Development Engineering

TD 463

Lecture 3

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What is Development?

- Tragedies and their causes and prevention.
- Rapid tragedies vs. slow motion tragedies.
- Natural vs. man-made.

Development as the non-tragic

Development as the desire for and pursuit of a predictable, comfortable and cultural life for an individual and her household.

- Basic needs: Food, water, shelter, health, reproduction. Cultural Needs.
- Contrast, say with a mughal king. Social and collective and not individual.
- Liberty, Equality, Fraternity, as a society. Means to an end.
- Modernity: Efficiency, Equity, Sustainability.
- Governmentality. The power of statistics. The ability to prevent and to pay the costs of prevention.

Millennium development goals

- elimination of extreme poverty and hunger,
- achieve universal primary education,
- promote gender equality,
- reduce child mortality and improve maternal health
- to combat diseases such as HIV, malaria,
- to ensure environmental sustain-ability, and finally
- to develop a global partnership for development.

No mention of money, companies or job or cultures. Also, why should education matter?

MDG - What to do by 2015

1. Eradicate extreme poverty and hunger
Reduce by half the proportion of people living on less than a dollar a day.
Reduce by half the proportion of people who suffer from hunger.

2. Achieve universal primary education
Ensure that all boys and girls complete a full course of primary schooling.

3. Promote gender equality and empower women
Eliminate gender disparity in primary and secondary education preferably by 2005, and at all levels
by 2015.

4. Reduce child mortality
Reduce by two thirds the mortality rate among children under five.

5. Improve maternal health
Reduce by three quarters the maternal mortality ratio.

6. Combat HIV/AIDS, malaria and other diseases
Halt and begin to reverse the spread of HIV/AIDS.
Halt and begin to reverse the incidence of malaria and other major diseases.

MDG - What to do by 2015

7. Ensure environmental sustainability

Integrate the principles of sustainable development into country policies and programs; reverse loss of environmental resources.

Reduce by half the proportion of people without sustainable access to safe drinking water.

Achieve significant improvement in lives of at least 100 million slum dwellers, by 2020.

8. Develop a global partnership for development

Develop further an open trading and financial system that is rule-based, predictable and non-discriminatory. Includes a commitment to good governance, development and poverty reduction—nationally and internationally.

Address the least developed countries' special needs. This includes tariff- and quota-free access for their exports; enhanced debt relief for heavily indebted poor countries; cancellation of official bilateral debt; and more generous official development assistance for countries committed to poverty reduction.

Address the special needs of landlocked and small island developing States.

Deal comprehensively with developing countries' debt problems through national and international measures to make debt sustainable in the long term.

In cooperation with the developing countries, develop decent and productive work for youth.

In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries.

In cooperation with the private sector, make available the benefits of new technologies—especially information and communications technologies.

Sustainable Development Goals

OECD

How's life?

OECD Index

Let us look at OECD, which is a group of rich countries, and their indices for countries.

- We see that they have 11 categories,
- housing, income, jobs, community, education, environment,
- civic engagement, health, life satisfaction,
- safety, and work-life balance.

One must also wonder how these are measured!

Human Development Index

3 components, geometric mean.

- Health. Life expectancy at birth.
- Education. Mean years of schooling for people above 25. Expected years of schooling.
- Well-being. per-capita GDP.

General rule:

$$I_i = \frac{Obs - Min}{Max - Min} \quad I = (I_1 I_2 I_3)^{1/3}$$

Inequality Adjusted Index: Geometric mean/Arithmetic Mean.

Data-sets

Census.

- *All* individuals. Grouped at ward, village and then at all above levels.
- Part A. Demographic.
  - Population, age-wise group, SC/ST, literacy, employment.
- Part B. Amenities.
  - Household. Housing, Cooking DW, Electricity, Ownership.
  - Village PHC, school, college, large town, hospital.

NSSO.

- Sample, roughly 400-600 per district (rural). Careful selection and careful training.
- Specialized surveys.
  - Consumption. Amenities. Water. Education. Agriculture.

Histograms

Shahpur ST fractions
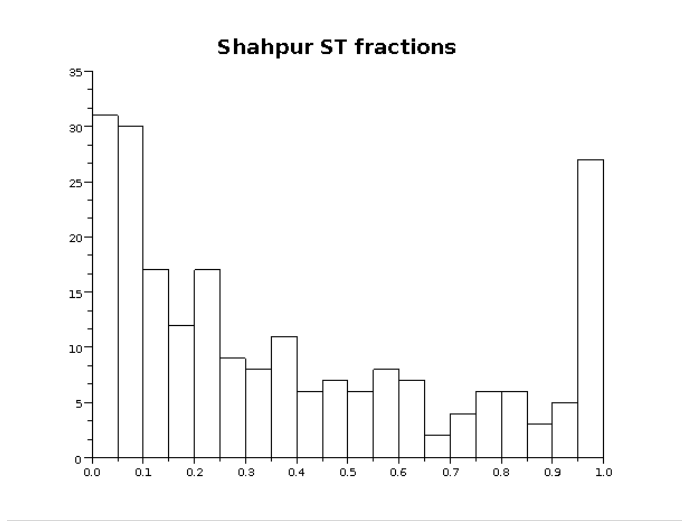
Regional Understanding

Map Showing Villages With Electricity

Legend

nandurbar-elec
- ☐ ugly <20
- ☐ bad <80
- ■ good

dhule-elec
- ☐ ugly <20
- ☐ bad <80
- ■ good

jalgaon-elec
- ☐ ugly <20
- ☐ bad <80
- ■ good
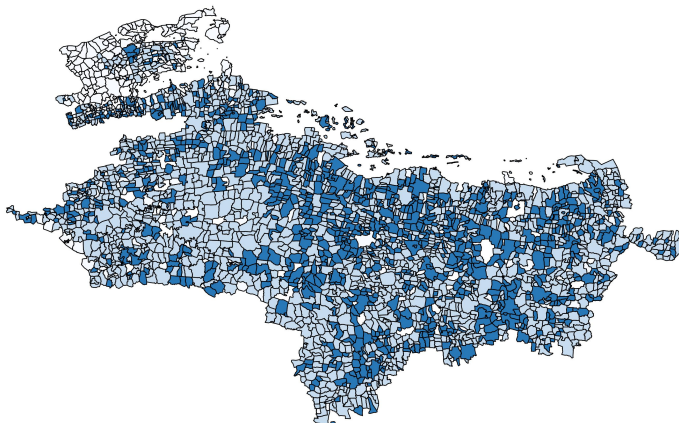
Regional Understanding

Map Showing Villages Using LPG or Kerosene for Cooking

Legend

nandurbar-cookingenergy
- ugly <20
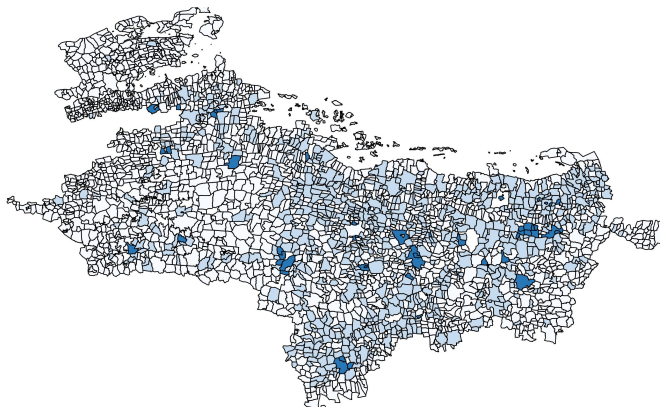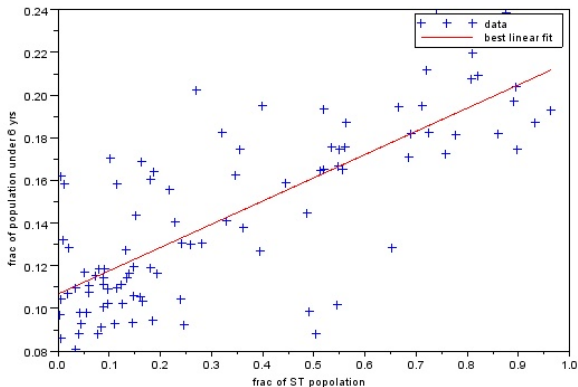- bad <60
- good

dhule-cookingenergy
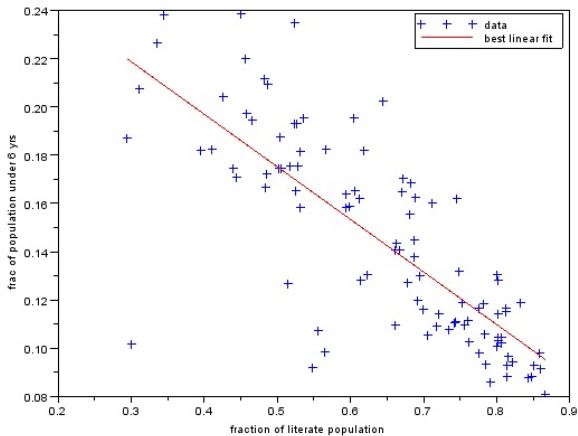- ugly <20
- bad <60
- good

jalgaon-cookingenergy
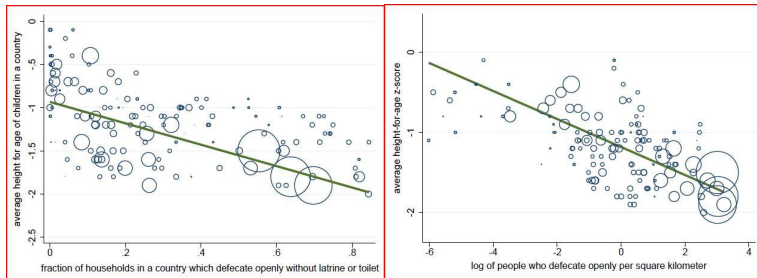- ugly <20
- bad <60
- good

Relationships between development data-sets

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Open Defecation vs. Stuntedness

Urban Drinking Water and Jobs

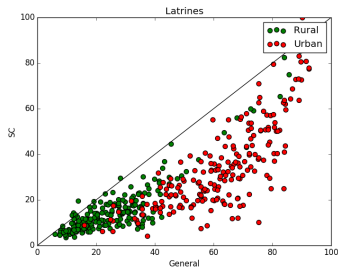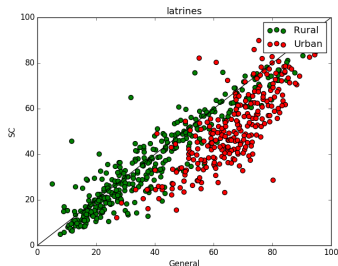2012 Data - Person employed vs Water availability
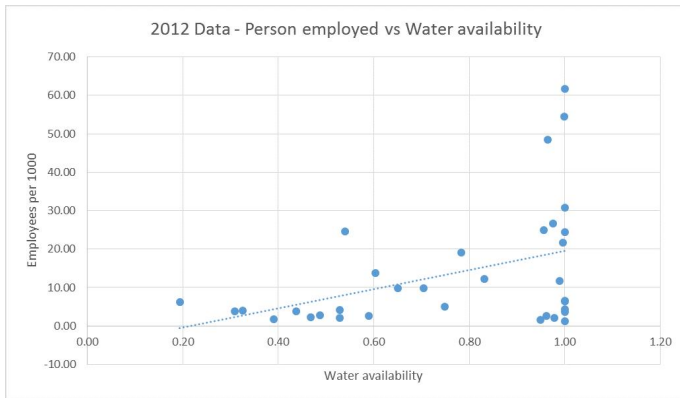
Inequality and its determinants

Latrines on premises - Census 2011
Talukas - Urban and Rural Populations
Comparison of General vs. SC
populations.

- Greater geographical and rural-urban divide than social divide.

- Higher development index leads to more parity and equity.

- Tamil Nadu does worse!

- Needs analysis and strategy.

- Communities and regional agencies need support and hand-holding.

Thanks