

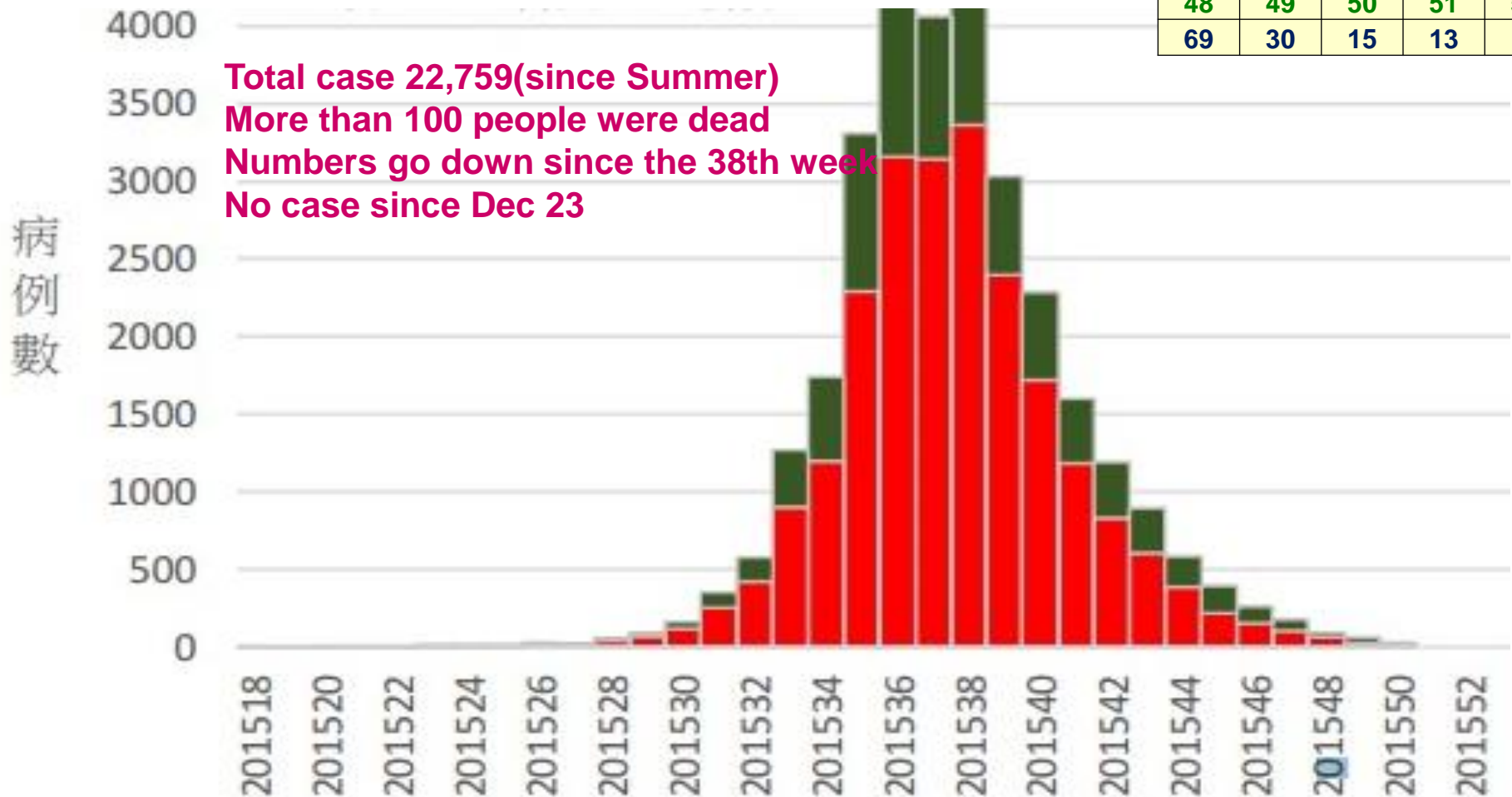


# Turning A Nearly Mission Impossible into a Resilient Campaign: Tainan City's Fight Against Dengue

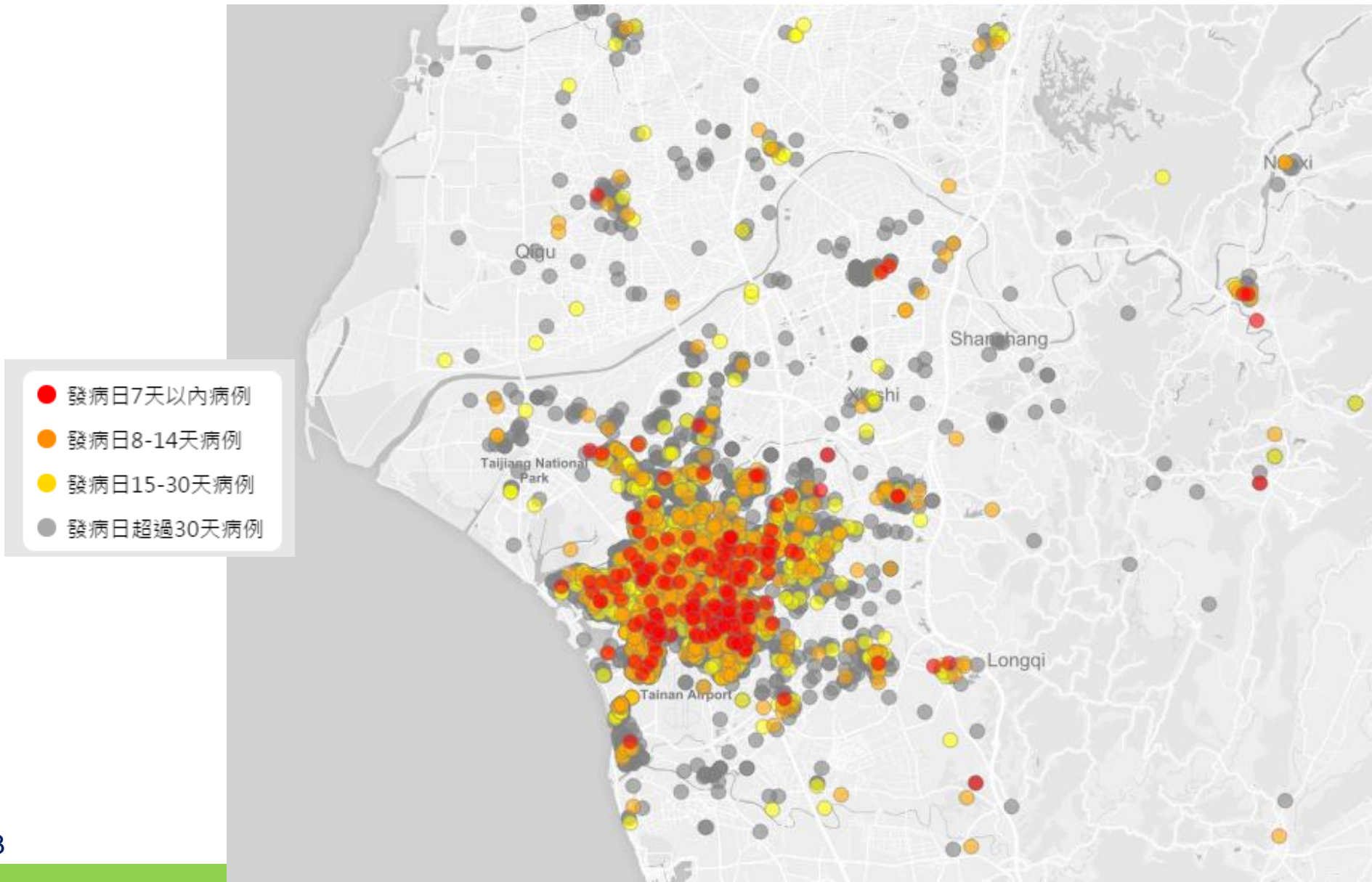
# How Serious was the Dengue Epidemics in Tainan in 2015?

週	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
病例數	141	335	511	1,099	1,279	2,824	2,878	3,417	3,028	2,236	1,614	1,038	777	516	324	201	152	70

48	49	50	51	52
69	30	15	13	3



# Epidemic Map (hot zones, warm zone, alert zones)



# What causes the outbreak of dengue in Tainan?

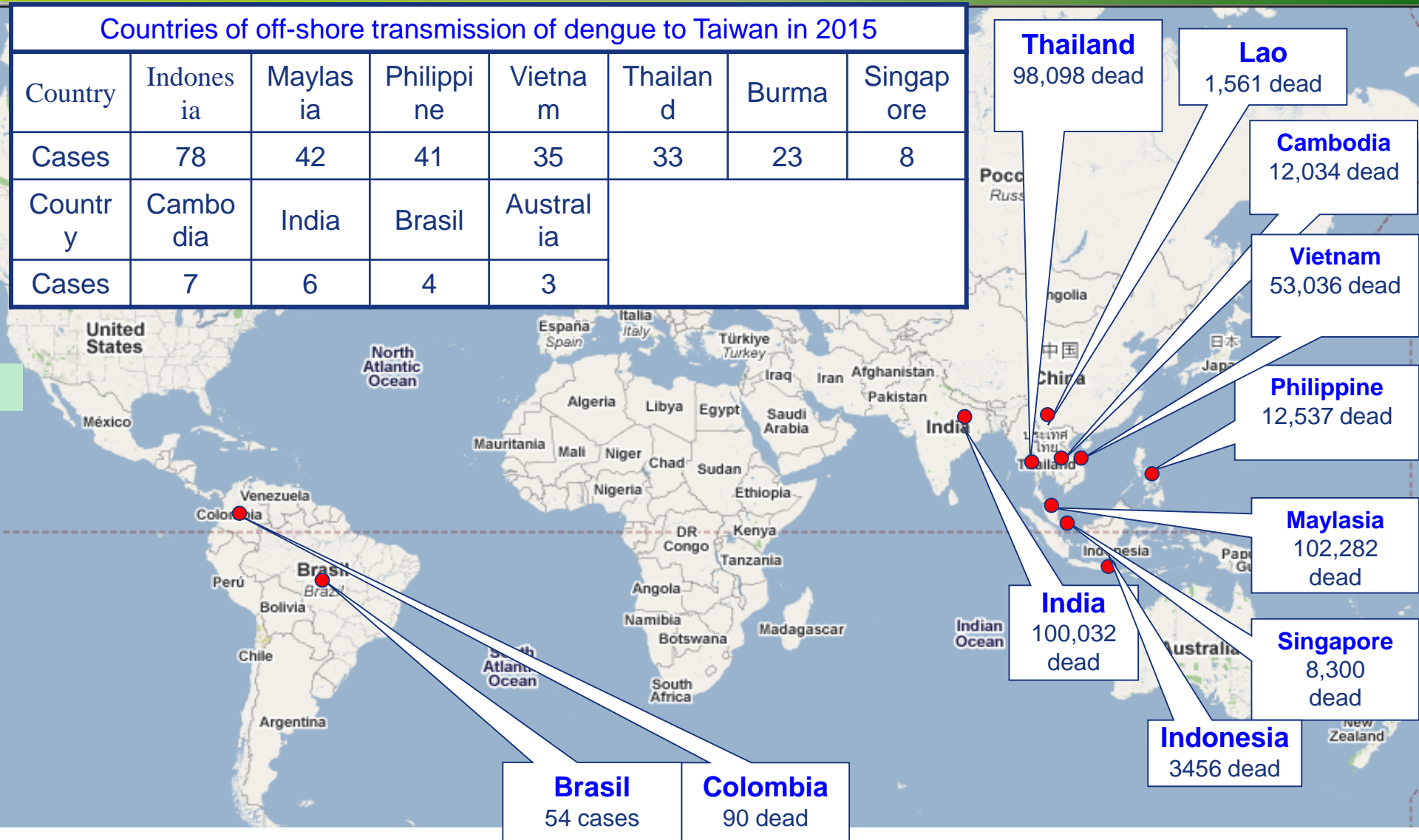
- El Nino and global warming (the strongest in the last 18 years)
- Draught in Spring (save too much still water)
- Rain seasons in Summer
- 2 major typhoons in August and September
- Off-shore transmission of a new type of mosquito virus
- Underestimation of the effect (no major outbreak from 2011 to 2014)



# An Epidemic spreads beyond national boundry

Countries of off-shore transmission of dengue to Taiwan in 2015

Country	Indonesia	Maylasia	Philippine	Vietnam	Thailand	Burma	Singapore
Cases	78	42	41	35	33	23	8
Countr y	Cambo dia	India	Brasil	Austral ia			
Cases	7	6	4	3			



# Preparatory stage: inter-agency meetings, community mobilization, drain and open land investigations and environment cleaning

## Open land



## Market corners



## Wasted military compound





# Education, training and reminder



Volunteers



Social media



Medical workshops



Education



District-by-district evaluation

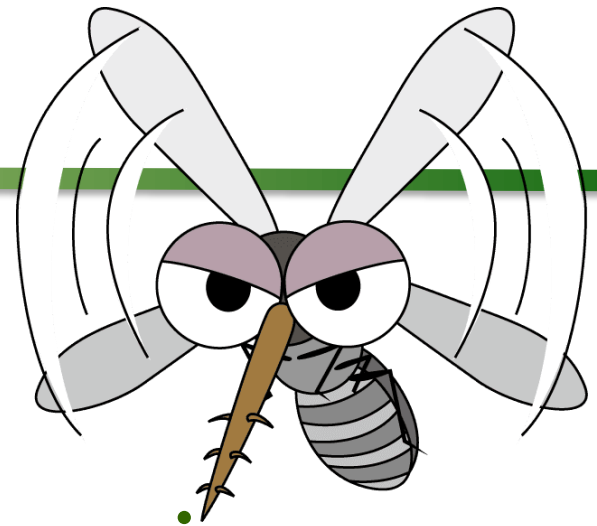




# Mayor Lai Ching-te held town-hall meetings in 37 districts







**After the outbreak became more serious,  
additional works have been done.**



# Chemical prevention and bug spray





## 11





# Command Center established by the Cabinet in mid-Sep

- Inter-agency coordination led by Vice Premier
- More resources, equipments and professionals are allocated to Tainan
- Cooperation with Tainan City Command Center
- A successful central-local governments cooperation to tackle dengue fever

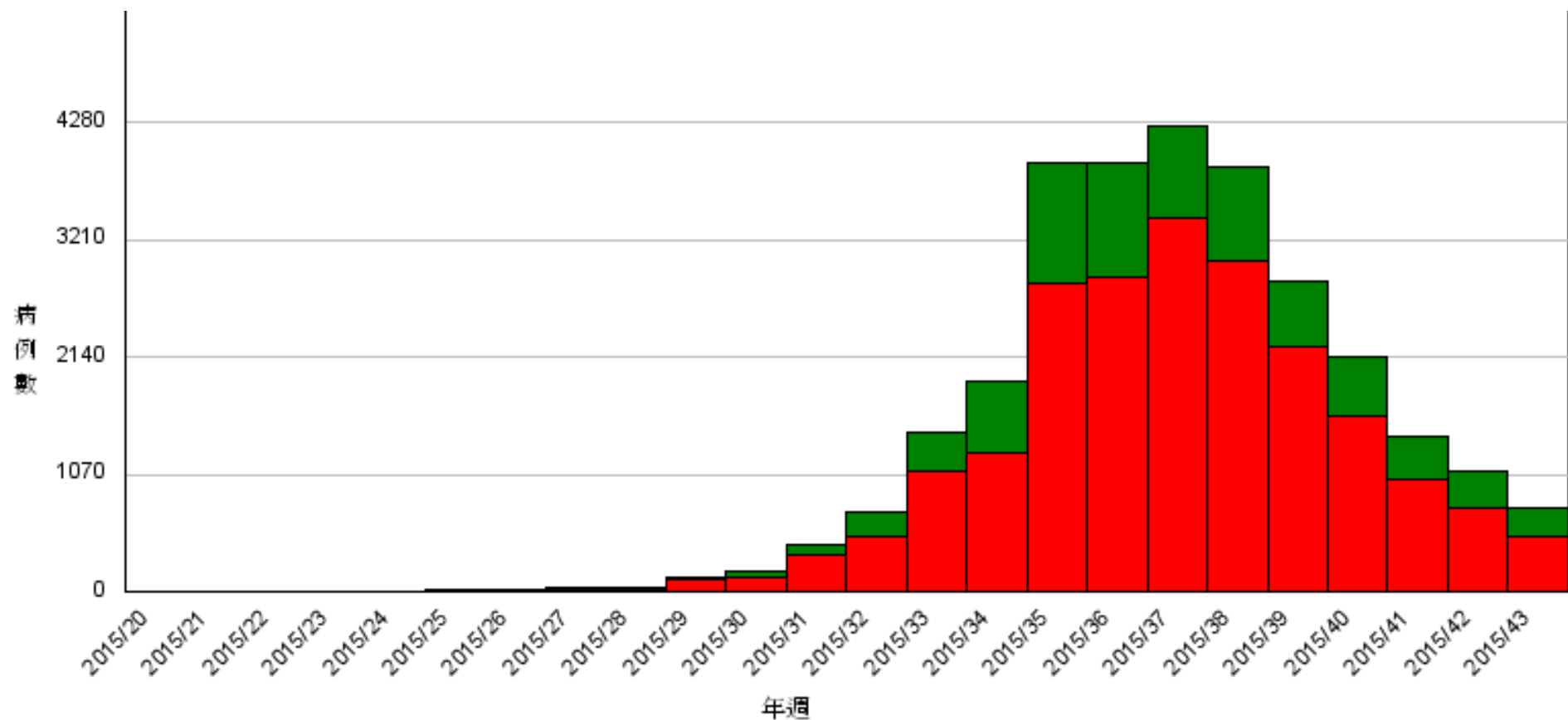


# Community mobilized for a “Bug-buster” campaign



After the crisis management, the number went down sharply since October (the 40th week)

週	30	31	32	33	34	35	36	37	38	39	40	41	42	43
病例數	141	335	511	1,099	1,279	2,824	2,878	3,417	3,028	2,236	1,614	1,038	777	516



資料來源：疾府管制署 Taiwan CDC 2015/12/01



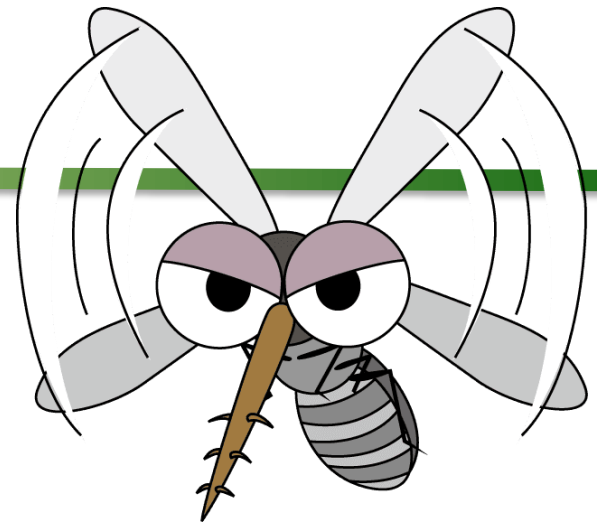
# Relentless and resilient efforts to eliminate mosquito larvae

- A bottom-up mobilization led by village heads and volunteers



By Dist	By village	Houshold
East Dist	36	60,450
North Dist	20	28,681
South Dist	16	24,173
Yonkan Dist	15	39,967
Midwest	12	11,289
Anpin Dist	6	12,180
Annan Dist	6	7,762
Total	111	184,502





## Incorporation of Big Data and Open Data



# Open Government and Open Data



## 臺南市政府資料開放平台

最新消息 [讀取更多...](#)

**臺南市各區里防災地圖**  
提供臺南市各區里防災疏散路線、地點及緊急聯絡資訊  
(<http://data.tainan.gov...>)

**登革熱資料專區**  
有關本市104年登革熱疫情相關資料可至本平台登革熱專區擷取使用。(登革熱疫情專區...)

### 臺南市政府資料開放平台 統計資訊

<b>473</b> 個資料集	<b>1882</b> 筆資料	<b>27</b> 個組織
<b>10</b> 個群組	<b>15</b> 個創新應用	

### 最新資料集

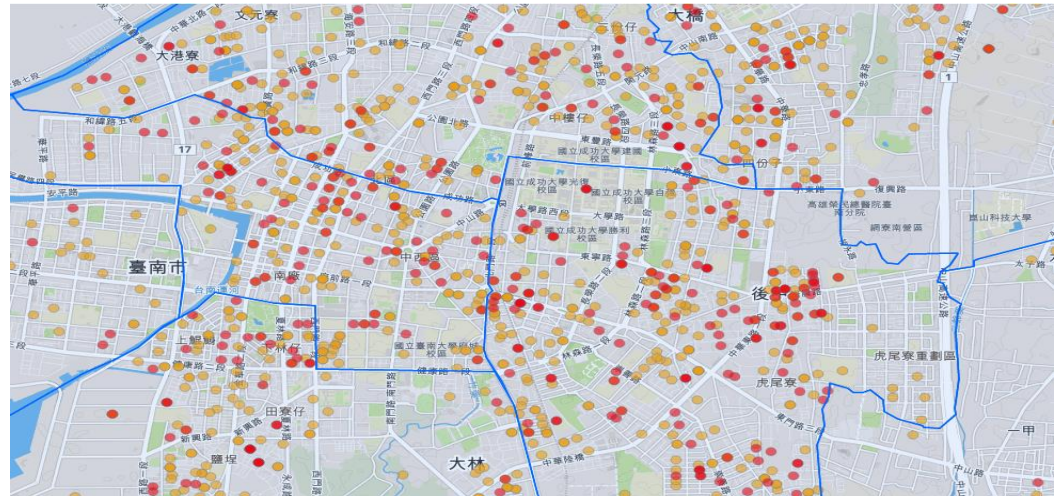
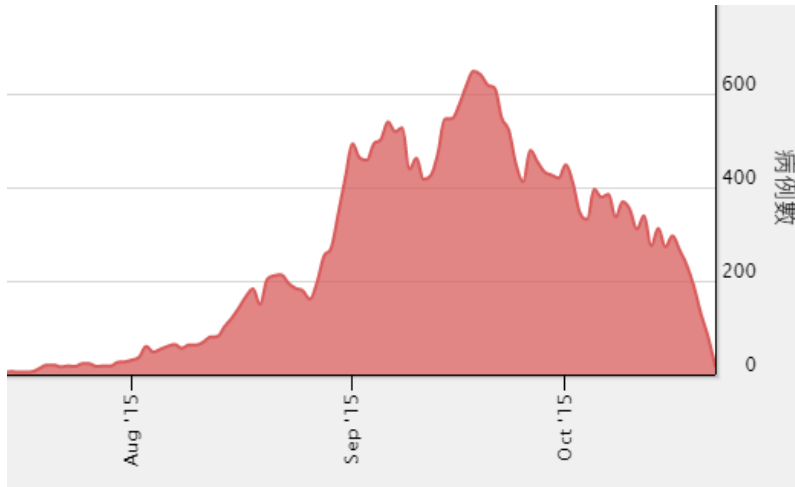
**104年登革熱病媒蚊密度調查**  
本資料集提供本市各區登革熱病媒蚊密度調查明細  
[CSV](#)

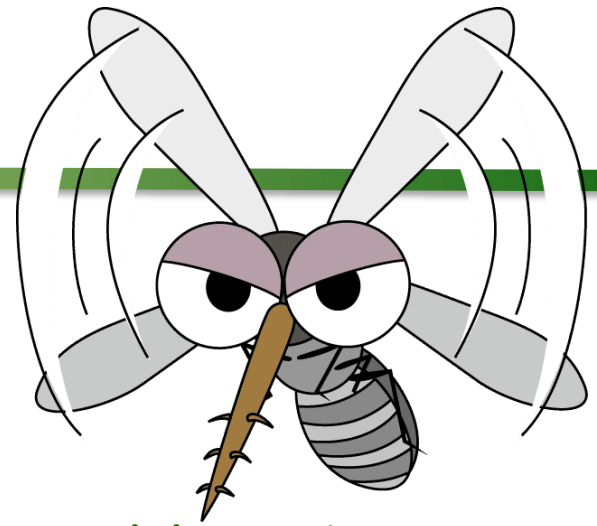
### 熱門資料集

**臺南市104年登革熱噴藥場次**  
本資料集提供臺南市各區登革熱噴藥防治紀錄  
[CSV](#)



# Scientific analyses for strategy adjustment





For the sake of saving lives and protecting citizens' health:

1. Promulgation, rapid detection test and medical diversification
2. CDC provided free test for elder people
3. Tainan City worked with regional hospitals for medical diversification and transfer arrangements
4. Special medical team for dengue patients

# Medical diversification system in the great Tainan area

Med center 2

Reaction center

Annan Hospital

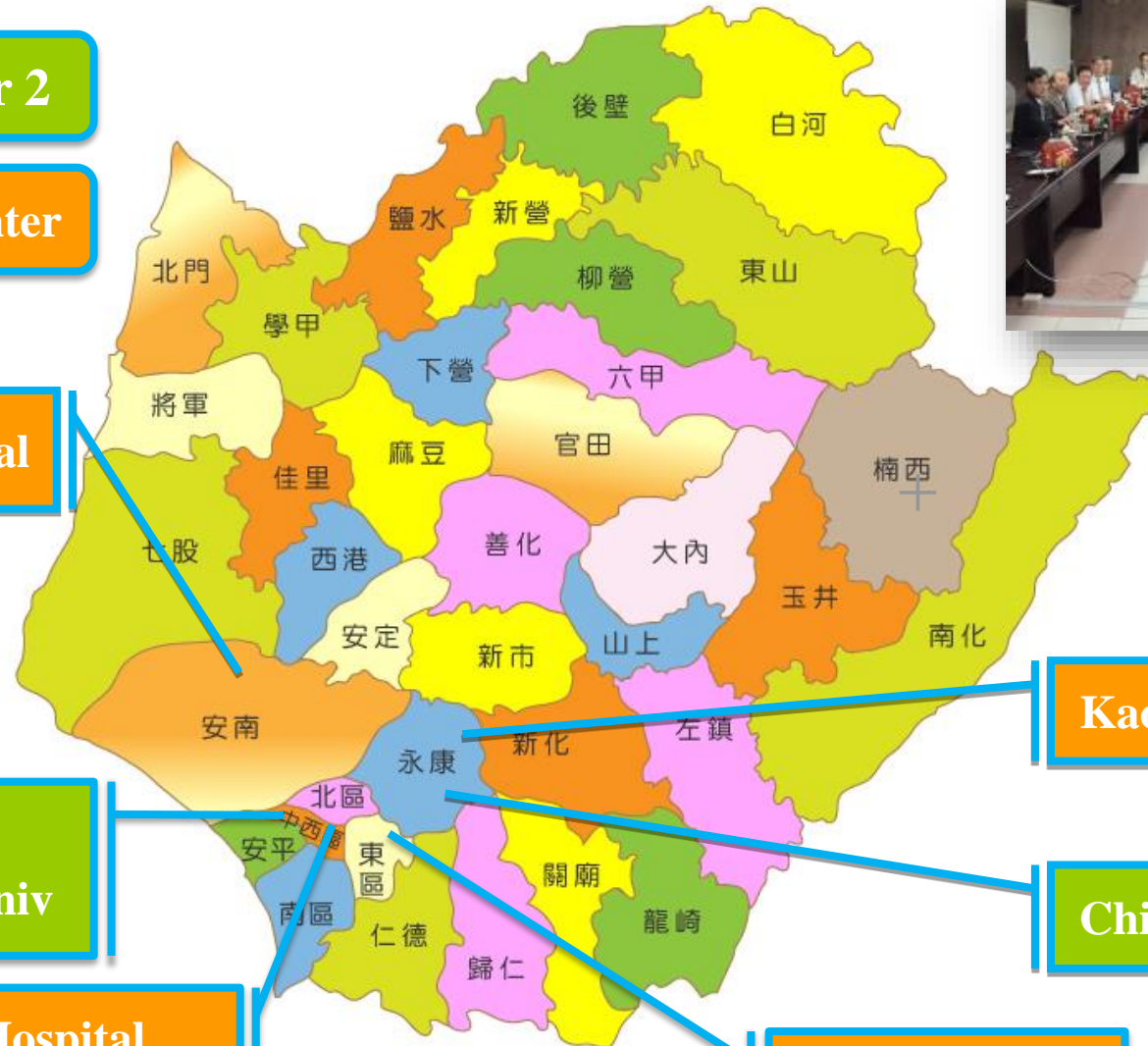
National  
Chengkung Univ

Tainan Hospital

City Hospital

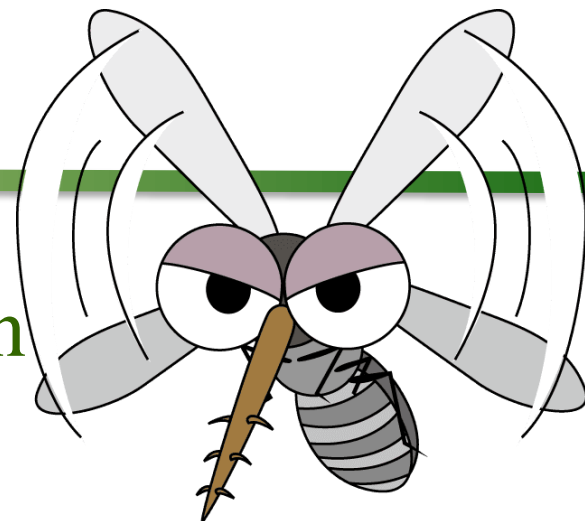
Kaojung Hospital

Chimei Hospital



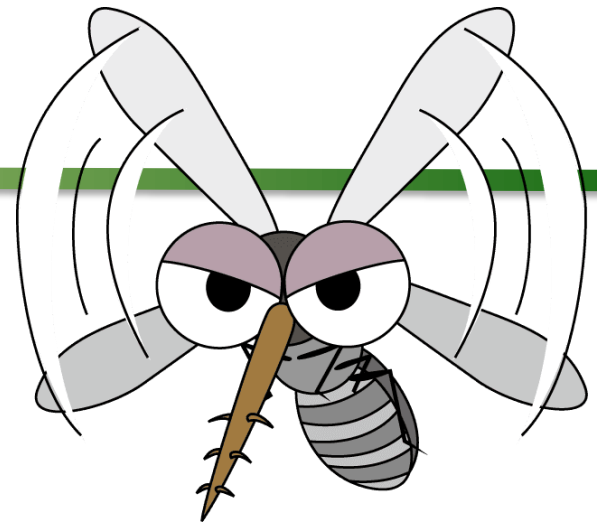


# Policy communication and persuasion



# Zero tolerance for environment that breeds mosquito





## Lessons learned and policy goals for 2016

1. lower the number of cases
2. combination of top-down policy instruction and bottom-up community works
3. enforcing neighborhood watch and household cleaning
4. compulsory cleaning and chemical prevention
5. Systemic establishment of command centers
6. immediate hospitalization, diagnosis and reporting
7. medical and hospital diversification
8. the use of open data as monitoring and supporting system