



TOWARDS BUILDING NATIONAL SPATIAL DATA INFRASTRUCTURE

**Presentation to
Forty-Ninth Session of the S&T Subcommittee**

NATIONAL SPATIAL DATA INFRASTRUCTURE



The Concept

Pilot Project

Project Award

Current Status

Way Forward

NATIONAL SPATIAL DATA INFRASTRUCTURE



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THE CONCEPT



**Administrative
Mapping**



**Geo-Locating
Infrastructure**

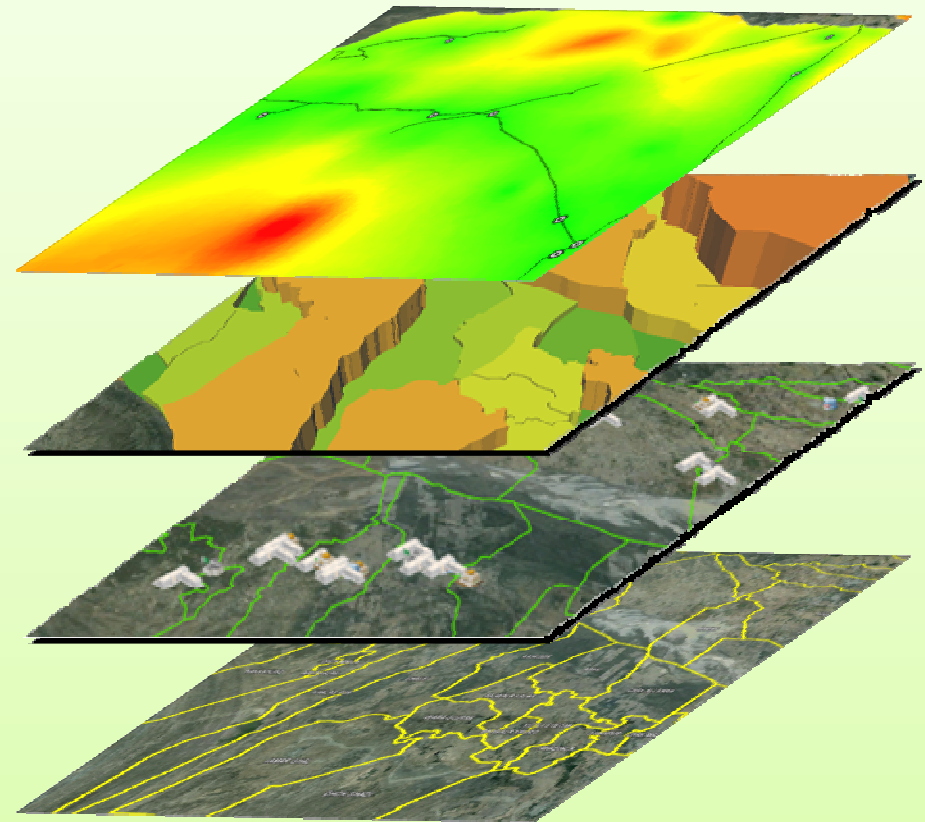
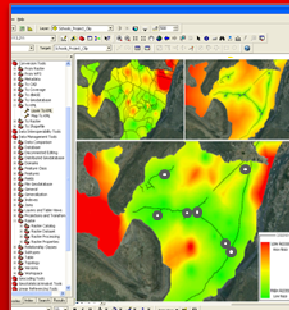


**Socio-Economic and
Demographic Mapping**



**Decision Support
Tools**

Availability of
Reliable and
Current Data for
Planning Purposes



NSDI

NATIONAL SPATIAL DATA INFRASTRUCTURE



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PILOT PROJECT

CONSORTIUM OF ORGANIZATIONS



TASK | To pilot NSDI concept



Population Census
Organization



Pakistan Space and
Upper Atmosphere
Research Commission



Survey of Pakistan

PILOT PROJECT | DISTRICT JHELM

The District at a Glance



3,587

area in sq km



1,188,066

May 2010 population estimate



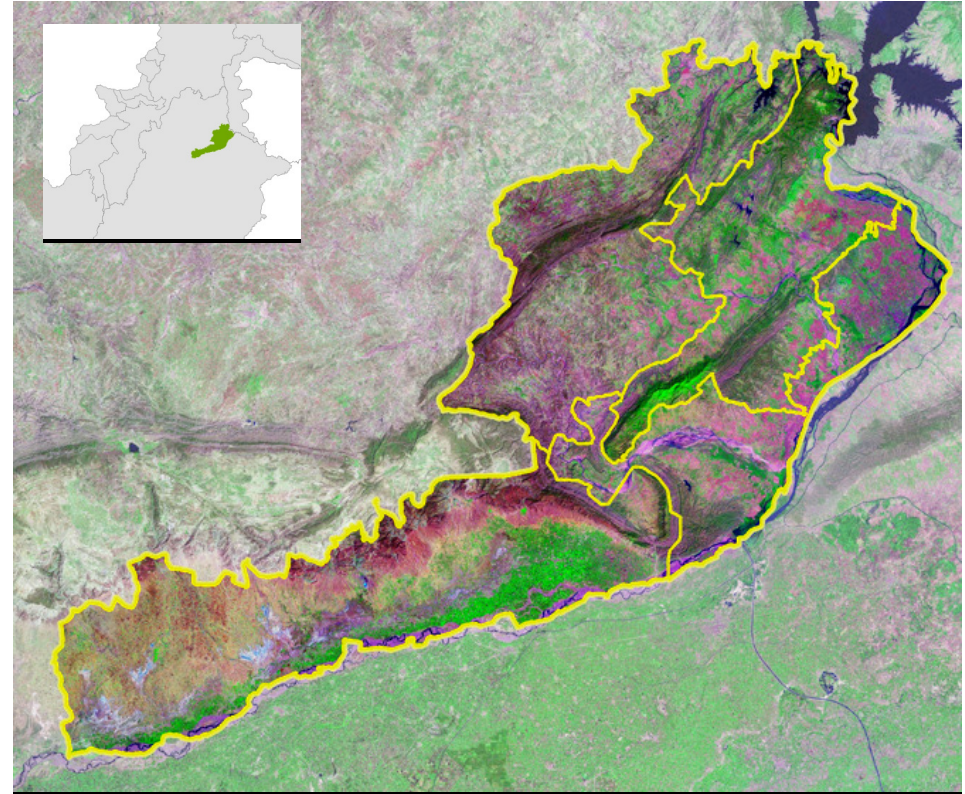
72%

percentage of rural population



597

number of mauzas



TEHSIL JHELM

169 Mauzas

TEHSIL DINA

135 Mauzas

TEHSIL SOHAWA

134 Mauzas

TEHSIL PD KHAN

159 Mauzas

PILOT PROJECT | DISTRICT JHELM



District Record Room

Built 1860



Revenue Maps
Last updated **1940**

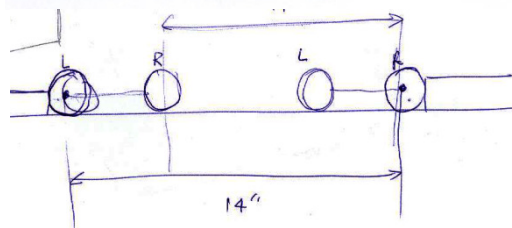
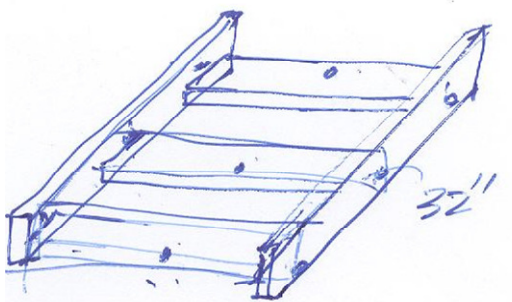
Dire need for preservation
and digital storage of
Land Revenue Maps
(مساوی ہائے)



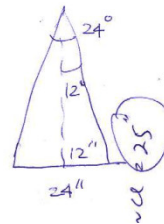
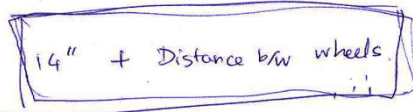
PILOT PROJECT | DISTRICT JHELUM

Building a Contact-less Scanner

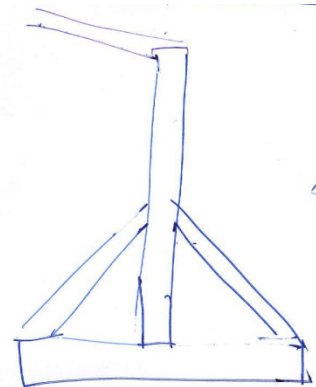
- Contactless, so that old masavis are not damaged
- Low cost, from locally available materials
- Built in-house, in a few days



Distance b/w Stopper Clearance



$$\tan 12^\circ = \frac{12''}{h}$$
$$h = \frac{12''}{\tan 12^\circ}$$



PILOT PROJECT | DISTRICT JHELUM

District Jhelum Scanning Operation



9,995 total images captured

~5,000 total masavis scanned

596 total mauzas scanned

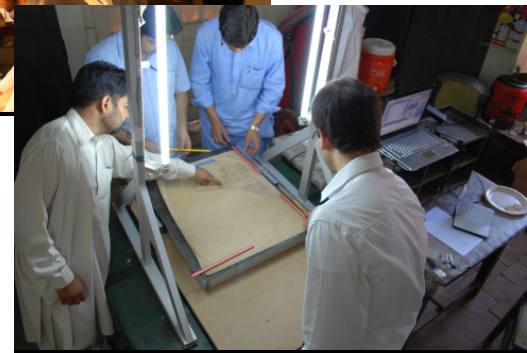
7 team members doing scanning

2 number of scanners

150 effective DPI

47 total hours of scanning operation

2 scanners were in operation 70%
of the time.



PILOT PROJECT | DISTRICT JHELM



4 Masavis stitched to form one
complete mauza

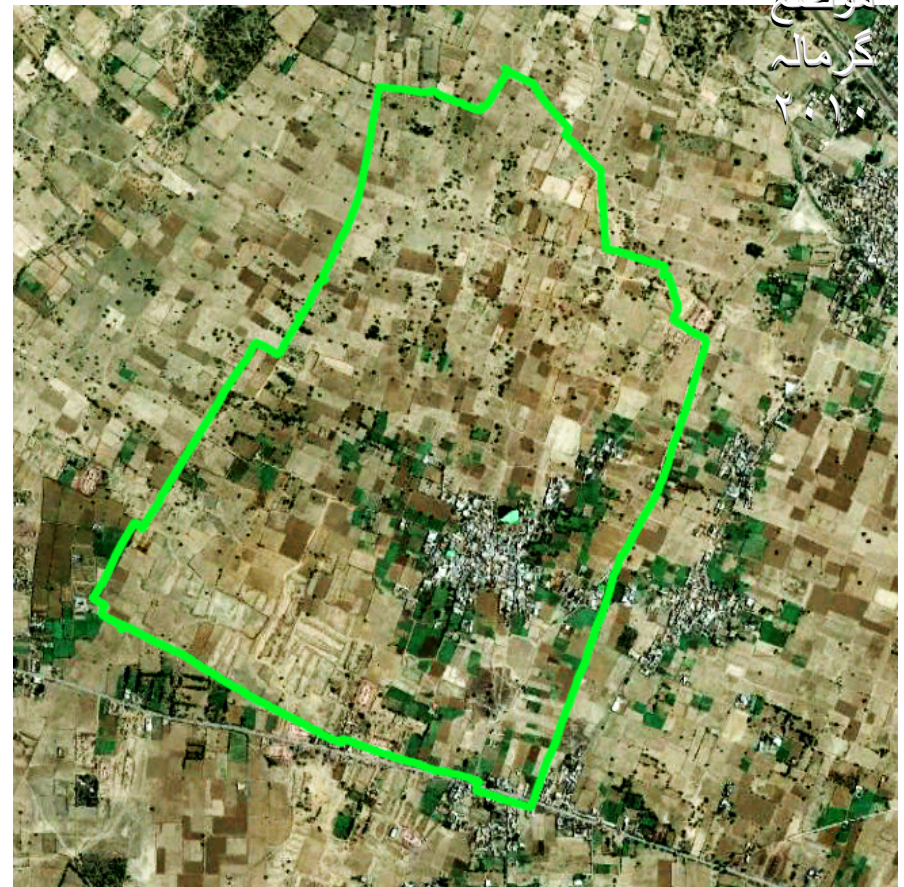
موضع
گرمالہ

۴ مساوی
ہائے
۱۹۴۰



Georeferencing of Masavis to Satellite
image, based on common features

موضع
گرمالہ
۲۰۱۰



PILOT PROJECT | DISTRICT JHELM

Mauza Mosaic and its Georeferencing



قانونگونی جہلم ۱

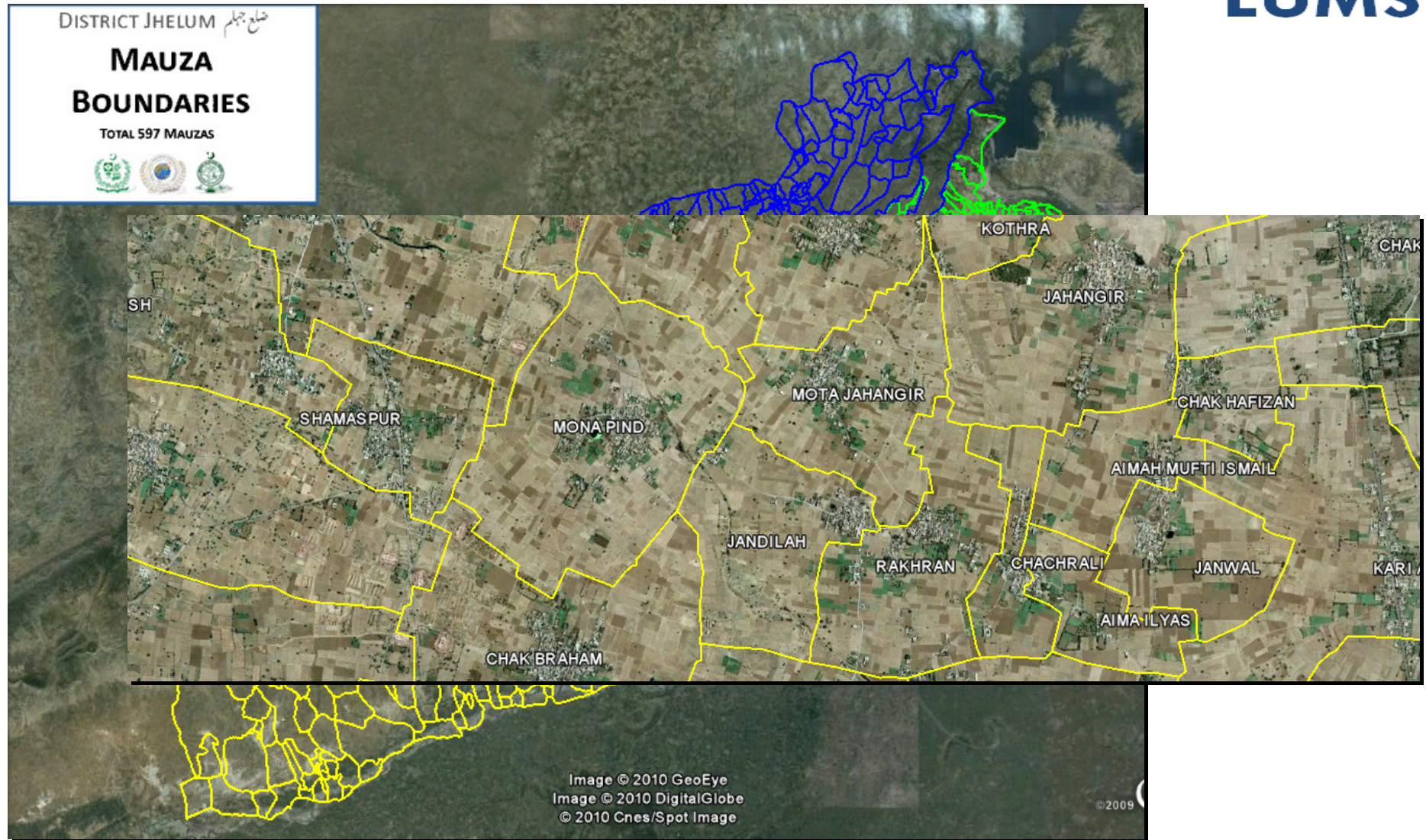


قانونگونی
جہلم-۱

۴۰ مواضعات
۱۴۹ مساوی
ہائے

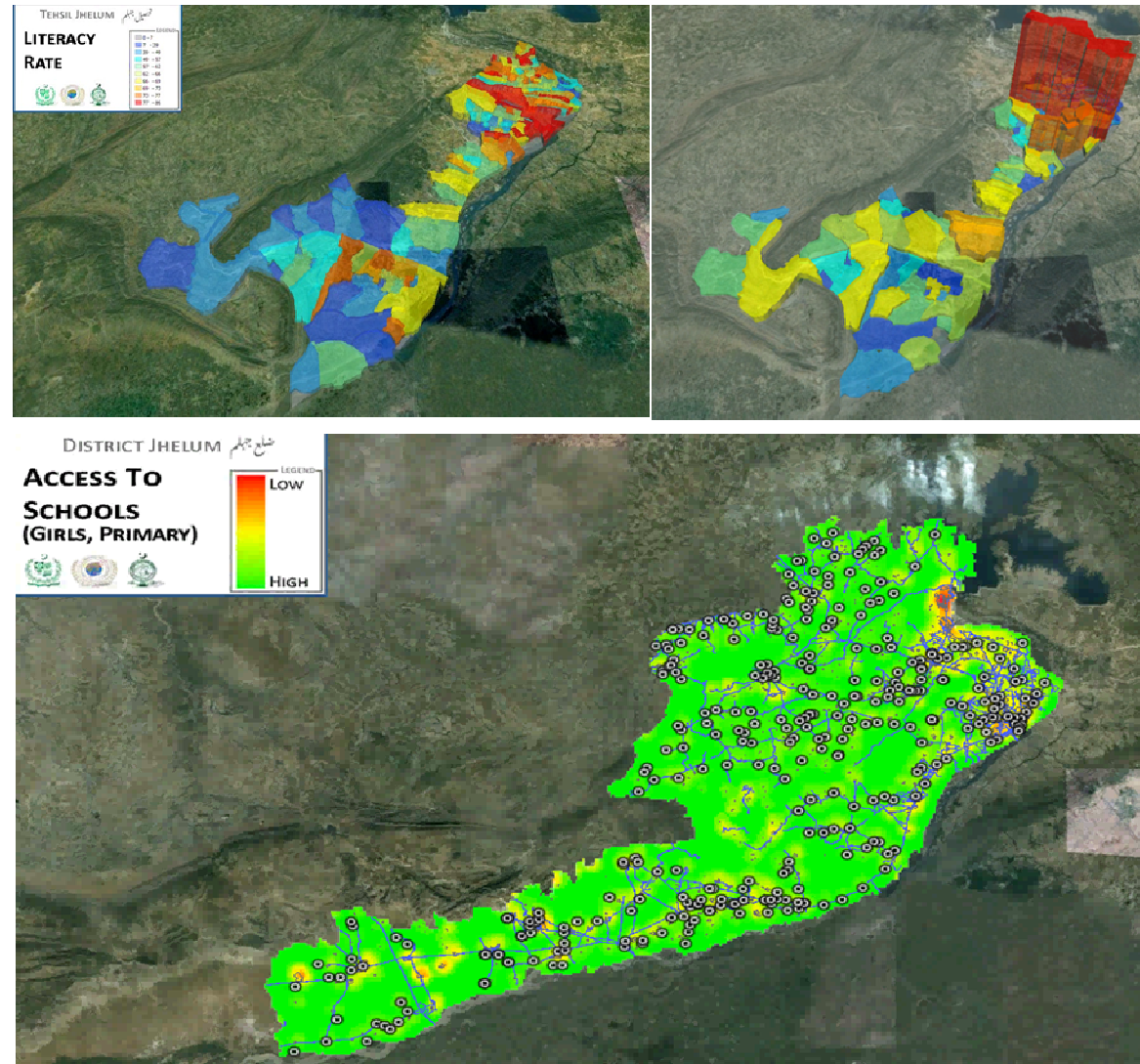
PILOT PROJECT | DISTRICT JHELM

Administrative Boundary Map



PILOT PROJECT | DISTRICT JHELM

Mapping of Socio-Economic Parameters



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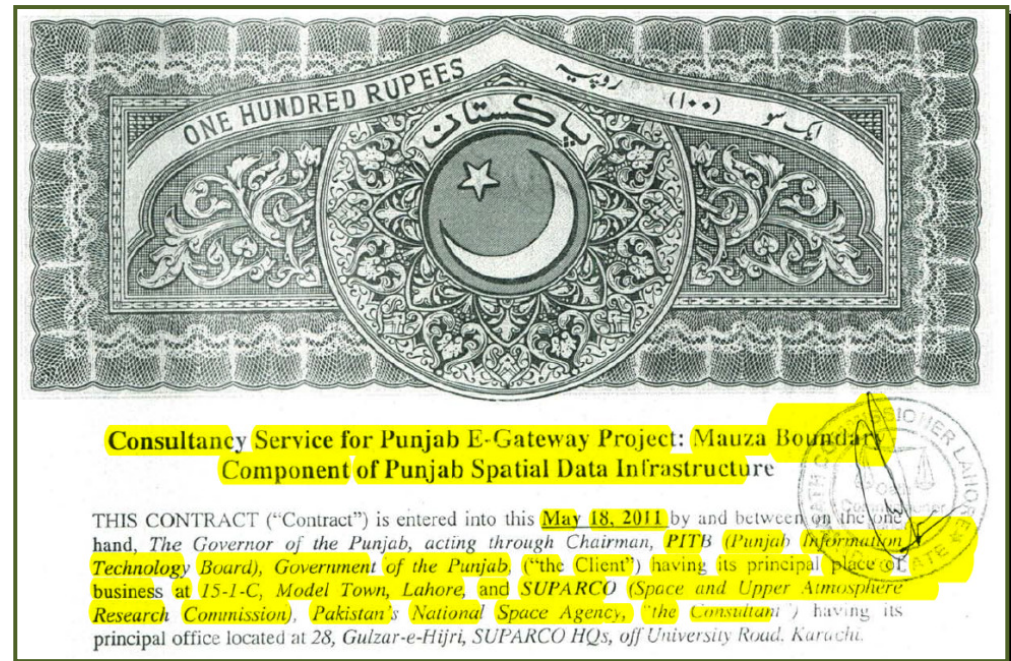
Current Status

Way Forward

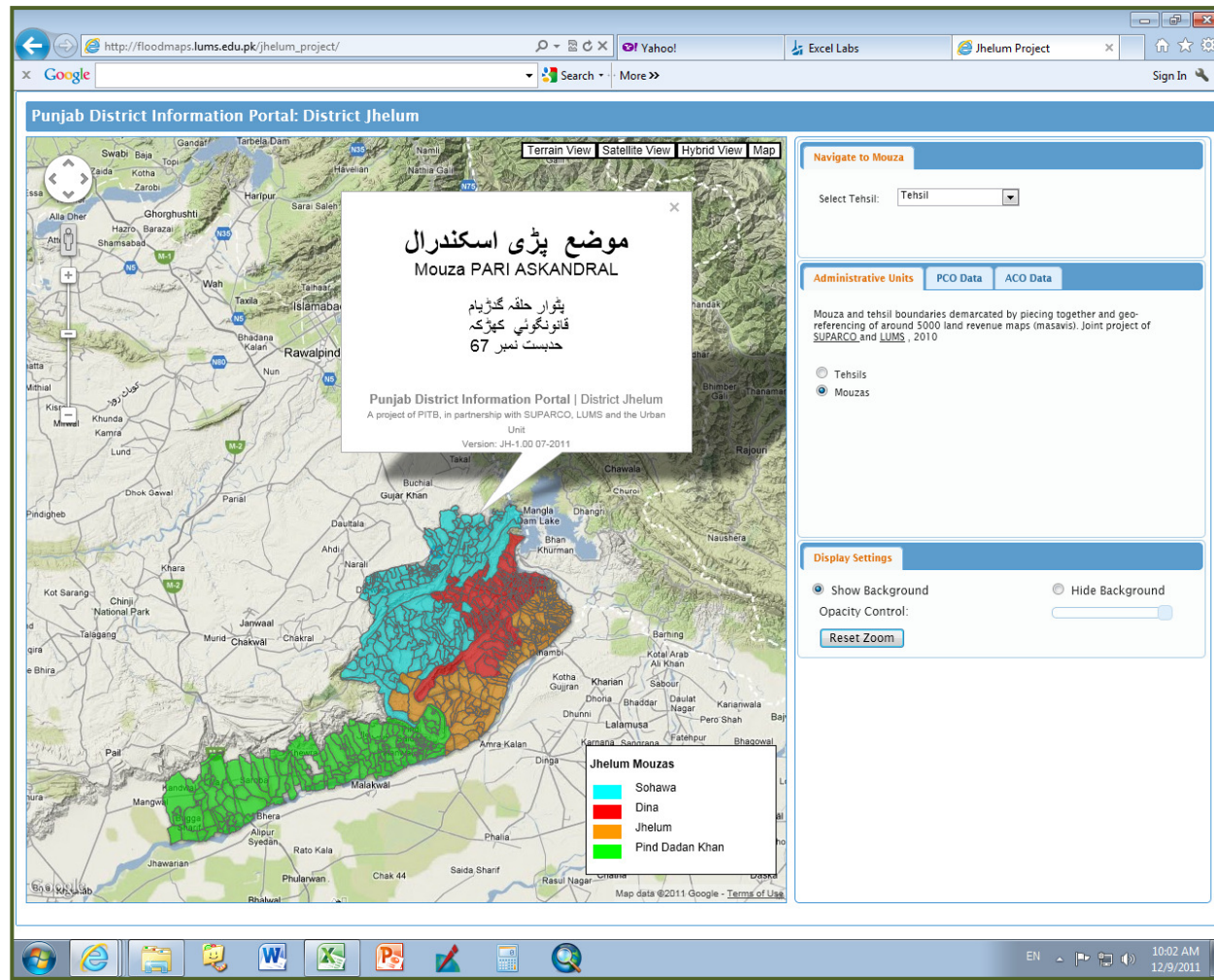
PROJECT AWARD



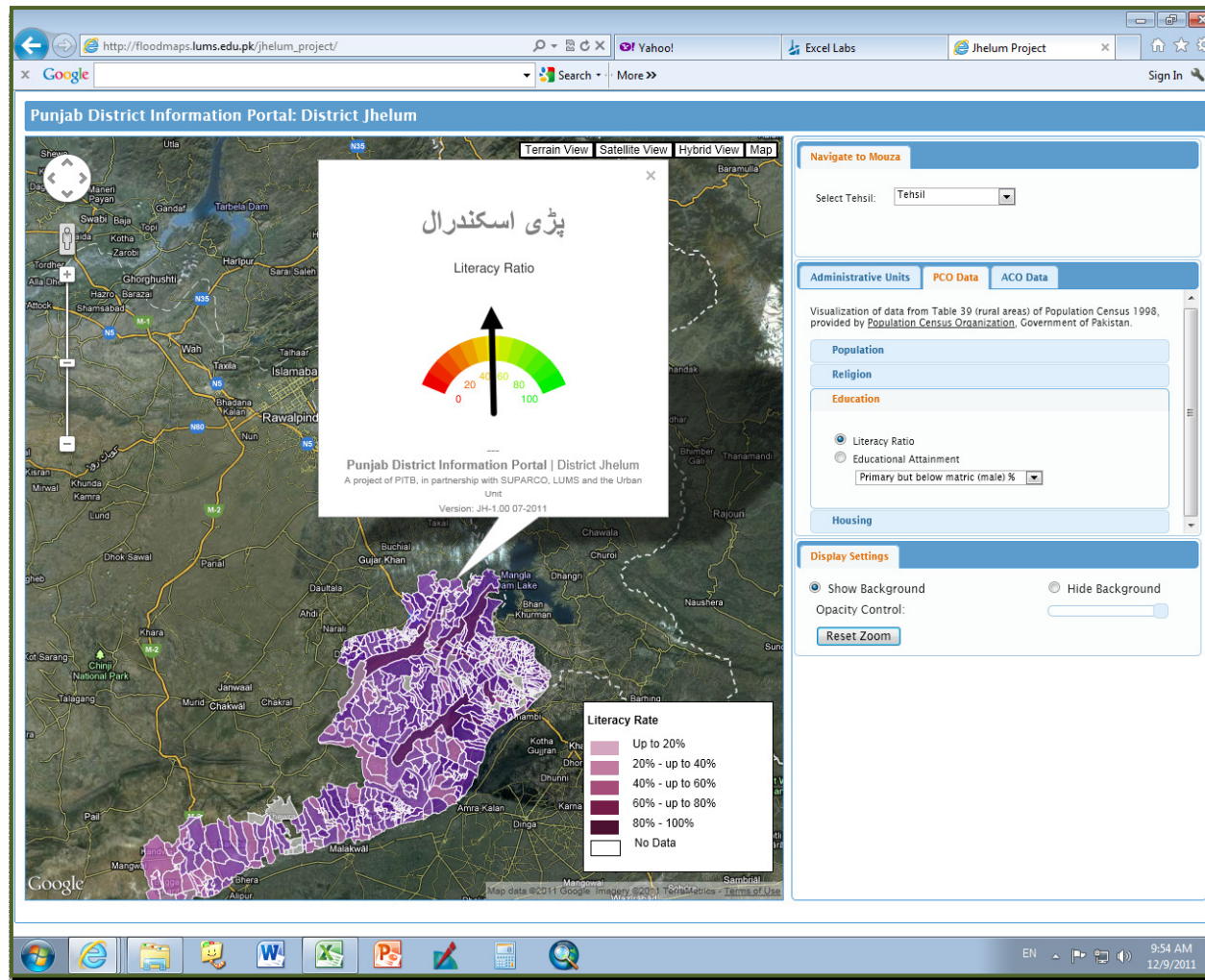
- Consultancy contract with Govt. of Punjab (Punjab Information Technology Board)
- Joint collaboration of SUPARCO and LUMS
- For 18 Districts of Punjab



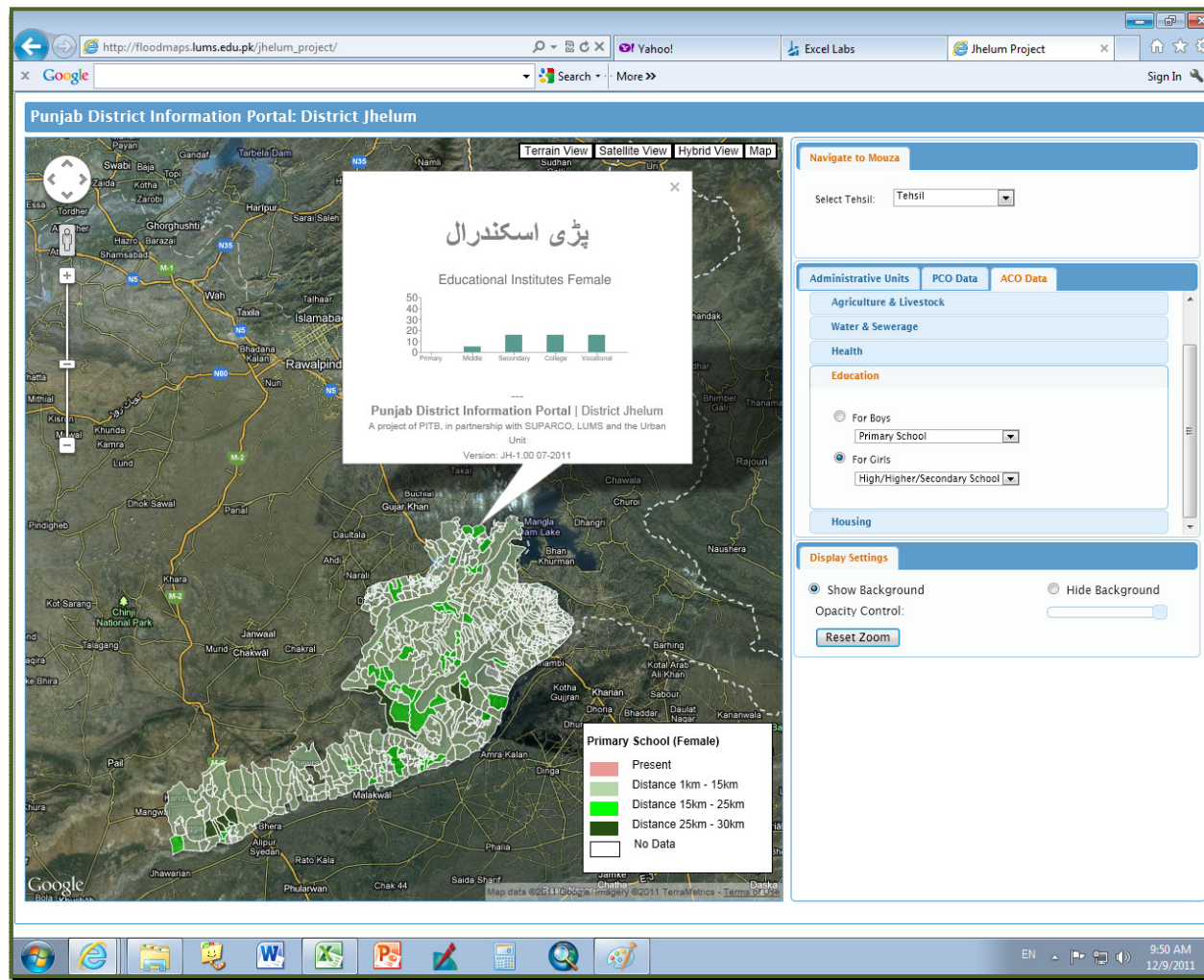
WEB BASED INTERACTIVE WIDGETS



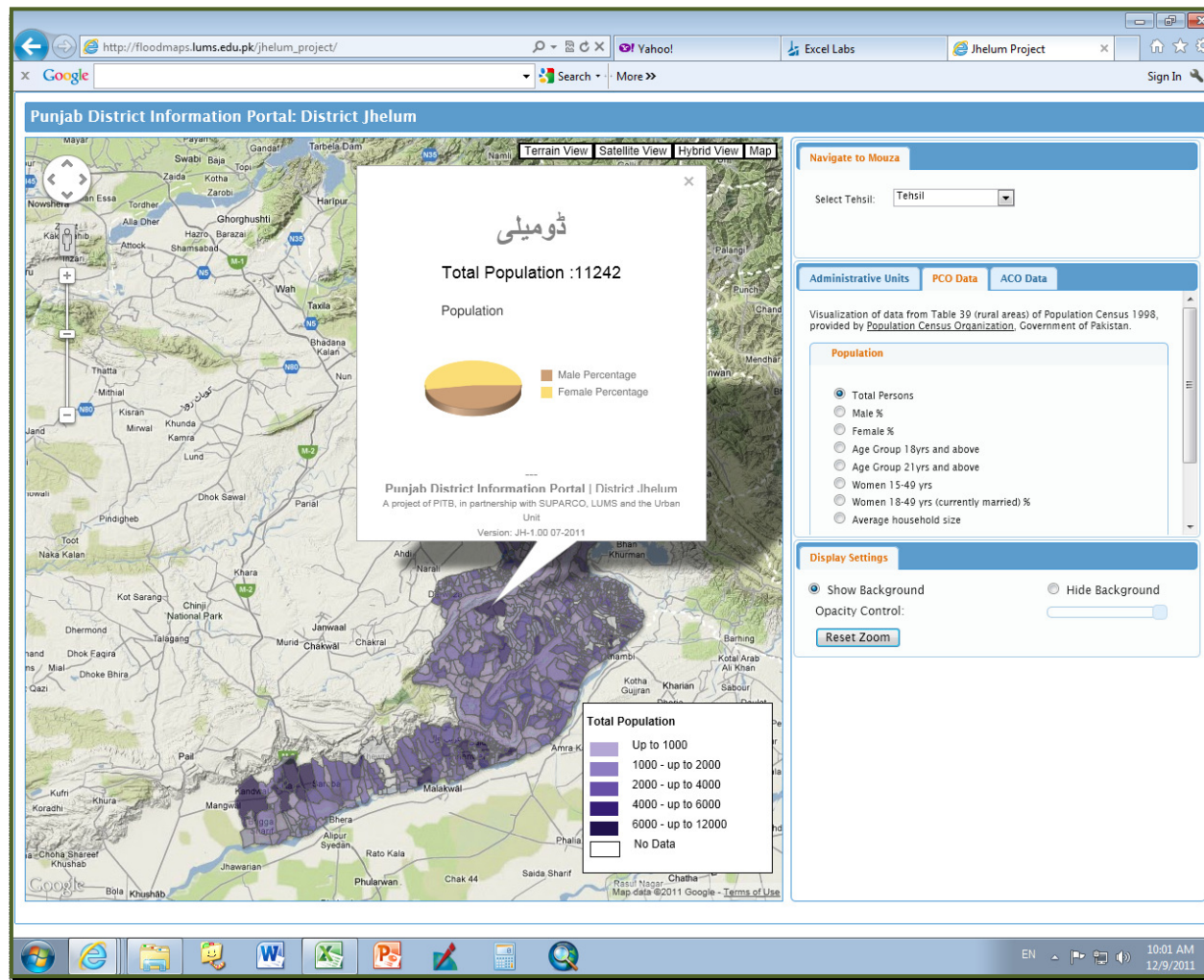
WEB BASED INTERACTIVE WIDGETS



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CURRENT STATUS

Districts completed

- ☒ Jhelum
- ☒ Sahiwal

Districts in progress

- ☐ Hafizabad
- ☐ Sheikhupura
- ☐ Nankana Sahib



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THE WAY FORWARD



Develop a national roadmap
for spatial mapping



Create a strong liaison
between SUPARCO, and
other national and
provincial stakeholders



THANK YOU