

## Mekong Urban Flood Resilience and Drainage Programme Success Stories

# From Policy to People

### Introduction to The Mekong Urban Flood Resilience & Drainage Programme

In support of Government of Vietnam (GoV) strategies to improve adaptation and resilience efforts of communities in the Mekong Delta in the face of climate change, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH implemented the programme: “Flood Proofing and Drainage for Medium-sized Coastal Cities in Viet Nam – Phase One” between 2012 and December 2016. Funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) the programme phase one aimed to improve the development and implementation of a holistic and coherent flood risk management approach across several sectors on national and local level in Viet Nam. The programme supported five coastal provinces and their medium-sized capital cities by aiming to increase their resilience to urban flooding. The supported cities were Quang Ngai, Tuy Hoa, Quy Nhon and Nha Trang on the coasts of Central / South Central Viet Nam and Soc Trang in the Mekong Delta. Capacity development and

technical advisory support focused on two main areas, (1) urban drainage and flood prevention and (2) disaster risk management.

By the end of the first programme phase, the Swiss State Secretariat for Economic Affairs (SECO) agreed to fund a second programme phase, titled the “Mekong Urban Flood Resilience and Drainage Programme” (FPP). As one of its strategic pillars for SECO support to Viet Nam, SECO has focused on funding for integrated urban infrastructure development as part of the overarching goal to support environmental friendly policies. The proposed FPP fit into these strategic priorities of SECO as flood risk management was a major factor enhancing the Viet Namese response to climate change challenges and reducing the vulnerability of the population to its negative externalities. With FPP, SECO created the opportunity to not only scale-up lessons learned from the previous phase but also to strengthen national-provincial linkages and influence national legislation to account for effective urban resilience to floods. Table 1 presents an overview of basic information and key figures on FPP.



Table 1: Programme Summary

<b>Implementing Agencies</b>	<ul style="list-style-type: none"> <li>▪ Ministry of Construction (MoC)</li> <li>▪ Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH</li> </ul>	
<b>Donors</b>	<ul style="list-style-type: none"> <li>▪ Swiss State Secretariat for Economic Affairs (SECO)</li> <li>▪ German Federal Ministry for Economic Cooperation and Development (BMZ)</li> </ul>	
<b>Programme Budget</b>	<ul style="list-style-type: none"> <li>▪ Phase I: 5.2 Million EUR (BMZ-financed)</li> <li>▪ Phase II: 6 Million EUR (SECO/BMZ co-financed)</li> </ul>	
<b>Programme Phases and Terms</b>	<ul style="list-style-type: none"> <li>▪ Phase I: 01 Sept 2012 – 31 Dec 2016</li> <li>▪ Phase II: 01 Jan 2017 – 31 Dec 2020</li> <li>▪ Phase III: 01 Jan 2021 – 31 December 2024 (envisaged)</li> </ul>	
<b>Partner Cities / Provinces</b>	<p>Phase I:</p> <ol style="list-style-type: none"> <li>1. Quang Ngai city – Quang Ngai province</li> <li>2. Quy Nhon city – Binh Dinh province</li> <li>3. Tuy Hoa city – Phu Yen province</li> <li>4. Nha Trang city – Khanh Hoa province</li> <li>5. Soc Trang city – Soc Trang province</li> </ol>	<p>Phase II:</p> <ol style="list-style-type: none"> <li>1. Long Xuyen city - An Giang province</li> <li>2. Rach Gia city - Kien Giang province</li> <li>3. Ca Mau city - Ca Mau province</li> </ol>

**Programme objective:**

*“Improve the capacity of national authorities and the population of Viet Nam to adapt to more serious and frequent urban flooding in the course of climate change”.*

FPP comprised three programme components with the following key activities::

**Component 1: National Legal and Policy Framework on Urban Flood Resilience**

- Support in elaborating sector publications on urban drainage planning, climate resilience and other related topics.
- Technical inputs and support to strengthen, revise and fill gaps in the central level policy framework on urban drainage planning, climate resilience and disaster response.
- Coordination with other donors, research institutions and study visits on climate resilience to Europe.

**Component 2: Provincial Regulatory Framework for Flood Management and Drainage Master Planning**

- Technical inputs and support to strengthen, revise and adjust provincial and urban policy and regulatory frameworks with regards to urban drainage planning, climate resilience and disaster response in three supported provinces.
- Data collection, digital elevation mapping and development of flood models for three cities supported under the programme.
- Data surveying, hydraulic modelling and elaboration of urban drainage master plans for three cities supported under the programme.
- Construction of pilot demonstration projects for sustainable urban drainage systems (SUDS)

**Component 3: Disaster Risk Management and Flood Early Warning**

- Hardware expansion of existing flood early warning system for the Mekong Delta.
- Strengthening of local disaster response and risk management capacities.
- Land subsidence modelling.

## FPP programme partners

For FPP, flood proofing is an institutional, financial, and technical issue and as such, FPP partners included leaders and officials from different ministries and the National Assembly at national level, and People's Committees and relevant departments and agencies at provincial level.

*Table 2: List of FPP phase two partners*

<b>National Level Partners</b>	<ul style="list-style-type: none"> <li>▪ Ministry of Construction               <ul style="list-style-type: none"> <li>- Administration for Technical Infrastructure</li> <li>- Urban Development Agency</li> <li>- Institute for Construction Economics</li> <li>- Department for Science, Technology &amp; Environment</li> </ul> </li> <li>▪ Ministry of Natural Resources and Environment               <ul style="list-style-type: none"> <li>- Viet Nam Meteorological and Hydrological Administration (VNMHA)</li> <li>- Regional Hydro-Meteorological Station Southwest</li> </ul> </li> <li>▪ Ministry of Agriculture and Rural Development               <ul style="list-style-type: none"> <li>- Viet Nam Disaster Management Authority (VNDMA)</li> </ul> </li> <li>▪ Ministry of Planning and Investment               <ul style="list-style-type: none"> <li>- Department of Agricultural Economy</li> <li>- Department of Planning Management</li> </ul> </li> <li>▪ Office of the Government               <ul style="list-style-type: none"> <li>- Division for Relations to National Assembly, Regions and Mass Organizations</li> </ul> </li> <li>▪ National Assembly               <ul style="list-style-type: none"> <li>- Committee for Science, Technology and Environment</li> </ul> </li> </ul>
<b>Province Level Partners</b>	<ul style="list-style-type: none"> <li>▪ Province People's Committees               <ul style="list-style-type: none"> <li>- Office for Sector Economy</li> </ul> </li> <li>▪ City People's Committees               <ul style="list-style-type: none"> <li>- Urban Management Office</li> </ul> </li> <li>▪ Ward People's Committees</li> <li>▪ Departments of Construction               <ul style="list-style-type: none"> <li>- Urban Development &amp; Technical Infrastructure Offices</li> <li>- Centers for Construction Master Planning</li> </ul> </li> <li>▪ Departments of Natural Resources and Environment               <ul style="list-style-type: none"> <li>- Provincial Hydro-Meteorological Stations</li> </ul> </li> <li>▪ Departments of Agriculture and Rural Development               <ul style="list-style-type: none"> <li>- Offices for Flood Management and Search and Rescue of the Administration for Irrigation</li> </ul> </li> <li>▪ Departments of Planning and Investment</li> <li>▪ Departments of Finance</li> <li>▪ Departments of Health</li> <li>▪ Provincial Statistical Offices</li> <li>▪ Urban Drainage Operators</li> </ul>
<b>Donor Collaboration and Exchange</b>	<ul style="list-style-type: none"> <li>▪ Federal Institute for Geoscience and Natural Resources</li> <li>▪ Federal Office of Civil Protection and Disaster Assistance</li> <li>▪ European Union Copernicus Earth Observation Programme</li> <li>▪ Asian Development Bank</li> <li>▪ World Bank</li> <li>▪ Mekong Delta Working Group</li> <li>▪ Urban Sanitation Sector Donor Coordination Group</li> <li>▪ Urban Climate Resilience Community of Practice</li> </ul>



## FPP Impact Highlights



**Ensure availability and sustainable management of water and sanitation for all.**

**752,000** people in three cities benefit from more accurate information on flood risks, improved urban drainage planning and detailed information on high-risk areas and land plots.



**Build resilient infrastructure, promote sustainable industrialization and foster innovation.**

**6,000** residents in three FPP cities benefit from SUDS demonstration systems.



**Promote sustainable, resilient urban and rural development; ensure safe living and working environment; and ensure reasonable distribution of population and workforce by region.**

**35,690,000** residents of urban areas in Viet Nam benefit from improved national regulations on urban drainage planning.



**Respond in a timely and effective manner to climate change and natural hazards.**

**200** local government representatives trained on early warning and disaster response communication chains, household disaster preparedness and rapid evacuation.

**5,550,000** residents of three FPP provinces benefit from improved disaster preparedness, communication chains, evacuation plans and rescue and response capacities.

**17,200,000** residents of the Mekong Delta benefit from improved flood early warning capacities.



**Strengthen implementation modalities and promote global partnerships for sustainable development.**

**96,000,000** residents of Viet Nam benefit from improved policy framework on disaster risk management and aid disbursement.

## Major FPP Achievements<sup>1</sup>

- National and provincial decision-makers actively participate in climate resilient urban planning.
- A network of strong working relationships to policy makers and implementers at all levels was fortified.
- Insights and experience on governance and administration in the Mekong Delta were accumulated.
- Gaps in Viet Nam's national legal and policy framework on urban climate resilience were filled.
- Regional requirements and experience were effectively channeled to the national level.
- Implementation of national policies and regulations was facilitated at the local level.
- Two detailed city drainage master plans were approved and one has been submitted for approval.
- Accurate flood models were developed and handed over to three cities.
- Drainage tariff roadmaps were developed in three provinces and approved.
- Three SUDS demonstration systems have contributed to raising awareness at national and local levels.
- The SUDS approach was institutionalized via national and provincial guidelines, consideration of SUDS in three city drainage master plans, and integration of SUDS in new Viet Nam Building Code.
- Survey results on land subsidence in the Mekong Delta contribute valuable revelations to international research efforts and helped raise awareness on the topic on a national scale.
- Severe weather forecast and flood early warning

capacities were strengthened for the entire Mekong Delta region.

- Disaster risk reduction and response capacities were strengthened in three provinces.
- Climate resilience, disaster risk management and gender were integrated into socio-economic development plans (SEDP) of three provinces; experiences were shared with all other Mekong Delta provinces and institutionalized at national level.

## National Legal Framework Documents with FPP inputs

- Law on Environmental Protection 2020 (ongoing)
- Law on Urban Development Management (drafting ongoing)
- GoV Decree 160/2018/NĐ-CP regulating the implementation of the Law on Disaster Prevention and Response
- GoV Decree 50/2020/NĐ-CP regulating receipt, management and use of international emergency aid funds in response to natural disasters
- GoV Decree 38/2016/ NĐ-CP on detailing the Law on Meteorology and Hydrology
- PM Decision 05/2020/QĐ-TTg regulating water level and flood warning stages
- National Technical Regulation on Construction Planning QCVN 01:2019/BXD (replaces the 2008 Viet Nam Building Code QCVN 01:2008)
- MoNRE Circular 30/2018/TT-BTNMT on Monitoring of HydroMet Data and Information Transfer to Local HydroMet Stations
- New circular that will replace MPI Circular 05/2017/ TT-BKHĐT establishing the national SEDP indicator framework (drafting ongoing)



1 as ascertained by an independent evaluation of FPP phase two conducted in December 2019

- Updated national cost norms for urban drainage maintenance cost estimations (revision process ongoing, new norms shall replace current cost norms established with MoC Decision 591/QĐ-BXD of 30/05/2014).

#### **List of FPP Publications**

- Report: “Resilient Cities in Viet Nam: A guide for planning urban environment programs”
- Handbook: “Climate Change Response in Viet Nam”
- Report: “Climate Resilience in Viet Nam: An Assessment in Metropolitan Regions”
- Report: “The Development of Regional Coordination in the Mekong Delta”
- Report: “Report on Sustainable Urbanization in Viet Nam: Recommendations to Improve the Legal Framework”
- Report: “Trouble underground – Land Subsidence in the Mekong Delta”
- “Guideline on Designing Sustainable Urban Drainage Systems”
- Report: “Urban Flood Resilience in Vietnam”

### **“From policy to people” – the FPP way of working**

To ensure sustainability in the implementation of its activities, FPP applied a uniquely integrated advisory approach that gathers concrete experiences on the ground and channels these from local to central government levels in order to provide practical evidence for central level policy formulation. FPP successfully established close linkages between national and provincial levels. Provincial experiences and requirements for policy were presented to the central level and advocacy was carried out to support policy amendments and changes.

On provincial level, the FPP way of working involved the establishment of inter-departmental work groups headed by each Province People’s Committee (PPC) and managed by each respective Department of Construction. The work groups comprised leaders and technical officers of all relevant local government agencies, including the provincial line departments for construction, environment, agriculture, planning, health and finance as well as provincial statistical offices, provincial hydro-meteorological stations and city-level authorities. All programme activities were planned and steered by each provincial work group, ensuring a

unified approach, common goals and an open exchange of information among involved stakeholders. Working meetings between each work group and FPP advisors were held in regular intervals at high frequency, ensuring high efficiency in output creation and quick decision-making and approval procedures.

The work on province level commenced with the development of programme implementation plans with each work group and their approval by the PPC. Through these plans, roles and responsibilities were clarified, availability of budget for implementation and further operations of work groups and, for example, technical systems could be assured.

Policy dialogues at provincial level, but also between the provincial and the national levels ensure that all relevant stakeholders gain a sound understanding of the issues at hand, and that national policies are based on the experiences and capacities of the provincial governments. Specifically through the development of guidelines and supporting national-level authorities in the development of laws, decrees and regulations, the lessons learned on a provincial level gained sustainability through institutionalization in national laws, targets, codes and regulations. Through influencing urban planning and budgets on the provincial level, impacts went beyond the mere implementation of technical systems. Figure 1 illustrates the FPP approach to capacity development.

The multi-level approach pilots policies at local level and up-scales these to the national level. This has also worked very well in the first phase of the FPP and has been evaluated as a particular strength of the programme. Key advantages the FPP approach offers are:

- **Ownership through alignment:** FPP’s technical inputs to national key legislation, standards and guidelines was aligned well with ongoing planning and policy formulation processes; working relations with high-level Government agencies, have been created successfully and will ensure that results will last and will be implemented.
- **Efficiency through formal local collaboration:** Instead of approaching each local stakeholder individually, provincial working groups were established via official PPC decisions in each partner province; these working groups, together with the FPP team, jointly planned, agreed and implemented all programme activities; following the traditional Viet Nameese consensus principle, this approach ensures that all relevant partners are constantly

informed of ongoing developments, problems are always considered from all necessary angles, conflicting interests and competitive thinking are limited to a minimum, common agreements enable efficient progress and effective results.

- **Capacity through participation:** Giving programme partners at all levels the responsibility in the production of outputs and reducing the role of the FPP team to facilitating, advising, and coordinating these processes instead of writing documents on partners' behalf ensured a high degree of participation and motivation, providing a strong foundation for the sustainability of results.
- **Horizontal cross-exchange (central level):** A large number of central level state management agencies was brought together, ensuring that flood proofing and climate change are mainstreamed in a coordinated and mutually agreed manner across all relevant sectors.

- **Horizontal cross-exchange (local level):** Bringing together decision makers of FPP partner provinces and those of other provinces in the Mekong Delta region ensures positive reinforcement through peer-group exchange and feedback, creates healthy competition and contributes to motivation and ownership, a foundation for successful regional coordination.
- **Bottom-up information flow:** Provincial experiences and requirements for policy were presented to national level and advocacy carried out to support policy amendments and changes.
- **Top-down information flow:** Revised national policies served as a basis for provinces to develop local by-laws or guidelines that serve to institutionalize locally piloted outputs within provinces, cities, districts, wards and communes.

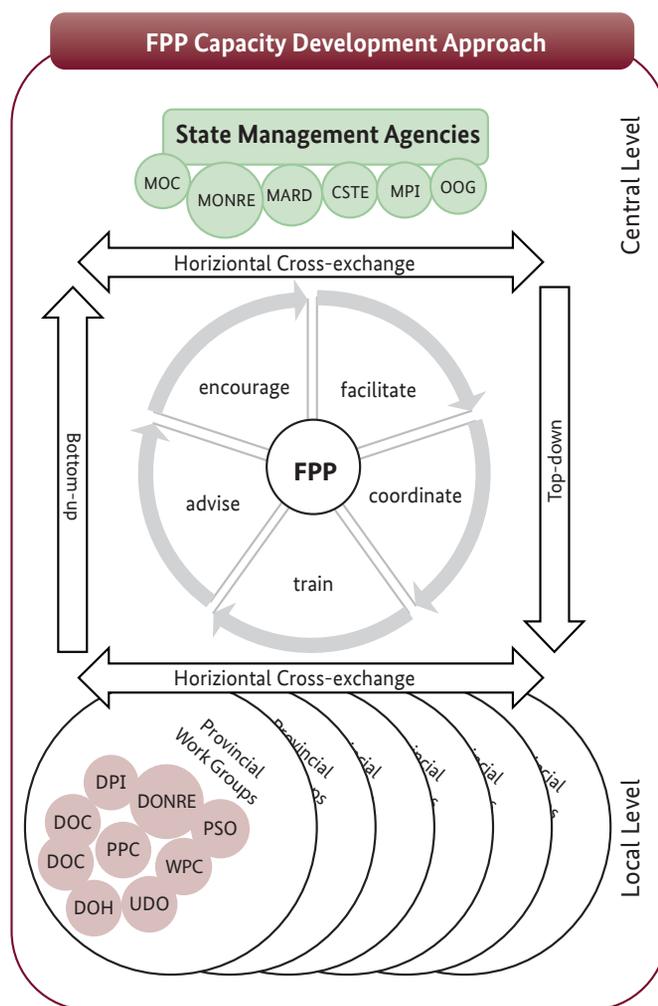


Figure 2: FPP Capacity Development Approach

## Acronyms and Abbreviations

<b>BMZ</b>	(German) Federal Ministry for Economic Cooperation and Development
<b>DEM</b>	Digital Elevation Model
<b>DoC</b>	Department of Construction (under PPC)
<b>DPI</b>	Department of Planning and Investment (under PPC)
<b>DRM</b>	Disaster Risk Management
<b>EU</b>	European Union
<b>FPP</b>	Mekong Urban Flood Resilience and Drainage Programme (phase II of the former “Flood Proofing and Drainage Programme for Medium-sized Cities in Viet Nam”)
<b>GIS</b>	Geographic Information System
<b>GIZ</b>	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
<b>GoV</b>	Government of Vietnam
<b>JSC</b>	Joint Stock Company
<b>MARD</b>	Ministry of Agriculture and Rural Development
<b>MoC</b>	Ministry of Construction
<b>MoNRE</b>	Ministry of Natural Resources and Environment
<b>MPI</b>	Ministry of Planning and Investment
<b>O&amp;M</b>	Operation and Maintenance
<b>PM</b>	Prime Minister
<b>PPC</b>	Provincial People’s Committee
<b>SECO</b>	(Swiss) State Secretariat for Economic Affairs
<b>SEDP</b>	Socio-Economic Development Plan
<b>SUDS</b>	Sustainable Urban Drainage Systems
<b>ToT</b>	Training of Trainers
<b>VNDMA</b>	Viet Nam Disaster Management Authority (under MARD)
<b>VNMHA</b>	Viet Nam Meteorological and Hydrological Administration (under MoNRE)

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