VIET NAM NATIONAL MEKONG COMMITTE

People Centered Approach in Flood and Land Management in the Mekong Basin

Luang Phrabang 23-25 Feb 2011

REVIEW OF ACTIVITIES & OUTPUTS/ LESSONS LEARNED CONCERNING THE C5 –APPROACH IN VIETNAM

VU MINH THIEN

Content

Population:

85.6 million (2008)

Urban (2008): 27.1%

Rural (2008): 72.9%

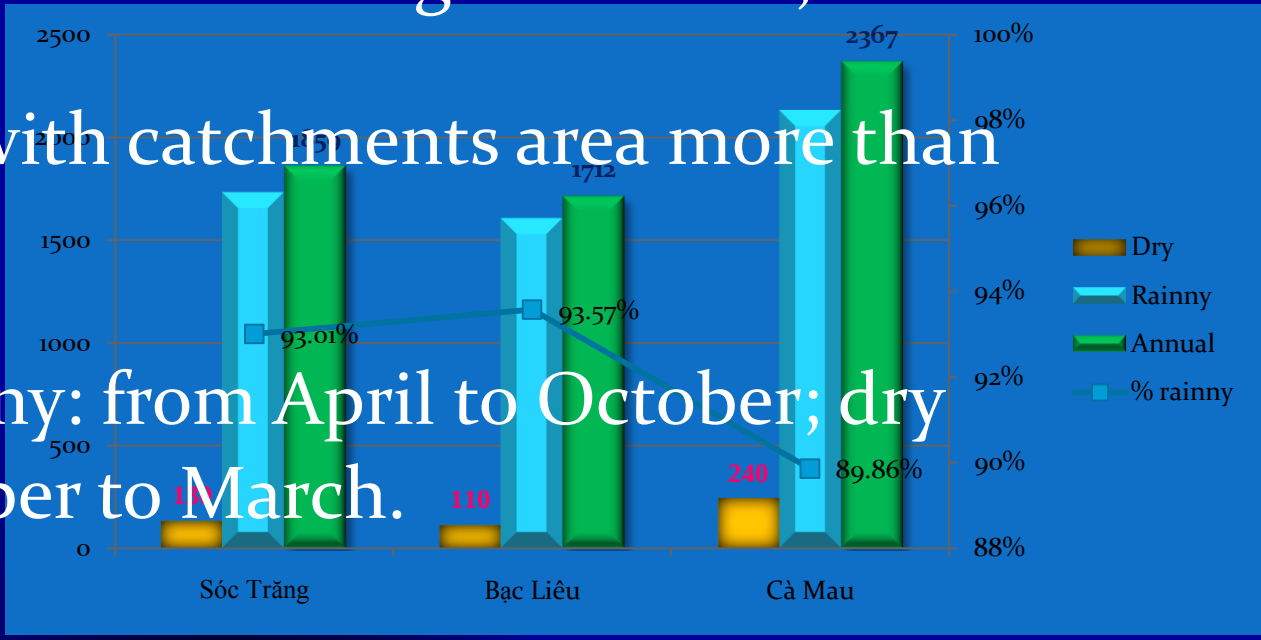
Land area: 331,690 km²

Population density: 258 pers/km2

- Border countries: China on the North, Cambodia and Lao on the West.
- Climate: Tropical in south, monsoonal in North with hot, rainy season (from May to September) and warm dry season (from October to March)

Water Resources in Vietnam

- Average annual rainfall: 1,600 -2,000 mm
- Total annual water volume: 830-840 km³ (> 60% from neighbor countries)
- River systems: 2360 rivers with length > 10 Km,
- 14 main river basins with catchments area more than 10,000 Sq. Km.
- Two seasons: Wet/rainy: from April to October; dry season: from November to March.

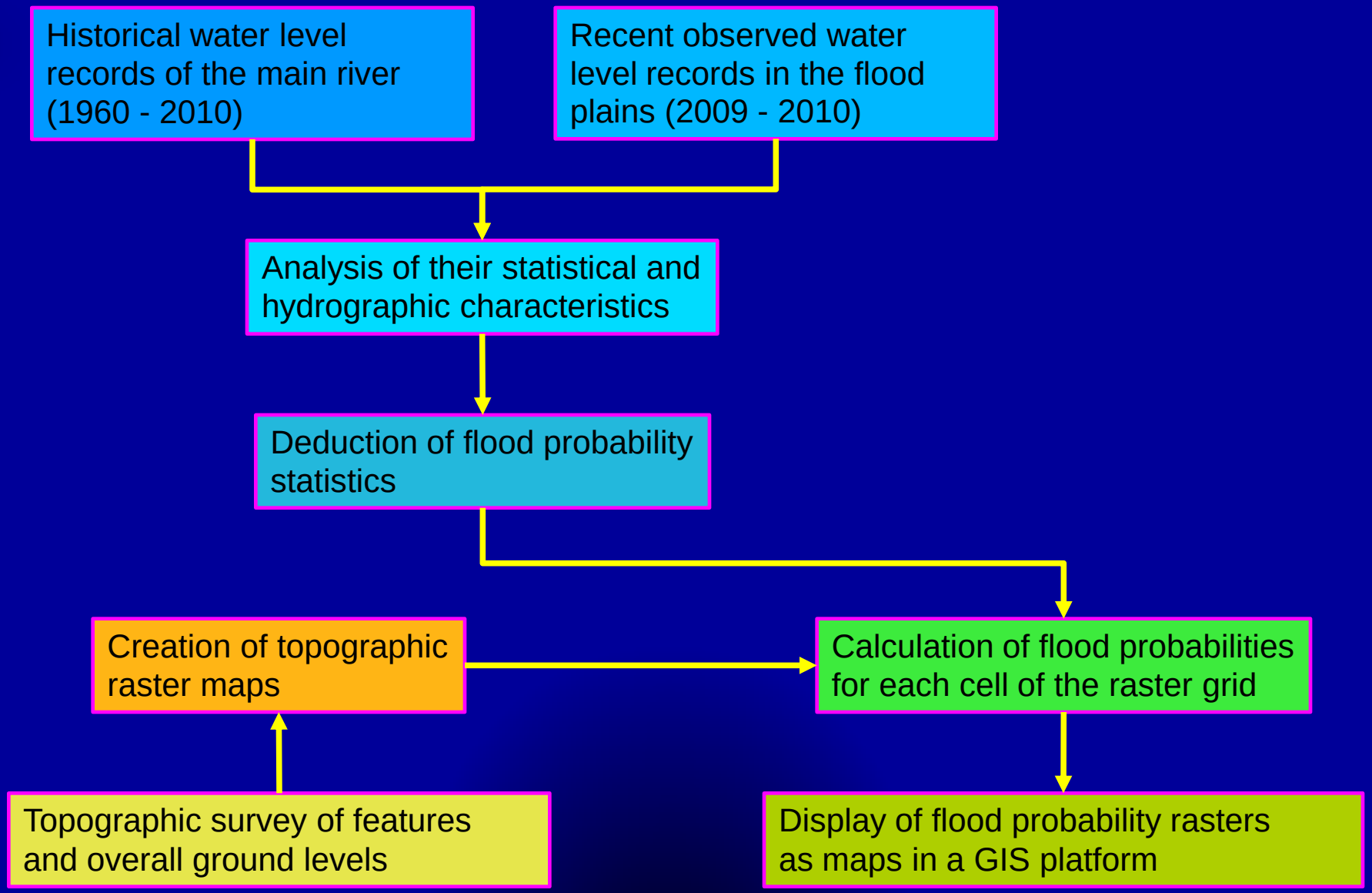


Damages caused by Natural Disaster in Cuu Long Delta (from 1995 to 2006)

TYPE OF DAMAGE	UNIT	1995	1996	2000	2001	2002	2004	2005	2,006	TOTAL
Human loss	person	199	217	501	407	195	45	77	129	1,770
in which children	*person*	*180*	*162*	*347*	*321*	*172*	*43*	*70*	*50*	1,345
Innudated households	household	3[illegible]	[illegible]	891,51[illegible]	56,032	321,459	34,393	42,101		2,711,806
Evacuated households	household	11,431	38,73[illegible]	49,688	27,826	17,824	3,758	7,249	160	156,671
Relief needed households	household	59,262	175,441	253,107	221,993	97,463	1,821	6,265		815,352
Time for relief needed households	time			628,682	237,505	155,782	11,686	6,265		1,039,920
Collapsed households	house	28,240	40,124	4,868	19,725	5,606	340	5,270	28	104,201
Damaged school rooms	room	3,642	11,701	13,789	5,679	4,700	1,454	271		41,236
Absent pupils	pupil	217,413	90[illegible],200	8[illegible],346	354,615	263,976	35,687	739	12,914	2,605,889
Damaged health center	unit	[illegible]	[illegible]	[illegible]	[illegible]	54	6	10		1,179
Rice loss (fully)	ha	11,101	43,257	55,121	4,535	721	2,018	1,658		118,411
Inundated rice harvest with low yield	ha	62,399	107,704	159,360	53,267	20,667	10,170	14,746	200	428,513
Inundated farm fruits and crops	ha	72,590	55,250	62,952	29,983	2,499	7,831	11,621		242,726
Dead cattle and poultry	unit		12,484	668,234	104,421	18,243	-	-		803,382
Flooding fonds	pond	16,336	41,742	[illegible]	19,838	[illegible]	-	[illegible]		77,916
Inundated and damaged aquaculture area	ha	[illegible]	[illegible]	14,0[illegible]	[illegible]	[illegible]	[illegible],486	826		24,514
Flooding national roads and provincial routes	km	372	1,036	1,267	516	267.4	31.0	65.4		3,489
Flooding rural lanes	km	4,411	12,944	10,187	6,649	5,114.7	######	685.6	192.0	40,576
Collapsed semi-cement bridges	unit		10,740	4,634	2,102	1,537	387	491	7	19,898
Landslided embankment, dyke	km	1,462		5,045	6,114	3,281	194	918		17,014
Landslided embankment, dyke, canal	1000m3	5,512	34,066	37,342	60,445	3,919	2,422	370		144,076
Damaged sluices, gates	unit	213	500	2,595	1,377	1,413	641	874		7,613
ESTIMATED DAMAGE TOTAL	ND billio	701	1,947	4,226	1,594	541.16	71.19	203.65	15.09	9,080

- Death and missing: 1770
- Injury: thousands of persons
- Economic loss: 9080 Billion VND

C5 –APPROACH IN LAND MANAGEMENT

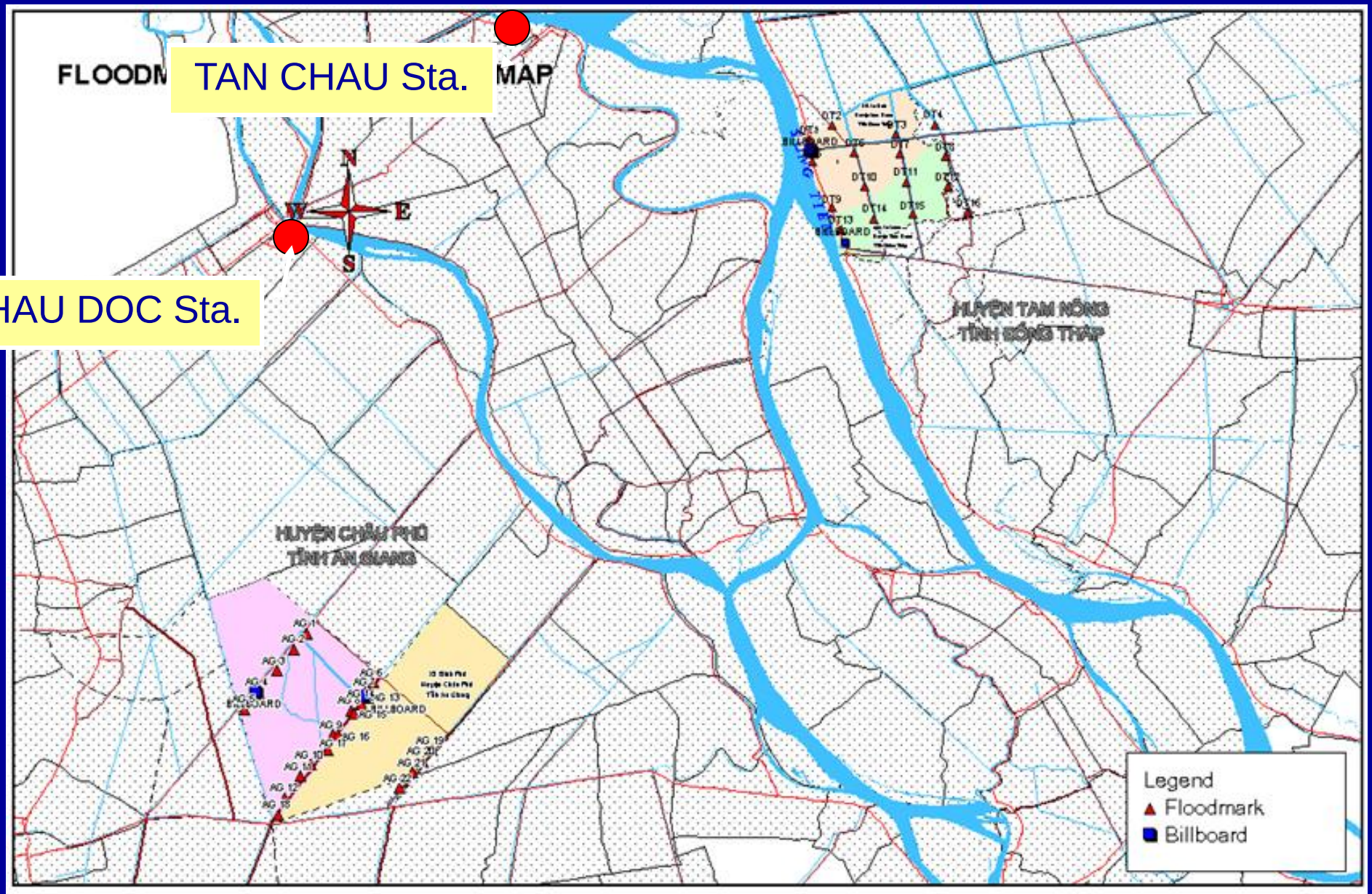


C5 –APPROACH IN LAND MANAGEMENT

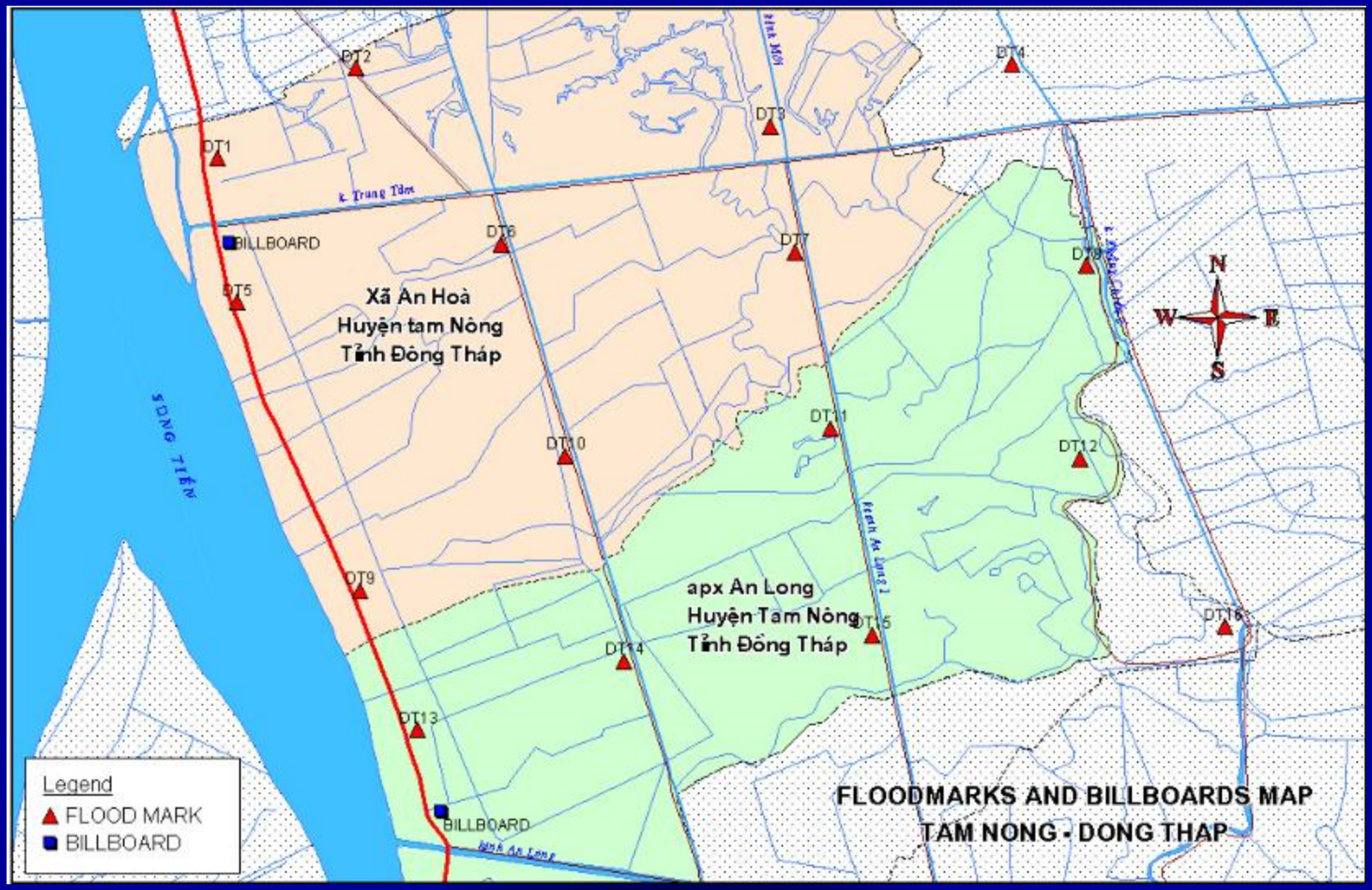
Preconditions for the Pilot-area, located in flood plains, to be chosen:

1. Topographic DEM established
2. Flood marks established
3. Flood Plain is connected to the Mekong main course supplied with an adjacent Hydro-Station
4. Flood history (hydrographic data) is available for the pilot district area
5. The pilot districts are land management-registered & land use planning is initiated (optional)

Selection of the pilot area

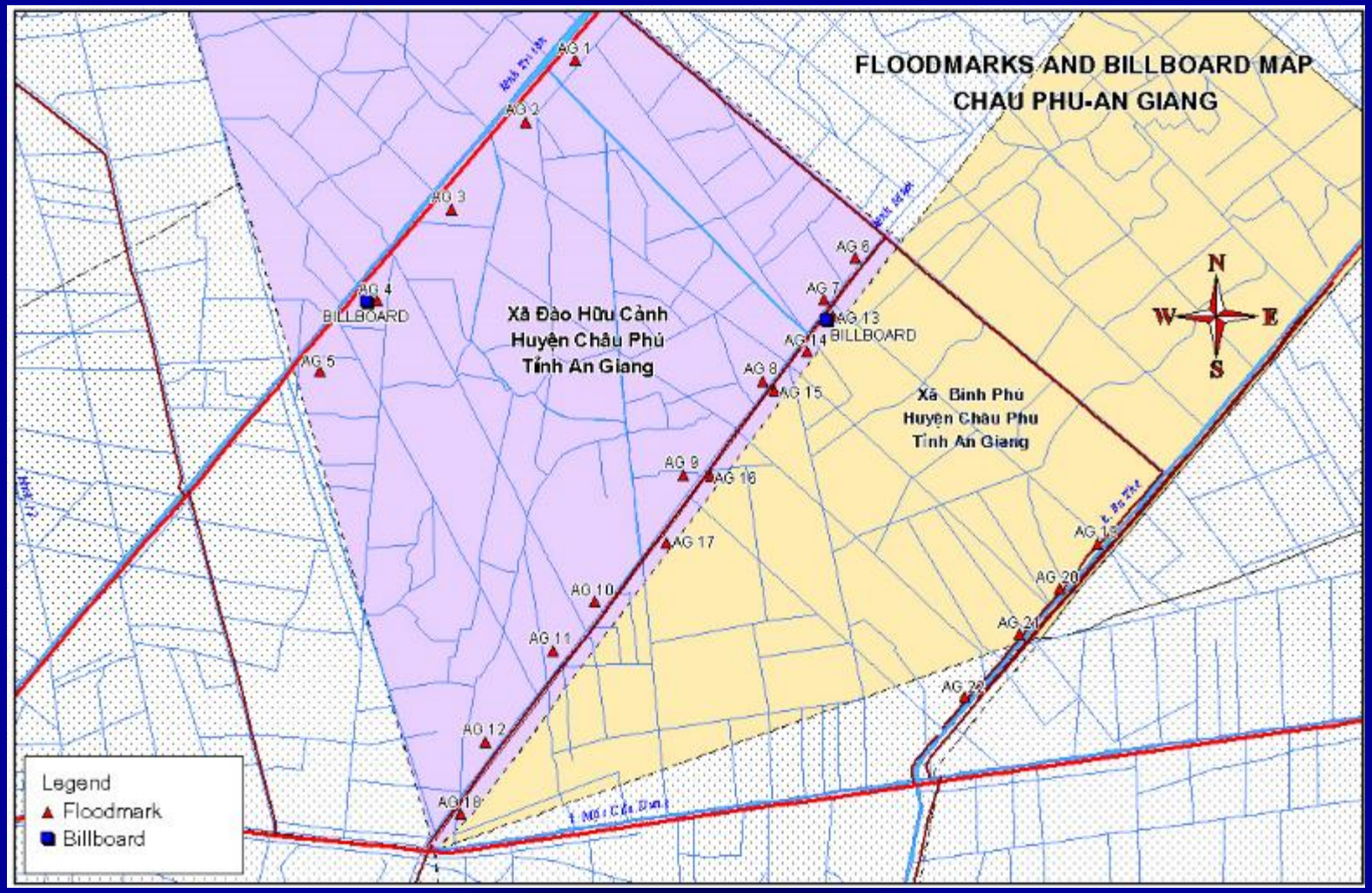


1. Establishment of Flood marks and Bill board



Tam Nong, Dong Thap - 16 flood marks and 2 billboards

Establishment of Flood marks and Bill board



Chau Phu, An Giang - 22 flood marks and 2 billboards

Establishment of Flood marks and Bill board

BẢNG THÔNG TIN VỀ LŨ LỤT
Năm 2009

Xã Đào Hữu Cảnh, Châu Phú, An Giang

Dân số : ?????

Diện tích : ?????

Mực nước báo động trên sông Hậu tại Châu Đốc (m)		
	Cấp 1	2,50
	Cấp 2	3,00
	Cấp 3	3,50

Ngày Tháng		Mực nước sông Hậu tại Châu Đốc (m)	Mực nước nội đồng tại xã (m)	Diện tích đất bị ngập (ha)
Hôm qua	26 / 11	3,15	2,18	
Hôm nay	27 / 11	3,25	2,16	367
Ngày mai	28 / 11	3,26		
Ngày mốt	29 / 11	3.28		

Dự án : Quản lý lũ lụt và Giảm nhẹ thiên tai (MRC-FMMP)
Học phần 5 : Quản lý đất đai.
Giai đoạn 2 : Tại Campuchia, Lào , Thái lan, Việt Nam.
Tổ chức tài trợ : Chính phủ Đức
Cơ quan thực hiện :
Uỷ hội sông Mê công Quốc tế
Tổ chức Hợp tác Kỹ thuật Đức
Uỷ ban sông Mê công Việt Nam
Đài Khí tượng Thuỷ văn khu vực Nam Bộ

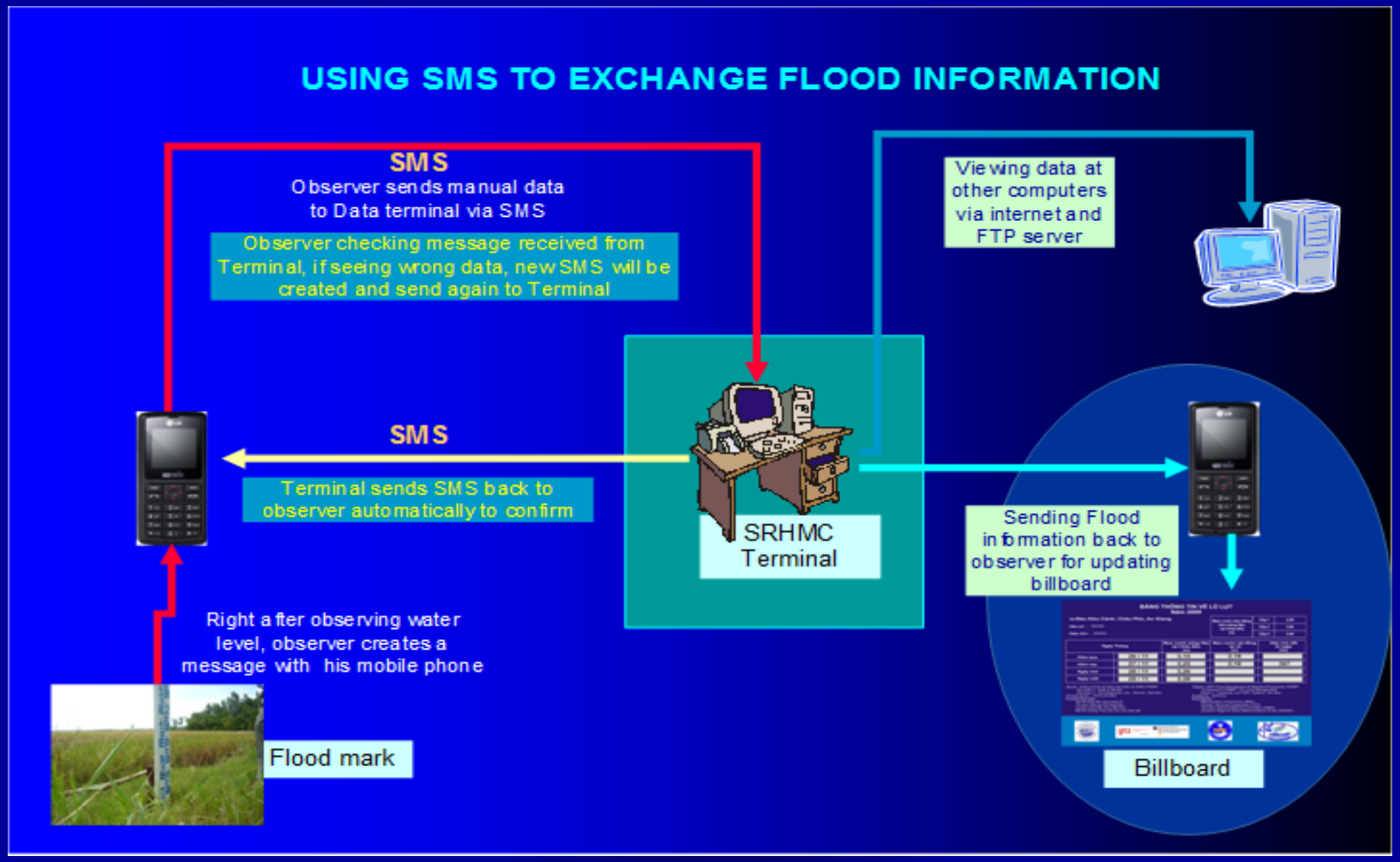
Project : MRC-Flood Management & MitigationProgramme (FMMP)
Component 5 (FMMP - C5 / Land Management)
Phase 2 : Cambodia, Lao PDR, Thailand, Viet Nam
Funded by : Germany
Executed by :
Mekong River Commission (MRC)
German Technical Cooperation (GTZ)
Viet Nam National Mekong Committee (VNMC)
Southern Regional Hydro-Meteorological Center (SRHMC)

Data collection and management

TAN CHAU Sta.

CHAU DOC Sta.

Data collection and management

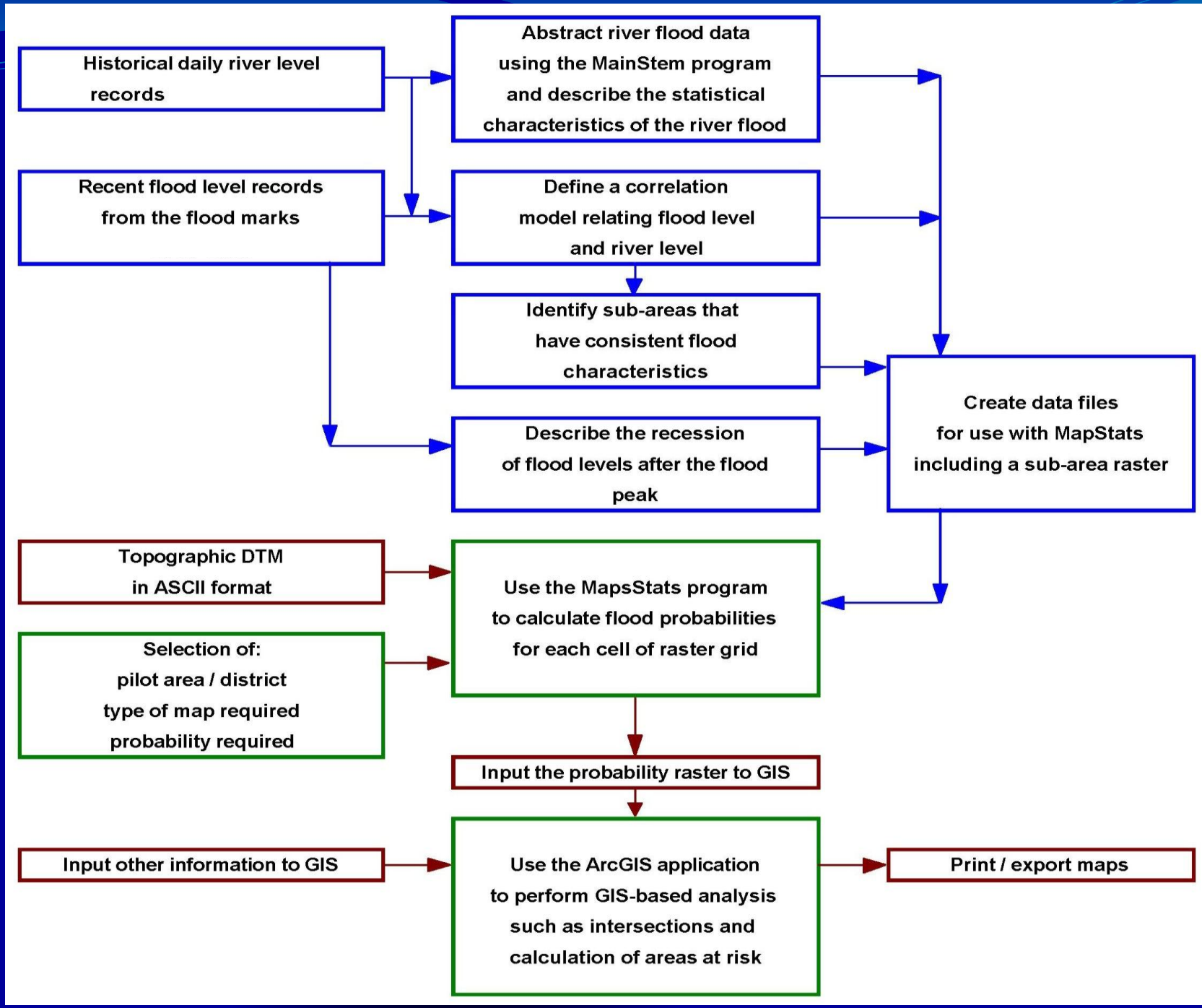


DATA FLOW

- ✓ To receive SMS from 38 flood marks at around 7AM
- ✓ To send flood information to 4 Billboards

Flow diagram

Mapstat application



Training

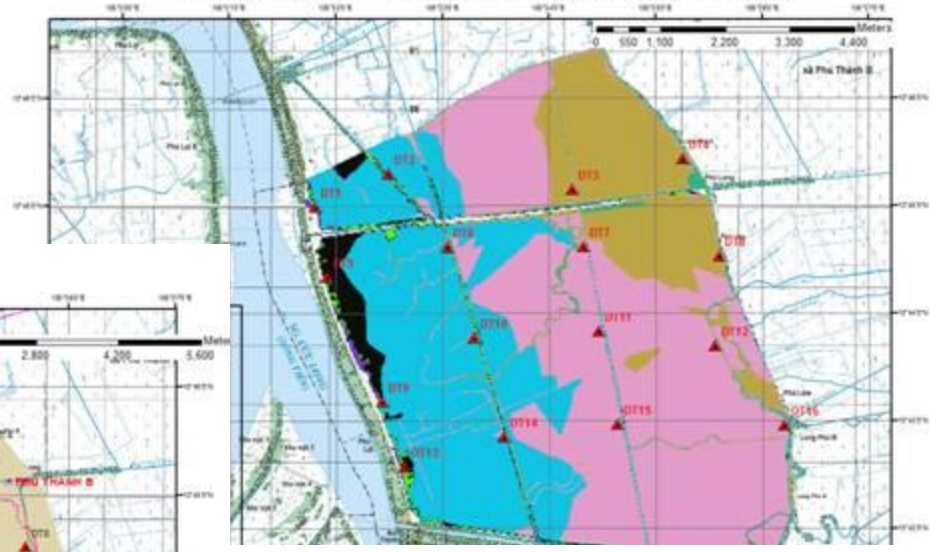

gtz
MRC
VNMC
FMMP – C5 (LAND MANAGEMENT COMPONENT)
TOT TRAINING COURSE
HO CHI MINH CITY, March 22 – 31 2010


gtz
MRC
VNMC

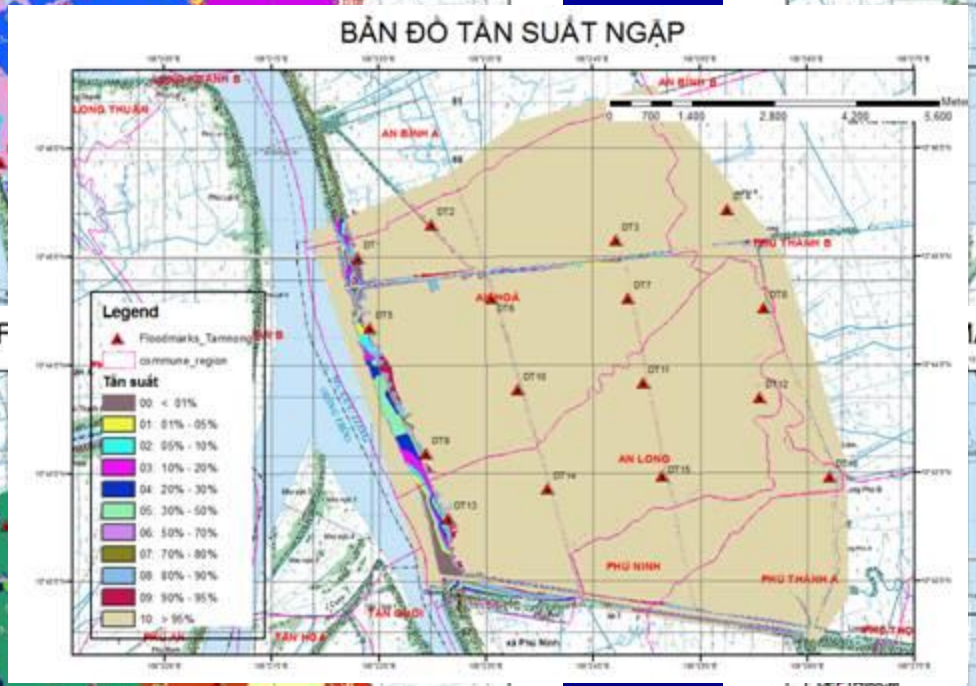
Results

START OF FLOODING IN TAM NONG 2009

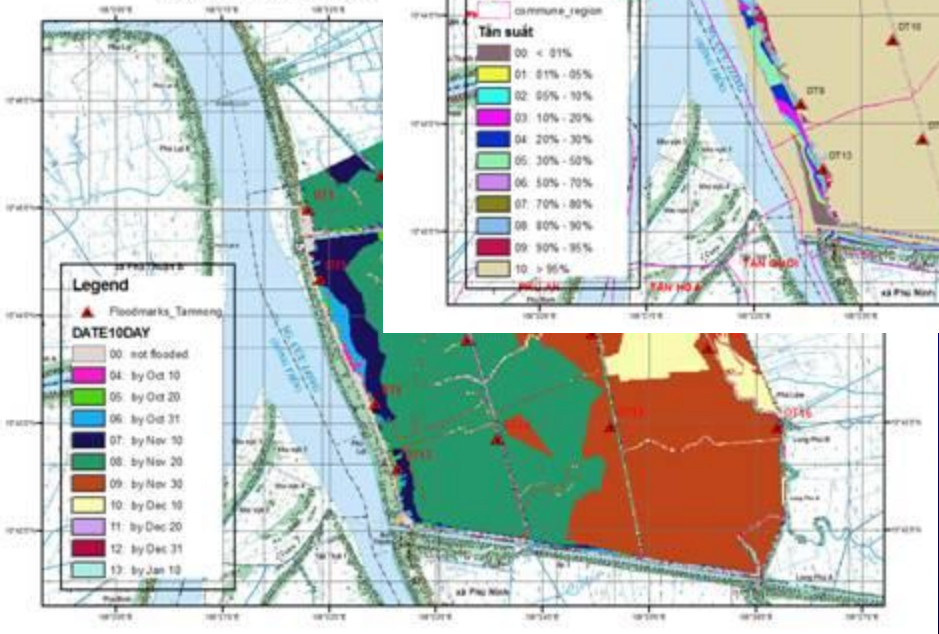
DURATION OF FLOODING IN TAM NONG 2009



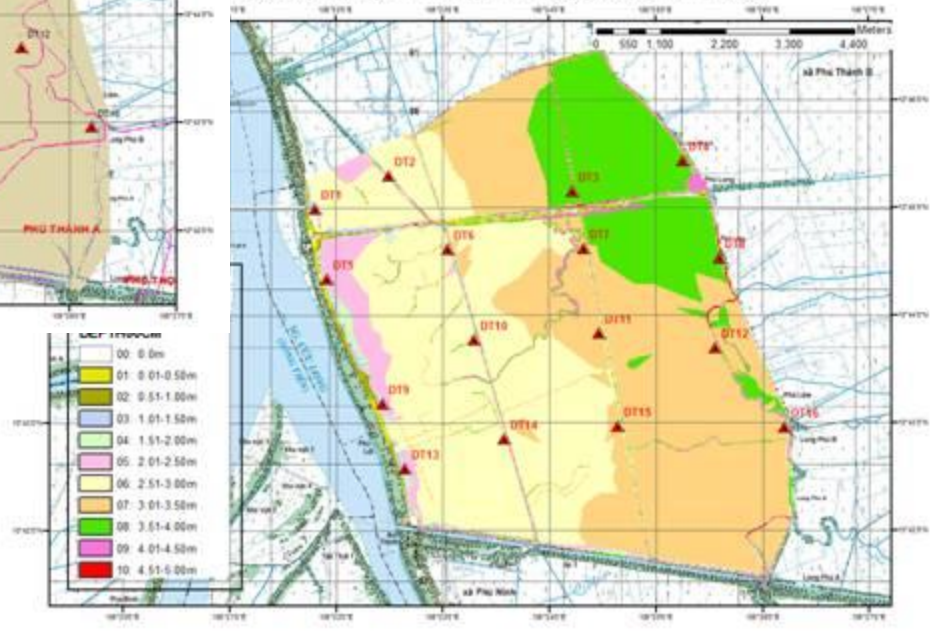
BẢN ĐỒ TẦN SUẤT NGẬP



COMPLETION OF



AXIMUM DEPTH OF FLOODING IN 2000



Lesson learned

- The C5 approach is simple comparing with other such as hydrodynamic model, not require very much data….
- The C5 approach is suitable to apply in the area about 10 km2
- The C5 Approach is suitable to apply in area that flood plain connect to the mainstream (not through the dikes or sluice system …);
- The Observed data from flood marks is quite sort then the relationship with the daily data records in main river is not tight
- Five types of maps, which are made by MapStats software, are useful for Agriculture and land management, Infrastructure planning (roads, embankments, public buildings) and Flood awareness and mitigation


Xin cảm ơn – Thank you very much
29 1 2008