

### 対象国防災・災害対策分野における開発ニーズ(課題)

- ・都市部では、建物や舗装等の不浸透面の増加に伴い、雨水が直接低い土地や河川に流れ込み、内水氾濫や洪水が増加している。
- ・河川や市街地への流出抑制に係る有効な取組み事例は見受けられず、排水整備が主な水害対策と考えられる。

### 提案製品・技術

- ・プラスチック製の構造体をシートで被包し、地中に雨水の貯留空間を構築する。
- ・洪水時の雨水流出抑制や浸水被害の軽減、雨水利用、(浸透型のみ)地下水涵養等の機能を持つ。
- ・本体の軽量化により人力での施工が可能である。
- ・駐車場下に設置可能な強度がある。

### 調査概要

- ・調査期間:2024年7月~2025年2月
- ・対象国・地域:ベトナム国 ハノイ市、ホーチミン市、ダナン市、フエ市
- ・調査概要:都市化の進展に伴い、台風や降雨時に都市部で頻発している内水氾濫や洪水に対して、浸水被害軽減に向けプラスチック製雨水貯留構造体の活用に関する調査。本支援事業後に実証実験を行い現地での有用性・適合性が認められ導入が進めば、洪水時の安全確保のほか、交通渋滞緩和によるCO<sub>2</sub>削減への貢献も期待できる。



プラスチック製雨水貯留構造体(PRSS)

### ビジネスモデル

- ・対象顧客・ターゲットは、排水事業を管轄する公的機関と、浸水被害に困っている民間企業等を想定しており、商業施設や学校、公園等への導入を想定する。
- ・技術営業を主とし、顧客である民間企業や公的機関に対して土木・建築的な観点から設計支援を行い、製品を販売することで収益を上げることを目指す。

### 対象国に対し見込まれる成果(開発インパクト)

- ・浸水によって通行不可となる道路が減ることによる交通渋滞の緩和とCO<sub>2</sub>排出量の軽減。
- ・浸水時に汚染された水と接触する事によって引き起こされる感染症の予防。
- ・生活する地域住民への安全確保。
- ・下水道に直接流れ込む雨水を減らすことによる下水道処理施設の負担軽減。

### Development issues in the country/sector

- In urban areas, the rise of impervious surfaces such as buildings and pavements has led to rainwater flowing directly into low-lying areas and rivers. This has contributed to an increase in inundation and flooding.
- There are no examples of effective efforts to control runoff in urban areas and divert it from rivers. As a result improvement of drainage systems is considered to be the main flood control measure.

### Survey Outline

- Survey period: July, 2024~February, 2025
- Country/Area: Vietnam / Hanoi, Ho Chi Minh, Da Nang, Hue
- Survey Overview: A study on the use of plastic rainwater harvesting structures in mitigating flood damage, particularly from frequent flooding and flooding in urban areas during typhoons and heavy rainfall events due to the progress of urbanization. If the effectiveness and suitability of the product are recognized and its implementation is promoted through demonstration tests after this survey project, it is expected to contribute not only to enhance safety during flooding but also help to reduce CO<sub>2</sub> by alleviating traffic congestion.

### Business Model

- Target customers include public organizations in charge of drainage management and private companies that are suffering from flood damage. The system is expected to be installed in commercial areas, schools, parks, etc.
- The company plans to generate revenue by offering design support from both civil engineering and architectural perspectives to these private and public entities. Additionally, revenue will be generated through the sale of its products, primarily through technical sales channels.

### Products/Technologies of the Company

- The plastic structure which is encased within a sheet, forming an underground rainwater storage unit.
- This structure is equipped with multiple functions, including control of rainwater runoff during floods, mitigation of flood damage, rainwater utilization, and groundwater recharge (for infiltration type only).
- Its lightweight design facilitates easy manual installation.
- The structure is strong enough to be installed under a parking lot.



### Expected Social Impact in the Country

- Reduce traffic congestion and CO<sub>2</sub> emissions by minimizing the number of roads rendered impassable due to flooding
- Prevention of infectious diseases caused by contact with contaminated floodwater
- Ensure safety for local residents living in the area
- Reduce the amount of stormwater flowing directly into the sewerage system and reduce strain on the waste water treatment plant