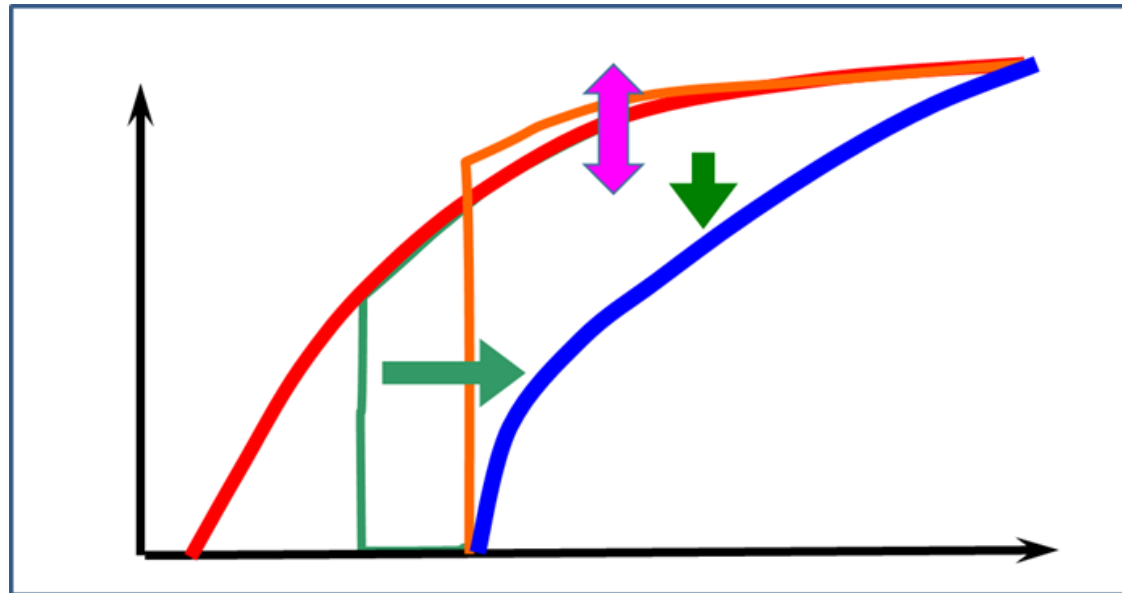




How to Understand and Monitor Disaster Risk Reduction in locality under the Global Climate Change

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1. Main Issues and Comments on DRR in the Philippines

Main Issues

There are No systematic frameworks for Understanding and Monitoring DRR from concrete DRR implementation point of view.

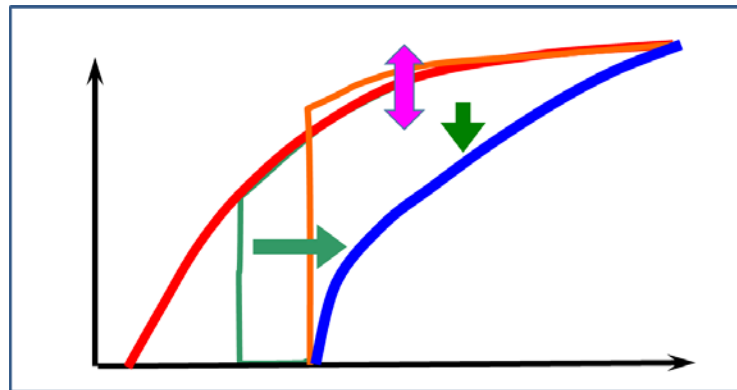
- Less Incentive for Data Archiving, Sharing and Analyzing for DRR.
- No general frameworks for Integrating Multiple DRR measures among multiple stakeholders / agencies.
- Weak Implementation of Systematic DRR measures based on Scientific Data from a long term point of view.

Comments

To overcome the issues above, New Systematic Framework / Method for DRR Understanding and Monitoring in locality from a concrete execution point of view should be introduced.

2. Suggestions

Nationwide systematic mechanism using “Set of Hazard Maps with multiple scales of predominant Disaster” and “Disaster Risk Graph” (tentative name) should be introduced as appropriate for concretely realizing DRR to reduce economic damage from a long term point of view through “Mainstreaming DRR” and “Build Back Better” under the GCC.



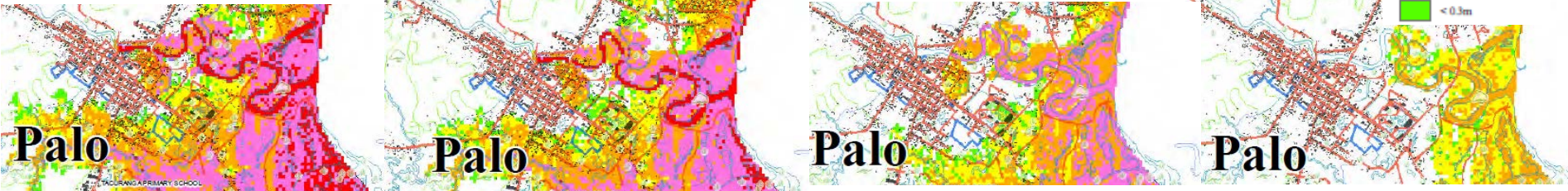
To Understand Disaster Risk in the locality

Suggestion 1: Providing and sharing Set of Hazard maps with multiple scales of predominant type of disaster among stake holders.

Understanding DR in each area toward feasible DRR measures/Area BCM.

e.g. Storm Surge

Inundation Depth (m)



>100 yr. return period

50 yr. return period

30 yr. return period

10 yr. return period

Rare event

Relatively frequent event

Appropriate for DRR planning against catastrophic disaster situation, but not appropriate for planning against relatively frequent disaster events. e.g. Good for evacuation planning.

Appropriate for DRR planning against relatively frequent disaster events. e.g. Good for building foundation elevation study for annual average damage reduction.

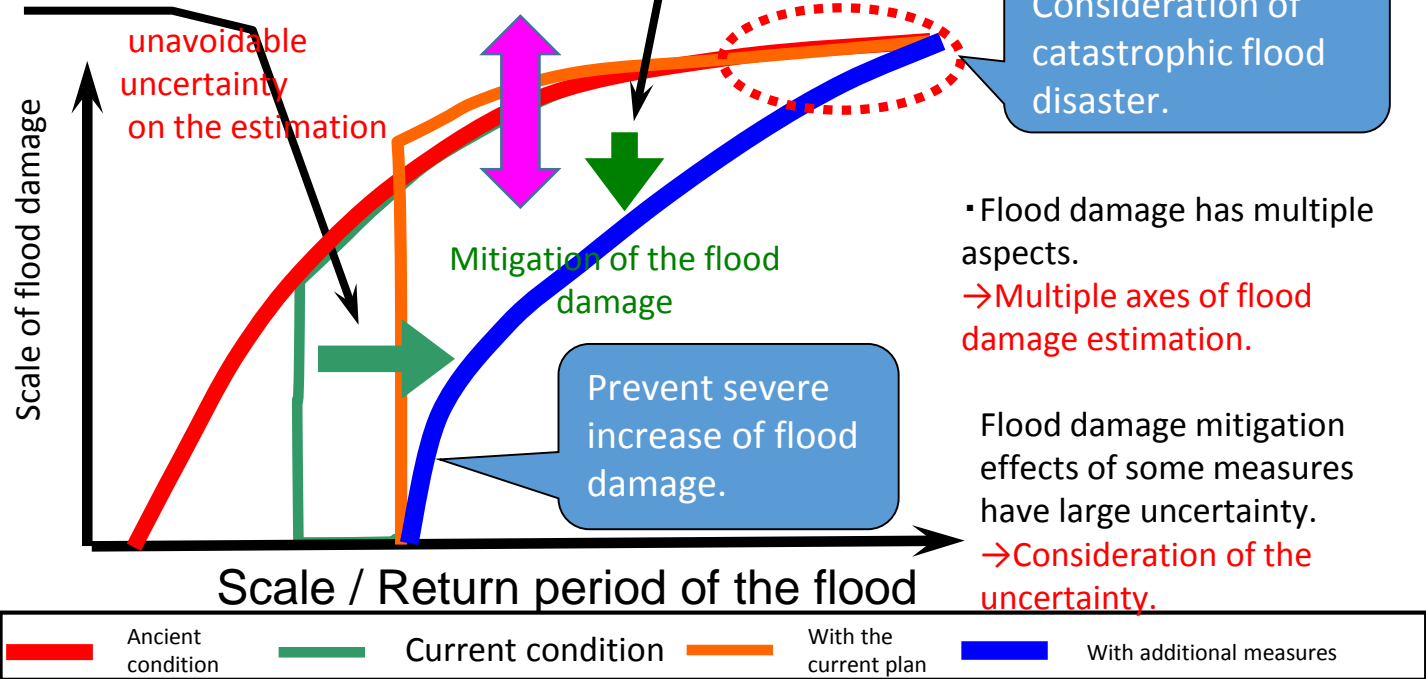
To Monitor DRR in the locality

Suggestion 2: Introducing Disaster Risk Graph* in each area (e.g. LDRRMC) as appropriate.

Example on flood

Effect of measures to lower the frequency of the flood damage. e.g. river improvement work.

Effect of measures to mitigate the damage caused by flood events. e.g. high standard levee, land use regulation in the flood risk area.



* Tentative naming in English. From the research results of National Institute for Land and Infrastructure Management, MLIT, Japan. e.g. http://www.nilim.go.jp/lab/kikou-site/data/info_data/2015_takenaka1.pdf

3. How to draw the DRG with limited available data (1)

(1) Collect the available data (e.g. Hazard Maps) in the target area.

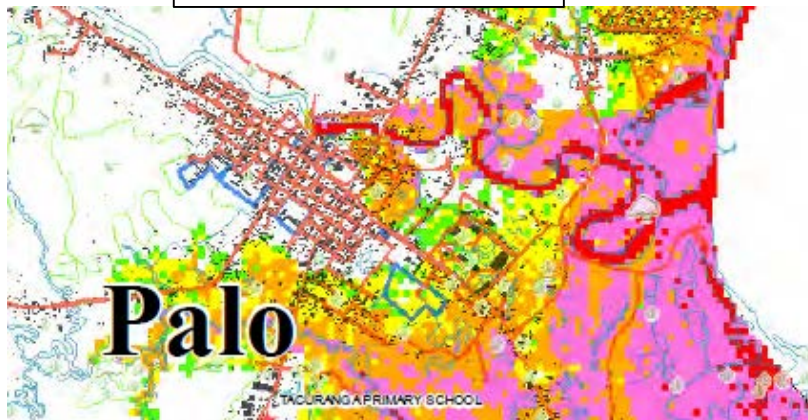
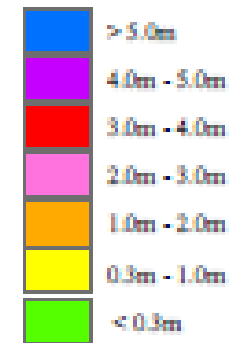


Yolanda
(>100 yr)

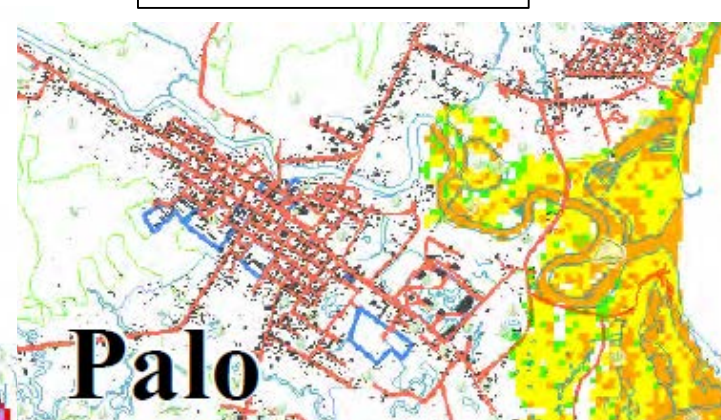


30 yr. return
period

Inundation Depth (m)



50 yr. return
period

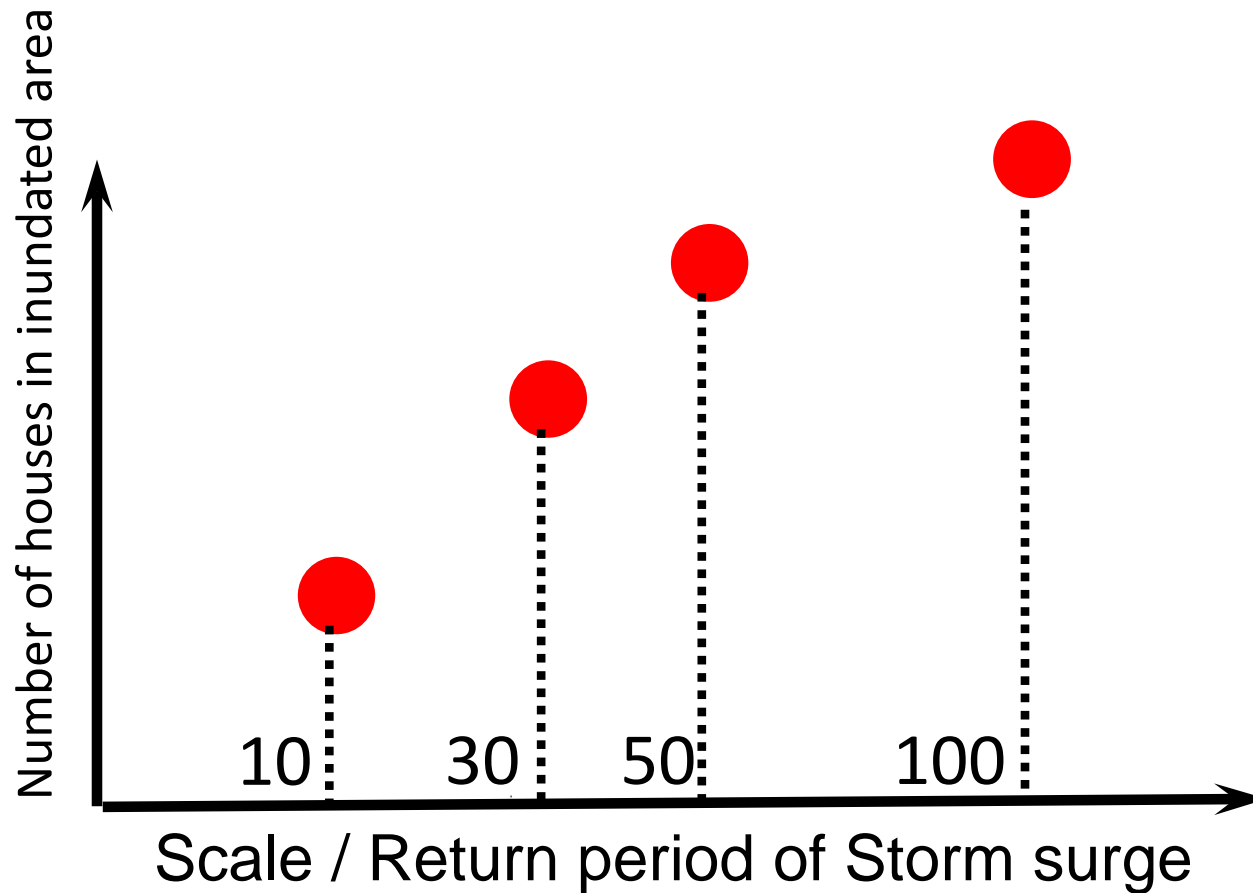


10 yr. return
period

***Example
on
Storm
Surge**

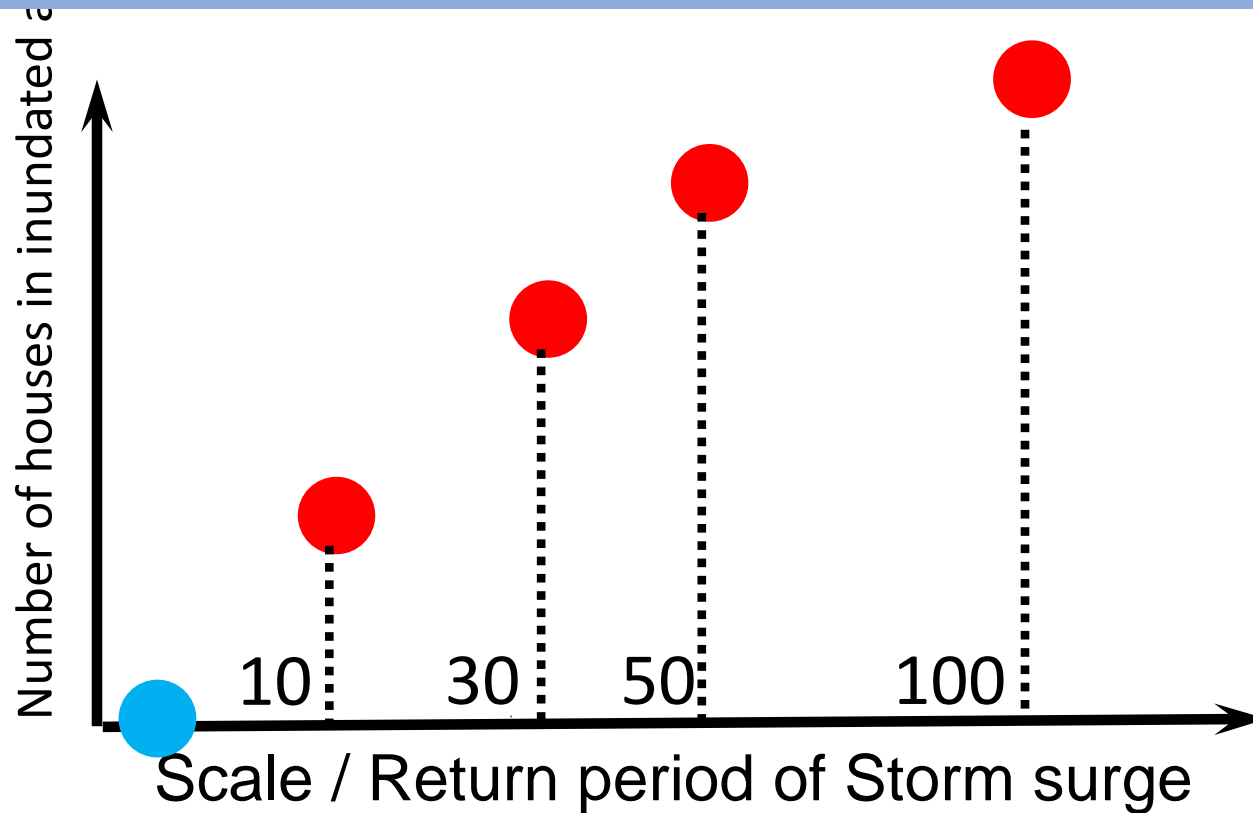
3. How to draw the DRG with limited available data (2)

(2) Count the number of houses in the inundation area on each Hazard Map.



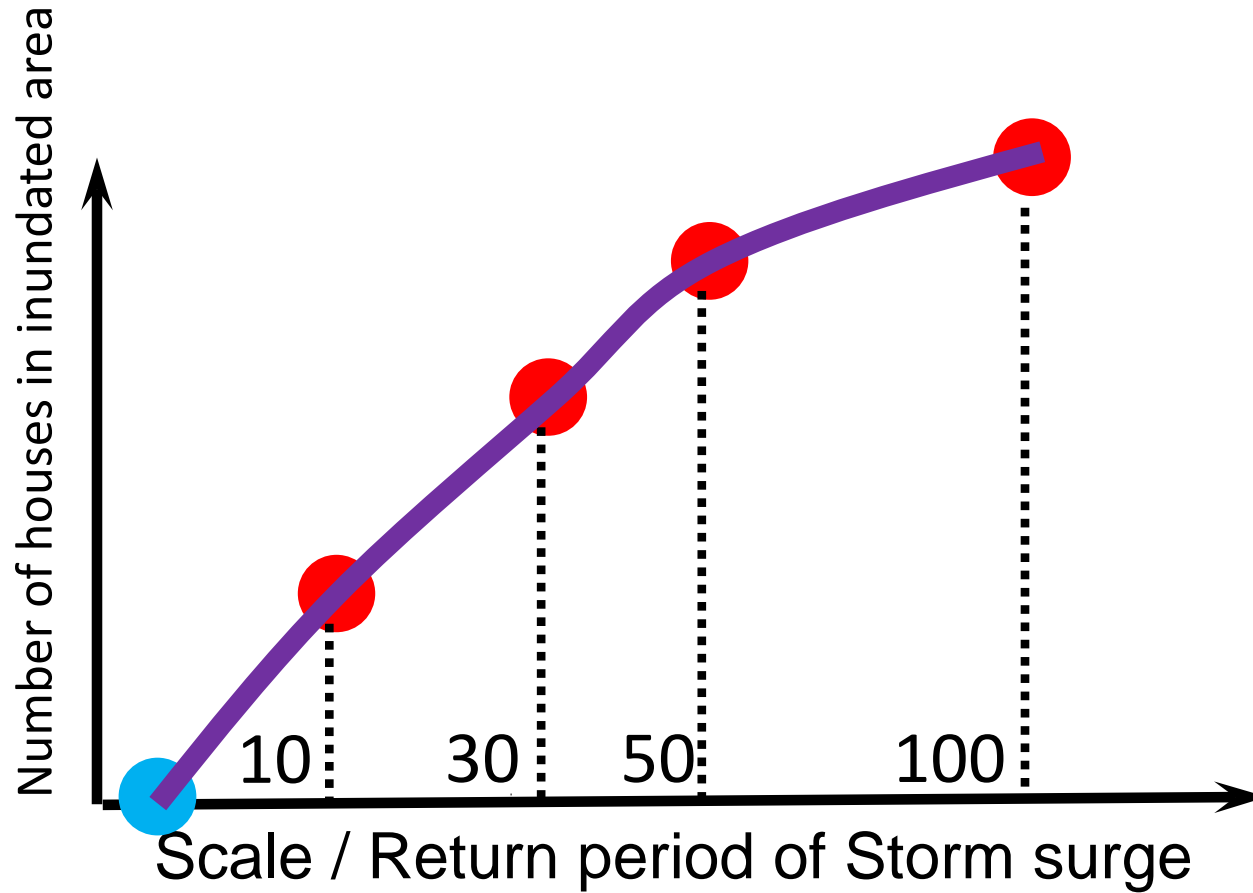
3. How to draw the DRG with limited available data (3)

(3) Judge the intersection with the horizontal axes depending on past experiences or by engineering judgement.



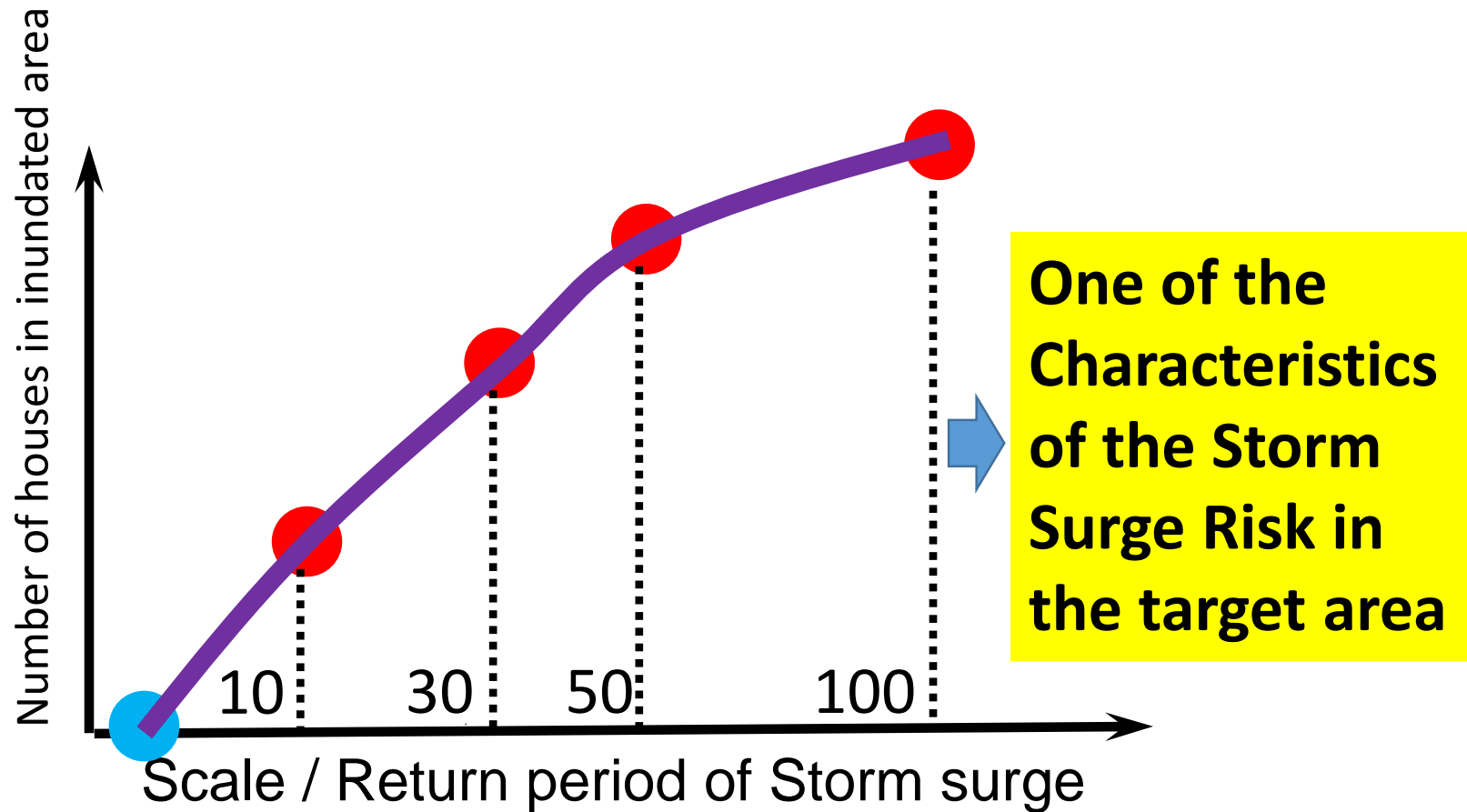
3. How to draw the DRG with limited available data (4)

(4) Draw the curve connecting the points.



3. How to draw the DRG with limited available data (5)

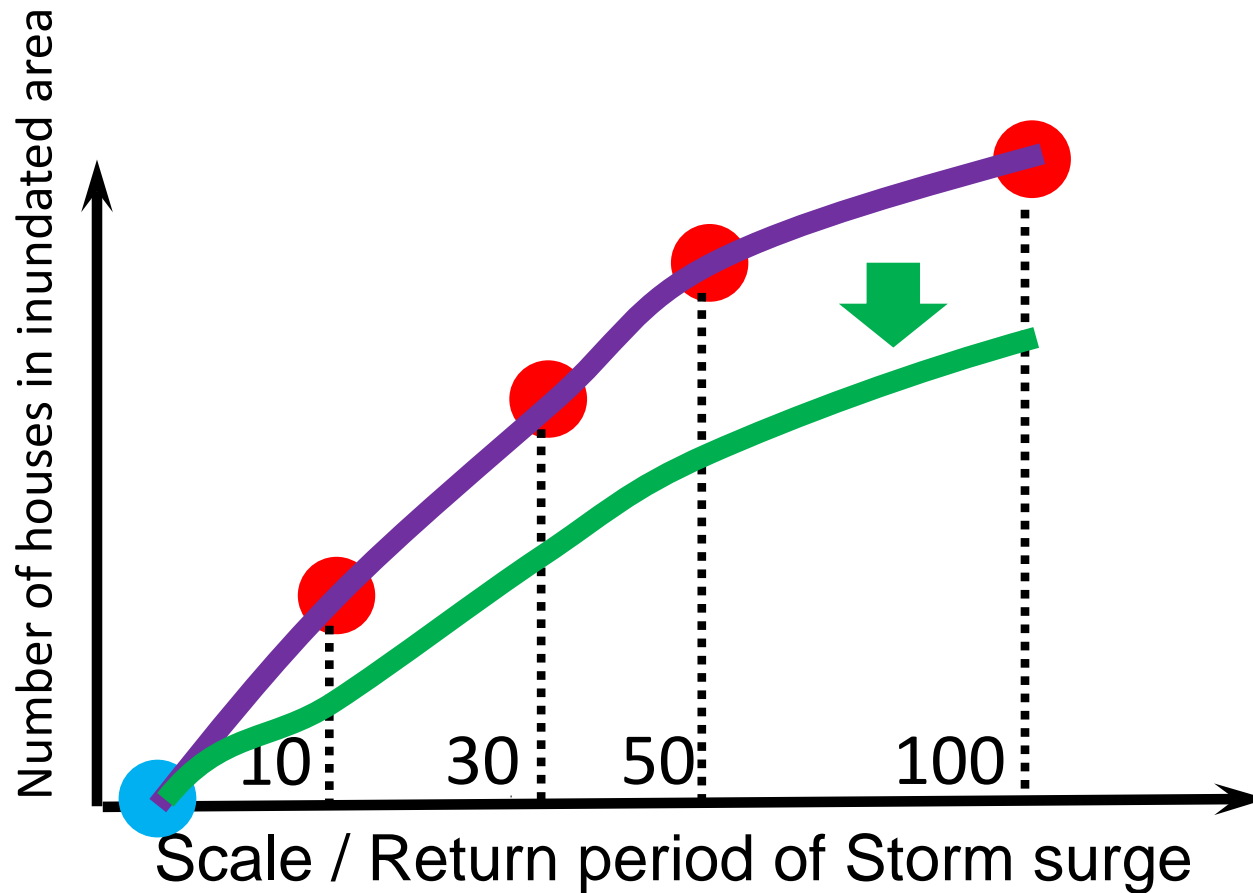
(5) Clearly explain the limit of the DRG below the graph.



*** This graph is tentatively drawn by ... depending on limited available data.**

4. How the DRG be shifted (1)

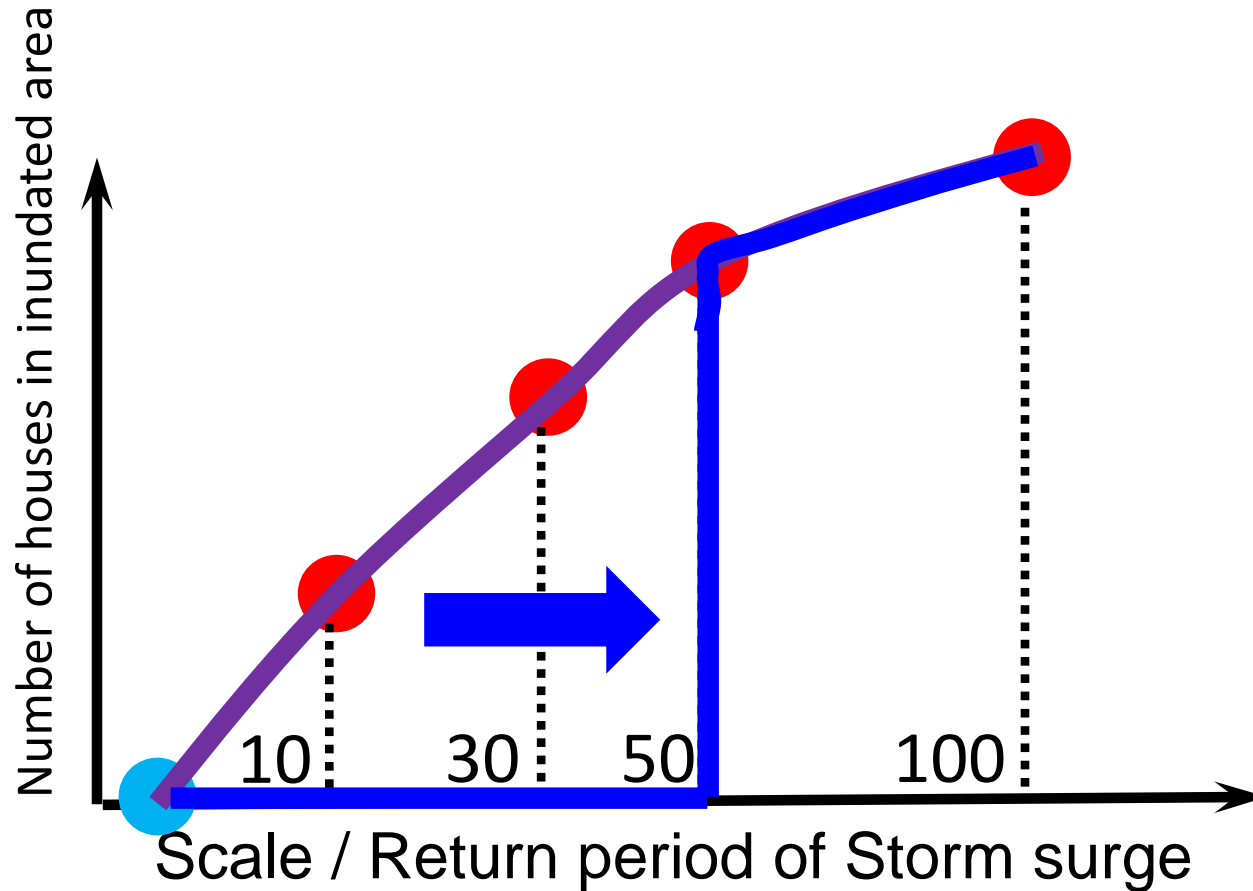
(1) After some relocation projects completed



* This graph is tentatively drawn by ... depending on limited available data.

4. How the DRG be shifted (2)

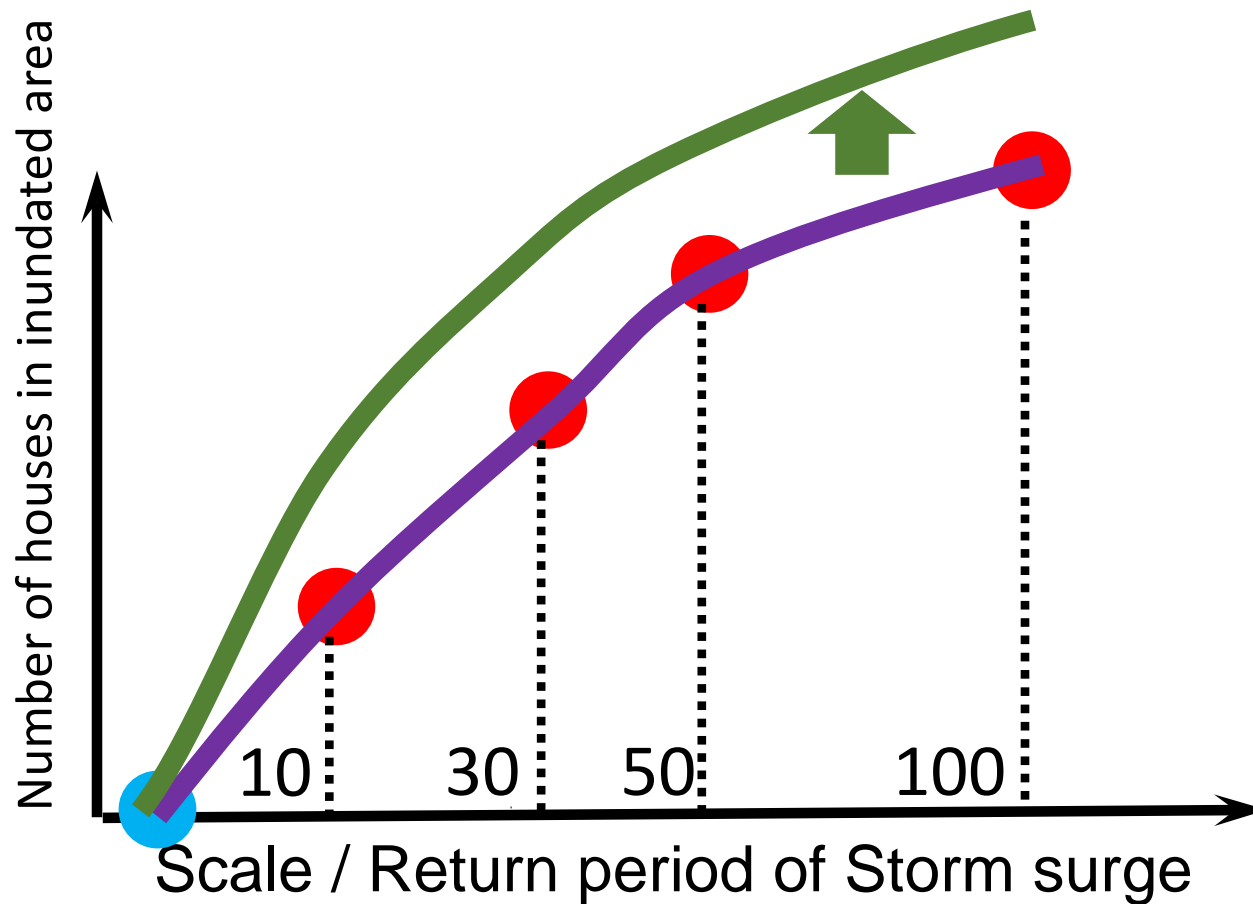
(2) After a new coastal embankment construction project completed



* This graph is tentatively drawn by ... depending on limited available data.

4. How the DRG be shifted (3)

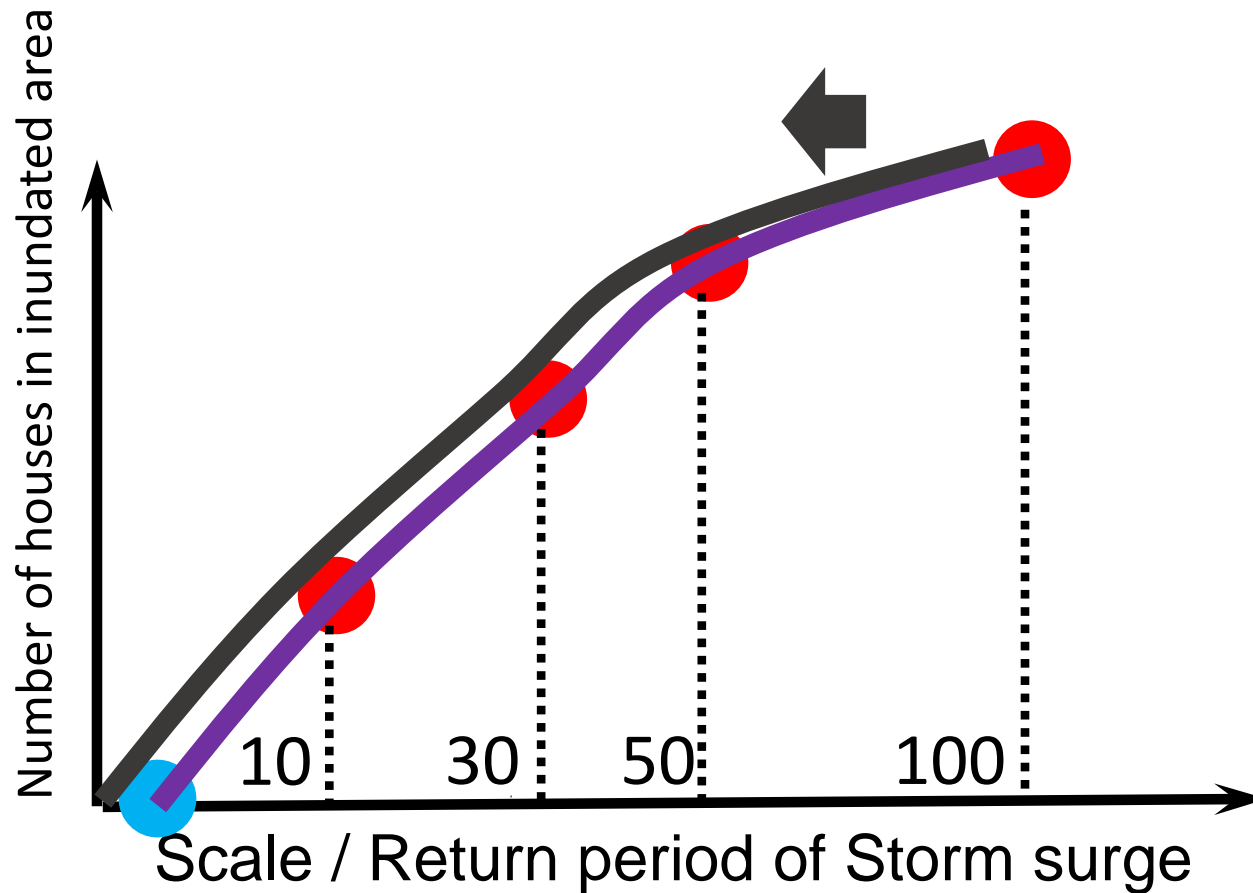
(3) If the number of houses in high risk areas increased



* This graph is tentatively drawn by ... depending on limited available data.

4. How the DRG be shifted (4)

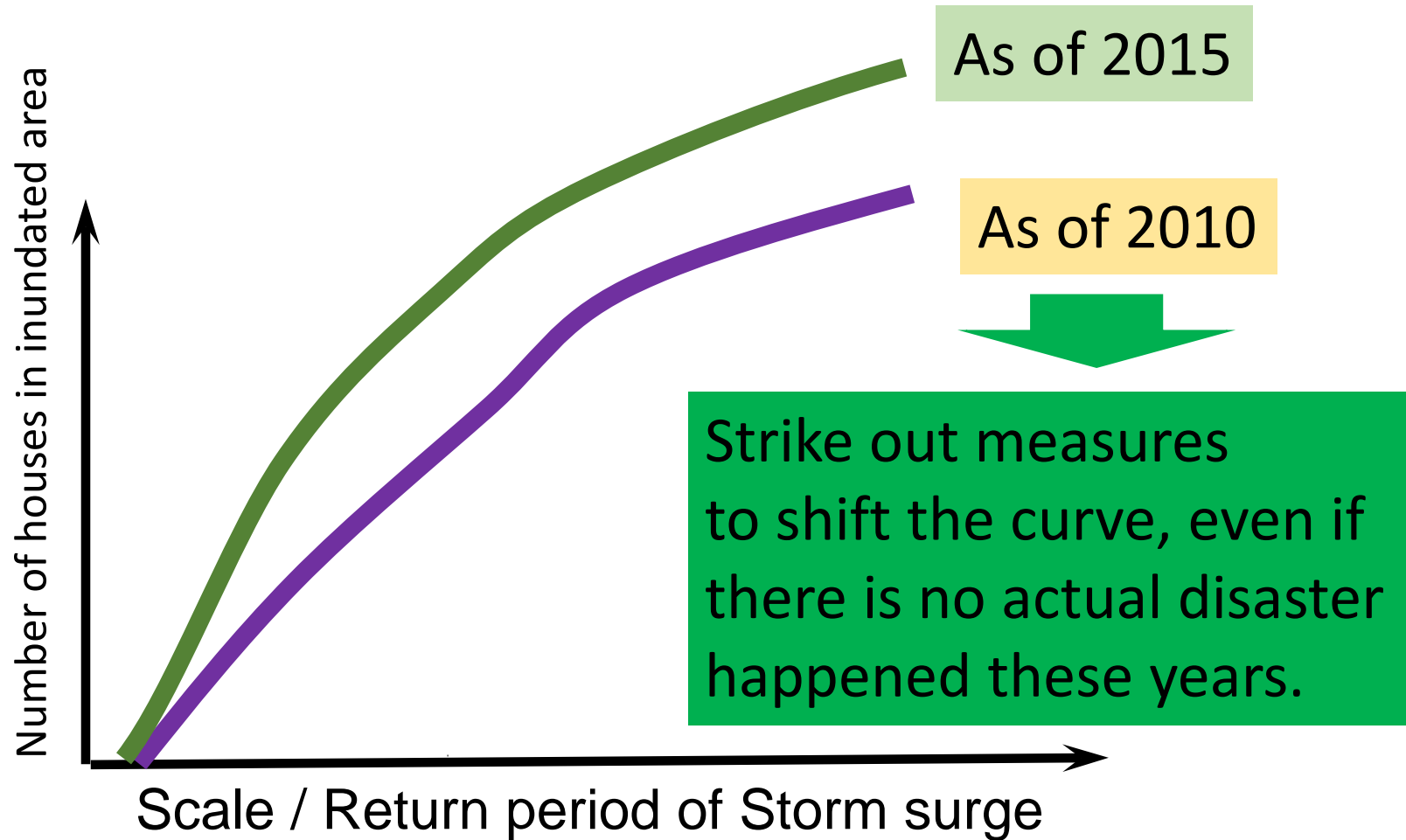
(4) If the effect of climate change is assessed and considered



* This graph is tentatively drawn by ... depending on limited available data.

5. How to use the DRG (1)

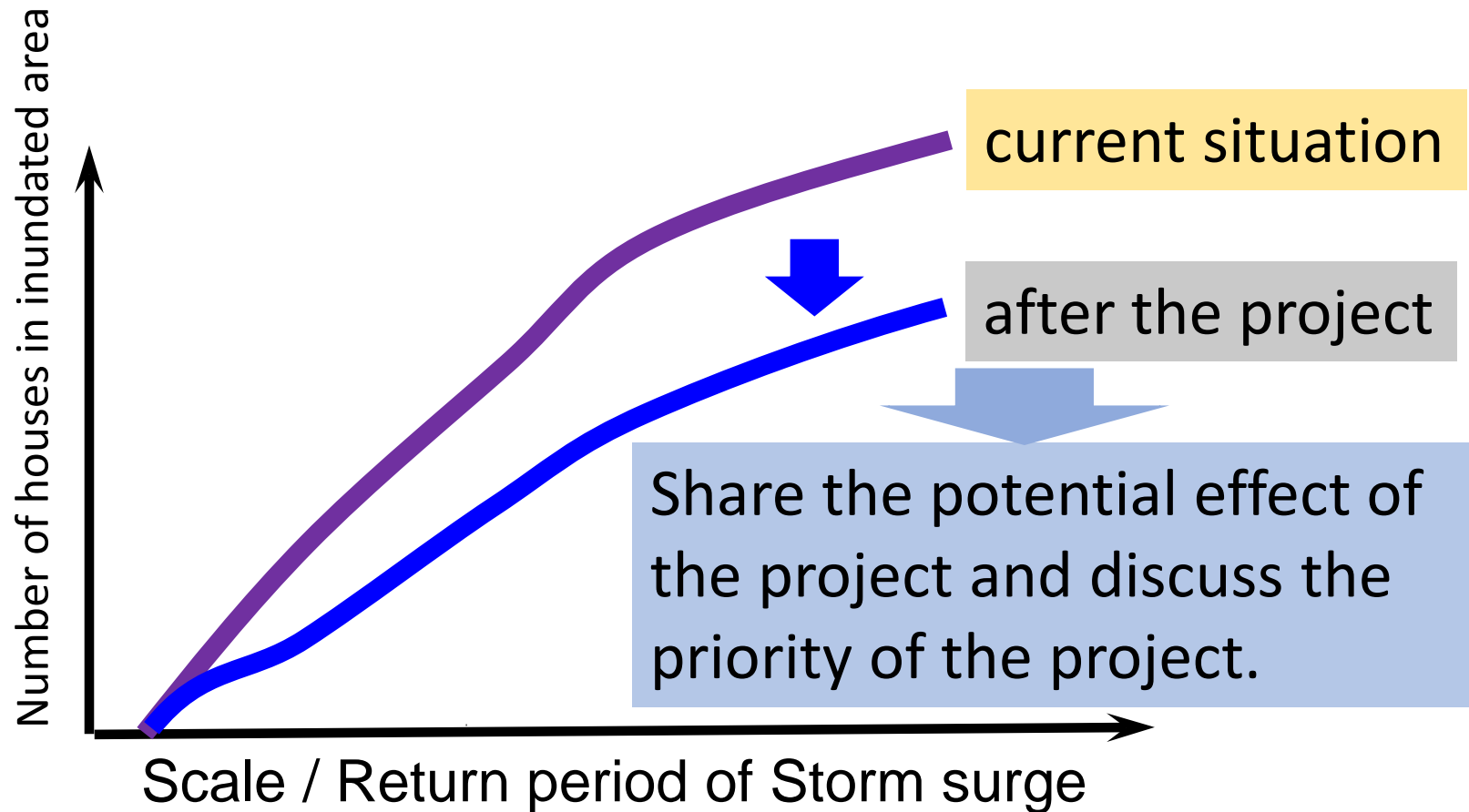
(1) To monitor the Disaster Risk in the target area.



* This graph is tentatively drawn by ... depending on limited available data.

5. How to use the DRG (2)

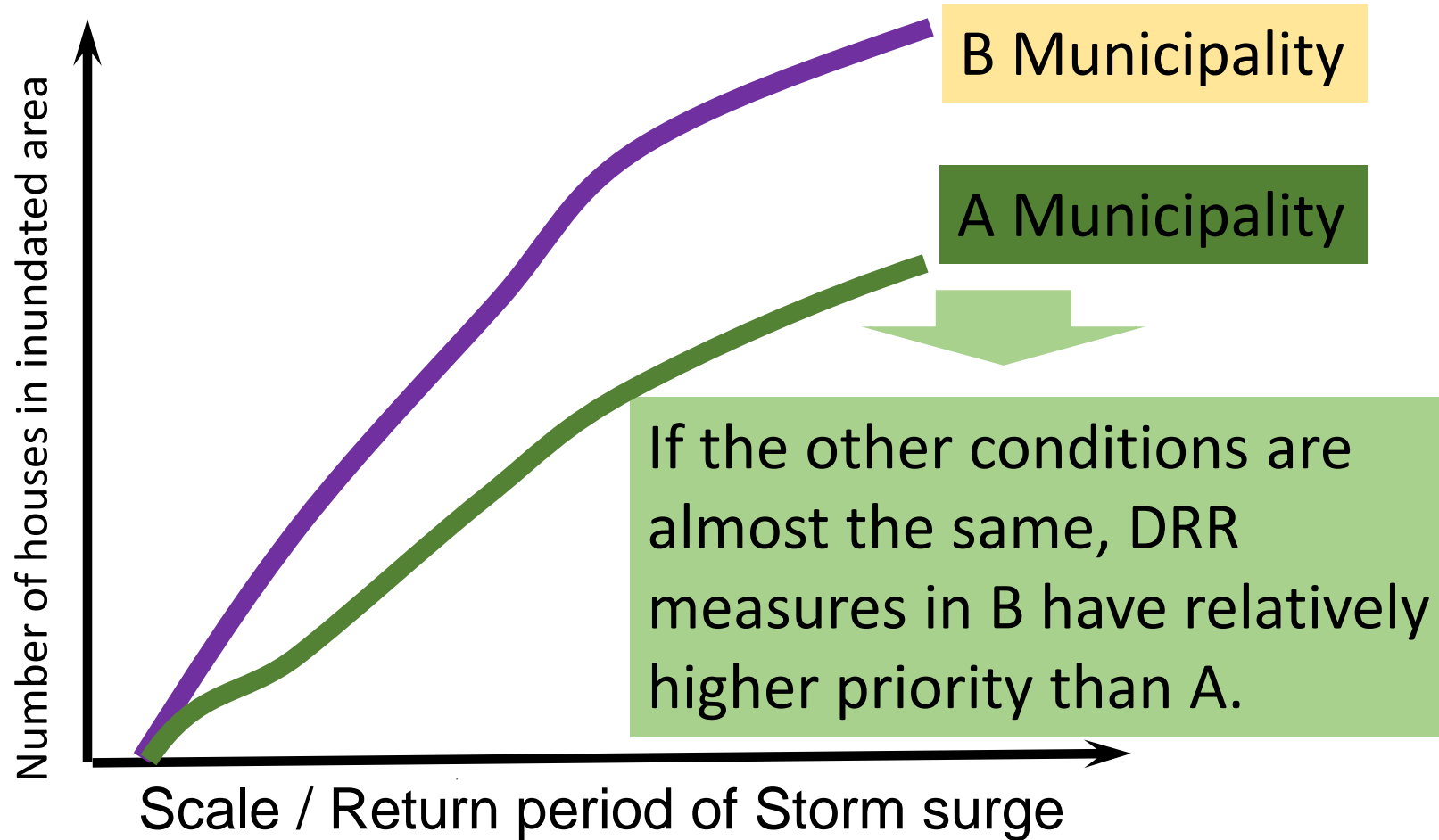
(2) To share the effect of DRR by a proposed project.



* This graph is tentatively drawn by ... depending on limited available data.

5. How to use the DRG (3)

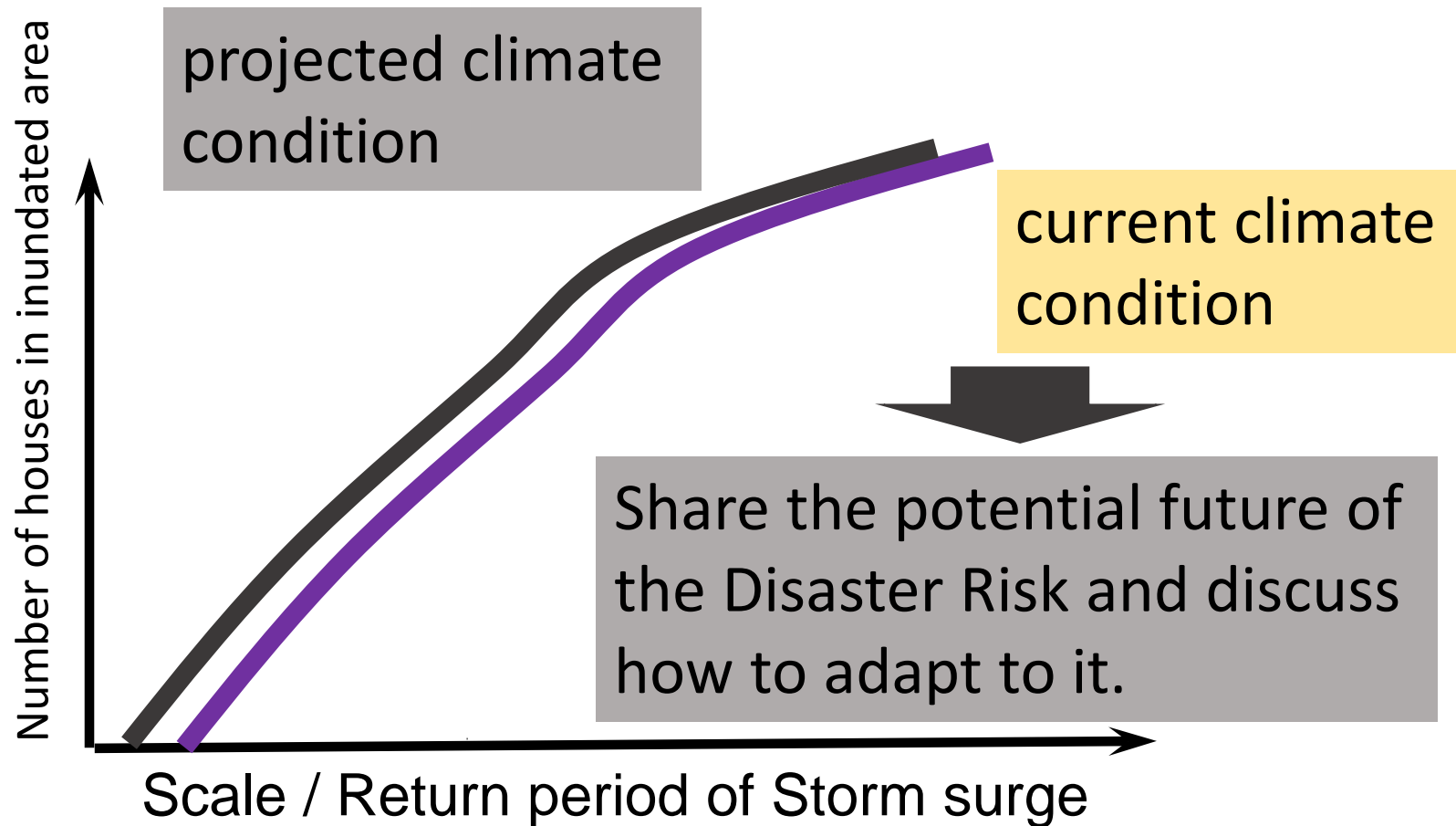
(3) To discuss the priority of the DRR measures.



* This graph is tentatively drawn by ... depending on limited available data.

5. How to use the DRG (4)

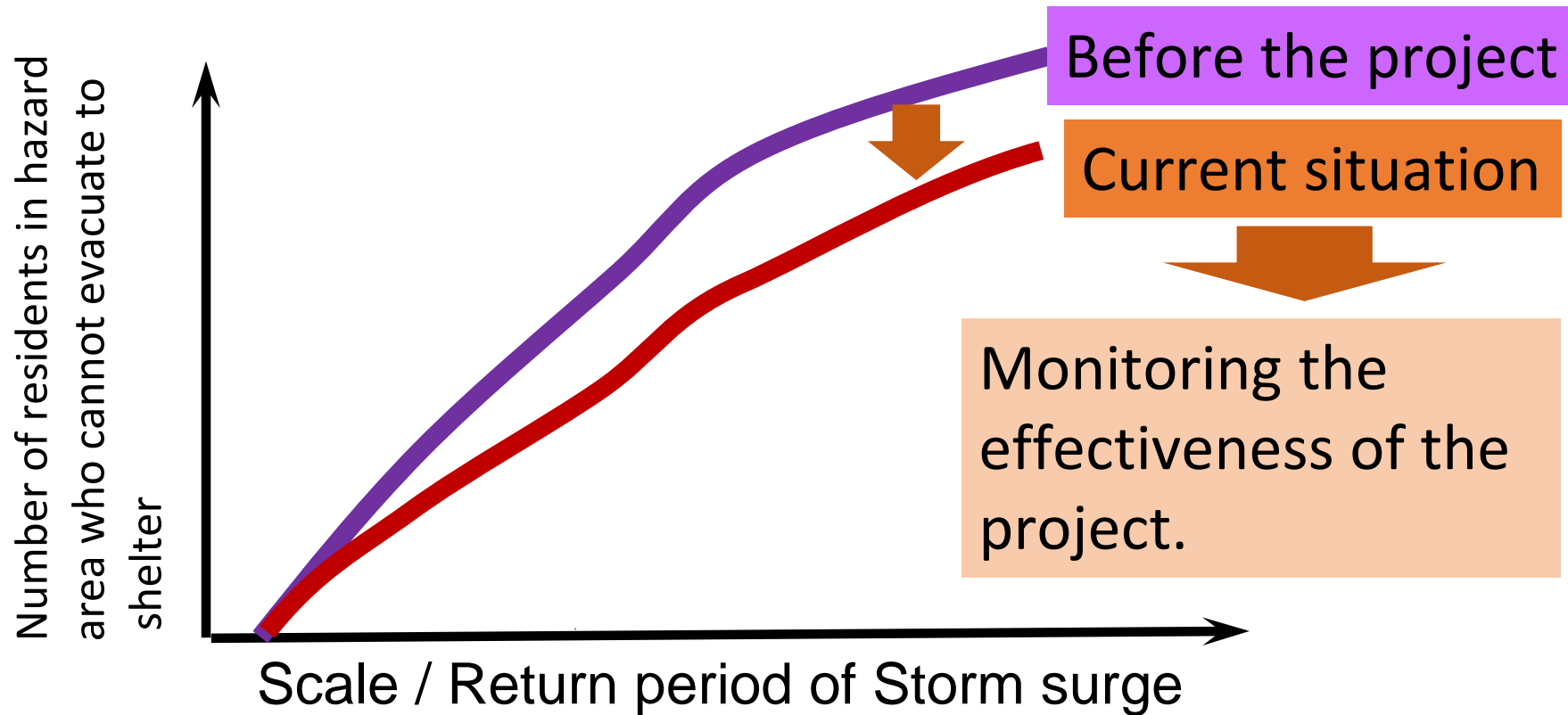
(4) To discuss the adaptation measures against GCC.



* This graph is tentatively drawn by ... depending on limited available data.

5. How to use the DRG (5)

(5) To monitor the effectiveness of ongoing/completed projects. e.g. monitoring the effectiveness of ongoing evacuation shelter project



* This graph is tentatively drawn by ... depending on limited available data.

6. Way forward

JICA Expert is going to **apply the suggested new method to some areas** in the Philippines for presenting the concrete examples of applicability of the method for promoting the discussion on how to integrate the method into DRRM mechanism in the Philippines. This **discussion is not limited to OCD/NDRRMC, but expanded to the concerning agencies such as PAGASA, DPWH, NEDA, DILG, and LGUs.**

1. **Test implementation** of the new method to some areas in the Philippines.



2. Provision of test implementation result to **NDRRMC TMG for discussing** how to integrate the new method into DRRM system in the Philippines.



3. **Issuance of the guideline/manual** for the new method introduction **from NDRRMC** to R/P/C/M/BDRRMCs.



4. **Supporting the implementation** of the new method by R/P/C/M/BDRRMC as appropriate.

Thank you for your kind attention.
I welcome your questions and comments.

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