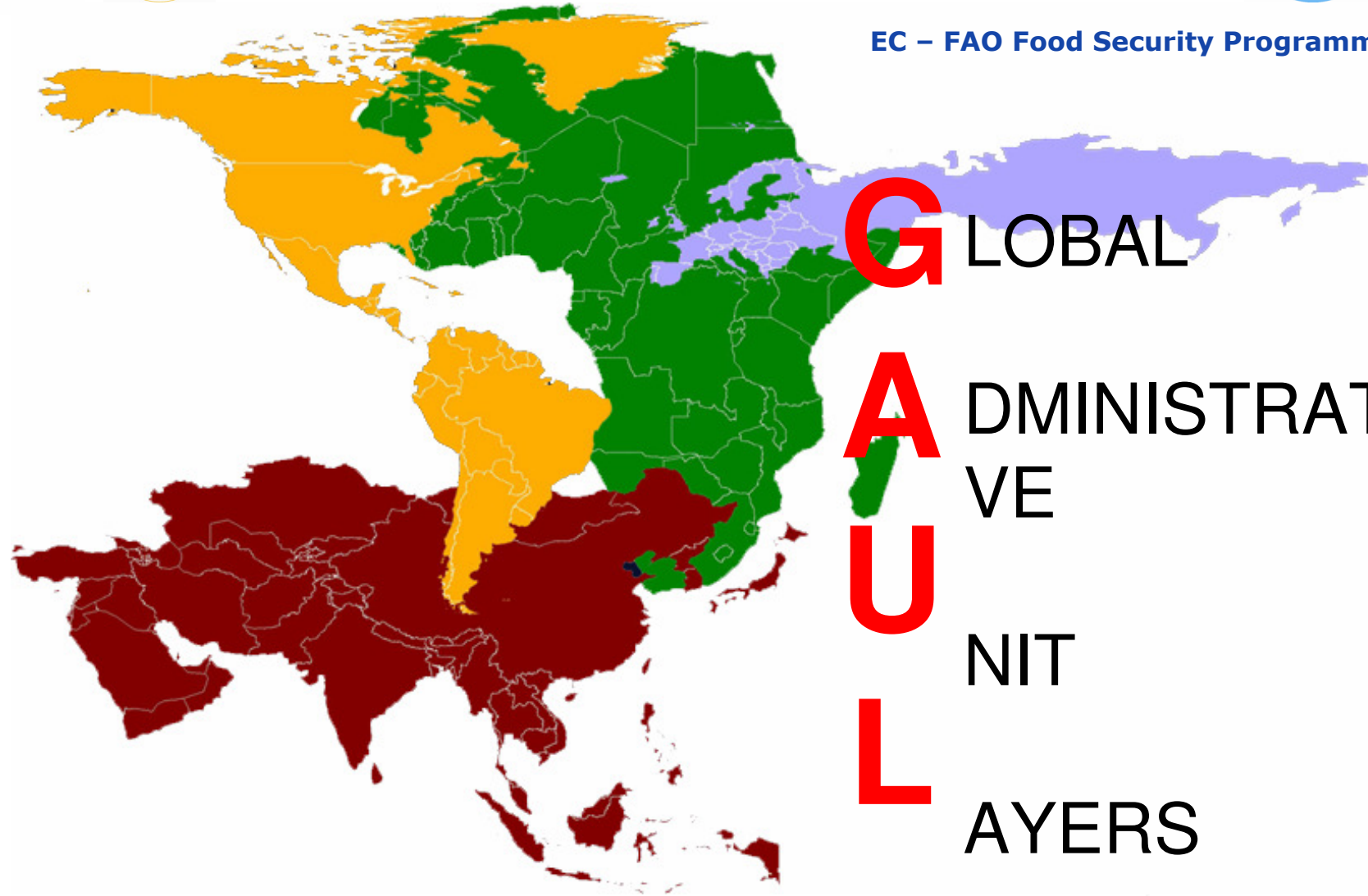




EC – FAO Food Security Programme



18 January 2008



GAUL

- GAUL aims at compiling and disseminating the most reliable spatial information on administrative units for all countries in the world
- overcomes the fragmentation of the global dataset occurring when administrative units layers are digitized on a country-by-country basis
- promotes a unified coding system that reduces maintenance efforts and
- keeps historical track of changes occurring on the shapes and extent of the administrative units.



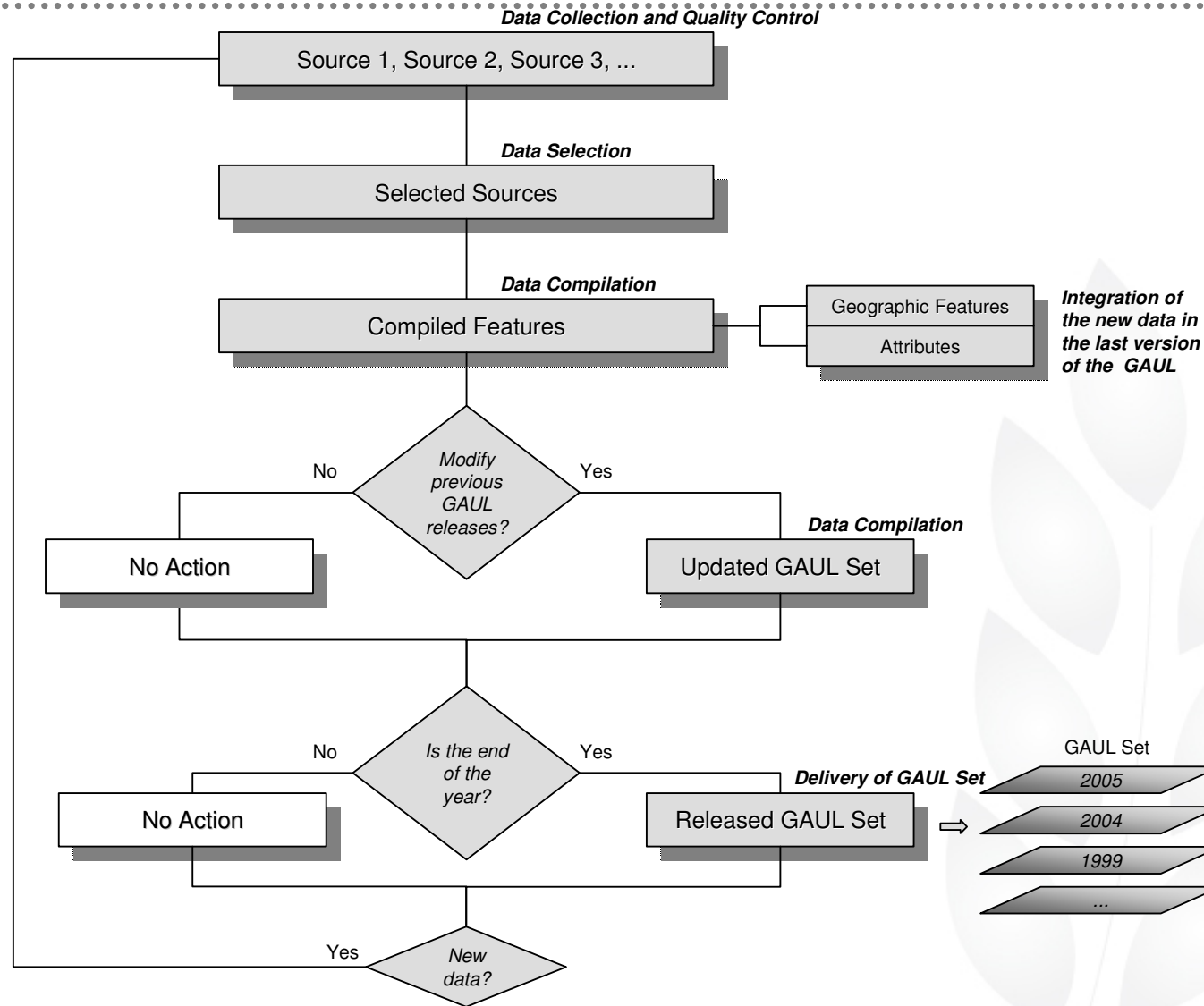
GAUL objectives and requirements

- Compliant with the **UNCS International Boundary map**
- Compliant with the available **SALB maps**
- **Global coverage** is always maintained (at national and sub-national levels: GAUL Set)
- Management of **disputed areas** (as integrated part of the database)
- Application of a **unified coding system** to:
 - allow an easy management of the updates of admin units
 - facilitate maintenance of the links between the GAUL and thematic tables (agricultural production, etc.)

GAUL approach



18 January 2008





GAULSet lifetime

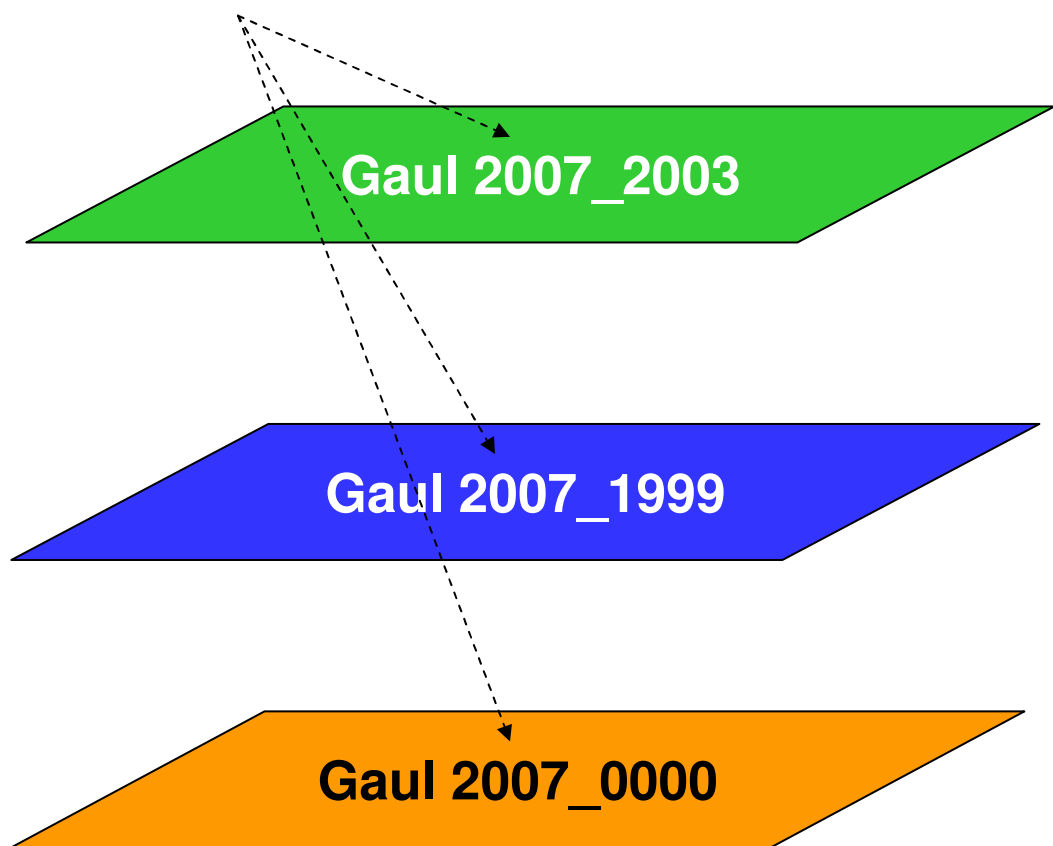
- At least **one administrative unit is updated**. Changes are implemented in all layers of the GAUL Set containing the corrected boundaries
- At least **one administrative unit has expired and new and old boundaries are available**. Changes are implemented in all layers of the GAUL Set for which these boundaries were officially valid

The GAULSet is delivered once a year

The GAUL project does not implement changes dated before 1990.

GAULSet time series

date of the release



Start Date: 2003

Start Date: 1999

Start Date: unknown



The GAULSet

- **for each time series:**
 - **maps in GIS format** (e.g. coverages, shapefiles)
 - **world maps** at:
 - country level
 - first level
 - second level
 - **country maps** at:
 - third level:
 - » Burkina Faso, China, Ethiopia, Madagascar, Pakistan, Myanmar, Nepal, Timor Leste, Uganda
 - fourth level:
 - » Uganda
- **for each release:**
 - **tables in dbf format:**
 - **international country attributes** (iso3 codes, color codes, status, UN regions, UN country codes, etc.)
 - **updated countries**
 - **disputed areas**



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Coding System criteria

- **Codes shall be unique**, to link data in safety and unambiguously
- **Codes shall be modified when:**

Codes need to be modified only when the shape of the polygons changes

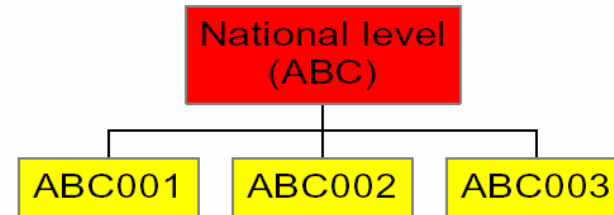
- » A used code is never re-used
- » Obsolete codes are never delete



SALB Coding system schema

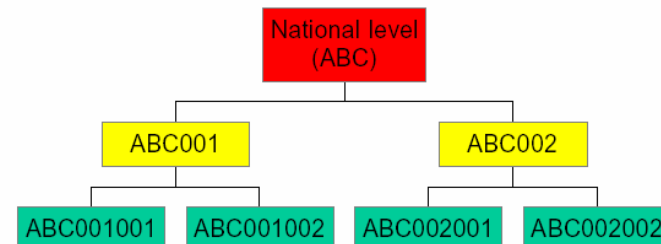
- **Country code:** ISO3_CODE
e.g. LBN = Lebanon
- **Code of Admin units at first level (Adm1_code):**
ISO3_CODE + 00X
e.g. ABC001= code of the first province (in alphabetic order) of the ABC country

It depends on the country code



- **Code of Admin units at second level (Adm2_code):**
ISO3_CODE + 00X + 00Y
e.g. ABC001002= code of the second district (in alphabetic order) of the 001 province of the ABC country

*It depends on the country code
and Adm1_code*



18 January 2008



GAUL Coding system schema

- **Country code (CNT_code):**

Country	Adm0_code
Armenia	1
Afghanistan	2
Albania	3

- **Code of Admin units at Level 1 (Adm1_code):**

It doesn't depend on the country code

Country	Adm0_code	Adm1_code
Armenia	1	47
Armenia	1	2548
Armenia	1	501

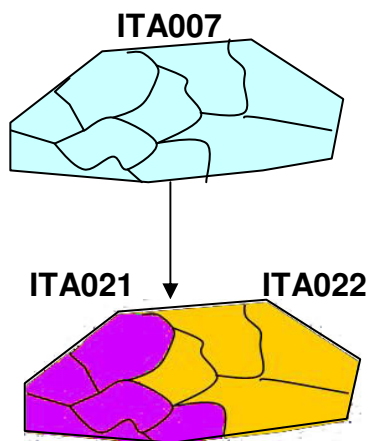
- **Code of Admin units at Level 2 (Adm2_code):**

It doesn't depend on the country code and on the code of the admin units at first level

Country	Adm0_code	Adm1_code	Adm2_code
Armenia	1	47	35000
Armenia	1	47	5 10
Armenia	1	47	15248



Coding system SALB: SPLIT



ITA007 shall never be assigned to another admin unit

ITA021 and **ITA022** are the first two new codes available, after the last numerical code used for admin units of Italy at first level

Country_name	Adm0_code	Adm1_code	Adm2_code
Italy	ITA	ITA001	ITA001001
Italy	ITA	ITA001	ITA001002
...
Italy	ITA	ITA021	ITA021001
Italy	ITA	ITA021	ITA021002
Italy	ITA	ITA021	ITA021003
Italy	ITA	ITA021	ITA021004
...
Italy	ITA	ITA022	ITA022001
Italy	ITA	ITA022	ITA022002
Italy	ITA	ITA022	ITA022003
Italy	ITA	ITA022	ITA022004
Italy	ITA	ITA022	ITA022005
...

Adm2_code	Stunting
ITA001001	12%
ITA001002	25%
.....	40%
ITA021001	25%
ITA021002	40%
ITA021003	50%
ITA021004	3%
.....
ITA022001	25%
ITA022002	5%
ITA022003	7%
ITA022004	3.2%
ITA022005	7.8%

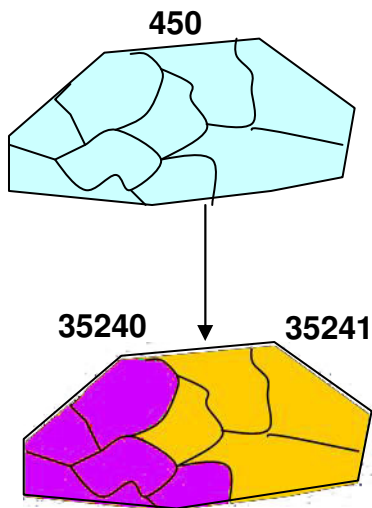
Adm2_code	Rural Population
ITA001001	12%
ITA001002	25%
.....
ITA021001	25%
ITA021002	40%
ITA021003	50%
ITA021004	3%
.....
ITA022001	25%
ITA022002	5%
ITA022003	7%
ITA022004	3.2%
ITA022005	7.8%

Adm2_code	Fish production
ITA001001	12%
ITA001002	25%
.....
ITA021001	25%
ITA021002	40%
ITA021003	50%
ITA021004	3%
.....
ITA022001	25%
ITA022002	5%
ITA022003	7%
ITA022004	3.2%
ITA022005	7.8%

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Coding system GAUL: SPLIT



450 shall never be assigned to another admin unit

35240 and 35241 are the first new codes available, after the last numerical code used for admin units of the world at first level

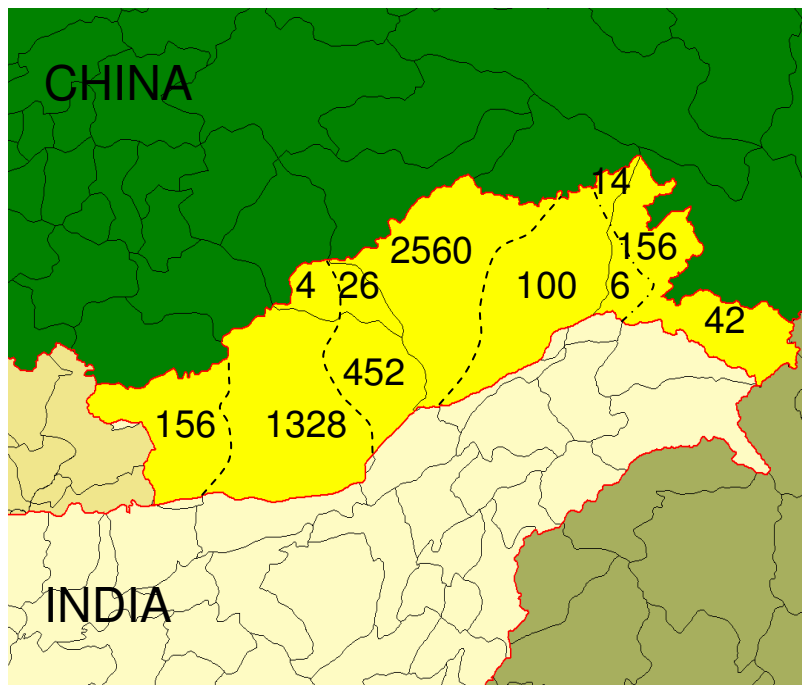
Country_name	Adm0_code	Adm1_code	Adm2_code
Italy	106	17	745
Italy	106	17	47302
...
Italy	106	35240	256
Italy	106	35240	7856
Italy	106	35240	4153
Italy	106	35240	14536
...
Italy	106	35241	4589
Italy	106	35241	6598
Italy	106	35241	12548
Italy	106	35241	26894
Italy	106	35241	69843
...

Adm2_code	Fish production
745	12%
47302	25%
.....
256	25%
7856	40%
4153	50%
14536	3%
...	...
4589	25%
6598	5%
12548	7%
26894	3.2%
69843	7.8%

Adm2_code	Rural Population
745	12%
47302	25%
.....
256	25%
7856	40%
4153	50%
14536	3%
...	...
4589	25%
6598	5%
12548	7%
26894	3.2%
69843	7.8%

Adm2_code	Fish Production
745	12%
47302	25%
.....
256	25%
7856	40%
4153	50%
14536	3%
...	...
4589	25%
6598	5%
12548	7%
26894	3.2%
69843	7.8%

Disputed areas in the GAUL



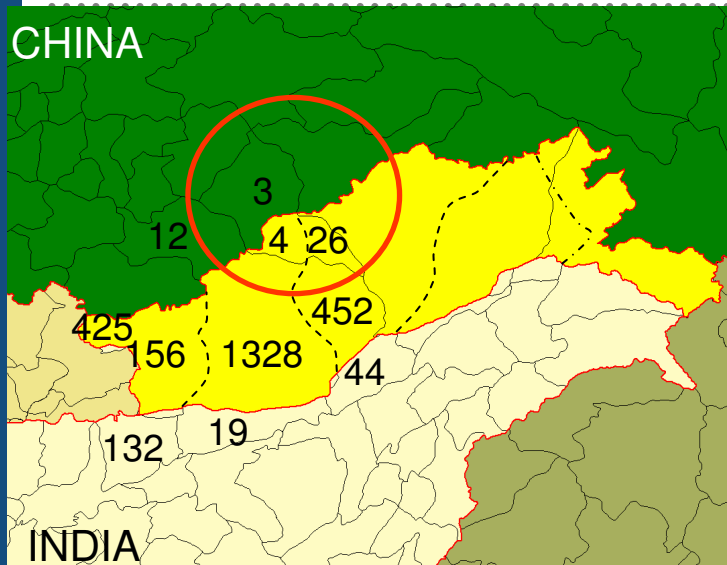
Arunashal Pradesh

—— China Admin divisions

----- India Admin divisions

- **COUNTRY_CODE**: a unique code independent from both China and India country codes (i.e. 704)
- **ADM1_CODE**: unique codes for each polygon created by the admin divisions of both China and India (i.e. 156, 1328, 452, etc.)
- **Linked tables** including country code and admin codes to extract a country (i.e. China or India) from the global administrative map

Disputed areas



———— China Admin divisions
 - - - - - India Admin divisions

Country_name.....	Country_code...	Adm1_code.....
China	41	425
China	41	12
China	41	3
....
Arunashal Pradesh	704	156
Arunashal Pradesh	704	1328
Arunashal Pradesh	704	452
Arunashal Pradesh	704	26
Arunashal Pradesh	704	4
....
India	100	19
India	100	44

Country	Country_code	Dispute_d_code	Disputed_Adml	Adm1 code
China	41	704	156	425
China	41	704	1328	12
China	41	704	452	12
China	41	704	26	3
China	41	704	4	3

Country_name	Country_code	Dispute_d_code	Disputed_Adml	Adm1 code
India	100	704	156	132
India	100	704	1328	19
India	100	704	452	44
India	100	704	26	44
India	100	704	4	19



18 January 2008