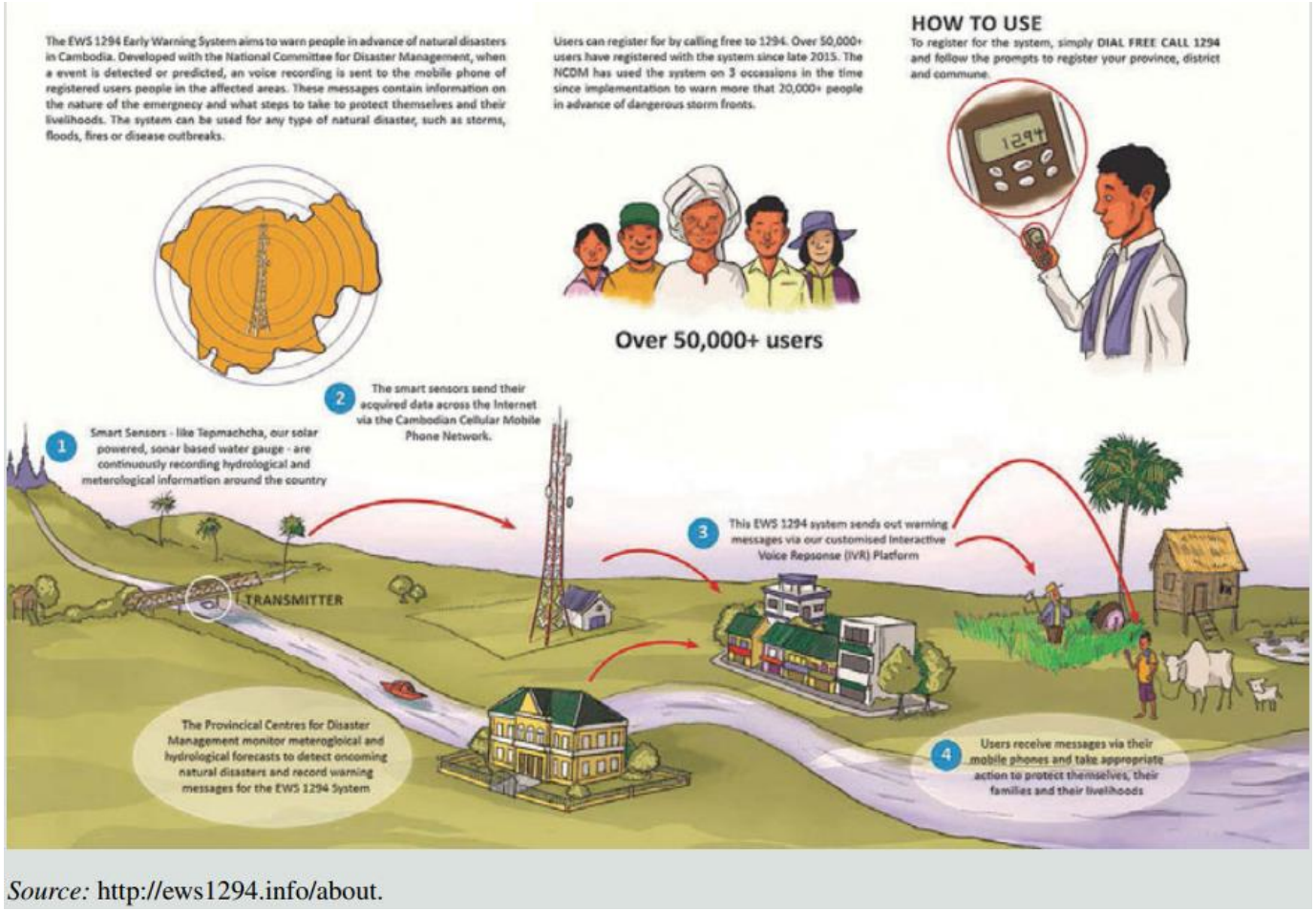
CGIAR | INITIATIVE ON Asian Mega-Deltas

Scientific data for CS-MAP in Cambodia

Training workshop on mapping climate-risks and adaptation plans using CS-MAP approach

Phnom Penh, Cambodia | 19-20 December 2022

Current gaps in risk management



Source: http://ews1294.info/about.

Current gaps (*World Bank evaluation, 2019*):

- Cambodia needs <u>better data and comprehensive vulnerability maps</u>
- Cambodia lacks sufficient capacity to properly prepare at the community level
- There could be better <u>cooperation among government agencies</u> at all levels and with nongovernmental partners
- <u>Scaling up good practices</u> and making them sustainable has been a challenge

Reference: William R. Sutton, Jitendra P. Srivastava, Jawoo Koo, Ioannis Vasileiou, and Angga Pradesh, 2019. Striking a Balance Managing El Niño and La Niña in Cambodia's Agriculture. World Bank Group.

Develop maps of climate-risks and adaptation plans to support land use planning and climate-strategies

Major natural disasters in Cambodia

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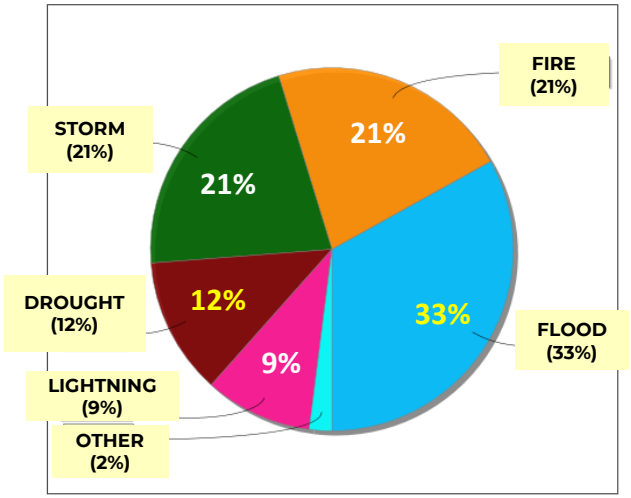
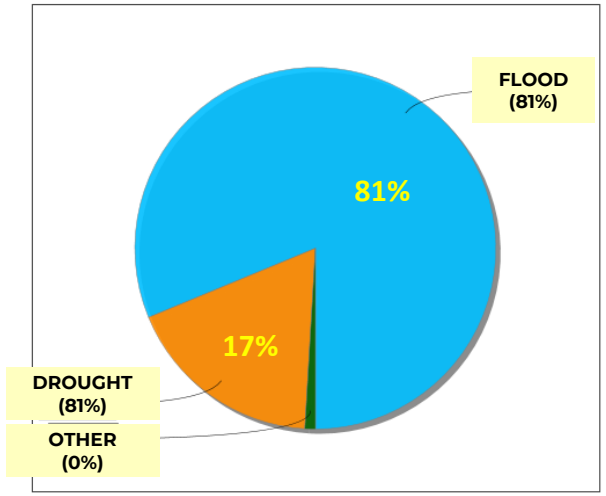
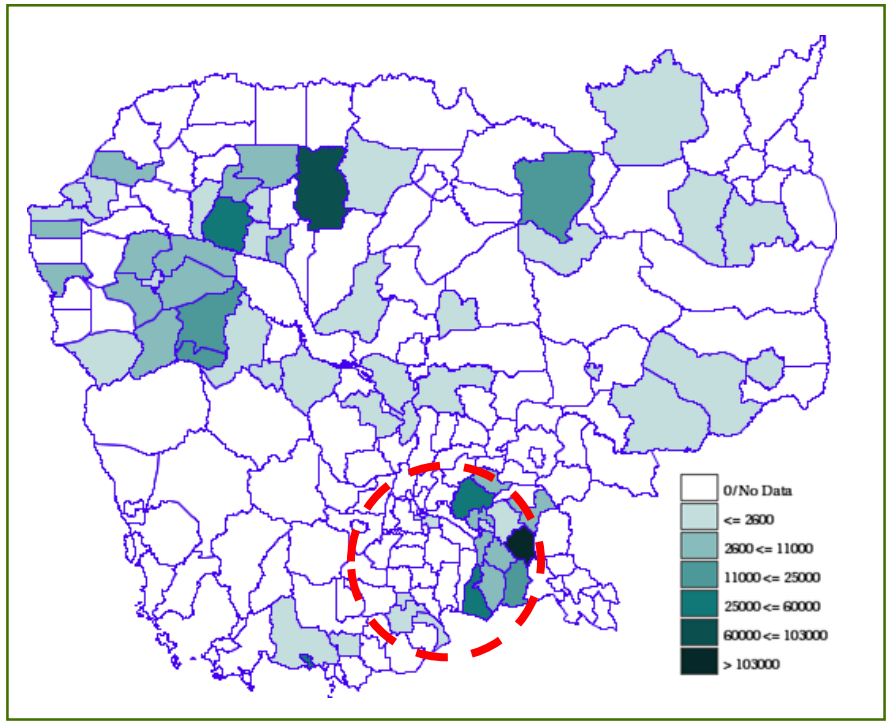
Historical records (1996-2022)



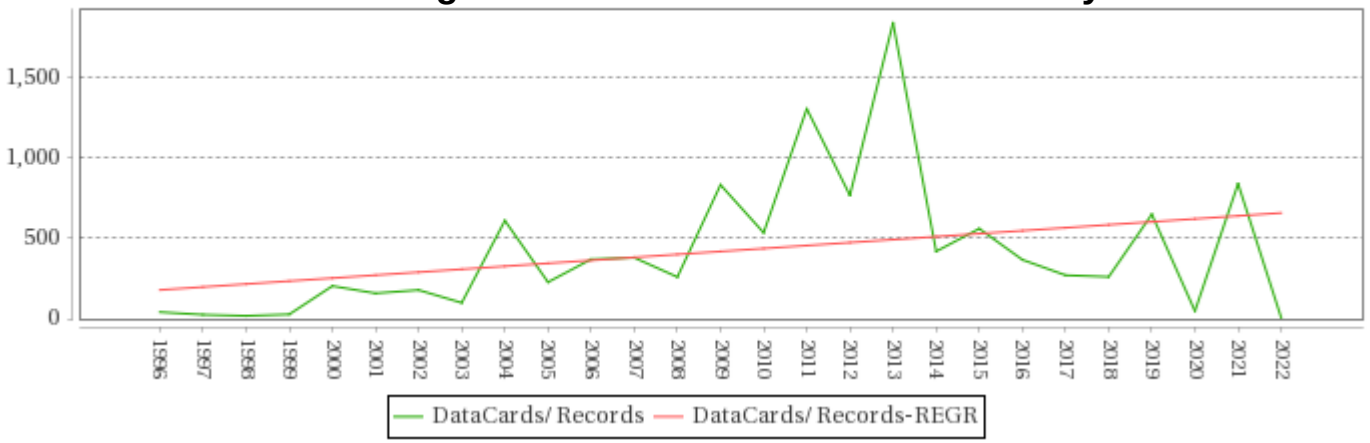
Indirectly and directly effect



Number of communes affected



Increasing trend of disaster risks over last 26 years



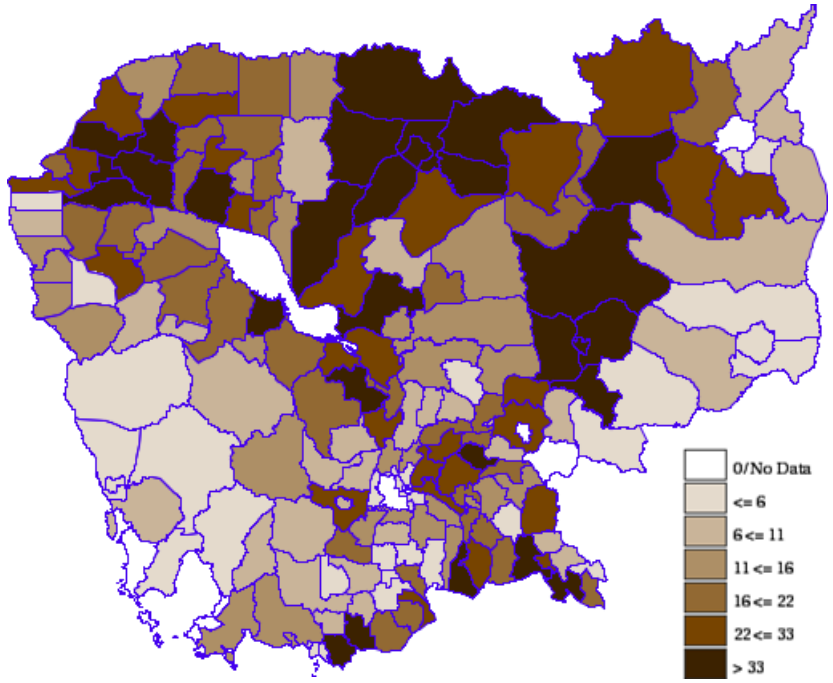
Data source:

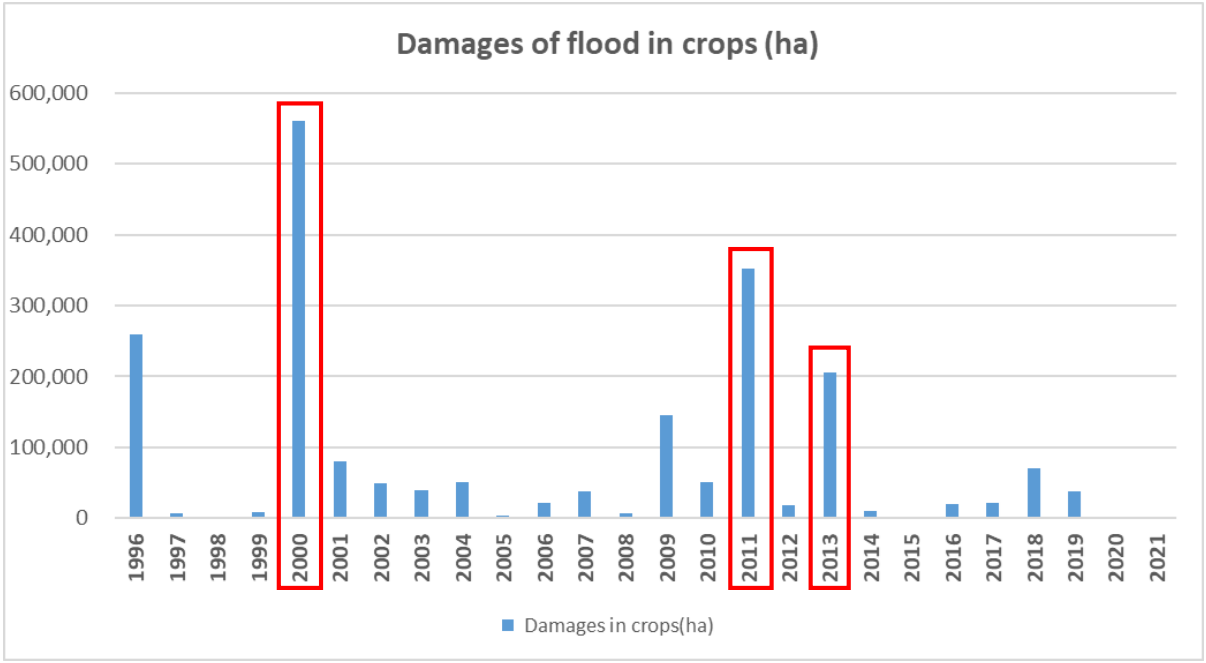
Cambodia **D**isaster **D**amage & **L**oss **I**nformation **S**ystem

http://camdi.ncdm.gov.kh/DesInventar/profiletab.jsp

Flood risk

Number of communes affected (1996-2022)





River Flood: water overflows river-bed levels and runs slowly on small areas or vast regions over a long period of time

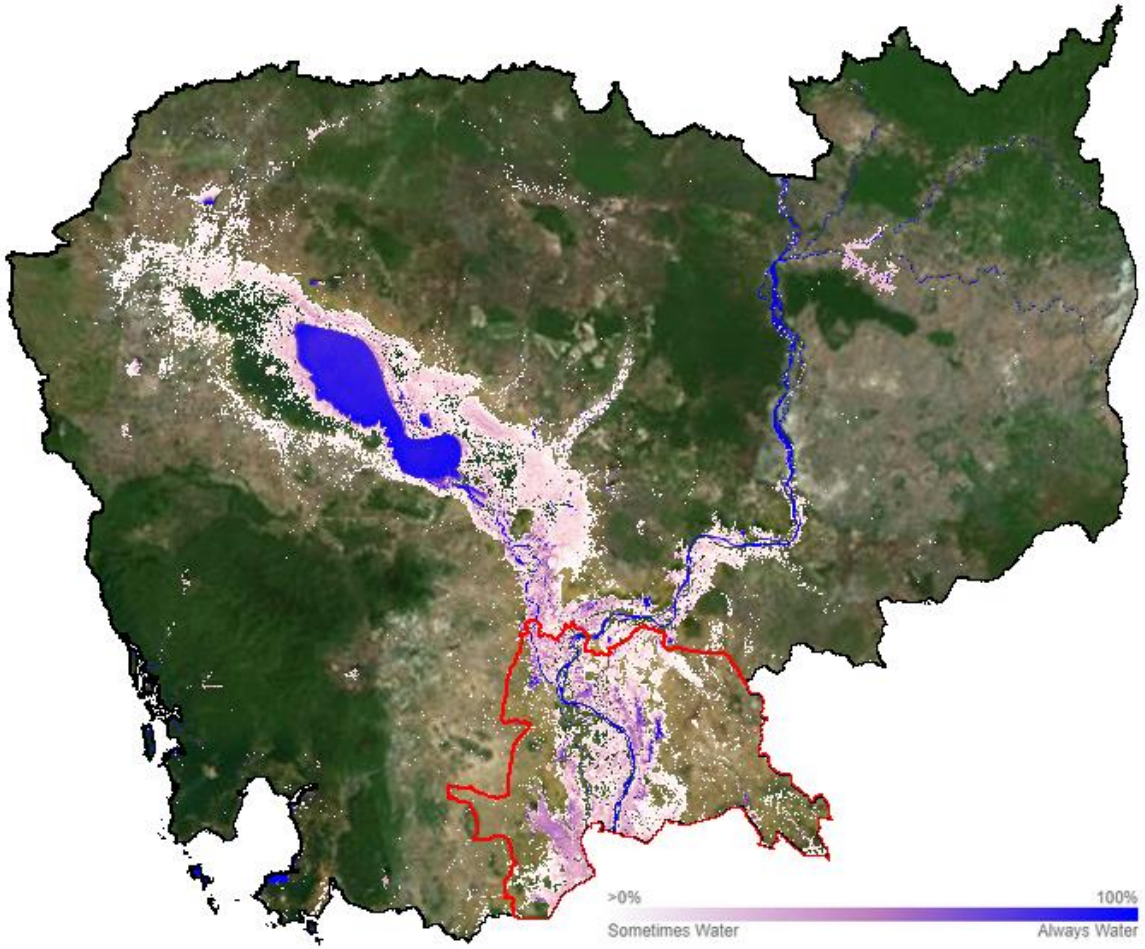
Flash Flood: violent water overflows in a watershed

Data source: ***C**ambodia **D**isaster **D**amage & **L**oss **I**nformation **S**ystem*

Affected: Under flooded for a period of time but can self-restore

Damaged: Under flooded for a period of time and have yield loss after flood.

Spatial data for flood risk



Data source: *https://global-surface-water.appspot.com/map*

Level of water occurrence

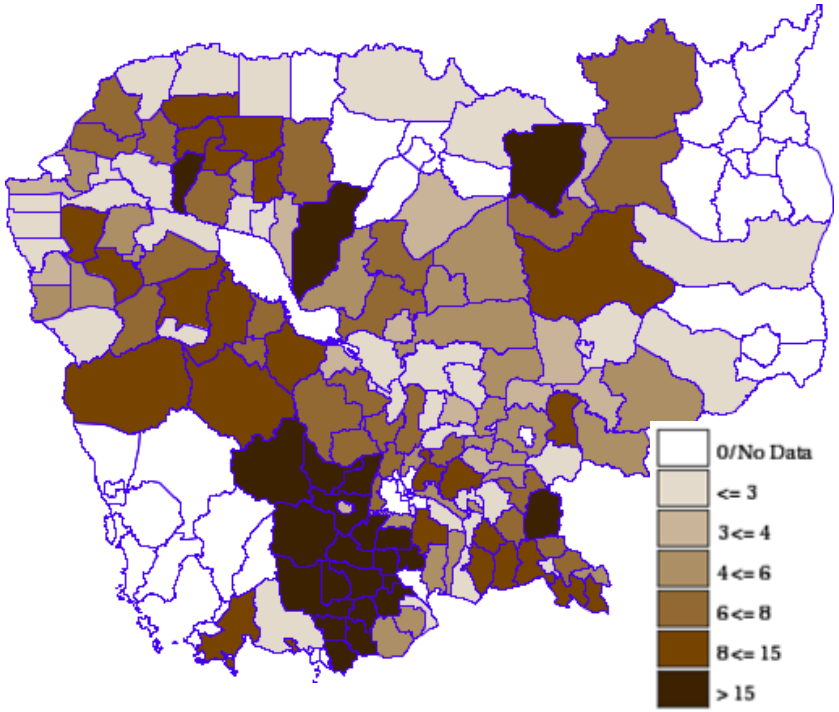
1-33%:	low
34-66%:	medium
66-100% :	high

Level of flood risk (depend on food product)

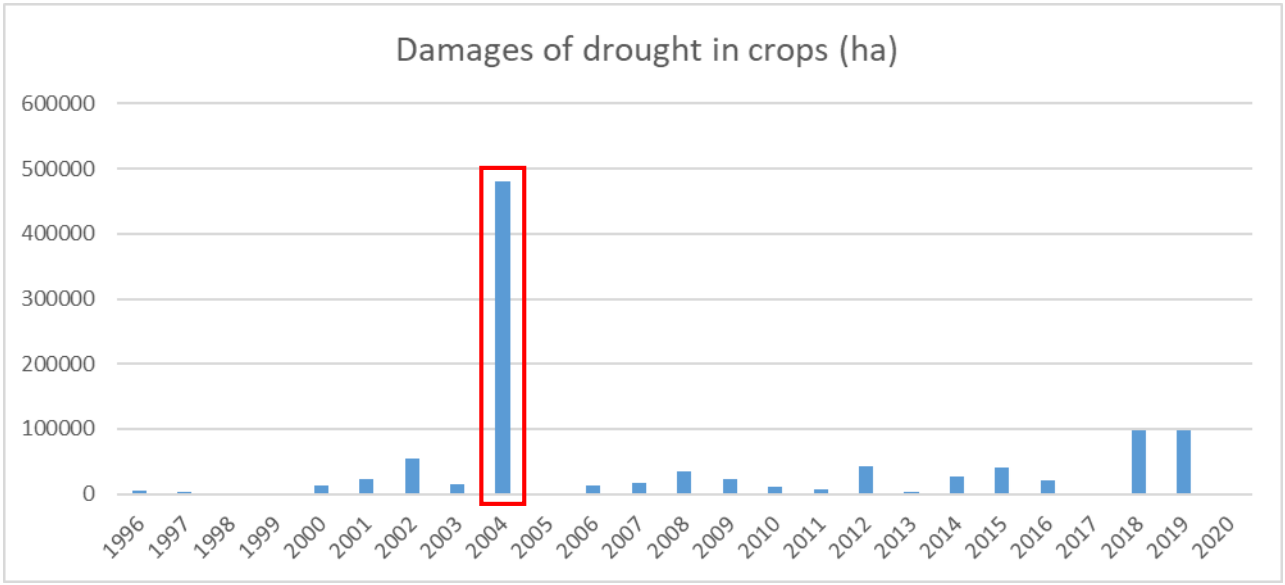
???:	low
???:	medium
??? :	high

Drought risk

Number of communes affected (1996-2022)



Data source: ***C**ambodia **D**isaster **D**amage & **L**oss **I**nformation **S**ystem*

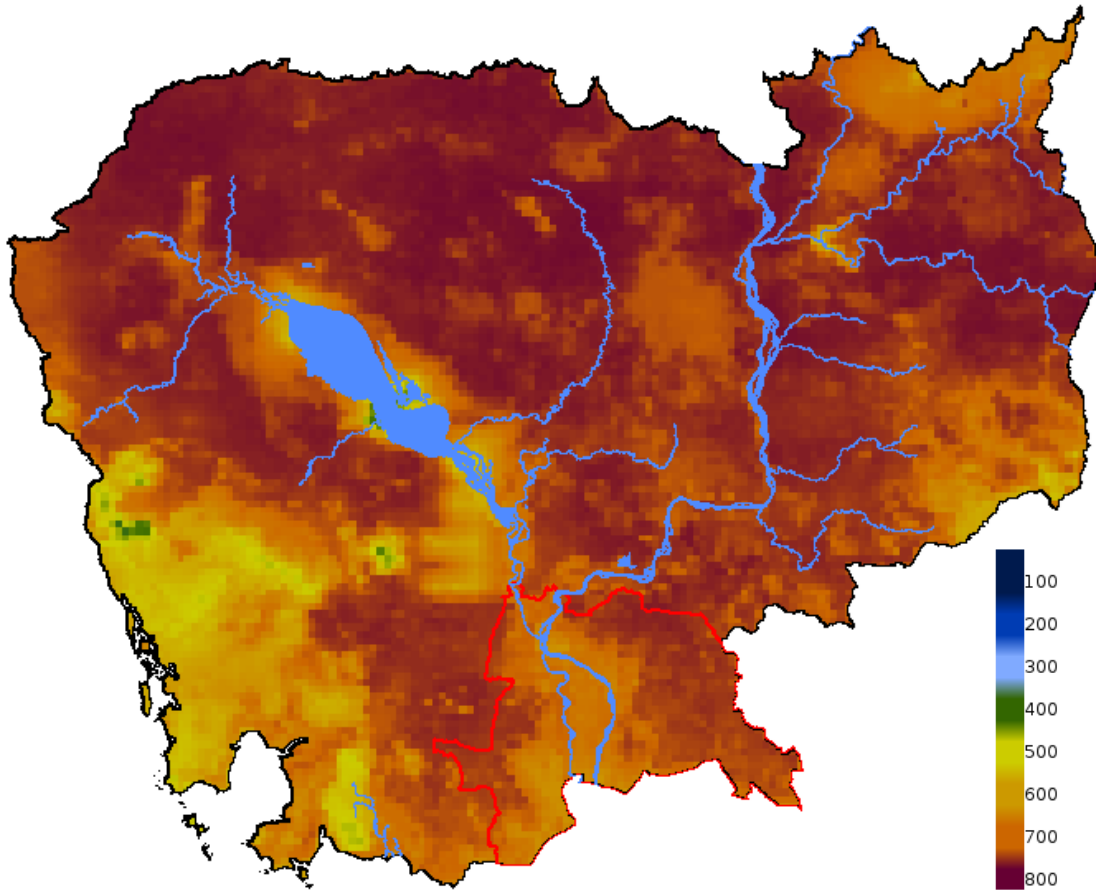


Drought: without rain or with rain deficit during a long period of time. In Cambodia, drought causes damage to paddy fields and farming crops, and also deficit water use for humans.

Affected: water shortage for a period of time but crop/fish can self-restore

Damaged: Under water shortage and cause yield loss after drought.

Spatial data for drought risk



Keetch–Byram drought index (KBDI)

100: low

800 : high

Level of drought risk (depend on food product)

???: low

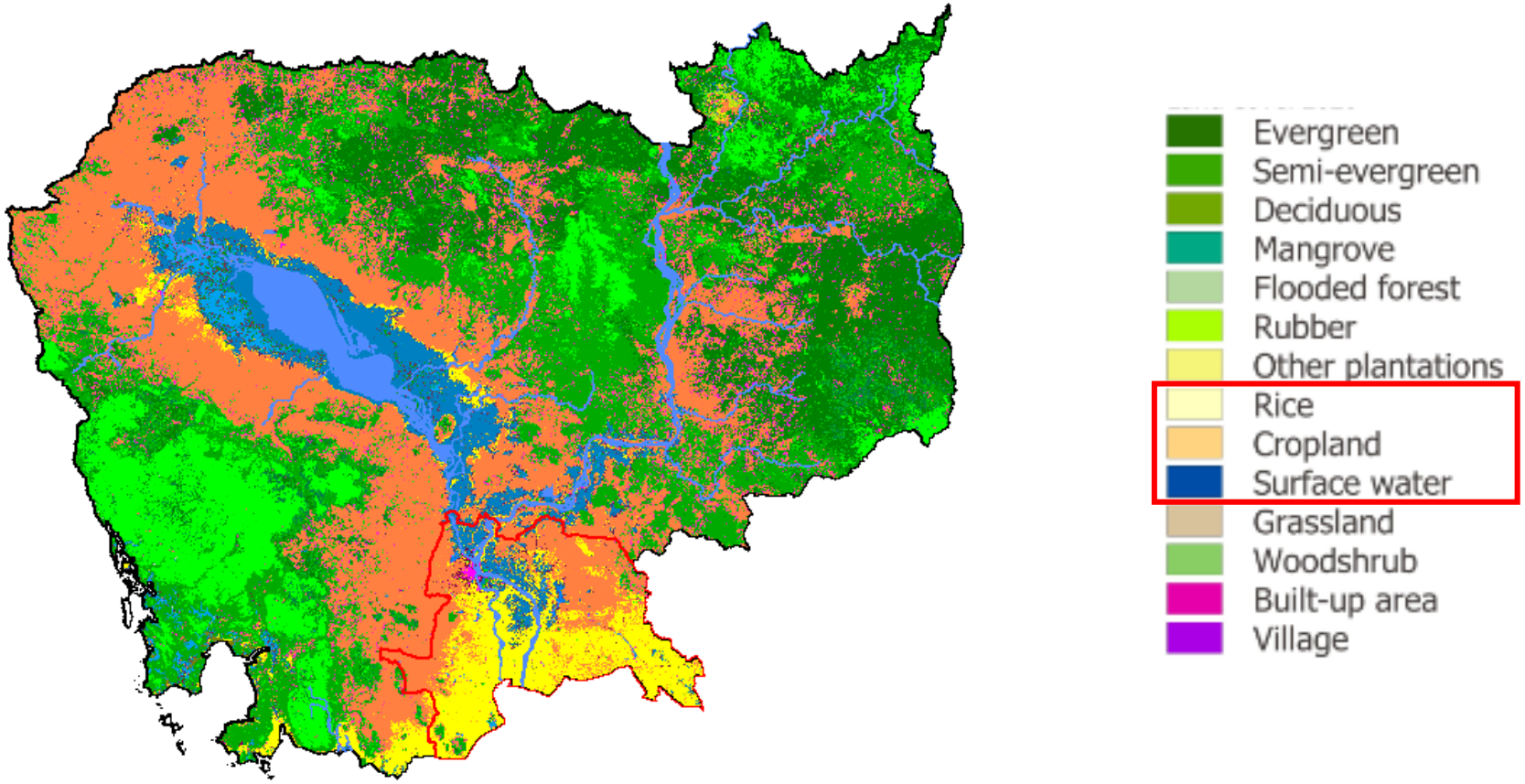
???: medium

??? : high

Data source: Keetch-Byram Drought Index (KBDI) in Mekong Region
https://data.opendevelopmentmekong.net

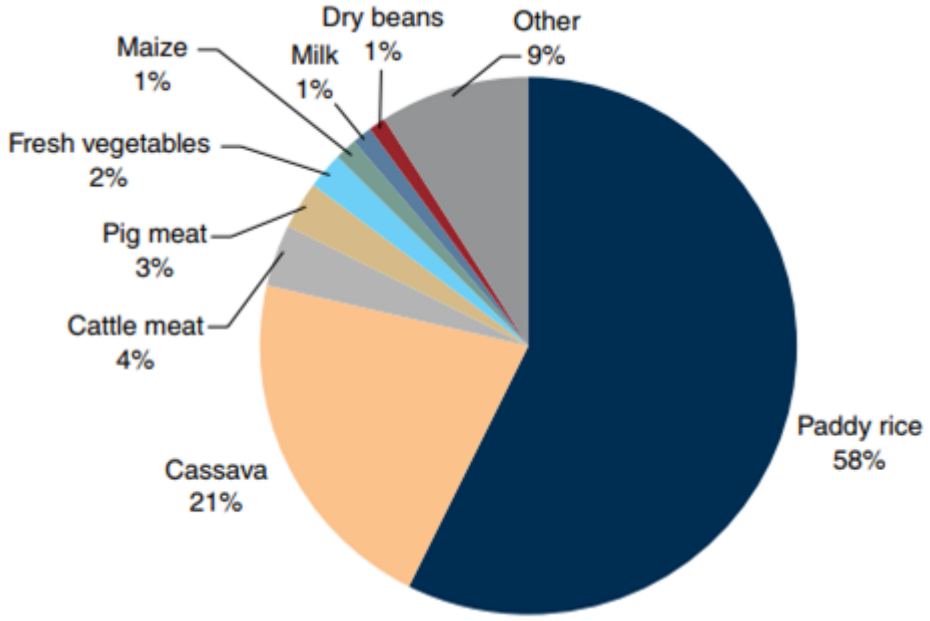
Land cover/land use type

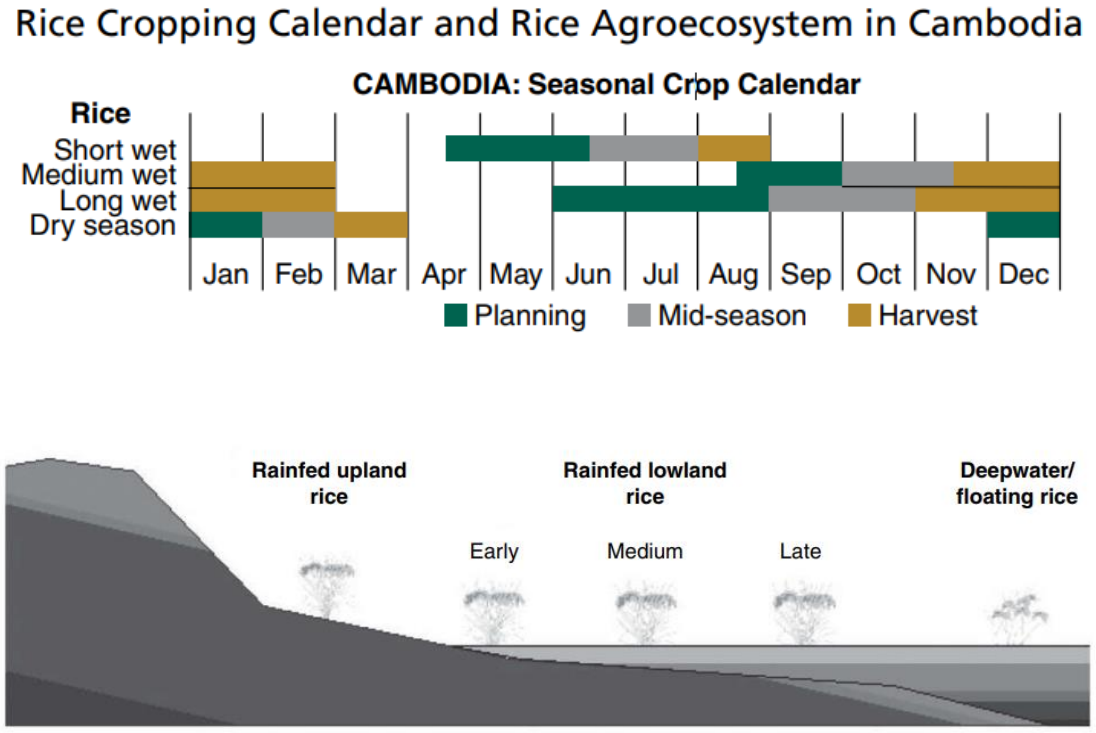
Land use type (2020)



Data source: *https://data.opendevelopmentmekong.net*

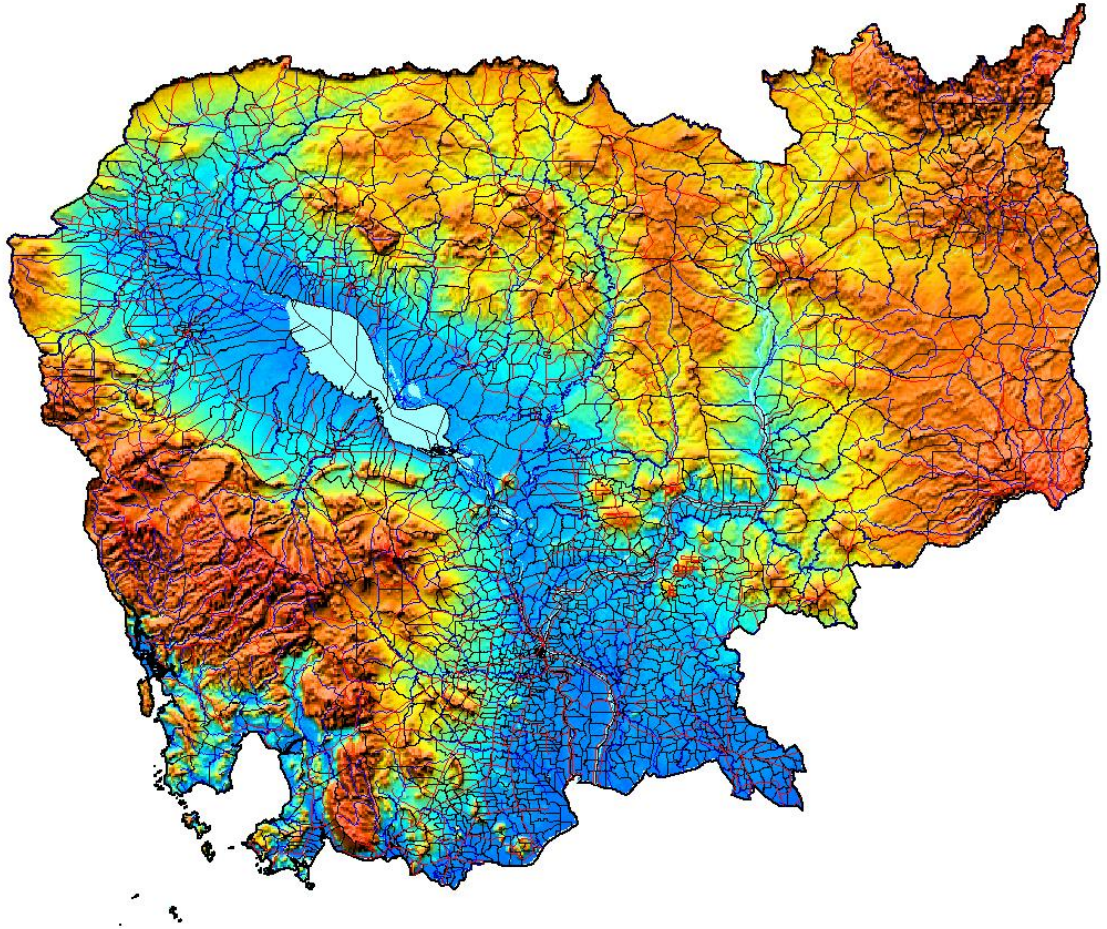
Main food products of Cambodia





Data source: William R. Sutton, Jitendra P. Srivastava, Jawoo Koo, Ioannis Vasileiou, and Angga Pradesh, 2019. Striking a Balance Managing El Niño and La Niña in Cambodia's Agriculture. World Bank Group

Other spatial data



Administrative boundary:

https://gadm.org

Natural resources:

http://www.opendevelopmentcambodia.net

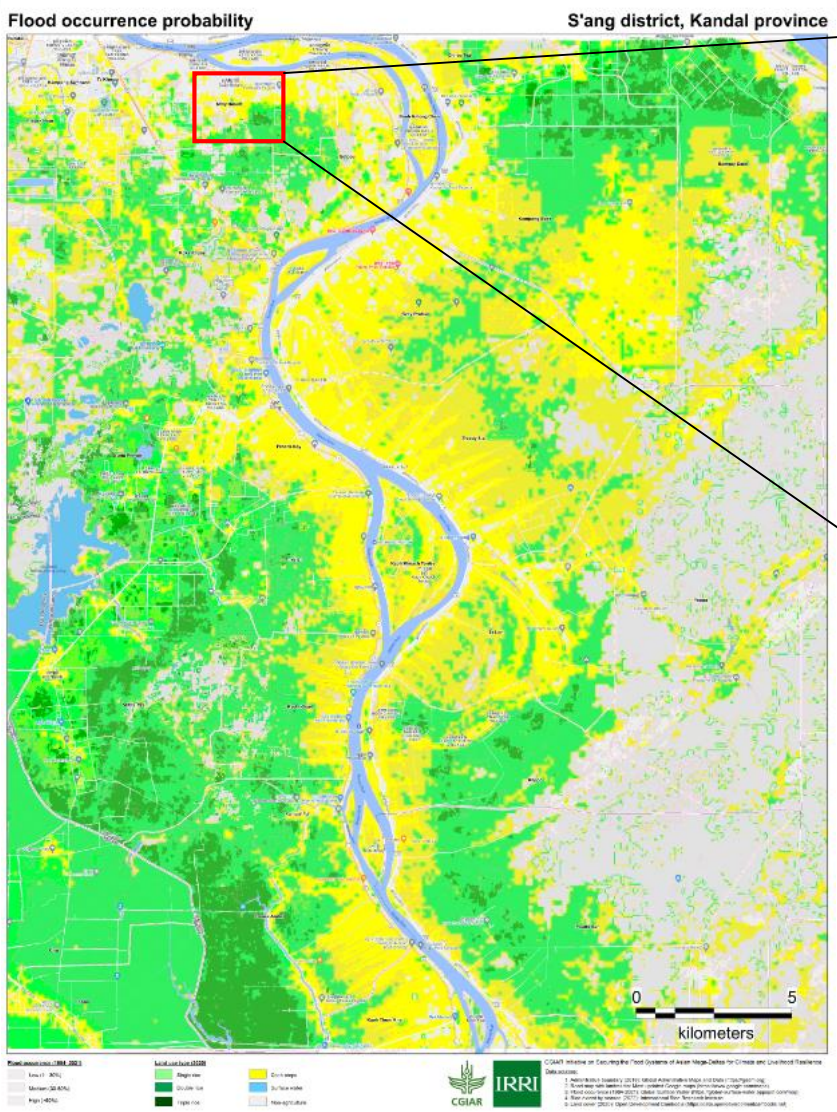
Satellite images:

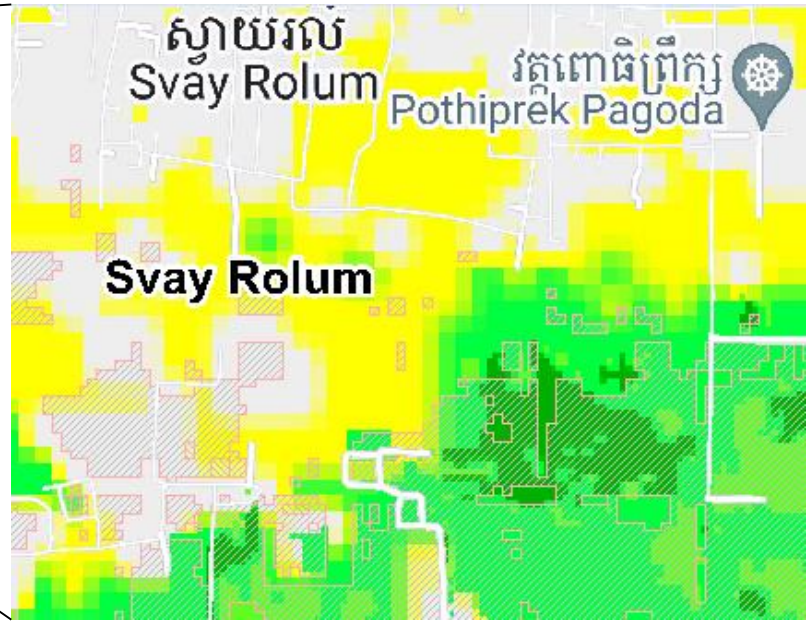
https://www.google.com/maps

Topography:

https://asterweb.jpl.nasa.gov/gdem.asp

Combined layers for CSMAP development





Flood occurrence (1984- 2021)

- Low (1 - 30%)
- Medium (30-60%)
- High (>60%)

Land use type (2020)

- Single rice
- Double rice
- Triple rice
- Cash crops
- Surface water
- Non-agriculture

Thank you!

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