

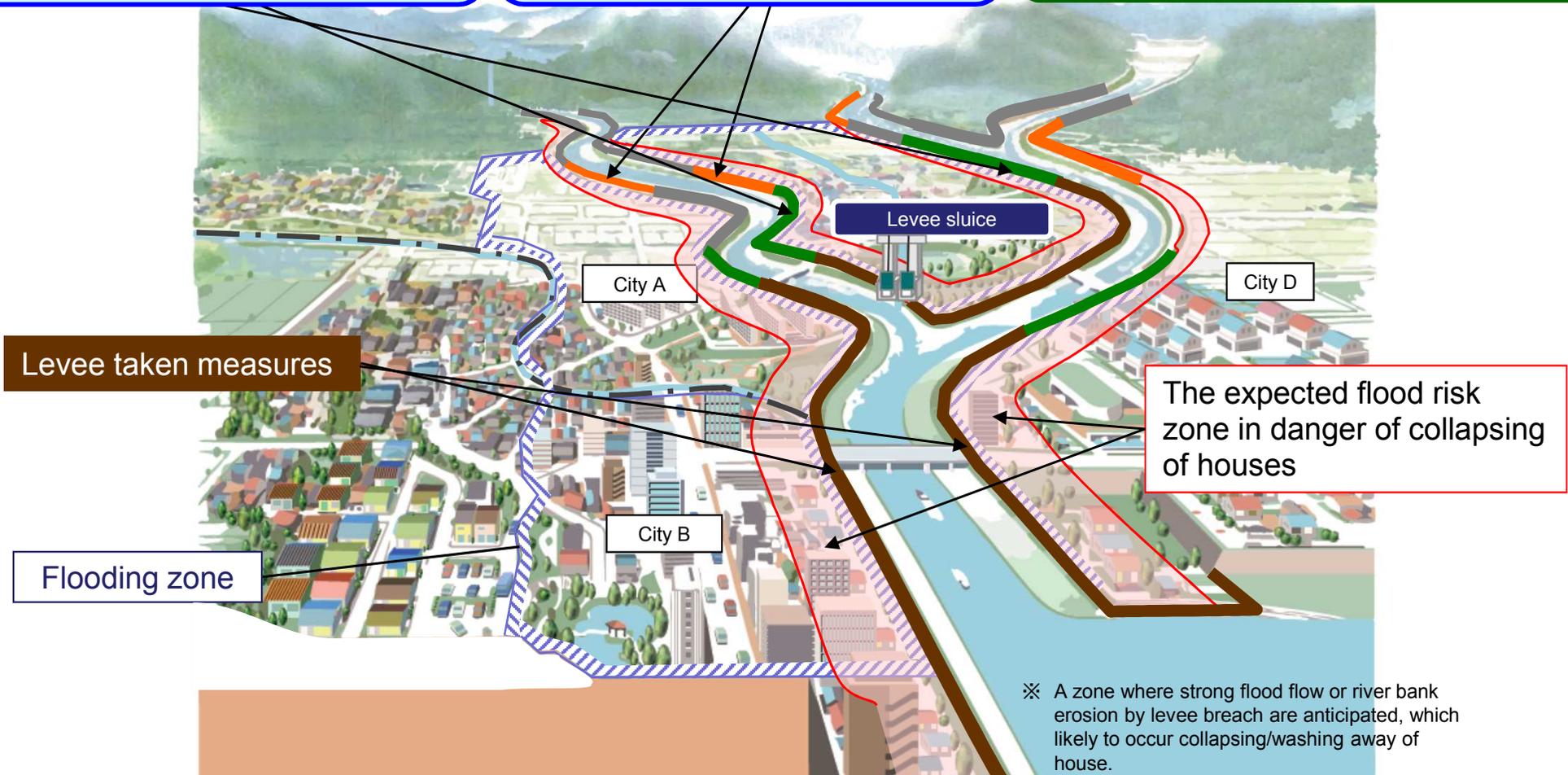
Rebuilding Flood-Conscious Society

- **Set up the joint councils by relative stakeholders** (river managers, prefectures, municipalities, flood fighting corps ect.) in each region.
- Share the goal for mitigation and Promote **the structural / non-structural** measures in cooperation.

1) Structural measures to prevent outflow

2) Structural measures for crisis management

3) Non-structural measures with residents' perspective



1) Structural measures to prevent outflow

- a) Increase discharge capacity by structural measures (levee development, excavation etc)
 - b) Improve the ability of emergency response
(Infiltration, Piping, Erosion, Scour control)
- >These efforts will be promoted within five years.

Lack of discharge capacity



Levee improvement / river channel excavation

- Points where lack of discharge capability to a current target such as a case of lower levee.



Piping, Slope Sliding



Leakage control (incl. infiltration)

- Possible levee breach points by infiltration
- Possible levee breach points by piping, such as a track of former river channel.



Water colliding/scour



Erosion/Scour control

- Possible bank erosion/revetment failure points such as those where the river bed is deeply excavated or any water colliding points.

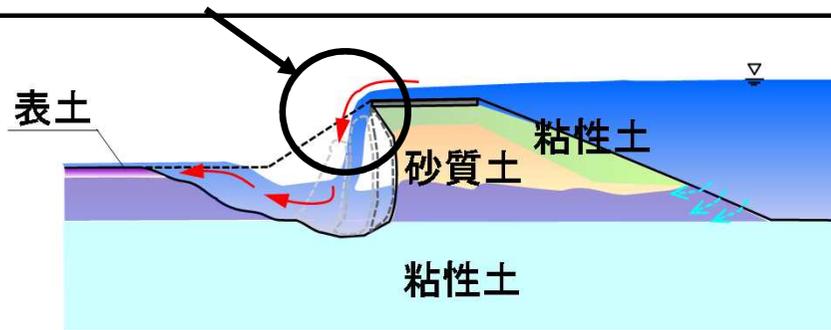


2) Structural measures for crisis management

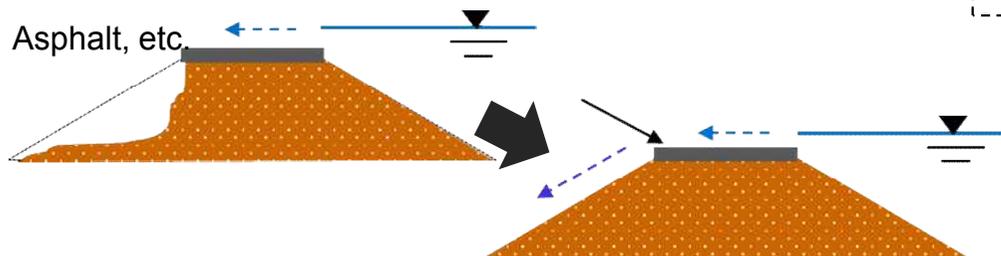
Improve the capacity of river facilities not to break easily even if huge disasters occur. Proceed within five years in a zone where is unavailable to improve levee due to the balance of rivers.

Protect levee crest

Protecting the levee crest with asphalt and others, along together controlling the infiltration of rain water into levee and delaying the progress of levee top breaking in the case of overflow.

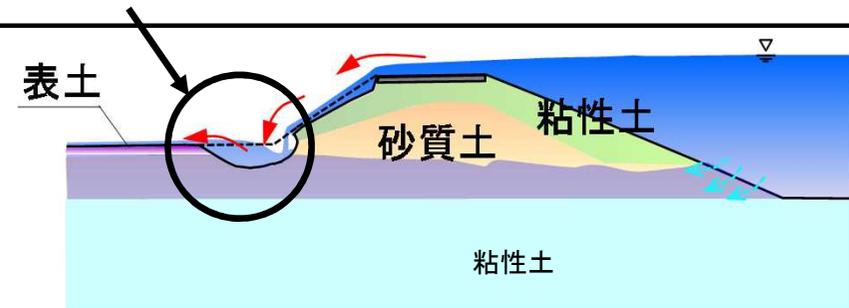


In the case of levee whose crest being protected with asphalt or others, the materials remain for a certain amount of time.

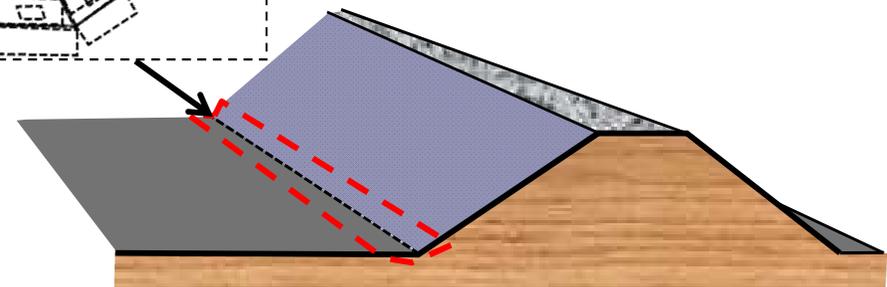


Reinforce foot of back slope

Reinforcing the foot of back slope with blocks and delaying the progress of deep excavation in the case of overflow.



The toe of back slope reinforced with blocks

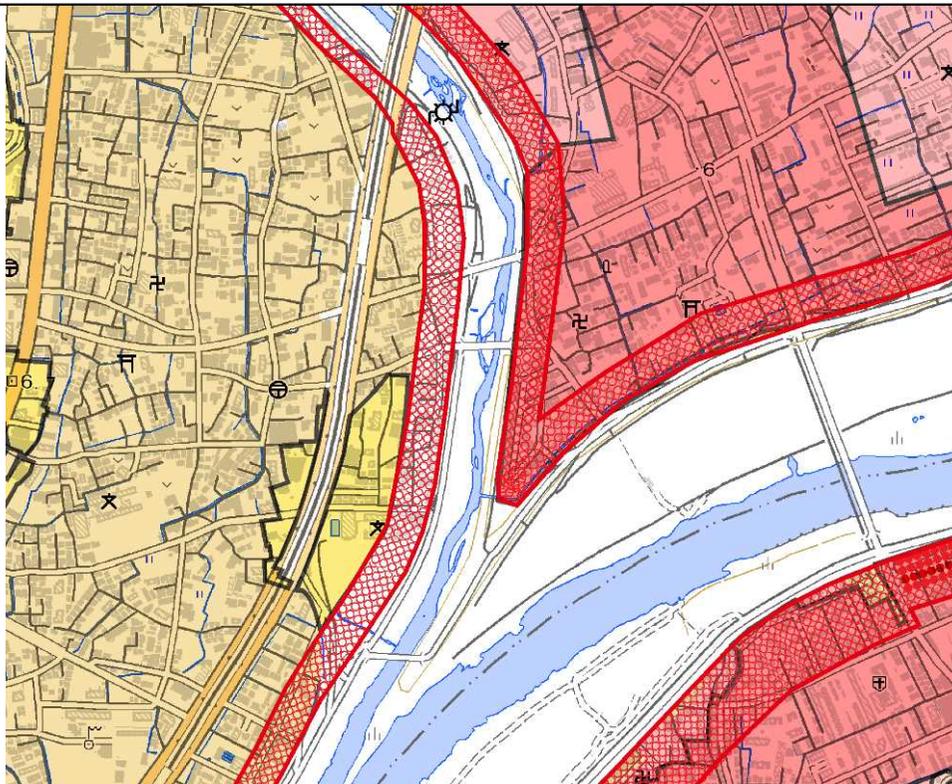


3) Non-structural measures with residents' perspective

1) Publishing "The anticipated flood risk zone in danger of collapsing of houses"

Publish "The anticipated flood risk zone in danger of collapsing of houses" for presumable flood zone where possibly lead to a collapse of house in case of a presumable largest-scale flood event, as one of zones where require early eviction for evacuation.

(Display example)
The anticipated flood risk zone in danger of collapsing of houses

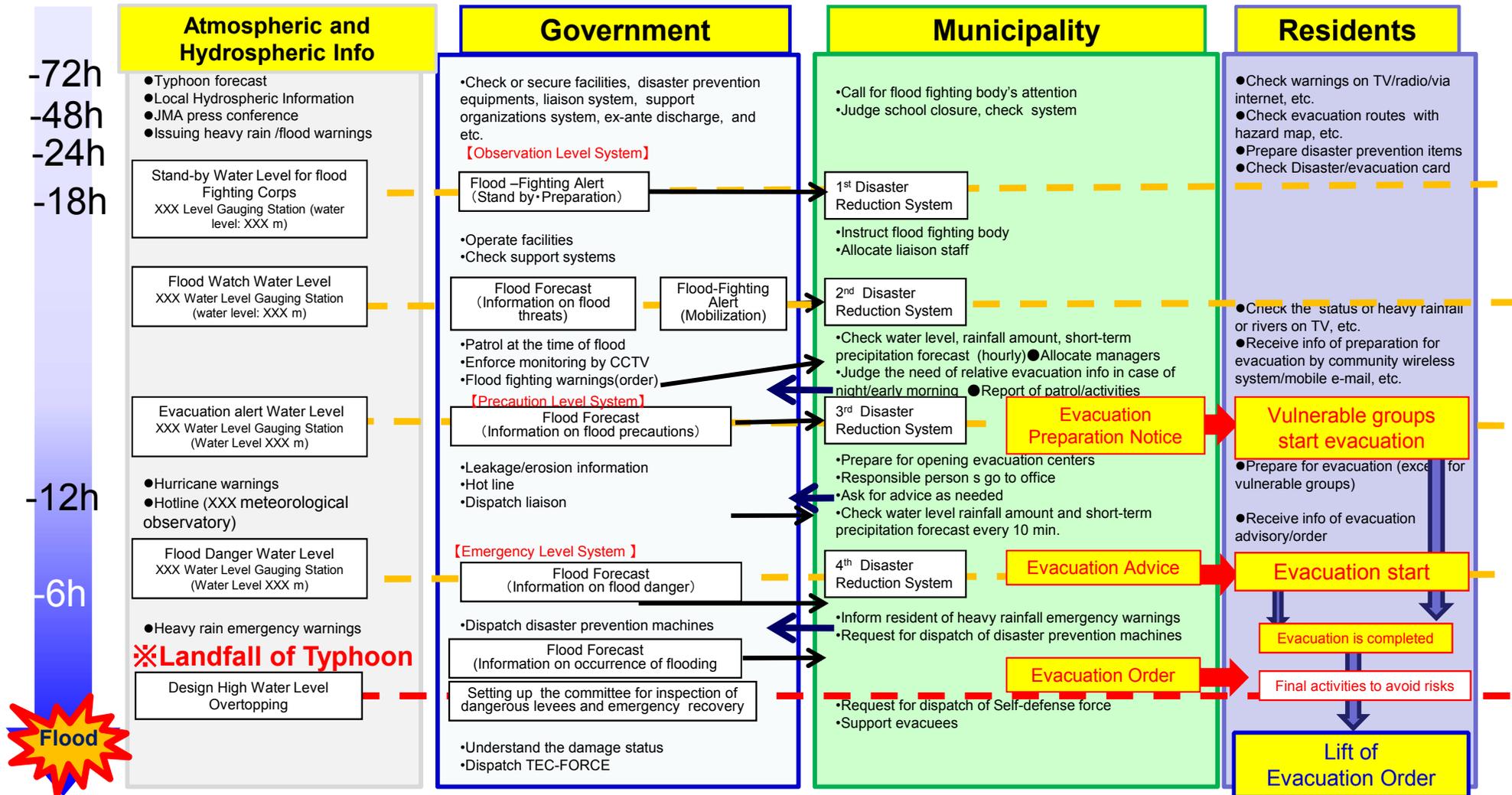


Legend			
presumable inundation depth		5.0m and more	Two-story house submerged
		Below 3.0m~5.0m	The 2 nd floor inundated
		Below 0.5m~3.0m	The ground floor inundated above the floor level
		Below 0.5m	The ground floor inundated below the floor level
The anticipated zone in danger of collapsing of houses		The anticipated flood risk zone in danger of collapsing of houses (flood)	Zone where likely to occur a flood flow that leads to a collapse of wooden house by levee breach
		The anticipated flood risk zone in danger of collapsing of houses (levee erosion)	Zone where likely to occur a bank erosion that leads to a collapse of a wooden/non-wooden house .

Example of “Non-structural measures with residents’ perspective”

2) Time-series disaster management operation plan

Develop a “Time-series disaster management operation plan” in municipalities (730 city/town/village) located along levees of rivers



Example of “Non-structural measures for protecting people’s lives”

3) Sharing real time information

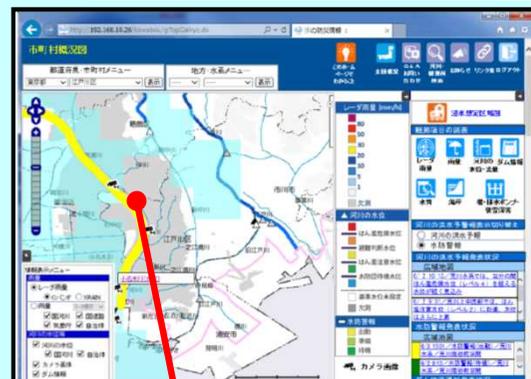
- Improving systems in order for municipalities and residents **to gain the river information in real time**, and prompting early evacuation.
- Information includes river water level, radar rainfall data, live image by monitoring camera etc.



PC ver.



Added browsing functions:
River live camera viewing



The risk level of river water level : Indicated by its color



Added indication:
The anticipated inundation zones



Indication: River water level



Smartphone ver.