

THA 2022 International Conference on
**Moving Towards a Sustainable Water and
Climate Change Management After COVID-19**

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26 - 28 January 2022



09.00 - 16.30 hrs. (GMT+7 Bangkok)

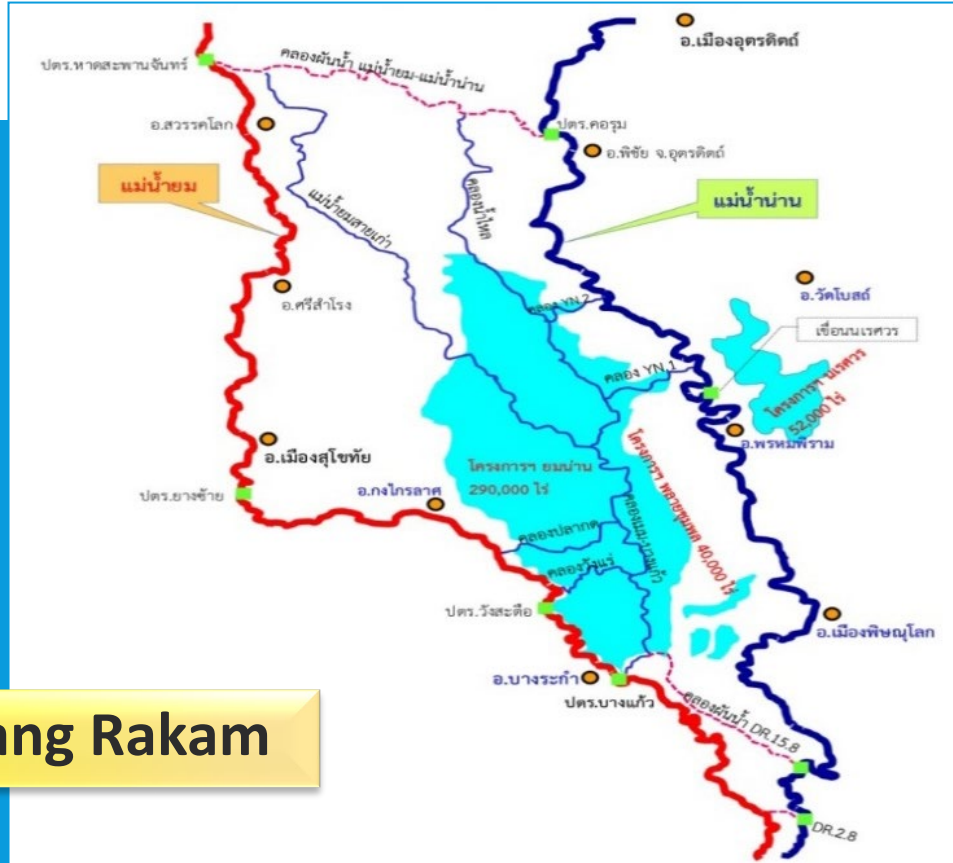
APPLYING PRONE FIELDS FOR FLOOD MANAGEMENT IN CHAO PRAYA RIVER BASIN



- Presented by **Mr. Surachat Malasri**
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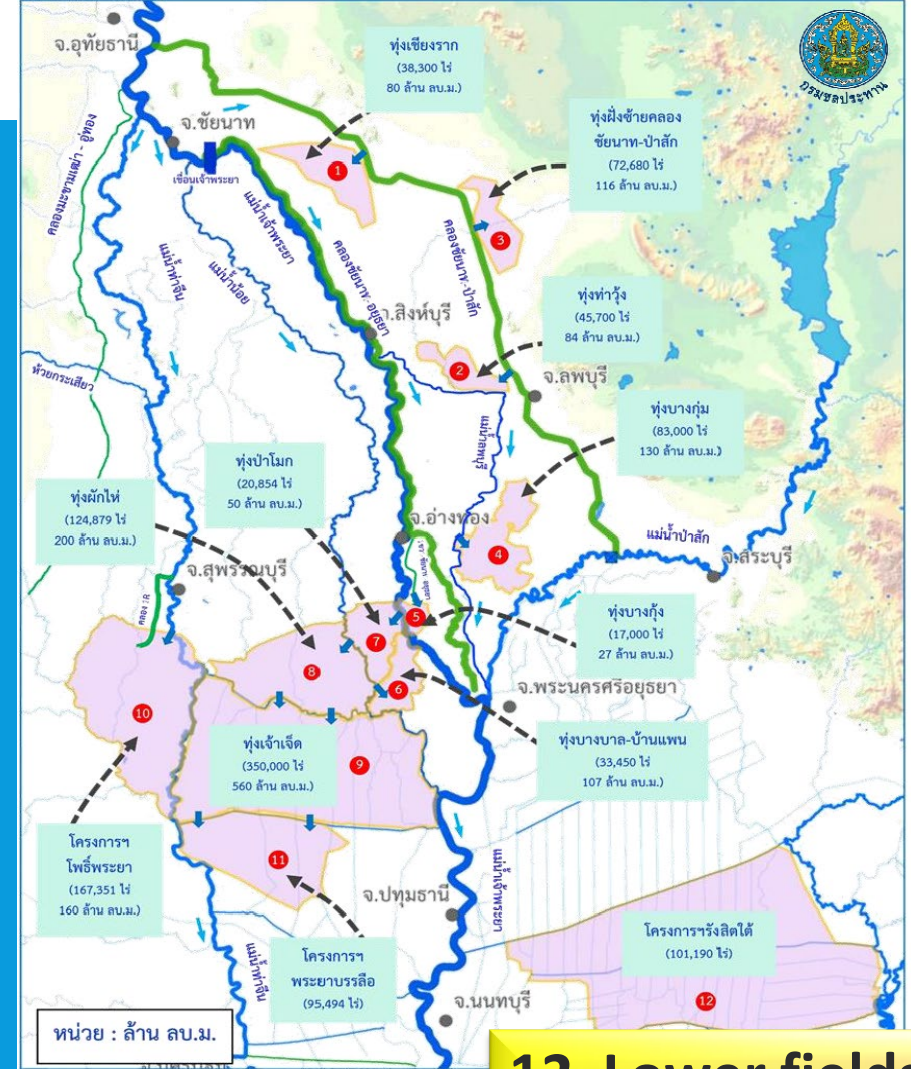


13 PRONE FIELDS IN THE CHAO PRAYA RIVER BASIN



1 Upper field: Bang Rakam

Total capacity to divert amount of water of 1,454 million m³ to 13 prone fields

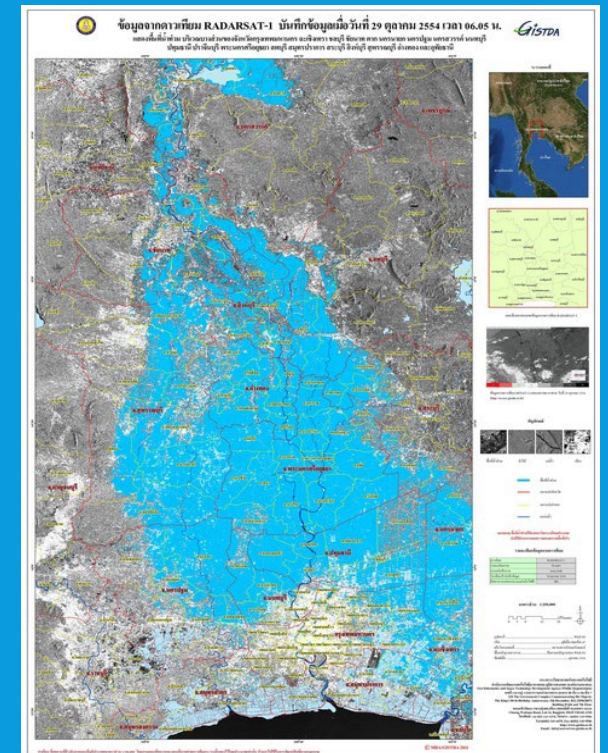
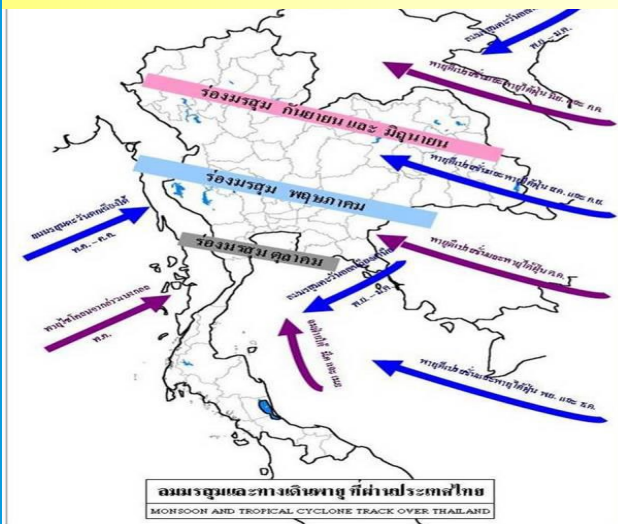


12 Lower fields




TWO FACTORS CAUSE THE FLOOD PROBLEMS

1. The characteristic of the land is a low terrain of more than 224,000 ha (1.4 million rai)
2. The average rainfalls is 1,374 mm. per year influenced by monsoons during rainy season each year.

Monsoon and tropical cyclone track over Thailand



OBJECTIVES

-  **01** To alleviate flooding in the Chao Phraya River Basin by using the concept of water retention in the flood-prone fields.
-  **02** To reduce the amount of water in the Chao Phraya River Basin.
-  **03** To earlier shift the crop calendar, normally started around May to June while the harvesting period begins from late August to September.

CAPACITY OF THE 13 PRONE FIELDS

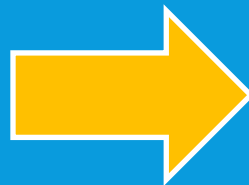
No	Fields	Provinces	Area (Ha)	water volume (million m3)
1	Chiang Rak	Chainat, Nakorn Sawan, Singha buri	6128	80
2	Tha Wung	Lop buri	7312	84
3	Left Chainat-Pasak	Lop buri	11628.80	116
4	Bang Kum	Ayutthaya, Saraburi, Lop buri	13280	130
5	Bang Kung	Ayutthaya	2720	27
6	Bang Ban- Baan Pan	Ayutthaya	5352	107
7	Pamok	Ayutthaya	3336.64	50
8	Pakhai	Ayutthaya, Suphan buri	19980.64	200
9	Chaochet	Ayutthaya, Suphan buri	56000	500
10	Pho Praya	Suphan buri	26776.16	160
11	Praya Banlue	Nakorn Prathom, Nonthaburi, Pathumthani, Ayutthaya	15279.04	100 m3/sec
12	South Rangsit	Pathumthani	16190.4	80 m3/sec
13	Bang Rakam	Phitsanulok, Sukhothai	42,400	400
Total			226,383.68	1900

THE CHAO PHRAYA RIVER BASIN MANAGEMENT PLAN IN THE DRY SEASON OF 2021

ผลการเพาะปลูกพื้นที่ลุ่มต่ำ 13 ห่วง ณ วันที่ 15 ก.ย.64

ที่	พื้นที่ลุ่มต่ำ	พื้นที่รับน้ำ (ไร่)	เพาะปลูกแล้ว (ไร่)	% เพาะปลูก	เก็บเกี่ยว (ไร่)	% เก็บเกี่ยว (จากผลการปลูก)
1	ทุ่งบางระกำ	265,000	265,000	100.00%	265,000	100.00%
2	ทุ่งเชียงราก	38,300	37,961	99.11%	28,740	75.71%
3	ทุ่งท่าช้าง	45,700	42,181	92.30%	13,989	33.16%
4	ทุ่งฝั่งซ้ายคลองชัยนาท-ป่าสัก	72,680	72,590	99.88%	17,553	24.18%
5	ทุ่งบางกลุ่ม	83,000	73,978	89.13%	59,023	79.78%
6	ทุ่งบางกุ้ง	17,000	13,000	76.47%	6,700	51.54%
7	ทุ่งบางบาล - บ้านแพน	33,450	24,602	73.55%	22,367	90.92%
8	ทุ่งป่าโมก	20,854	20,854	100.00%	20,442	98.02%
9	ทุ่งผักไห่	120,248	113,972	94.78%	113,839	99.88%
10	ทุ่งเจ้าเจ็ด	350,000	302,034	86.30%	286,456	94.84%
11	โครงการฯโพธิ์พระยา	167,351	154,243	92.17%	135,622	87.93%
12	โครงการฯพระยาบรรลือ	95,494	83,348	87.28%	71,197	85.42%
13	โครงการฯรังสิตใต้	101,190	85,450	100.00%	85,45	100.00%
รวม		1,410,267	1,289,213	91.42%	1,126,378	87.37%

หมายเหตุ : ทุ่งบางบาล - บ้านแพน และโครงการฯรังสิตใต้ เป็นทุ่งรับน้ำสำรอง



Fields	Irrigated Area (Ha)
1 Upper field	42,400
12 Lower fields	184,000
Total	226,400

FLOOD SITUATION IN CHAO PRAYA RIVER BASIN YEAR 2021

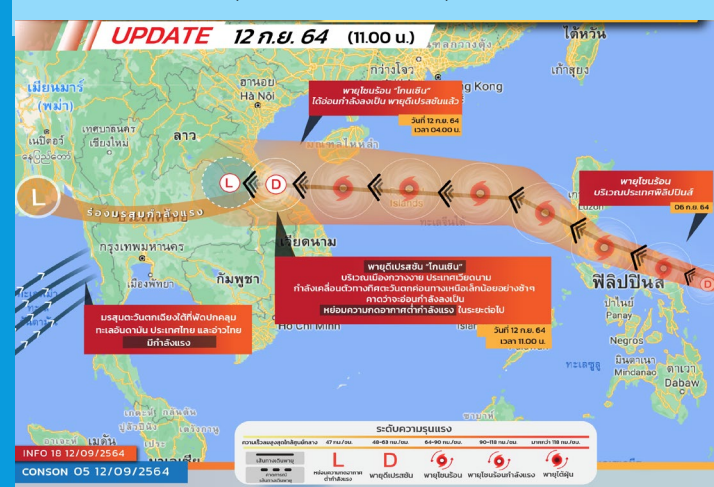
Problems

1. Depression "Conson" (12 Sept. 21)
2. Depression "Tien Mu" (24-25 Sept. 21)
3. Depression "Kompasu" (14-15 Oct. 21)

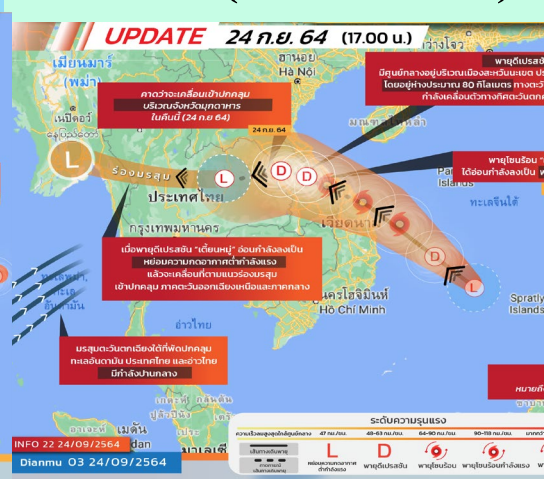
Strom	Rainfalls (mm)
Conson	2,400- 2,500
Tien Mu	1,100-1,200
Kompasu	
Total	3,500-3,700

Infrastructure	Capacity (m3/sec.)
Pasak	1,207

Conson (as 12/9/21)



Tien Mu (as of 24/9/21)



Kompasu (as of 15/10/21)



Pasak Reservoir

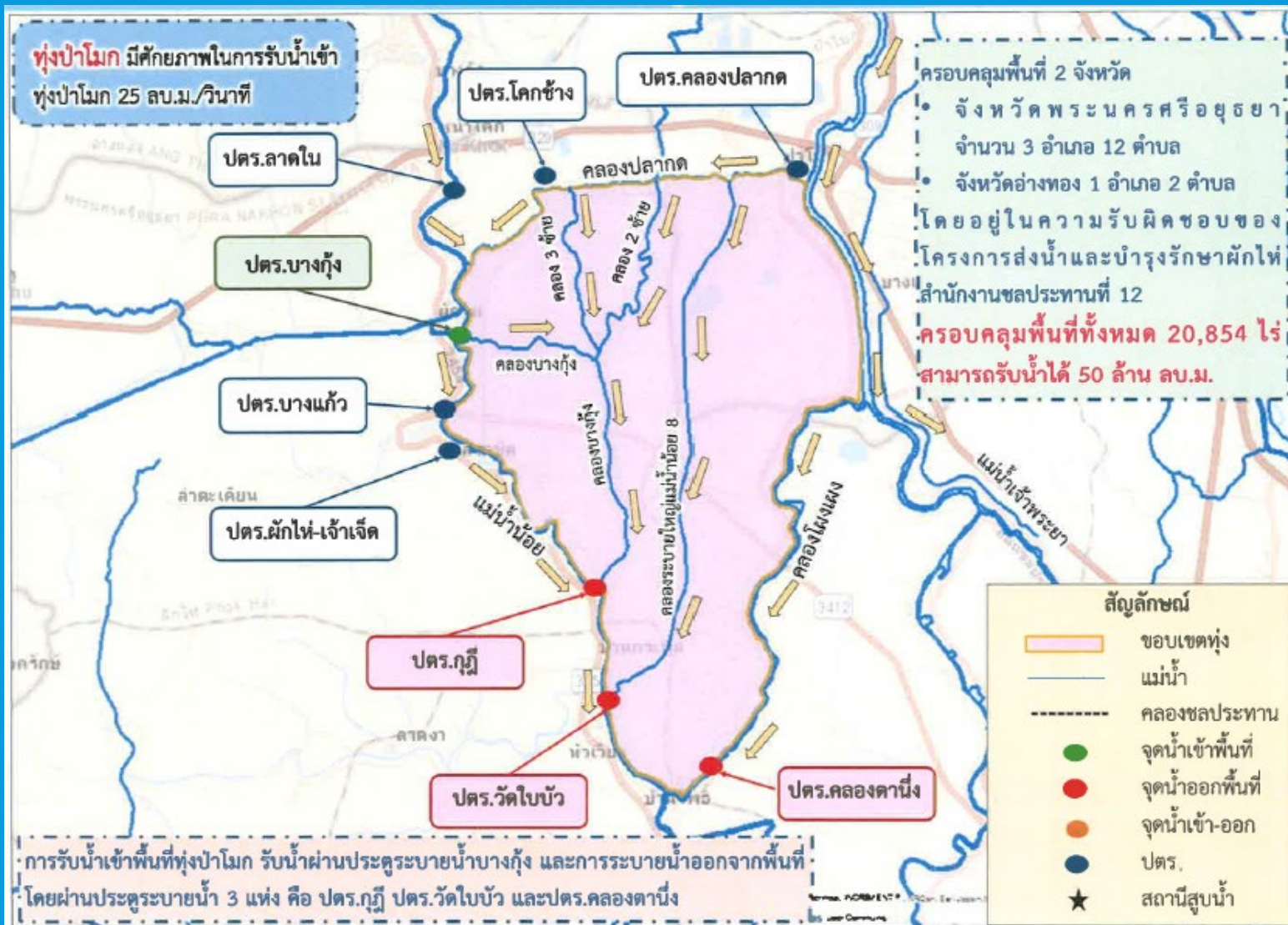


TWO MAJOR PROTESTS

1. Bang Kung field: to open the water regulating gates draining to a prone-field in Chao Praya river basin.
2. Chao Chet prone-field: to open the regulating gates to lower flood level in.



BANG KUNG FIELD



Bang Kung Field covers 3336.64 Ha.
(20,854 Rai)

It can retain 50 million m³ of water.

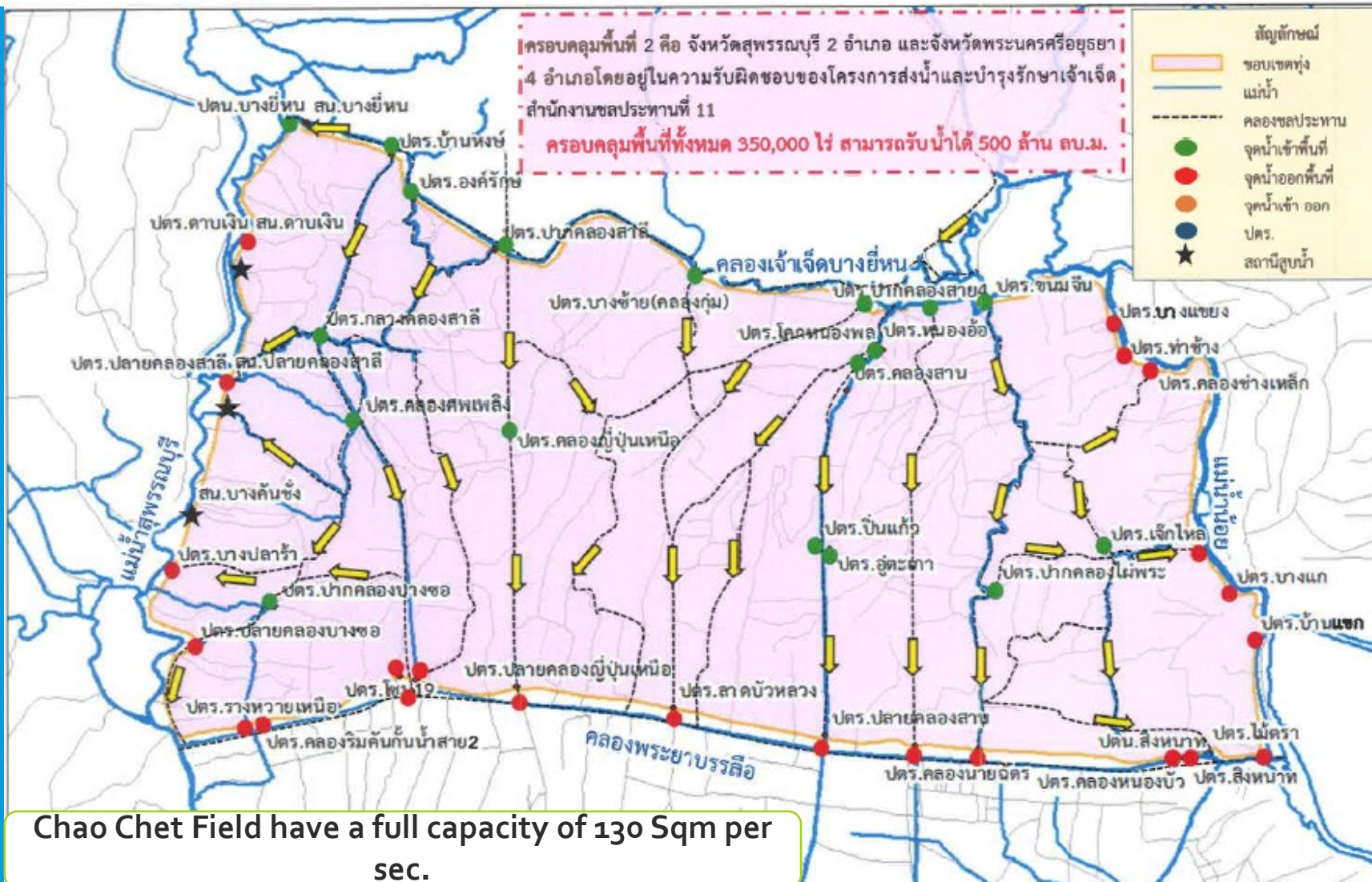
TWO MAJOR PROTESTS



ประท้วงขอเปิด
ประตูระบายน้ำเพิ่ม



CHAO CHET FIELD



Chao Chet Field covers 56,000 Ha.
(350,000 Rai)
It can retain 500 million m³ of water.

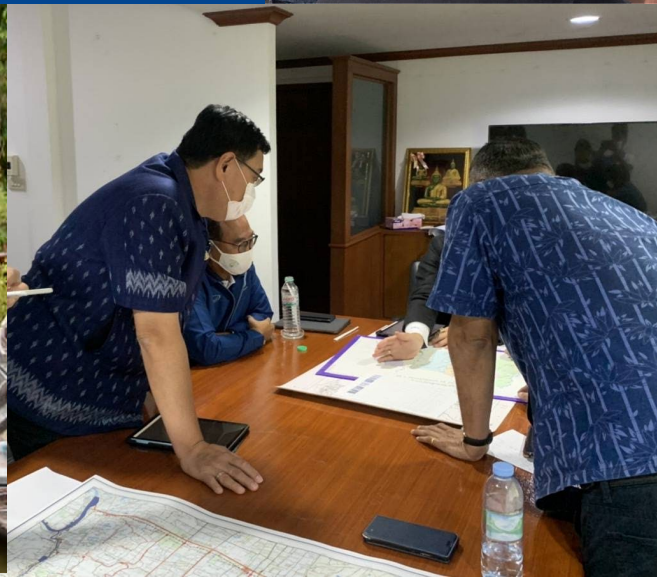
TWO MAJOR PROTESTS



THREE LESSONS FROM FLOOD-PRONE FIELDS MANAGEMENT IN 2021

1. Increase water storage by diverting from another reservoir and supplying to the 13 fields via a closed water supply system to start planting in late dry season of April.
2. Negotiation is required with community leaders between the upper and lower fields to optimize the equality
3. The compensation criteria should be reviewed to reflect the real cost. The compensation rate, at 251.5 USD per ha (1,331 THB per rai), does not cover the investment cost.

RID HEALING THE IMPACTS



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THANK YOU

- Q&A