

Cambodia Population Census 2008 round 2010

by Has Bunton
EGM on IT in Census, UNESCAP, BKK, 10-12 Dec. 2007



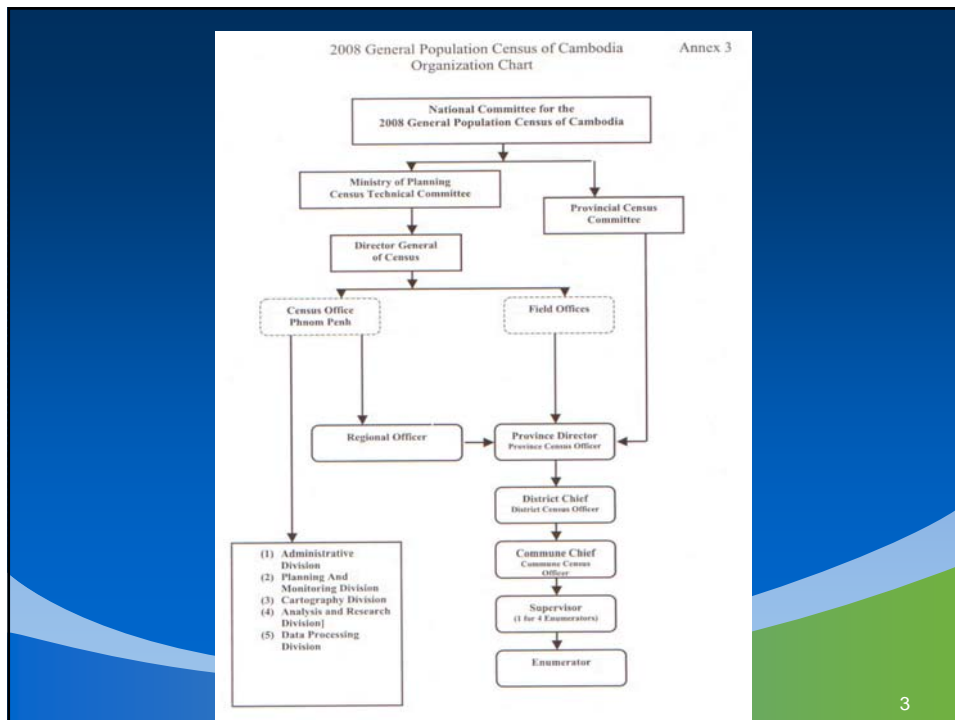
Agenda

1. Organization and Preparation

2. Census Mapping and Issues

3. Data Processing and Tabulation

4. Presentation and Dissemination



Organization

- Sub-Decree on organization of 2008 population census was in effect since 30th Jan. 2006
- National Census Committee (NCC) has been formed within the sub-Decree above
- Census Technical Committee (CTC) has been appointed by the NCC in 22th May, 2006
- Assignment of Regional Officer, Provincial Census Officer, District Census Officer, Commune Census Officer

Questionnaire Preparation

- The traditional questionnaire design is selected for PC data processing and de facto data collection method,
- Census questionnaire had been drafted, revised, consulted with data users, tested, then finalized, and approved by the CTC and NCC. It also passed the census pilot
- Sections: ID, present member, visitor, absent member, individual particular, literacy, education, disability (+1998), economic activity, employment, fertility, housing condition, mortality (+1998)
- Manuals is finalized

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Coding and Issue

- Industry coding uses UN's ISIC Rev. 4
- Occupation coding uses UN's ISCO-08
- Issue on comparability to previous census (1998) result. To establish conversion table. Though, there are 1 ↔ Many and 1 ↔ 0 relationship
- Other coding such as education, minority, mortality reason might not be completely comparable across countries

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Mapping

- 30 staff is assigned to manually delineate enumeration area (EA) in their field work throughout the country, Together with EA map, a village questionnaire is requested to fill.
- An EA database is produced from the village questionnaire. It is used for census management and quality assurance.
- Village boundary digitization was outsourced, and 20 staff was assigned to assist in verification.
- Census mapping is worked in coordination with Ministry of Land Management and Ministry of Interior

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Mapping Activities (1)

- Field staff is requested to coordinate with village chief, commune council, previous census's EA map, 2003 health facility & administrative map, and satellite image where available and applicable in drawing EA map for census.
- 120 households is the maximum number of household in an EA or more than one EAs in a village are drawn.
- This EA map will be used in proper census period to draw details household location with constant landmark, start point, and direction of enumeration.
- 30 GPS was also used to get the point of village chief office/house.
- To work in consultation with village chief/commune council in filling the village questionnaire consisting of information on EA identification, school, health facility and services, other basic accessibility, and duration of traveling to those key points.

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Mapping Activities (2)

- Information on EA is store as database for the other census applications such as for completeness checking, labeling, progress tracking, record and storage tracking, ...
- Village boundary digitization is done based on 2003 health facility and administrative mapping for the purpose of dissemination. It was outsourced but the work is far from perfect even for statistical purpose and more input is required.

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EA Delineation

Name	Khet/Krong	Stok/Khanda	Khum/Sangkat	Phum/Mondol	Enumeration Area No.
Code	0 7	0 6	0 7	0 1	1 2

Specimen Village Map

Legend

- Village Boundary
- Enumeration Area Boundary
- Residential Area
- Road
- Cart Track
- Pathway Line
- Bridge, Canal
- River, Lake/Pond
- Mountain/Hill
- Forest
- Rice Field
- Pagoda
- Hospital
- School
- Religious
- Health Center
- Police Station
- Public Building
- Water
- Electricity
- Telephone
- Post Office
- Market
- Public Transport
- Other

Name of Enumerator: _____

Signature: _____

Name of Supervisor: _____

Signature: _____

Other details shown in the map are indicated. / Note: An Enumeration Area (EA) will not cut across administrative boundaries. Also EA boundary may not be marked by symbol if it runs on railway/Canal.

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Village Questionnaire

ប្រជាជនរស់នៅក្នុងភូមិ
 ឃុំ ឃ្លាង ខេត្ត កំពង់ចាម
 ក្រសួងសេដ្ឋកិច្ច និងហិរញ្ញវត្ថុ
 ដំបូងខេត្តកំពង់ចាម ឆ្នាំ ២០០៨
 ភារកិច្ចស្រាវជ្រាវ

១. ព័ត៌មានផ្ទះ
 ឈ្មោះផ្ទះ: កំពង់ លេខផ្ទះ: ០៩ លេខផ្លូវ: ០៤
 ឈ្មោះ: ស៊ុន ឈី លេខផ្លូវ: ១៨ លេខផ្លូវ: ០៤
 លេខផ្លូវ: ០៤
 លេខផ្លូវ: ០៤
 លេខផ្លូវ: ០៤

២. ប្រជាជនរស់នៅក្នុងភូមិ
 ប្រជាជនរស់នៅក្នុងភូមិ (សរុប) ១ ២ ៣ ៤ ៥ ៦ ៧ ៨ ៩ ១០ ១១ ១២ ១៣ ១៤ ១៥ ១៦ ១៧ ១៨ ១៩ ២០ ២១ ២២ ២៣ ២៤ ២៥ ២៦ ២៧ ២៨ ២៩ ៣០ ៣១ ៣២ ៣៣ ៣៤ ៣៥ ៣៦ ៣៧ ៣៨ ៣៩ ៤០ ៤១ ៤២ ៤៣ ៤៤ ៤៥ ៤៦ ៤៧ ៤៨ ៤៩ ៥០ ៥១ ៥២ ៥៣ ៥៤ ៥៥ ៥៦ ៥៧ ៥៨ ៥៩ ៦០ ៦១ ៦២ ៦៣ ៦៤ ៦៥ ៦៦ ៦៧ ៦៨ ៦៩ ៧០ ៧១ ៧២ ៧៣ ៧៤ ៧៥ ៧៦ ៧៧ ៧៨ ៧៩ ៨០ ៨១ ៨២ ៨៣ ៨៤ ៨៥ ៨៦ ៨៧ ៨៨ ៨៩ ៩០ ៩១ ៩២ ៩៣ ៩៤ ៩៥ ៩៦ ៩៧ ៩៨ ៩៩ ១០០

ប្រភេទផ្ទះ	ចំនួនផ្ទះ (សរុប ១-១០០)	ប្រជាជនរស់នៅក្នុងផ្ទះ (សរុប ១-១០០)			
		ប្រុស (កម្រិត)	ស្រី (កម្រិត)	សរុប (កម្រិត)	សរុប (កម្រិត)
(A) ផ្ទះ	<input type="checkbox"/> មិន <input type="checkbox"/> ទេ	០	០	០	០
ផ្ទះប្រក់	<input type="checkbox"/> មិន <input type="checkbox"/> ទេ	១	១	១	១
ផ្ទះប្រក់	<input type="checkbox"/> មិន <input type="checkbox"/> ទេ	១	១	១	១
ផ្ទះប្រក់	<input type="checkbox"/> មិន <input type="checkbox"/> ទេ	១	១	១	១
(B) ផ្ទះប្រក់	<input type="checkbox"/> មិន <input type="checkbox"/> ទេ	១	១	១	១
ផ្ទះប្រក់	<input type="checkbox"/> មិន <input type="checkbox"/> ទេ	១	១	១	១
ផ្ទះប្រក់	<input type="checkbox"/> មិន <input type="checkbox"/> ទេ	១	១	១	១
ផ្ទះប្រក់	<input type="checkbox"/> មិន <input type="checkbox"/> ទេ	១	១	១	១
(C) ផ្ទះប្រក់	<input type="checkbox"/> មិន <input type="checkbox"/> ទេ	១	១	១	១
ផ្ទះប្រក់	<input type="checkbox"/> មិន <input type="checkbox"/> ទេ	១	១	១	១
ផ្ទះប្រក់	<input type="checkbox"/> មិន <input type="checkbox"/> ទេ	១	១	១	១
ផ្ទះប្រក់	<input type="checkbox"/> មិន <input type="checkbox"/> ទេ	១	១	១	១

Enumeration Map

Khet/Krong		Stok/Khand		Khum/Sangkat		Phum/Mondol		Enumeration Area No.	
Name	Kampong	Kampong Trach	Kampong Trach	Kampong Trach	Kampong Trach	Kampong Trach	Kampong Trach	0	1
Code	0	7	0	6	0	7	0	1	0

Specimen Enumeration Area Map (Urban) Before Updating

Legend

- Village Boundary
- Enumeration Area Boundary
- Residential Area
- Road
- Cart Track
- Railway Line
- Bridge, Canal
- River, Lake/Pond
- Mountain/Hill
- Forest
- Rice Field
- Pagoda
- Hospital
- School

(A) Place with the name of residential roads, schools, hospitals, etc.

(B) Place with the name of administrative boundaries

(C) Place with the name of the road

(D) Place with the name of the road

(E) Place with the name of the road

(F) Place with the name of the road

(G) Place with the name of the road

(H) Place with the name of the road

(I) Place with the name of the road

(J) Place with the name of the road

(K) Place with the name of the road

(L) Place with the name of the road

(M) Place with the name of the road

(N) Place with the name of the road

(O) Place with the name of the road

(P) Place with the name of the road

(Q) Place with the name of the road

(R) Place with the name of the road

(S) Place with the name of the road

(T) Place with the name of the road

(U) Place with the name of the road

(V) Place with the name of the road

(W) Place with the name of the road

(X) Place with the name of the road

(Y) Place with the name of the road

(Z) Place with the name of the road

Sdach Kong Khang lech Commune

Phum Phnom Khyang

Phum Chiras Ta Saom

Name of Enumerator: _____

Signature: _____

Name of Supervisor: _____

Signature: _____

Some details shown in the map are indicative. (Note: An Enumeration Area (EA) will not cut across administrative boundaries. Hence EA boundary may not be marked by symbols.)

EA Database Applications (1)

The screenshot shows a window titled 'frmMain' with a light beige background. It contains seven buttons arranged in two columns and one centered at the bottom. The buttons are: 'Label', 'Data Entry', 'Check-in', 'Verification', 'Coding/Editing', 'Cleaning', and 'Exit'.

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EA Database Applications (2)

The screenshot shows a window titled 'Form1' with the subtitle 'Label for Census 2008'. It has five dropdown menus and two checkboxes. The dropdown menus are labeled: Province: 3, District: 29, Commune: 229, Village: 1983, and EA: 4429. The checkboxes are 'All Provinces' (checked) and 'All in District' (unchecked). At the bottom are 'Get Label' and 'Exit' buttons.

Province	District	Commune	Village	EA
Banteay Meanchey	Mongkol Borei	Banteay Neang	Phnum	0102080301
Battambang	Phnum Srok	Bat Trang	Banteay Neang	0102080302
Kampong Chhnang	Preah Netr Preah	Chhannaom	Kouk Proov	0102081201
	Du Chrov	Kouk Ballangk	Tiang	0102081202
	Serei Saophon	Koy Maeng	Pongro	0102081102
	Tima Puok	Du Prasat	Kouk Tonlob	0102081101
	Svay Chek	Phnum Touch	Trabae	0102080301
	Malai	Rohat Tuek	Ruessei Kraok	0102080302
	Banani	Ruessei Kraok	Khle	0102081001
	Tima Kouk	Sambour	Sansaeng Pen	0102081002
	Bat Dambang	Soea	Dang Run Lech	0102081301
	Bavel	Srah Reang	Dang Run Kaeut	0102081302
	Aek Phnum	Ta Lam	Ou Singol	0102080901
	Rotanak Mondol	Nam Tau	Prey Changha Lech	0102080902
	Sangkae	Poy Char	Prey Changha Kaeut	0102080903
	Sambout	Ponley	Ou Andoung Lech	0102080601
	Sampov Lun	Spean Graeng	Ou Andoung Kandal	0102080401
	Phnum Proek	Srah Chik	Ou Andoung Kaeut	0102080402
	Kamieung	Phnum Dei	Kouk Kduoch	0102080201
	Koas Kratie	Chnuoy Mean Chey	Khnum Reay Lech	0102080101
	Barbour	Chob Vati	Khnum Reay Kaeut	0102080102
	Chol Kiri	Phnum Lieb	Anlong Thngan Kaeut	0102080103
	Kampong Chhnang	Prasat	Anlong Thngan Lech	0102080501
		Preak Netr Preah	Bang Bat Lech	0102080502

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EA Database Applications (3), Labeling

The screenshot shows a window titled 'Label_Report' with a 'Main Report' section. It displays two identical data entries, each with a barcode below it. The data for each entry is as follows:

Province:	Banteay Meanchey	01
District:	Preah Ntr Preah	0104
Commune:	Chob Vari	010402
Urban/Rural:		2
Village:	Phnum Chonhcheang	01040210
EA:		0104021001

Below the data, a barcode is shown with the number 0104021001 underneath it. The second entry is identical but with the EA number 0104021002.

At the bottom of the window, it says 'Current Page No.: 1', 'Total Page No.: 1+', and 'Zoom Factor: 100%'.

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EA Database Applications (4), Barcode Tracking

The screenshot shows a dialog box titled 'Check-in'. It contains the following elements:

- A date selection dropdown menu showing 'Sunday , August 05, 2007' with a checkmark icon on the left.
- Two input fields: 'EA ID:' with the value '0706070102' and 'Date, Check-in:' with the value '13/10/2007'.
- Three buttons: 'Ok', 'Cancel', and 'Exit'.

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Census Mapping Issues

- Changing of village boundary, new creation, merging, deletion – approved and not approved. To help, a request made to the Ministry of Interior to postpone the changes 6 months before the census date.
- Household movement by season, workplace, tradition.
- No clear or no boundary, reserved areas
- Outsourcing, and multiple sources of technical assistance can be an issue.

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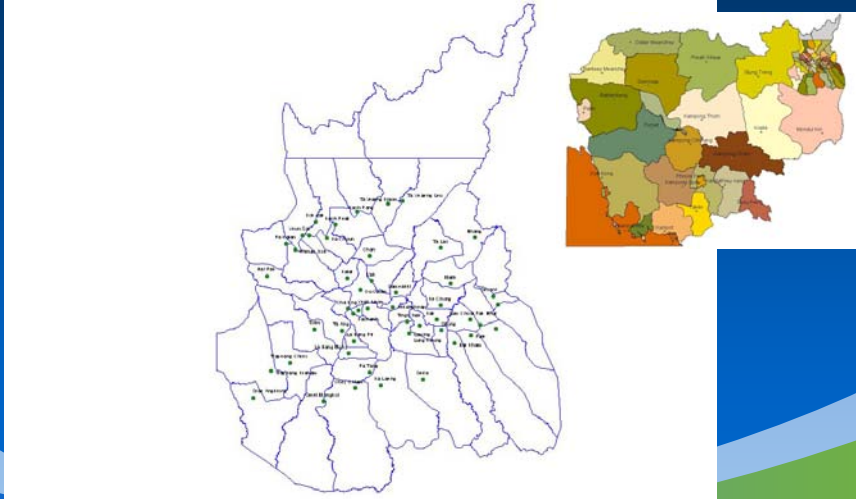
Some Communes, the Boundaries Are Absent

These two Communes have no boundaries in between.

The two communes, Reang Til and Srae Sdok are in Pursat Province.



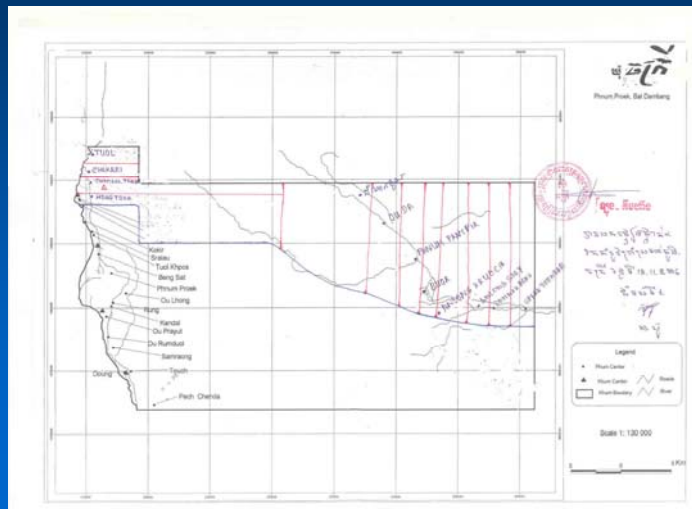
Some Areas Reserved and No Boundaries



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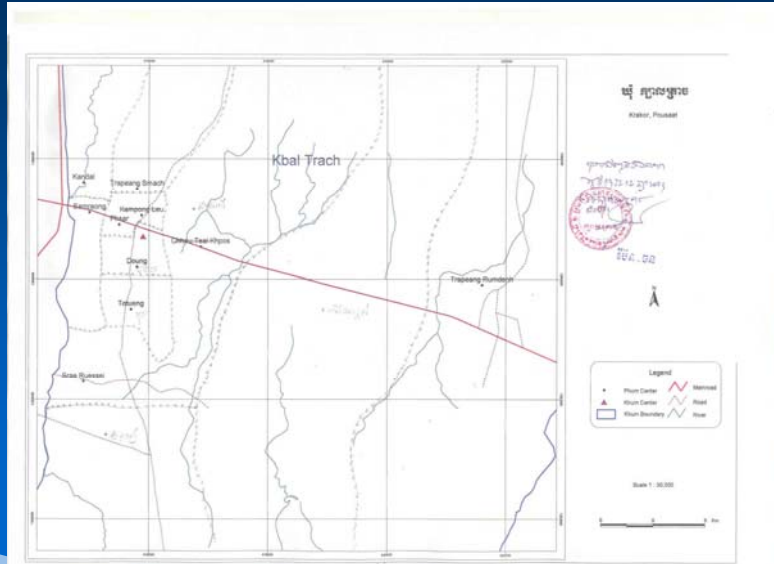
Some Communes, The Boundaries Are Not Clear

There are no clear boundary for this concentrated communes and villages



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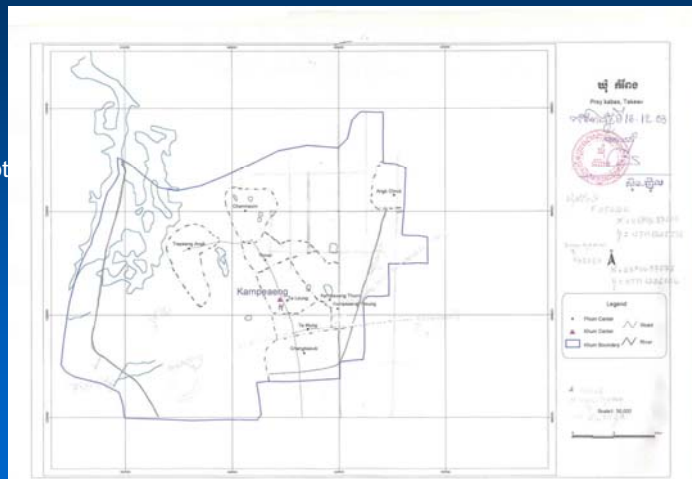
Some communes was asked to have unofficial boundary



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Some Communes, areas Left without belonging to Villages

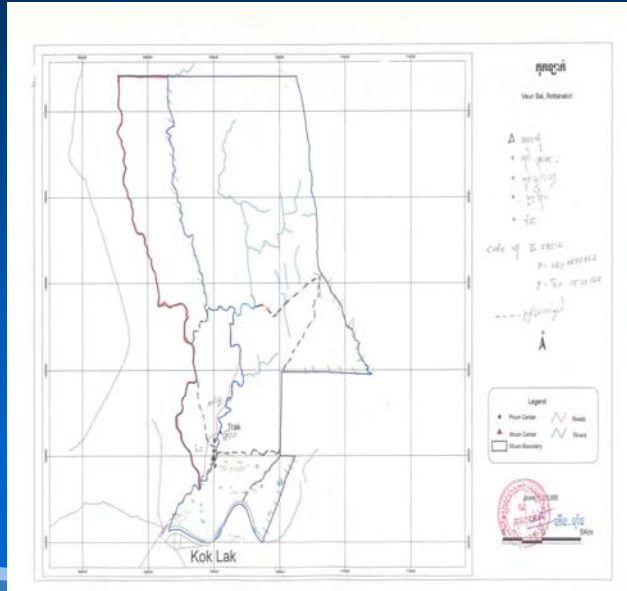
The boundaries covers only the people living, the empty area did not know in any villages, it is also difficult to digitization village boundaries. **No belong to vil**



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Some Communes, expansion of boundary is not agreed by neighboring communes

The commune chief asked to extent his commune boundary without consensus of neighboring communes



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Data Processing and Tabulation

- PC-based keying processing system was adopted.
- Manual coding is selected
- Data entry program developed using CPro with real time error control.
- Verification will be required, and gradually reduced based on accuracy of keyer
- Data editing and imputation will also be done using CPro
- 70 priority tables are defined using all sections and variables of the census. Other tables are defined as extended tables. CPro also will be use to generate tables, although we are currently facing minor difficulty with the tabulation module.
- Data store is proposed to be in text file of CPro and SQL Server for analysis and dissemination

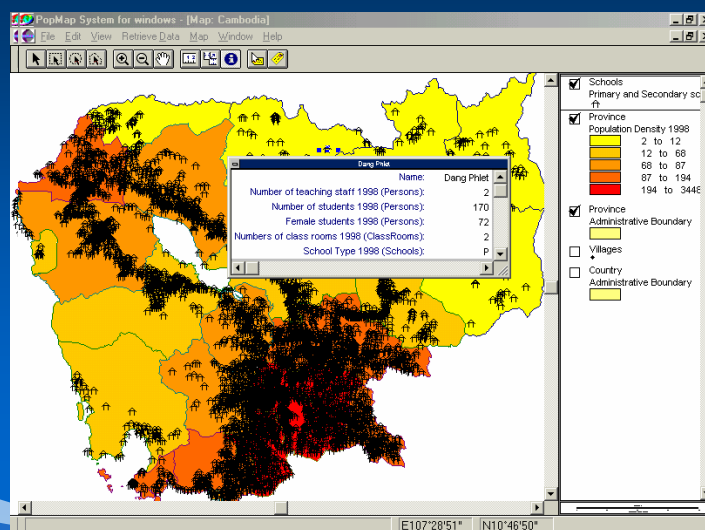
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Presentation and Dissemination

- Presentation and dissemination will mainly follow the last census 1998 with improvement and minor addition.
- The main hard copy outputs shall be Final Census Report, Census Atlas, pamphlet, and specialized sector reports such as fertility, mortality, migration, gender, labour and employment, literacy and education
- For electronic products, there shall be report on CD-ROM, website, shape file and indicators to replace PopMap, Table Retrieval System, Micro Data Access System (WinR), Raw Database, CamInfo using Census Data, and potential use of SuperStar online and offline.
- Hosting a professional statistical web site can be difficult or impossible in some countries. A proposal is that UN host or have a web server to share countries in need.
- In combination with household survey data, it will be able to produce also poverty mapping.

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Census and GIS



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On-Line Dissemination

Province Profiles [Home](#) [Statistics](#)

[Cambodia](#) *Click on a Province to obtain a Province Profile*

CAMBODIA

Administrative division:

No. of Provinces	24
No. of Districts	183
No. of Communes	1,609
No. of Villages	13,406

Households: 2,188,863 of which 25.7% Female Headed.

Population:

Total	11,437,656
Males	5,511,408
Females	5,926,248

Sex Ratio: 93.0
 Dependency Ratio: 88.1%
 Population Density: 64 per km²
 Urbanization Rate: 15.7%

Population distribution by broad Age

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CamInfo (DevInfo) – MDG Monitoring Tool

CamInfo [Data] [Graphs](#) [Map](#)

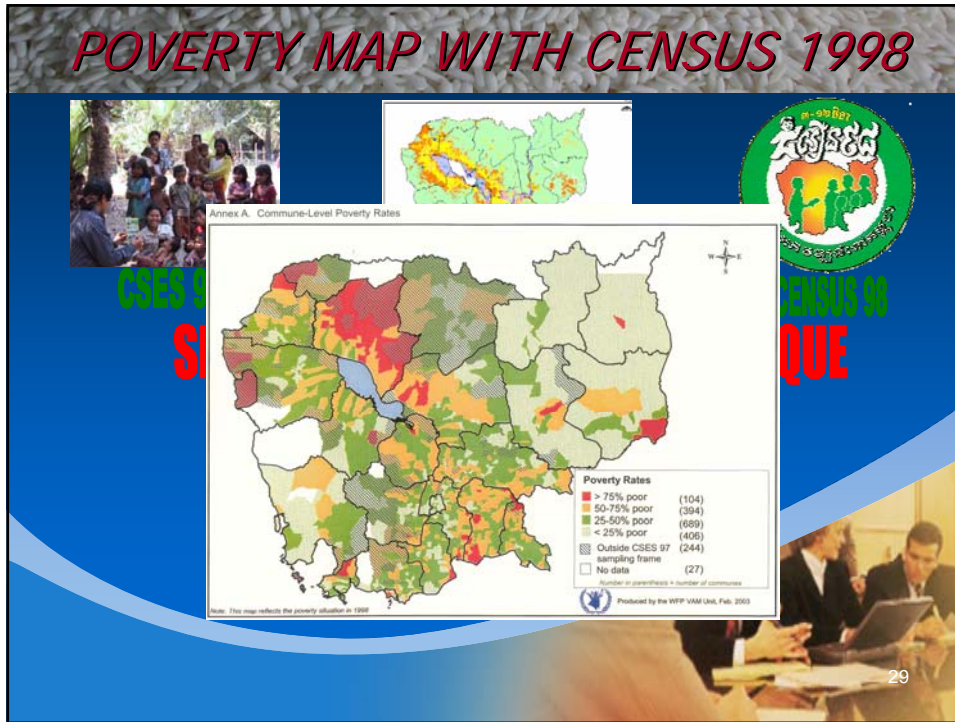
Legend - Per cent

46.10 - 60.00
60.01 - 63.42
63.43 - 94.00
94.01 - 100.00

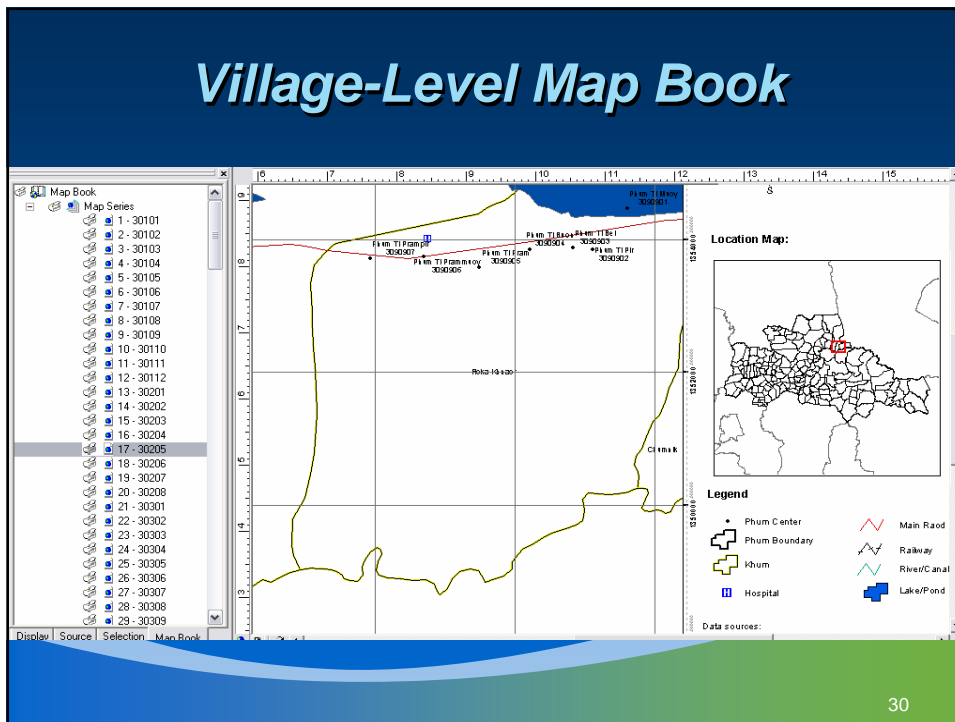
07-Dec-04 11:00 PM

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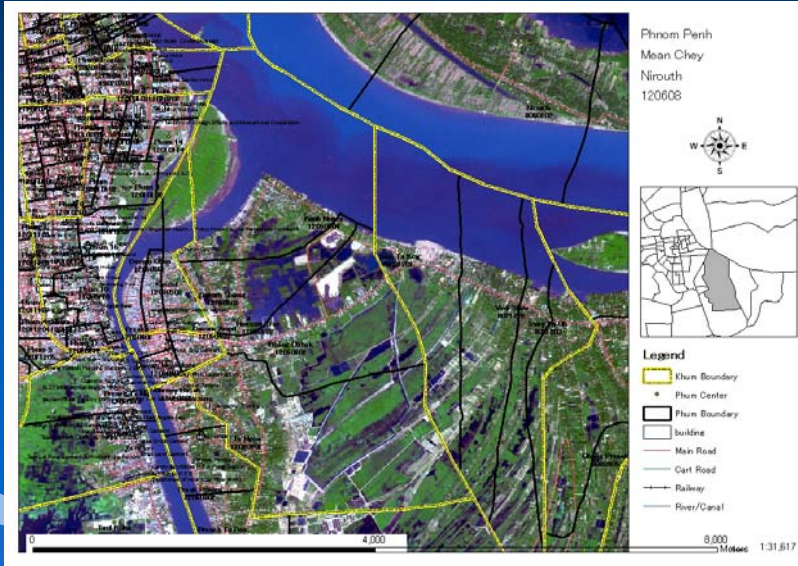
POVERTY MAP WITH CENSUS 1998



Village-Level Map Book



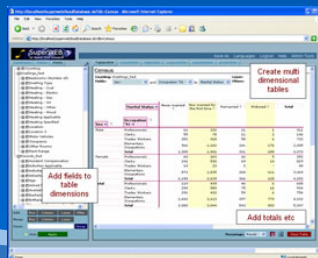
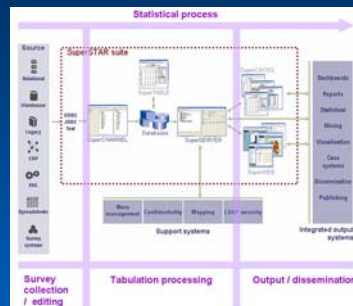
Village Map and Satellite Image



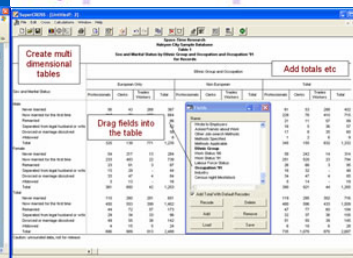
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SuperStar

- Cambodia has got a discounted license of SuperStar. The potential use is for on-line and off-line data access and dissemination.



SuperWeb



SuperCross

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Thank You

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