Review of Activities & Outputs/ Lessons Learned concerning the C5 –Approach

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By NFU/LNMCS
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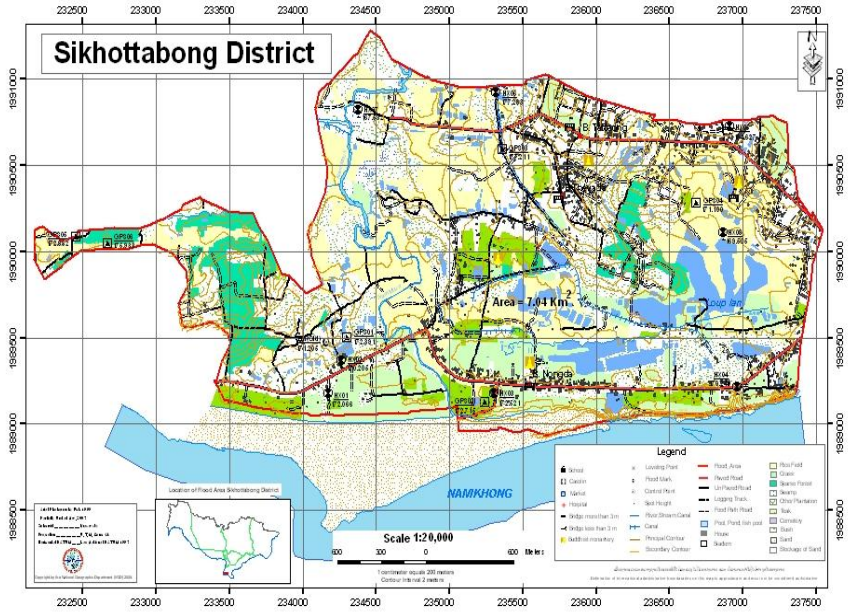
1. Introduction

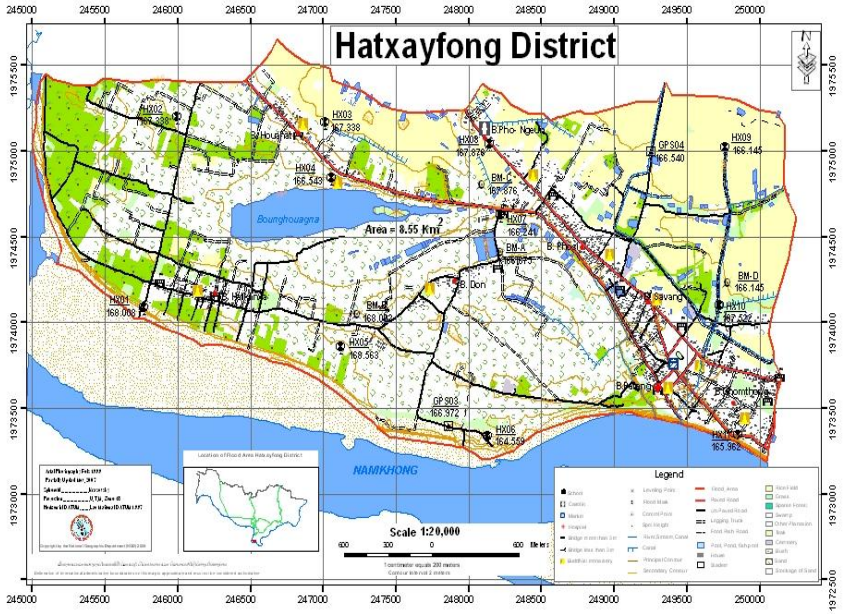
- The Flood Management and Mitigation Programme Component 5 (FMMP C5/Land Management), a project of the Mekong River Commission, is funded by GTZ and implemented by the GFA Consulting Group GmbH.

- The development objective of the project is to improve and increase the competence of civil authorities at various levels, emergency managers and communities concerning flood management and mitigation. The immediate activities of the project are to ensure emergency management systems in the riparian countries (as Combodia,Lao,Vietnam and Thailand) dealing more effectively with the Mekong floods.

2. Flood Mark installation

- The flood marks was conducted at the selected villages at 2 pilot areas in Sikottabong with 2 village(8 flood marks) and Hatxayfong District with 7 villages(11 Flood marks) of Vientiane capital.





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- *Flood Mark at Sikhottabong District: Area:7.04 Km²*

* <u>Nong Da village</u>: 4 flood marks.

1. Datum: South China sea
48 P 1989162.432 ;UTM 234169.338
Staff gauge from 1 m to 2 m BM-01 of flood marker.

2. Datum : South China sea
48 P 1989378.828;UTM 234249.802
Staff gauge from 1 m to 2 m BM-02 of flood marker.

3. Datum : South China sea
48 P 1989166.506;UTM 235299.708
Staff gauge from 1 m to 2 m BM-03 of flood marker.

4. Datum : South China sea
48 P 1989208.896;UTM 236959.921
Staff gauge from 1 m to 2 m BM-04 of flood marker.

Continue

- *Flood Mark at Sikottabong District* : Area : 7.04 Km^2

* <u>Tadthong Village</u>: 4 flood marks .

5. Datum : South China sea
48 P1990721.158;UTM 236906.646
Staff gauge from 1 m to 2 m BM-05 of flood marker.

6. Datum : South China sea
48 P 1990916.517;UTM 235314.228
Staff gauge from 1 m to 2 m BM-06 of flood marker.

7. Datum : South China sea
48 P 1990843.250;UTM 234385.886
Staff gauge from 1 m to 2 m BM-07 of flood marker.

8. Datum : South China sea
48 P 1990115.501;UTM 236866.873
Staff gauge from 1 m to 2 m BM-08 of flood marker.

Continue

- *Flood Mark at Hatxayfong District*:
  Area : 8.55 Km^2

•<u>Hatkanxa Village</u>: 2 flood marks

1.Datum : South China sea
48 P 1974077.546;UTM 245764.789
Staff gauge from 1 m to 2 m HX-01 of flood marker.

2. Datum : South China sea
48 P 1975190.065;UTM 245992.165
Staff gauge from 1 m to 2 m HX-02 of flood marker.

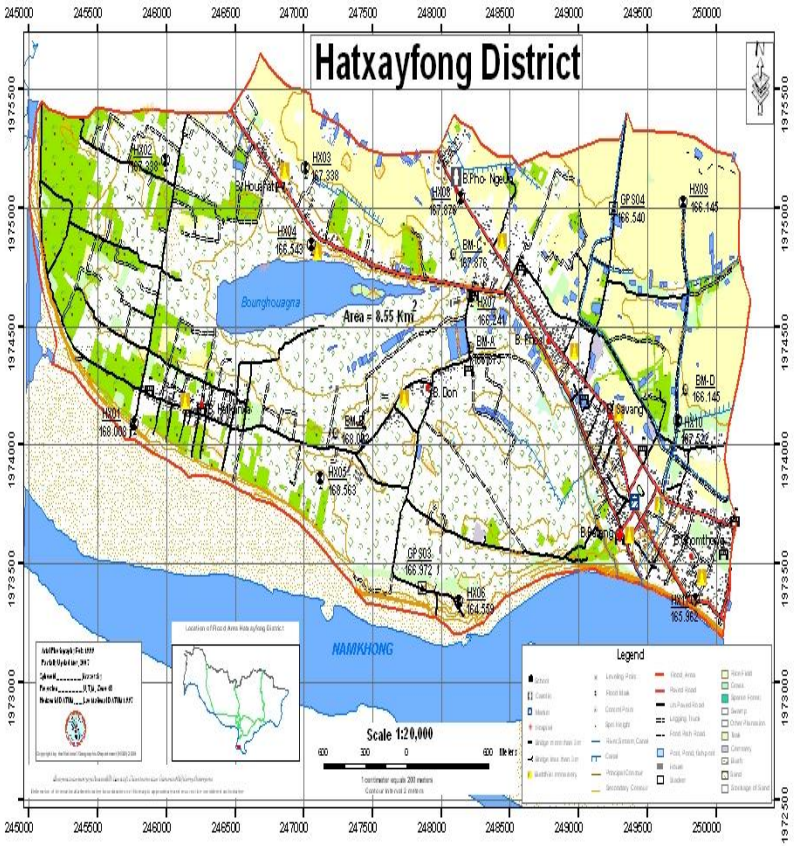
•<u>HouaHa Village</u>: 2 flood marks

3. Datum South China sea
48 P 1975157.229;UTM 247011.180
Staff gauge from 1 m to 2 m HX-03 of flood marker.

4. Datum : South China sea
48 P 1974828.441;UTM 247056.739
Staff gauge from 1 m to 2 m HX-04 of flood marker.

Continue

- *Flood Mark at Hatxayfong District*: *Area:8.55 Km²*



•Done Village: 2 flood marks

5. Datum : South China sea
48 P 1973846.463;UTM 247121.476
Staff gauge from 1 m to 2 m HX-05 of flood marker.

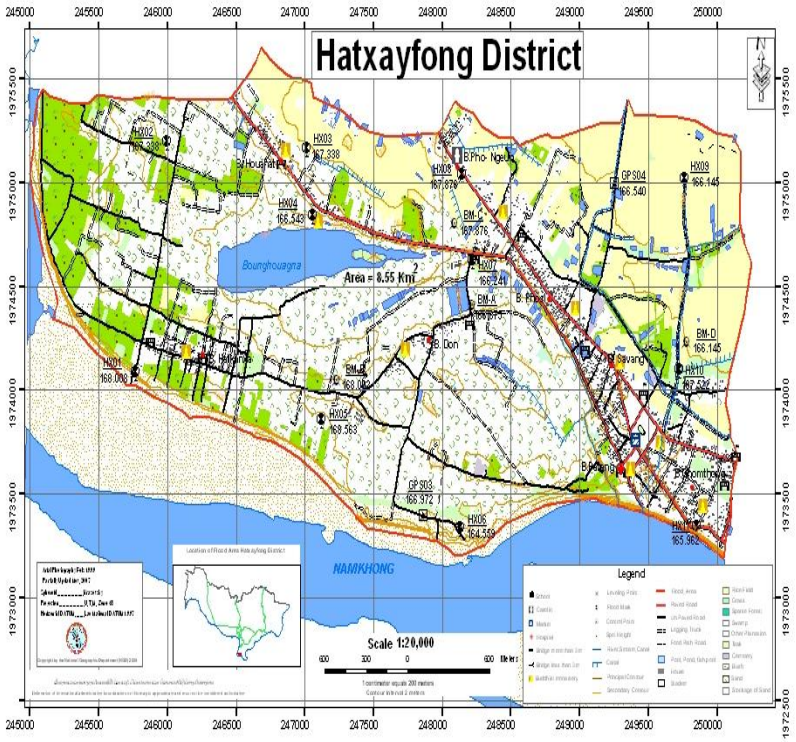
6. Datum : South China sea
48 P 1973335.957;UTM 248155.429
Staff gauge from 1 m to 2 m HX-06 of flood marker.

•Phosi Village: 1 flood marks

7. Datum : South China sea
48 P 1974610.203;UTM 248260.281
Staff gauge from 1 m to 2 m HX-07 of flood marker

Continue

- *Flood Mark at Hatxayfong District*: *Area:8.55 Km²*



* <u>Phongeun Village</u>: 1 flood marks

8. Datum : South China sea
48 P 1975031.705;UTM 248142.970
Staff gauge from 1 m to 2 m HX-08 of flood marker.

*<u>Savang Village</u>: 2 flood marks

9. Datum : South China sea
48 P 1975012.771;UTM 249759.683
Staff gauge from 1 m to 2 m HX-09 of flood marker.

10. Datum : South China sea
48 P 1974097.869;UTM 249720.674
Staff gauge from 1 m to 2 m HX-10 of flood marker.

•<u>Chomthong Village</u>: 1 Flood marks

11. Datum : South China sea
48 P 1973331.998;UTM 249855.026
Staff gauge from 1 m to 2 m HX-11 of flood marker.

Continue:

- ***Leveling and Survey***: (By NGD)

  Measurement of the geographical location (zero gauges)/ position and height of the 8 flood marks at Sikottabong district based on the nearest bench marks at the airport and 11 flood marks at Hatxayfong district based on the existing gauging station at Vientiane Km4 .

Output

- Sikottabong District:

No.	Village name	Approx.Long.N	Approx. Lat.E	Alt.(Zero gauge MSL)	Flood Marks
1.	Ban Nongda	234169.338	1989162.432	171.467	BM-01
2.	Ban Nongda	234249.802	1989378.828	172.657	BM-02
3.	Ban Nongda	235299.708	1989166.506	172.871	BM-03
4.	Ban Nongda	236959.921	1989208.896	170.346	BM-04
5.	Ban Tadthong	236906.646	1990721.158	184.537	BM-05
6.	Ban Tadthong	235314.228	1990916.517	177.240	BM-06
7.	Ban Tadthong	234385.886	1990843.250	166.931	BM-07
8.	Ban Tadthong	236866.873	1990115.501	169..435	BM-08

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- ***Hatxayfong District***:

No.	Village name	Approx.Long.N	Approx. Lat.E	Alt.(Zero gauge MSL)	Flood Marks
1.	Ban Hatkanxa	245764.789	1974077.546	168.008	HX-01
2.	Ban Hatkanxa	245992.165	1975190.065	167.691	HX-02
3.	Ban HouaHa	247011.180	1975157.229	167.338	HX-03
4.	Ban HouaHa	247056.739	1974828.441	166.543	HX-04
5.	Ban Done	247121.476	1973846.463	168.563	HX-05
6.	Ban Done	248155.429	1973335.957	166.478	HX-06
7.	Ban Phosi	248260.281	1974610.203	166.150	HX-07
8.	Ban Phongeun	248142.970	1975031.705	167.528	HX-08
9.	Ban Savang	249759.683	1975012.771	166.145	HX-09
10.	Ban Savang	249720.674	1974097.869	167.429	HX-10
11.	Ban Chomthong	249855.026	1973331.998	167.962	HX-11

3.Bill Board and Cell phone

- The 4 bill boards were installed at the community's office of 4 villages during May 2009.During the community villagers were trained to read the water level and to adjust water level data on the bill board. And each village where installed the billboard receive 3 cell phone and 1 boat .
- ***NongDa Village***:

1.Mr. Khampayvanh Navaman **Security of Village**

2. Mr. Sengphet PhengKhampane **Teacher**

3. Mr. Saisamone **Security of Village**

- **Tadthong Village**:

1. Mr. Noukham Phommalansy **Deputy Chief of Village**

2. Mr. Bounngouang keoma **Security of Village**

3. Mr. Phetleousay Dasouk **Chief of youth union**

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- ***Hatkanxa Village***:

1. Mr.Vilaysack Chanthavong Chief of Village

2. Mr. Sisouphanh Thongthoumma Deputy chief of Village

3. Mr. Savienne Khanxay Deputy Chief of Village

- ***PhoSi Village***:

1.Mr. Sipaseuth VanhKeo Chief of Village Phosi

2. Mr. Sonsavanne PhisaiPhanh Teacher

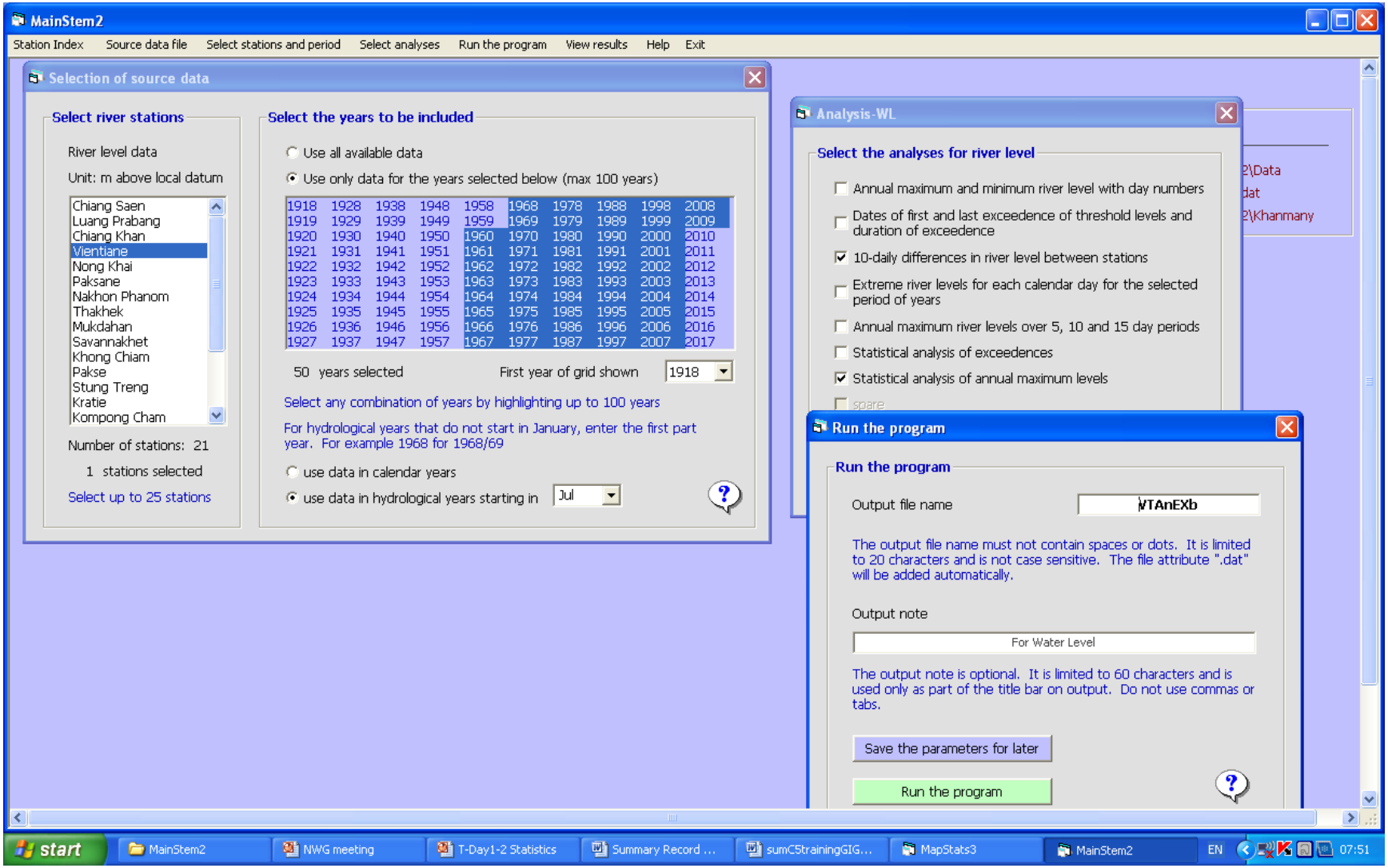
3. Mr. SonKan Faimeita Chief of Village PhoNgeun

4.Lession learn from Cambodia

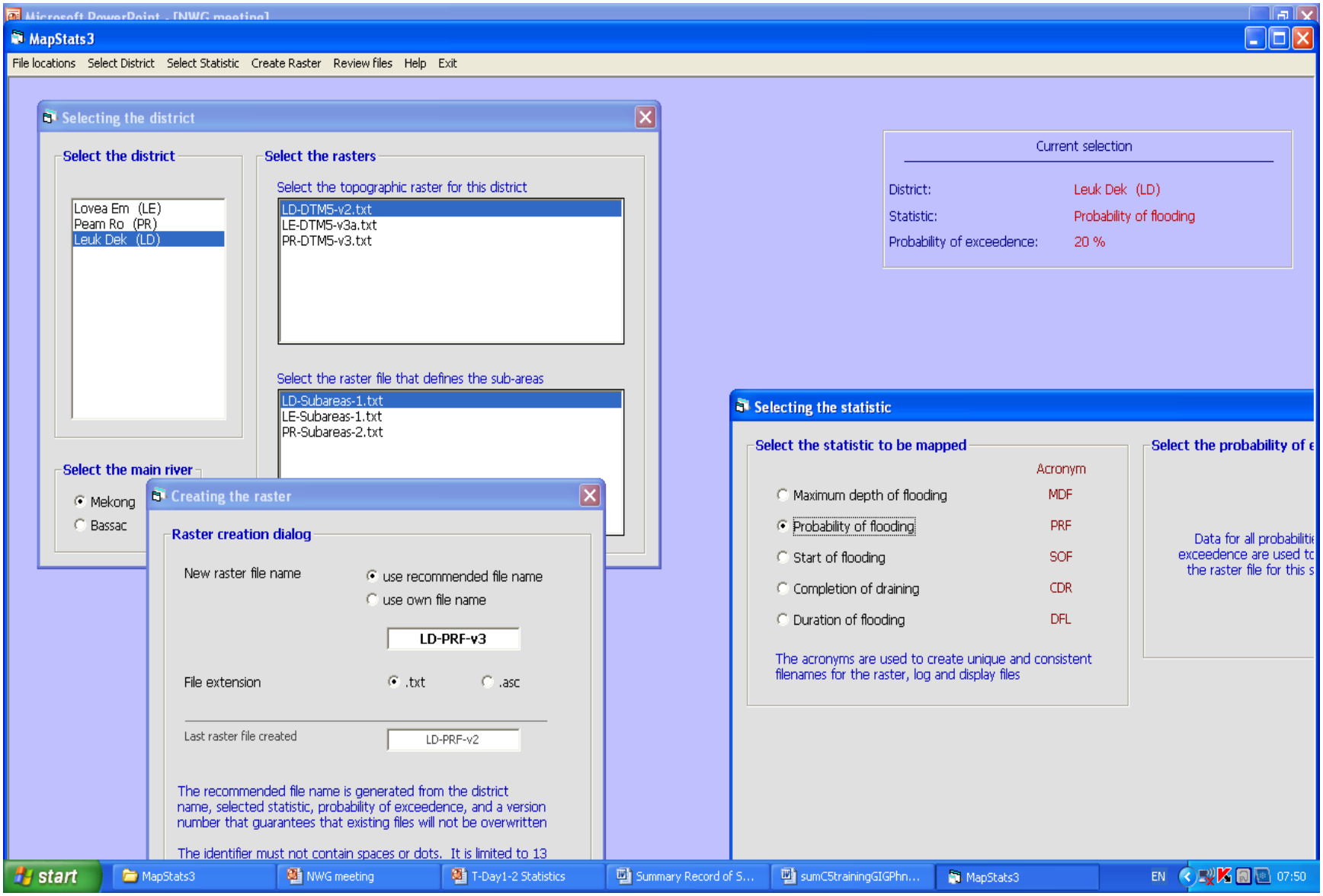
- The Study tour from 22-26 February 2010 we understood that the probability flood map very useful for the agriculture land zoning; Planning on irrigation; disaster management programme.The more important activities are the water level from Mekong and from flood mark which presented by DHRW.

- The training on ArcGIS also very useful for the preparing the probability map.
- How to use Mapstats software and Mainstem program.

Mainstem


MainStem2
Station Index
Source data file
Select stations and period
Select analyses
Run the program
View results
Help
Exit
Selection of source data
Select river stations
River level data
Unit: m above local datum
Chiang Saen
Luang Prabang
Chiang Khan
Vientiane
Nong Khai
Paksane
Nakhon Phanom
Thakhek
Mukdahan
Savannakhet
Khong Chiam
Pakse
Stung Treng
Kratie
Kompong Cham
Number of stations: 21
1 stations selected
Select up to 25 stations
Select the years to be included
Use all available data
Use only data for the years selected below (max 100 years)
1918 1928 1938 1948 1958 1968 1978 1988 1998 2008
1919 1929 1939 1949 1959 1969 1979 1989 1999 2009
1920 1930 1940 1950 1960 1970 1980 1990 2000 2010
1921 1931 1941 1951 1961 1971 1981 1991 2001 2011
1922 1932 1942 1952 1962 1972 1982 1992 2002 2012
1923 1933 1943 1953 1963 1973 1983 1993 2003 2013
1924 1934 1944 1954 1964 1974 1984 1994 2004 2014
1925 1935 1945 1955 1965 1975 1985 1995 2005 2015
1926 1936 1946 1956 1966 1976 1986 1996 2006 2016
1927 1937 1947 1957 1967 1977 1987 1997 2007 2017
50 years selected
First year of grid shown
1918
Select any combination of years by highlighting up to 100 years
For hydrological years that do not start in January, enter the first part year. For example 1968 for 1968/69
use data in calendar years
use data in hydrological years starting in
Jul
Analysis-WL
Select the analyses for river level
Annual maximum and minimum river level with day numbers
Dates of first and last exceedence of threshold levels and duration of exceedence
10-daily differences in river level between stations
Extreme river levels for each calendar day for the selected period of years
Annual maximum river levels over 5, 10 and 15 day periods
Statistical analysis of exceedences
Statistical analysis of annual maximum levels
spare
Run the program
Run the program
Output file name
WTAnEXb
The output file name must not contain spaces or dots. It is limited to 20 characters and is not case sensitive. The file attribute ".dat" will be added automatically.
Output note
For Water Level
The output note is optional. It is limited to 60 characters and is used only as part of the title bar on output. Do not use commas or tabs.
Save the parameters for later
Run the program
2\Data
dat
2\Khanmany
start
MainStem2
NWG meeting
T-Day1-2 Statistics
Summary Record ...
sumC5trainingGIG...
MapStats3
MainStem2
EN
07:51

Mapstats Software



5. *Supported equipment*

- *Boat ; Cell phone and Computer*

5. Conclusion and recommendation

- The flood markers was installed on time
- The community of each Villages have good cooperation and working closely with the project team as DMH and NGD.
- The bill boards are very important for each villages and Give good information of Mekong water level and Flood marker level and also the flooding area.
- The water level from flood Marker still not yet record due to the water level from Mekong in the Year 2009 was low.
- The training on GIS and study tours are important activities to help national working group how to make sure implementation and create the probability Map.
- Need satellite data of flooding area for the year 2008.
- Continue to collect data from The flood mark (2011)

Thank you for your kind attention