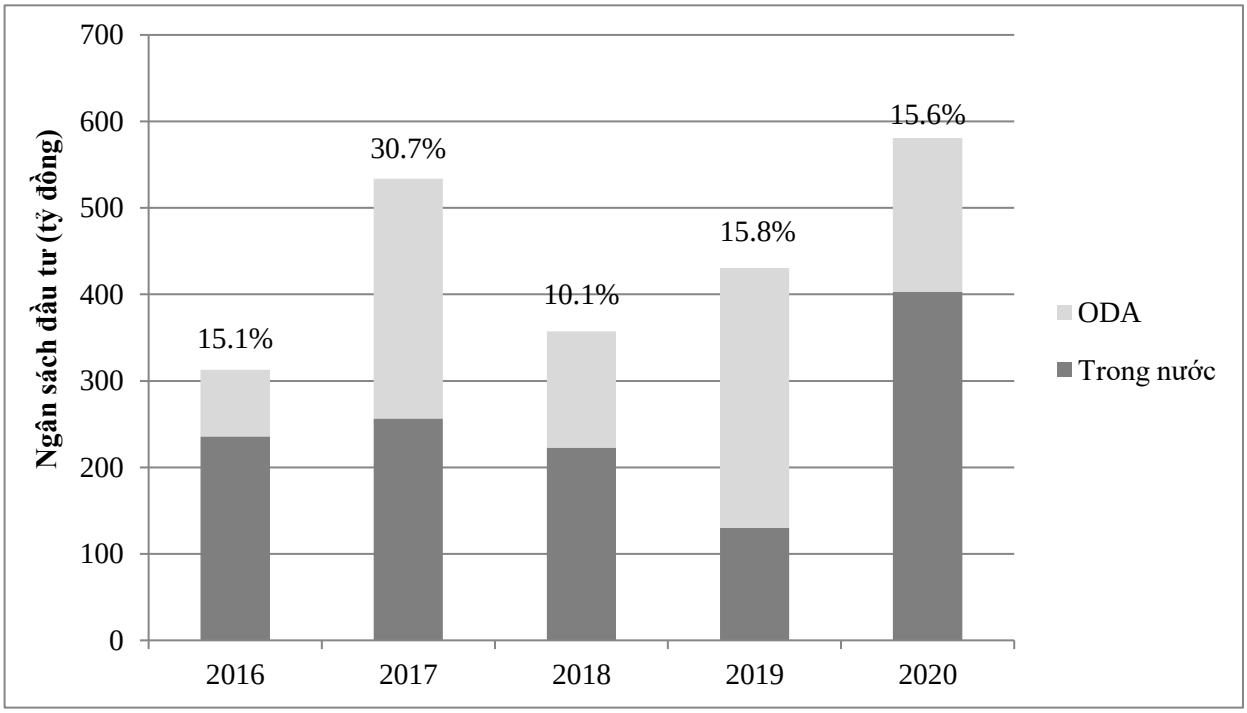


Figure 1: The total investment budget for climate change at Bac Lieu *– the percentage that the climate change budget represents of the total Provincial development investment budget is shown as a % on the top of each bar.*

Table 1: Investment for climate change in Bac Lieu 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	235.8	76.9	312.7	75.4	24.6	2,073.3	15.1
2017	256.7	277.0	533.7	48.1	51.9	1,736.6	30.7
2018	222.8	134.2	357.1	62.4	37.6	3,546.0	10.1
2019	129.8	300.8	430.6	30.1	69.9	2,717.0	15.8
2020	403.2	177.6	580.8	69.4	30.6	3,714.3	15.6

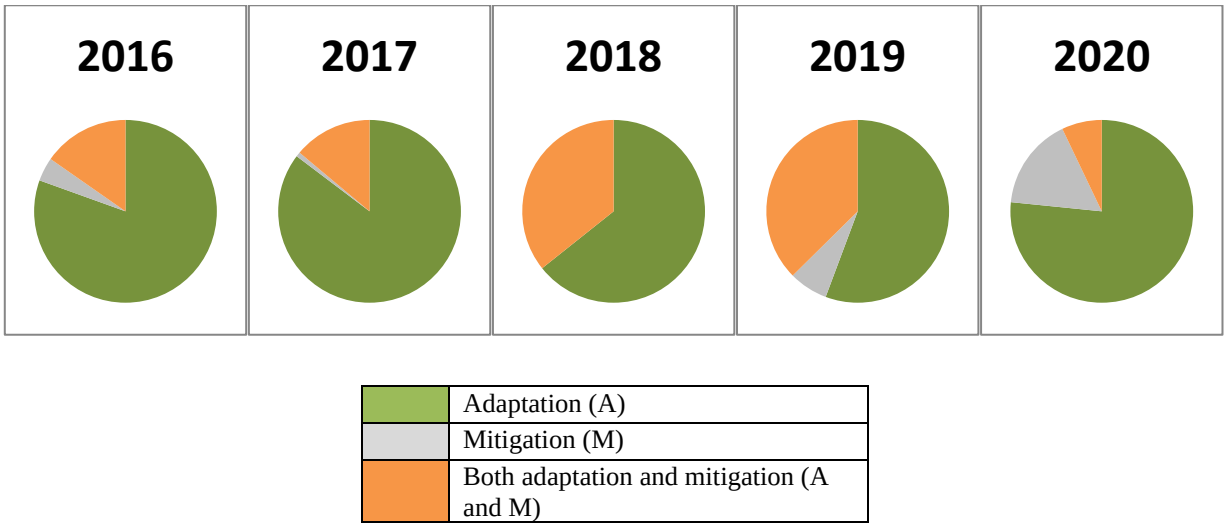
Average investment spending on climate change in the 2016-2020 period of Bac Lieu was VND 443 billion/year. The investment budget for climate was highest in 2020 (VND 581 billion), while the lowest was in 2016 (VND 313 billion).

In the 2016-2020 period, the annual average annual domestic expenditure on climate change investment was VND 250 billion, accounting for 56.4% of the total investment spending. ODA contributed significantly to 193 billion VND accounting for 43.6%. The proportion of ODA investment varies by year, the lowest is 24.6% in 2016 while that highest is 69.9% in 2019.

The proportion of investment spending on climate change over the total development investment expenditure of the whole province varied from 10.1% to 30.7%, averaging 16.1% for the whole study period.

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

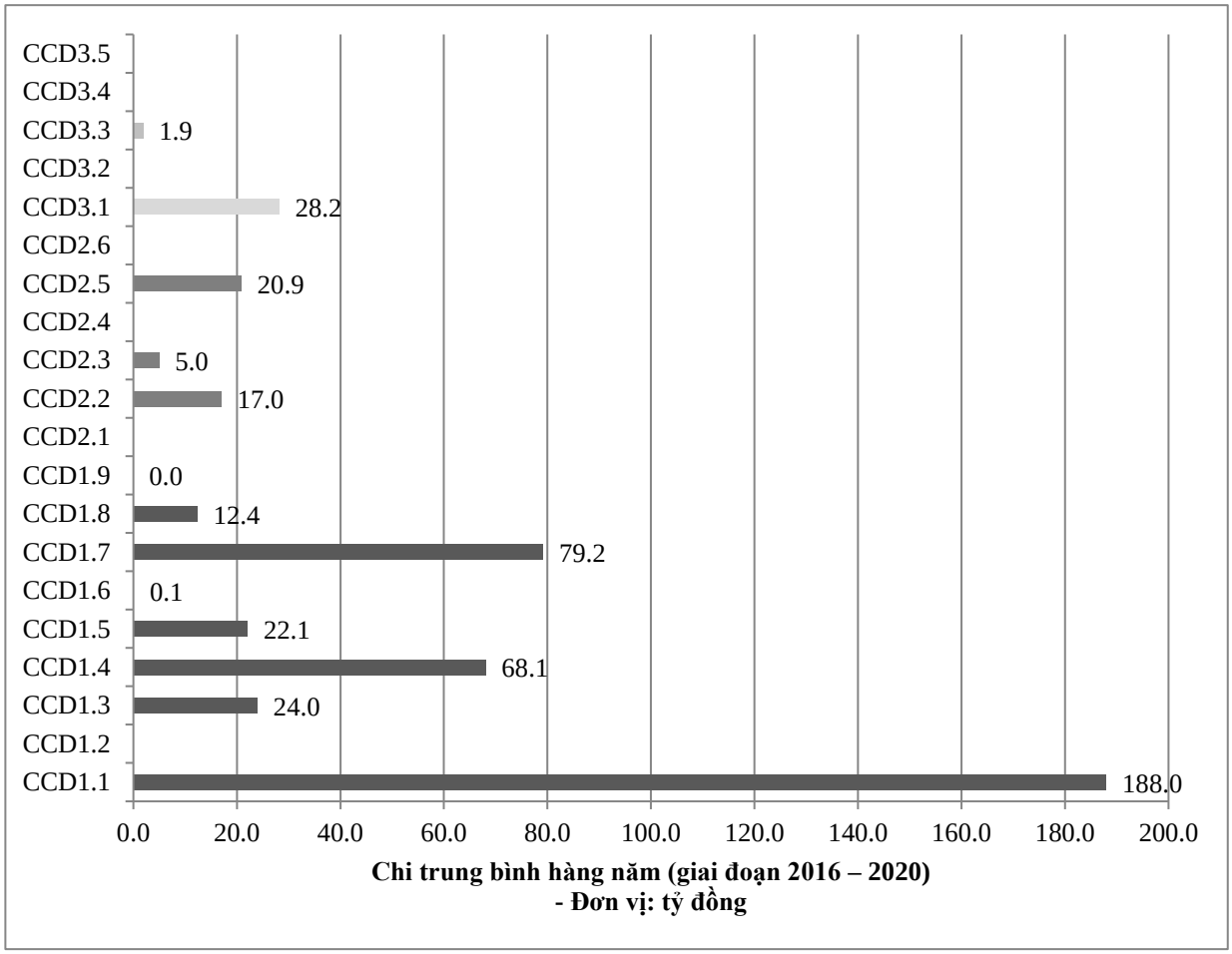
Billion Dong	2016		2017		2018		2019		2020	
Adaptation (A)	251.7	80.5%	455.2	85.3%	229.6	64.3%	239.0	55.7%	441.5	76.6%

Billion Dong	2016		2017		2018		2019		2020	
Mitigation (M)	13.1	4.2%	4.4	0.8%	-	0.0%	29.6	6.9%	93.9	16.3%
Both adaptation and mitigation (A and M)	47.9	15.3%	74.1	13.9%	127.5	35.7%	160.3	37.4%	40.7	7.1%

73.2% of related to climate change investments are in the adaptation sector, while only 6.4% are mitigation projects. 20.4% of total investment is attributed to mixed-use projects, contributing to both mitigation and climate change adaptation.

The province's mitigation project is a rural electricity supply project from the national grid. The projecst of both mitigation and adaptation are sustainable forest development, mitigating erosion and sedimentation, planting mangrove forests to prevent erosion, protecting sea dikes or ecological forest development projects, to improve livelihoods and adapt to climate change in Hoa Binh district, Dong Hai and Bac Lieu city.

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



Considering the array of investment projects to respond to climate change locally, it can be observed that investment in CCD 1.1, Coastal protection and coastal dyke is the most important. Investing over VND 188 billion/year, and accounting for 40.3% and other 11 related investment fields include:

- CCD 1.7 (i.e. Forest development: total investment of VND 79.2 billion/year, accounting for 17.0%),
- CCD 1.4 (Dyke and river protection embankment: investment VND 68.1 billion/year, accounting for 14.6%),

- CCD 3.1 (Energy generation: investment VND 28.2 billion/year, accounting for 6.0%),
- CCD 1.3 (Irrigation: investment of VND 24.6 billion/year; accounting for 5.1%) and
- CCD 1.5 (Water quality and supply: investment of VND 22.1 billion/year; accounting for 4.7%)
- CCD 2.5 (Disaster – specific infrastructure: investment of VND 20.9 billion/year; accounting for 4.5%) and

The remaining investment topics are scattered locally with investment from VND 0.1 billion to 17 billion/year.

Regarding the local policies on responding to climate change and green growth, the Provincial People's Committee (PPC) of Bac Lieu has issued and implemented: National Target Program to Respond to Climate Change (NTP-RCC) in the province's area, Climate Change Action Plan (CCAP), Green Growth Action Plan (GGAP) and Plan for Implementation of Paris Agreement (PIPA), basically, the above investment activities are mentioned directly or indirectly in these Action Plans. The localised action plans highlight mangroves as a primary anti-erosion, coastal protection measure.

2.3 Budget expenditure from ODA

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

1. Construction and upgrading of East sea dikes and emergency dike systems to respond to climate change in Bac Lieu province (2017, 2019-2020, 25.9%)
2. Building a system of anti-flood tide prevention works for Bac Lieu city and surrounding areas (2017-2018, 19.5%)
3. The subproject on constructing the infrastructure for protection and development of ecological forests, improving economic experiences, and adapting to climate change in Hoa Binh district, Dong Hai and Bac Lieu city (2017-2020, 17.2%)
4. Project of emergency construction investment, natural disaster prevention and climate change adaptation (project to build a system of works to combat flooding in Bac Lieu city and surrounding areas) (2016-2017, 9.2 %)
5. Project on anti-erosion causing sedimentation, planting mangrove forests, preventing erosion and protecting Ganh Hao sea dyke (2016-2019, 8.0%)

2.4 Policy and planning instruments

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