



Impacts of COVID-19 on Agricultural Water Management in Asia

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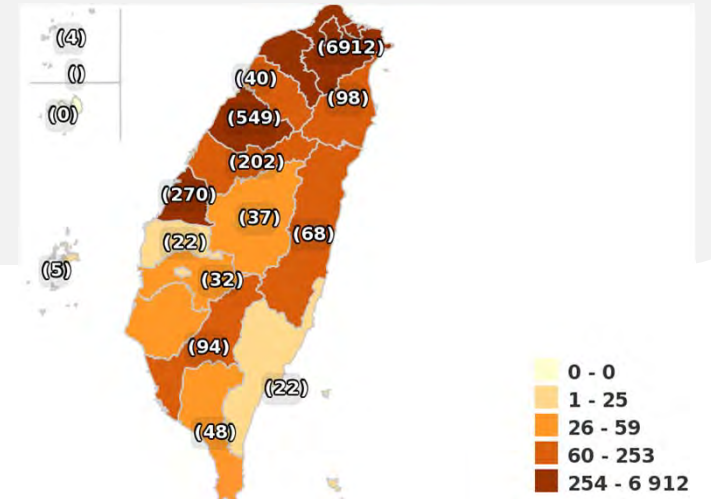
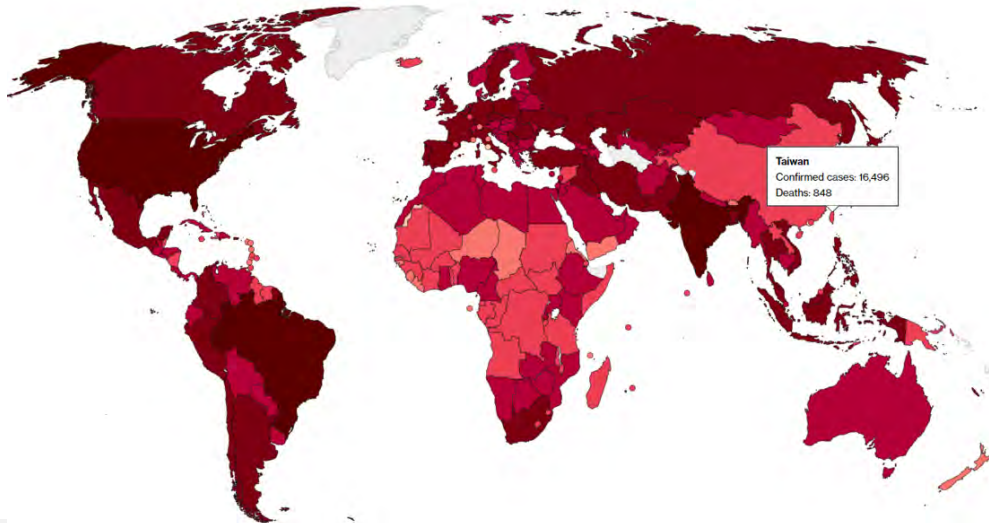
General overview of the spread of COVID-19 in Taiwan

Taiwan managed to control the spread of the virus well, with about 16,500 confirmed cases and 850 fatalities in total.

- Larger scale of Covid-19 infections occurred in the cities and urban settings. Rural areas are less affected.

253,807,880 Confirmed cases worldwide
5,106,593 Deaths worldwide

Jurisdictions with cases confirmed as of 2021年11月16日 上午10:21 (GMT+8)
1-99 100-999 1,000-9,999 10,000-99,999 100,000-999,999 1,000,000-9,999,999 10 million or more



Confirmed domestic cases in Taiwan [Retrieved Nov 16, 2021]

Source: <https://nidss.cdc.gov.tw/nndss/DiseaseMap?id=19CoV>

Covid-19 World Map [Retrieved Nov 16, 2021]

Source: <https://www.bloomberg.com/graphics/2020-coronavirus-cases-world-map/>



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Impacts on agriculture and lives in rural area

- Direct impact on agriculture and lives in rural area is not too significant.
- For agriculture, the Covid-19's impact lies in transportation and logistics (e.g., due to quarantine measures, port closures, vessel delays, and suspended flights). The export of Taiwan produce has been hindered so the authorities are acting to mitigate trade disruption.



Source: <https://taiwantoday.tw/news.php?unit=6&post=11515>



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Impacts on water resources management (domestic water supply)

The worries about water supply during the pandemic is the increase in household water because people mostly stay at home. However, the increase in total water use is insignificant because industrial and business use drops at the same time.

- In March 2020, household water use increased 6%-10% compared to March 2019.
- As the level of emergency rises, household water use gradually increases while industrial and business water use drops significantly. **The largest consumption of water is expected to occur during the transition period.**
- As the increase of household water use happens during the dry period (October to May), water supply pressure may increase. However, water rationing should be avoided to maintain social stability during this difficult time.

Water Use	Level of Emergency		
	1. Transition Period	2. Surveillance Period*	3. Lockdown Period*
Industrial	-3%~ +10%	-80%~ -50%	-95%~ -85%
Business	-8%~ +6%	-40%~ -10%	-90%~ -80%
Household	+6%~ +10%	+10%~ +25%	+25%~ +40%

Water use in Kaohsiung (the 2nd largest urban area in TW)

*Projected results based on other countries' experience



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Impacts on agricultural water management

- For the pandemic only has a limited impact on rural area, agricultural water management is not much affected.
- The more pressing challenge for agricultural water management was the drought during 2020-21 instead of the spread of Covid-19.



Source: <https://taiwantoday.tw/news.php?unit=8&post=106345>



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Measures taken for the impacts (including government projects)

The government formulated various relief and revitalization measures:

- **Providing relief loans and interest subsidies** to support farmers' fund needs
- **Strengthening exports to overseas market** - providing incentives for freight or marketing expenditure at NTD\$2 per kilo, up to NTD\$300k per case; also providing incentives for procurement and processing of raw materials such as bananas and mangos
- **Business matchmaking between e-commerce platforms and small farmers** to boost purchases through electronic channels [**domestic sales**]



Purchasing vegetable boxes online has become popular due to the pandemic

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Challenges for the future



- The increase of water use during the pandemic is rather insignificant. As the water for disease prevention is at the highest priority, the need for such water can be met. In the worst situation, water crisis shall be able to resolve by the precedent measures of borrowing from agricultural water.
- The inevitable challenge for Taiwan as well as the globe is climate change. To better respond to the issue from the agricultural sector, our latest action is establishing a new office specializing in climate change mitigation and zero carbon emission in September 2021. The government aims to effectively reduce carbon emission by strengthening cross-agency collaboration.



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