

POPULATION PRESSURE AND AGRICULTURAL PRODUCTION IN THE NILE BASIN (2005-2030)

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BACKGROUND

- FAO-ITALY supported project
- Conducting Survey of current and future water use in rainfed and irrigated agriculture
- Develop Projections of Demand for 2030 agricultural produce
- Impact of agricultural development on water balance of the Nile basin



Project Components

BASELINE SURVEY OF AGRICULTURAL WATER USE AND PRODUCTIVITY (2000)

ANALYSIS OF POTENTIAL INCREASE OF AGRICULTURAL PRODUCTIVITY

SCENARIOS FOR DEMAND OF AGRICULTURAL PRODUCE FOR 2030

EXPLORE BASIN WIDE AGRICULTURAL DEVELOPMENT OPTIONS



- Sustainable management of agricultural resources.
- Scenario development exercise for demand on (agricultural production, water) in the Nile basin in the year 2005 - 2030
- Create common understanding by all stakeholders



- Agricultural production data at district level
- Database creation and standardizing
- Analysis of current agricultural water use and efficiency
- Detailed map and assessment of findings
- Projecting results for 2030



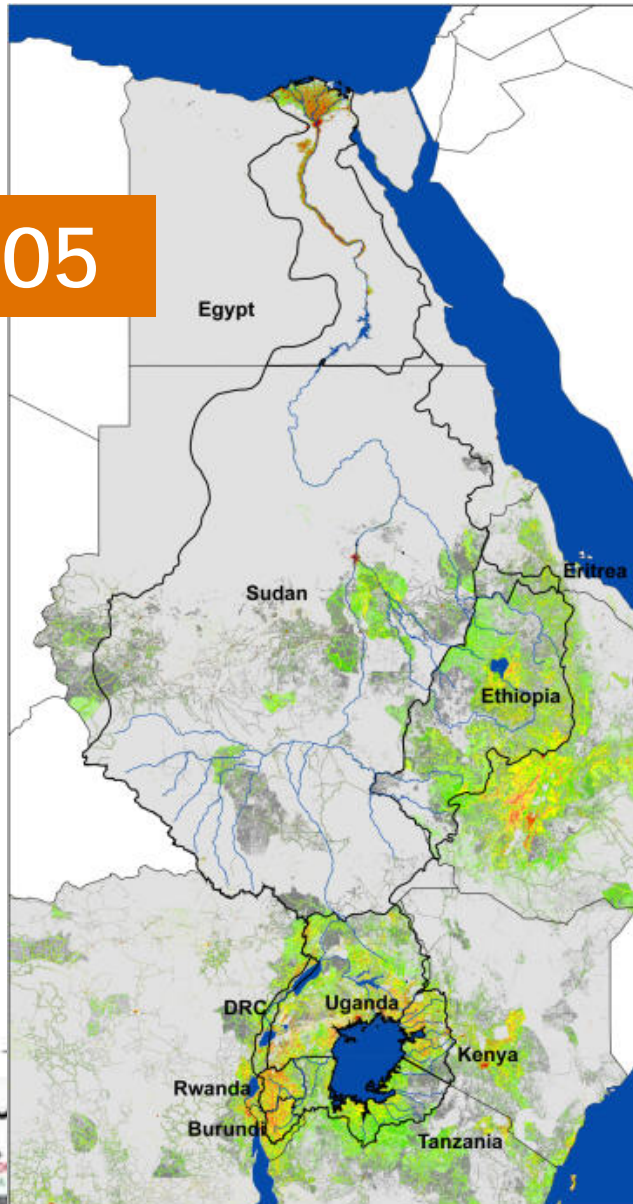
POPULATION PROJECTION

- Among the socio economic factors population is a major driver
- Based on UNPD medium variant population data FAO-NILE project had produced
 - A Poster on population distribution of year 2005
 - Population Projection of 2030 for the Nile basin countries

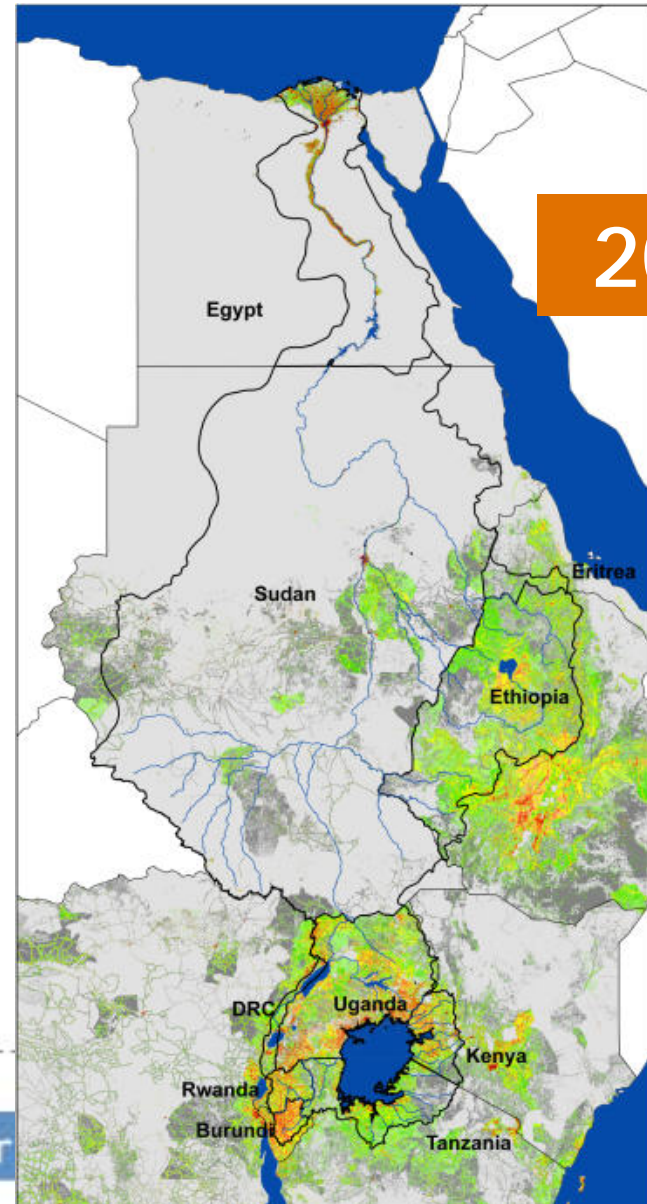


DISTRIBUTION

2005



2030



DATA SOURCES

- UN POPULATION DIVISION (UNPD)
(Low, medium, high) VARIANT
- US CENSUS BUREAU
- LANDSCAN LAYER for Population
spatial distribution



LandScan Data

- Global Population Project—Oak Ridge National Laboratory (ORNL)
- 30" X 30" latitude/longitude grid approx. 1sqkm
- Census counts (at sub-national level)-put to each grid cell based on:
 - likelihood coefficients
 - proximity to roads,
 - slope,
 - land cover,
 - nighttime lights, and other information.



Assumptions

- Total urban population in 2030 is distributed evenly over urban areas
- Total rural population in 2030 is distributed evenly over rural areas
- Difference between US Bureau of Census and UNPD are examined
- Urban areas remain Urban

Note: The LandScan model adopted for spatial distribution, using UNPD population figures



COUNTRY	TOTAL (‘000)	NILE BASIN (‘000)
BURUNDI	7,548	4,615
DRC	57,549	1,851
EGYPT	74,033	72,617
ERITREA	4,401	1,721
ETHIOPIA	77,431	31,044
KENYA	34,256	13,359
RWANDA	9,038	7,685
SUDAN	36,233	32,406
TANZANIA	38,329	7,933
UGANDA	28,816	28,477
SUM	369,639	201,708

Source: UNPD and LandScan



COUNTRY	TOTAL (‘000)	NILE BASIN (‘000)
BURUNDI	17,303	9,911
DRC	122,929	4,117
EGYPT	103,991	101,465
ERITREA	8,432	3,489
ETHIOPIA	136,724	50,345
KENYA	62,687	25,411
RWANDA	16,700	14,066
SUDAN	58,295	53,664
TANZANIA	56,910	13,194
UGANDA	60,875	60,418
SUM	644,846	336,080

Source: UNPD and LandScan



COUNTRY	2030 LOW (‘000)	2030 MEDIUM (‘000)	2030 HIGH (‘000)
BURUNDI	16,367	17,232	18,103
DRC	116,119	122,734	128,220
EGYPT	96,189	104,070	112,045
ERITREA	7,895	8,433	8,975
ETHIOPIA	128,639	137,052	145,530
KENYA	58,563	62,762	67,015
RWANDA	15,683	16,646	17,614
SUDAN	54,460	58,446	62,464
TANZANIA	61,096	56,910	69,991
UGANDA	57,968	61,548	65,163
SUM	612,979	654,439	695,120

UNPD VERSUS US-CENSUS

COUNTRY	UNPD 2005 (‘000)	US Census 2005 (‘000)	Delta (%)
BURUNDI	7,548	7,795	-3.3
DRC	57,549	60,764	-5.6
EGYPT	74,033	77,506	-4.7
ERITREA	4,401	4,670	-6.1
ETHIOPIA	77,431	73,053	5.7
KENYA	34,256	33,830	1.2
RWANDA	9,038	8,841	2.2
SUDAN	36,233	40,187	-10.9
TANZANIA	38,329	36,766	4.1
UGANDA	28,816	27,269	5.4

- difference in baseline figures
- project uses UN Population Division (UNPD) data



URBAN - CHANGE

COUNTRY	Urban 2005 (‘000)	Urban 2030 medium (‘000)	Change (%)
BURUNDI	801	3,604	+350
DRC	18,845	59,891	+218
EGYPT	31,291	57,875	+84
ERITREA	916	3,040	+232
ETHIOPIA	12,511	36,971	+196
KENYA	14,263	38,017	+167
RWANDA	1968	8,401	+327
SUDAN	14,775	32,806	+122
TANZANIA	14,373	32,722	+128
UGANDA	3,580	14,691	+310

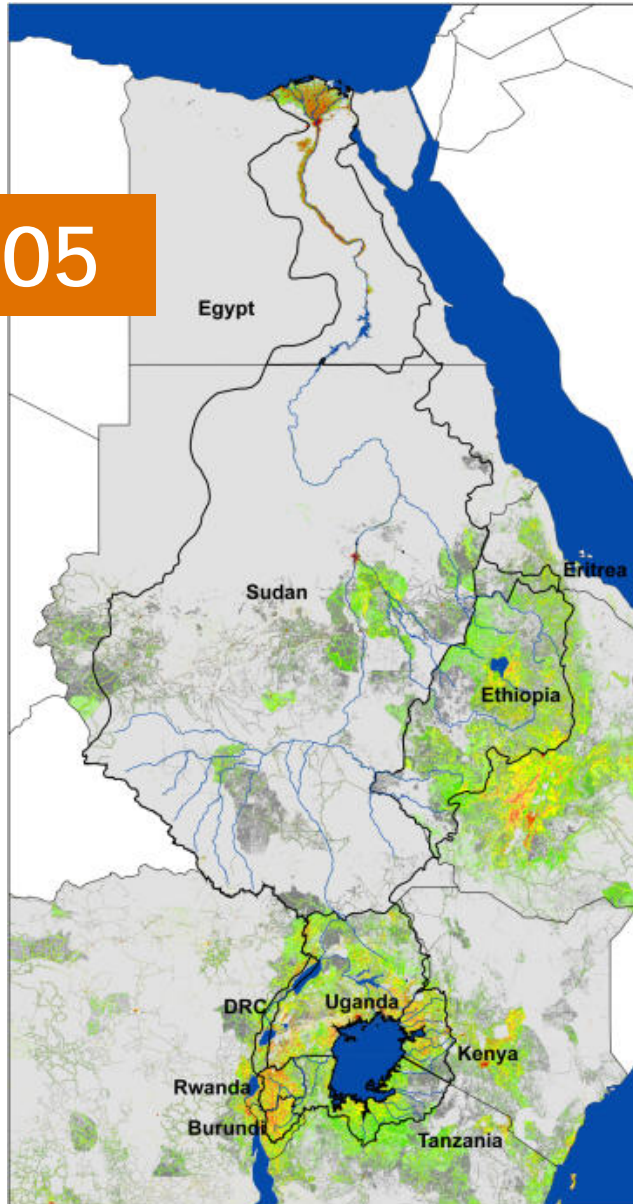
Source: Medium 2030 UNPD

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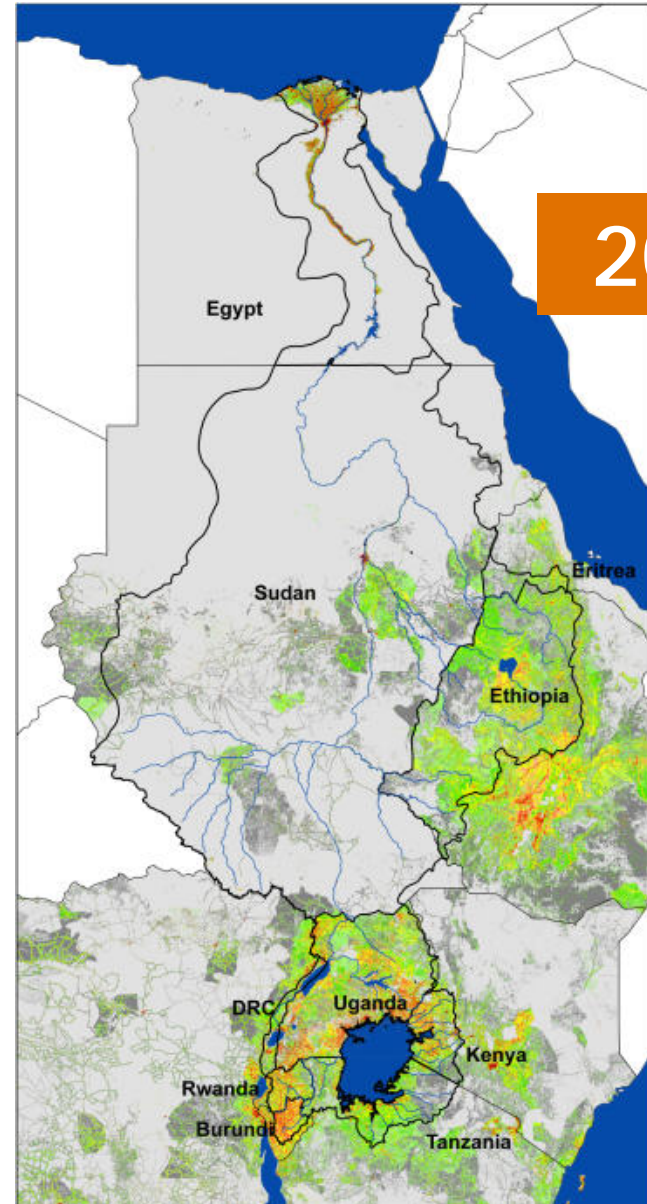


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FUTURE CONCERN

- There will be a shortage of crop land in 2030
- The protected areas near high population density may change to crop land as the crop land is too small by then
- Water demand and availability will be an issue
- Right Policy may not be in place



Customers & Users

Customer

- Scenario development activities of FAO Nile project

Users

- Broad range of policy makers in the Nile Basin, from various sub-sectors
- Other projects in the Nile Basin, including NBI projects
- National and international research institutes



Thank You

