

### 4.1.3 Technology action plan for the sensor webs

The capability development of sensor webs emphasizes increasing number of experts and practitioners, especially for governmental sectors. Device purchasing and maintenance are the major areas requiring technology investments. Technology action plans for the sensor web is summarized in Table 49.

**Table 49 Technology action plans for the sensor web**

Strategies	Activities	Timeline (year)	Stakeholders	Indicators
<b>Capability Development</b>	<b>C1.</b> Enhancing the performance of data administrative officers to ensure that they can collect and prepare data according to the standard before distributing the data to other agencies (urgent)	1-3	- relevant agencies	- the number of personnel capable of transferring knowledge on data collection and preparation
	<b>C2.</b> Providing knowledge and understanding on how the system operates to both managers and operators in order to set an efficient line of command	1-3	- the management and the operators	- the number of trainings/meetings
	<b>C3.</b> Conducting pre-operation tests to ensure readiness prior to the operation under real circumstances (urgent)	1-3	- relevant agencies	- the number of meeting participants - the number of pre-operation tests
	<b>C4.</b> Developing governmental personnel involved in R&D in mathematic programs/geo-informatics	3-5	- government agencies - educational institutes	- the number of personnel in the fields of mathematic programs/geo-informatics
<b>Investment</b>	<b>C5.</b> Investing in the procurement of high-quality devices used in conducting water source surveys	1-3	- the Bureau of the Budget	- the budget ratio spent on the procurement of survey devices
	<b>C6.</b> Determining a long-term budget plan to cover maintenance	1-3	- government agencies	- the number of maintenance budget plans
	<b>C7.</b> Dividing operational phases to reduce costs and provide time for R&D of the model (success case)	1-3	- government agencies	- the budget ratio of operational costs - the amount of research work related to model development

Strategies	Activities	Timeline (year)	Stakeholders	Indicators
	<b>C8.</b> Allocating budget to support relevant agencies to participate in the establishment of a data-sharing center and research work which can be easily accessed at no cost	3-5	- the Bureau of the Budget - relevant agencies	- the budget ratio spent on the creation of a data-sharing center
<b>Organisational structure development</b>	<b>C9.</b> Determining the missions/duties of each relevant agency in data collection, R&D, data distribution, and field work in disaster affected areas (urgent)	1-3	- relevant government agencies - local authorities and communities in disaster-affected areas	- the number of missions and duties of each agency - a plan for operations in disaster-affected areas
	<b>C10.</b> Clearly assigning disaster warning workflow in order to show linkages among relevant agencies, line of command, and disaster alleviation according to the severity of each area (urgent)	1-3	- central agencies - local authorities	- the number of disaster warning workflows - the number of agencies determining the disaster warning workflow
<b>Policy and regulation</b>	<b>C11.</b> Promoting devices and supporting locally-developed devices/research work	1-3	- central agencies - educational institutes	- the number of devices/research works developed domestically
	<b>C12.</b> Promoting research works in collaboration with foreign agencies/private companies in order to receive and transfer the technologies	1-3	- educational institutes - foreign agencies - government agencies - private companies	- the amount of research works
	<b>C13.</b> Clearly determining policy/agreement from state management in order to create understanding among agencies involved in data collection, co-ownership, and data sharing (urgent)	1-3	- management from the relevant agencies	- the number of data agreements

Strategies	Activities	Timeline (year)	Stakeholders	Indicators
	<b>C14.</b> Setting data standardization and data collection procedures	1-3	- relevant government agencies	- the number of regulations on the standards for data collection - the number of agencies determining data standards
<b>Policy and regulation</b>	<b>C15.</b> Developing the R&D capability of governmental personnel in mathematic programs/geo-informatics technologies	3-5	- government agencies - educational institutes	- the number of policies on the development of personnel in the fields of mathematics/geo-informatics technology - the amount of research work

The activities under the technology action plan for 1) networking and management of water infrastructures, 2) seasonal climate prediction, and 3) sensor web are codified as A, B, and C, respectively. The technology action plan of each technology is presented as follows: