

Strengthening WASH Resilience: Toward Sustainable Development Goals through Flood Susceptibility Analysis and Decentralized Implementation Framework

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AIM OF THE STUDY

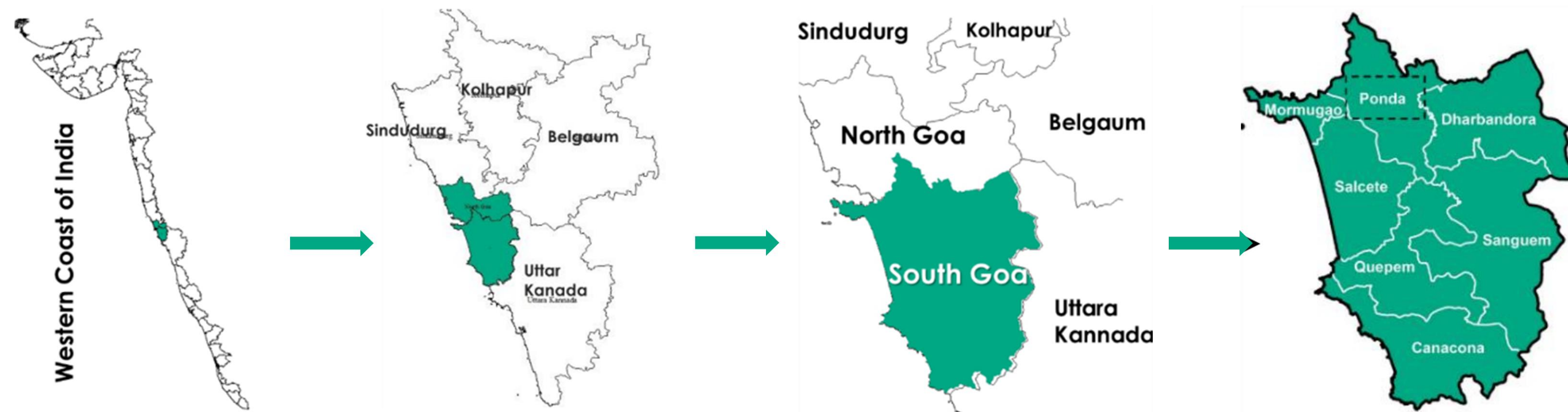
To assess flood susceptibility and propose a comprehensive implementation framework for decentralized WASH services at the local level in South Goa district.

OBJECTIVE OF THE STUDY

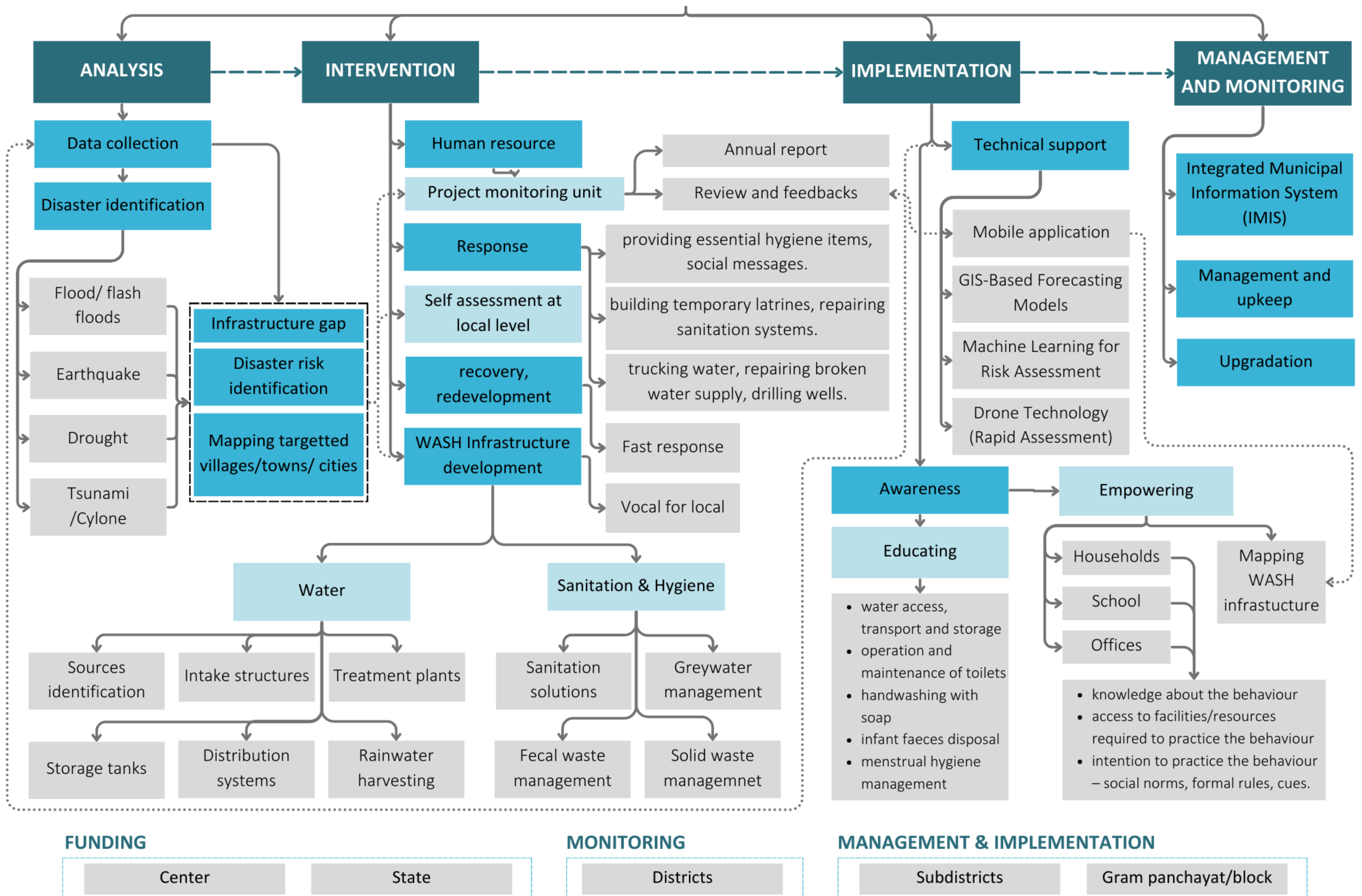


- 01 Assess flood susceptibility in South Goa and identify at-risk villages.
- 02 Calculate WASH infrastructure needs in flood-prone villages.
- 03 Connect SDG with strategies for WASH services in flood-prone areas.
- 04 Develop a management framework for decentralized WASH organizations for analysis, monitoring, and local level implementation

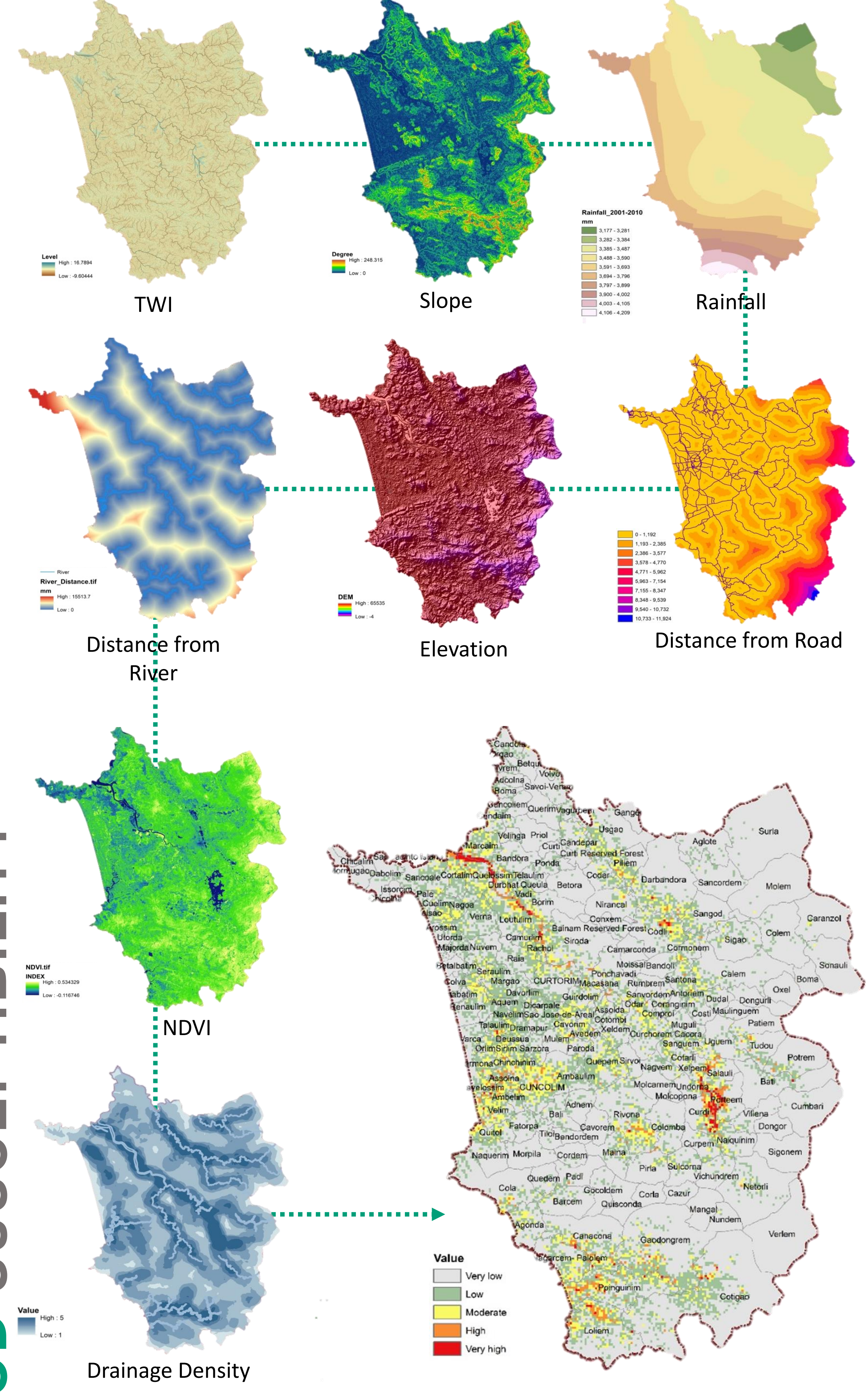
CASE AREA



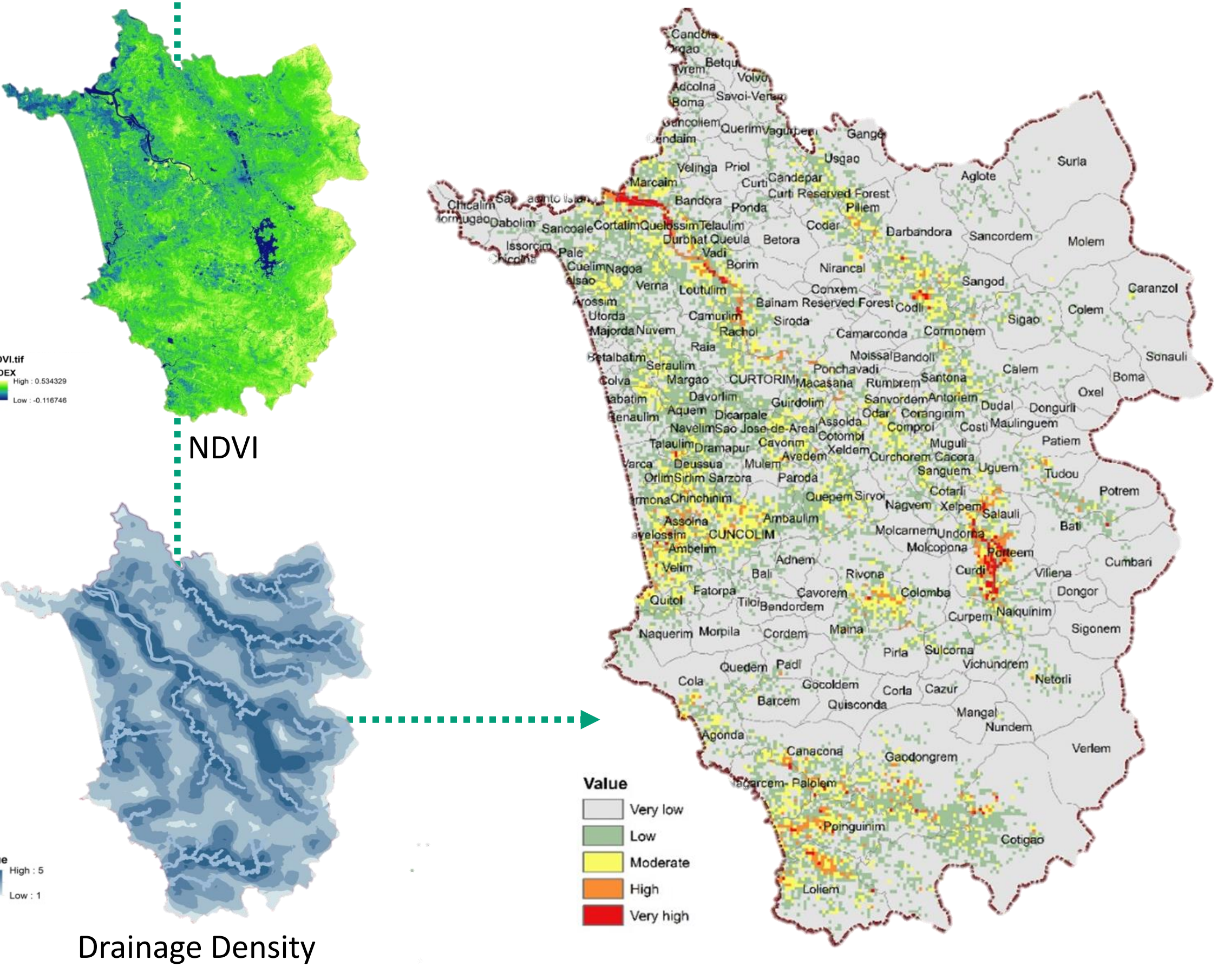
MANAGEMENT FRAMEWORK



ANALYSIS



FLOOD SUSCEPTIBILITY

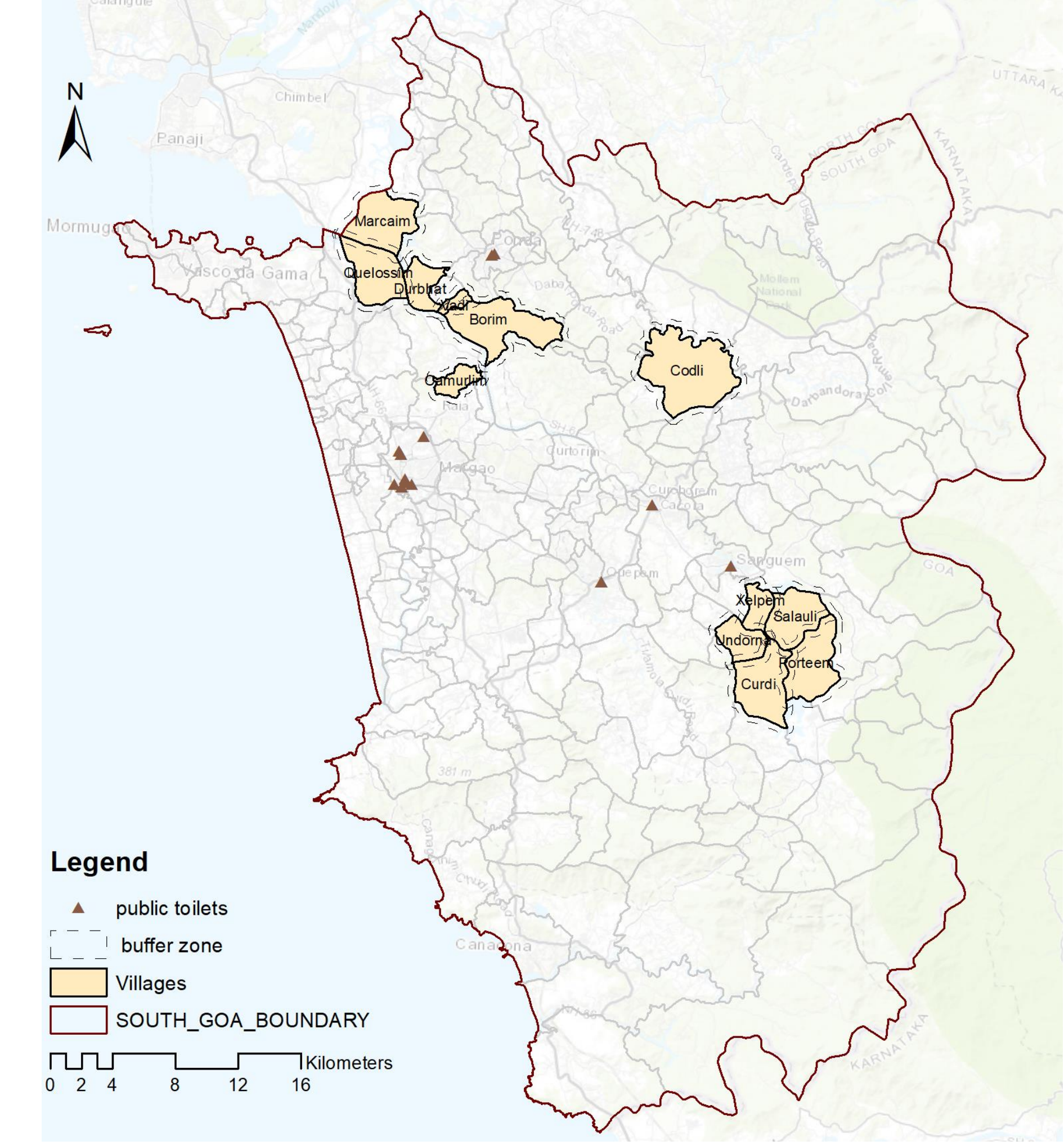


It was observed that 71% of the total area of South Goa falls under moderately susceptible zone and 12% of the area is falling under the High susceptible zone.

INTERVENTION

- Rainwater Harvesting Systems with Slope Consideration
- GIS-Based Flood Forecasting Models
- Machine Learning for Risk Assessment
- Drone Technology for Rapid Assessment
- Community-Based EWS
- Floating WASH Facilities
- Solar-Powered WASH Solutions
- Scoring Parameters
- Assess WASH infrastructure

INFRASTRUCTURE ASSESSMENT



INFRASTRUCTURE ASSESSED

WATER SUPPLY & SANITATION FACILITIES

Village name	% with safe water	% with indiv. toilet
Quelossim	82.1	0.0
Borim	0.0	0.0
Durbhat	37.2	0.0
Marcaim	80.0	0.1
Vadi	71.3	0.0
Undorna	100.0	0.0
Camurlim	99.9	0.0
Curdi	55.6	22.2
Porteem	55.3	19.6
Salauli	0.0	0.0
Xelpem	50.0	0.0
Codli	93.7	28.8

TOTAL	Total population	Population with piped water connection	HHD with sanitary latrines	% of pop. with safe drinking water	% of HHD with individual toilet
	32628	18625	9409	57.1	96.2

Observation reveals the absence of public toilets in the susceptible villages.

SDG AND WASH

Targets	Indicator Selected for SDG India	Value (%)	Source and formula
Achieve universal and equitable access to safe and affordable drinking water for all	Percentage of population having safe and adequate drinking water in rural areas	57.1	Mission Antyodaya 2020
By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations	1. Percentage of rural households with individual household toilets. 2. Percentage of districts verified to be open defecation-free.	96.2	Mission Antyodaya 2020
	3. Installed sewage treatment capacity as a proportion of sewage generated in urban areas	0	Swachh Bharat Mission (Grameen) 2.0 Dashboard
			Data not available at village level